



217 Montgomery Street
Suite 1000
Syracuse, NY 13202
315.471.0688
F: 315.471.1061
www.edrpc.com

August 10, 2010

Mr. James Warren
Historic Preservation Program Analyst
New York State Office of Parks, Recreation, and Historic Preservation
Peebles Island, PO Box 189
Waterford, New York 12188-0189

**RE: Marble River Wind Project
Updated Cultural Resources Analysis
OPRHP Project Review No. 06PR00069
EDR Project No. 10050**

Dear Mr. Warren:

Environmental Design & Research, P.C. (EDR), on behalf of Marble River, LLC, has prepared this updated cultural resource impacts analysis for a revised layout of the Marble River Wind Project (the Project), located in the Towns of Clinton and Ellenburg in Clinton County, New York. A *Memorandum of Agreement for Mitigation of Adverse Impacts on Historic Properties from Marble River Wind Project* (MOA) among the United States Army Corps of Engineers (USACE) New York District, the New York State Historic Preservation Office (SHPO), and Marble River, LLC was executed on April 3, 2009. Since that time, Marble River, LLC has modified the Project wind turbine technology, replacing Suzlon S88 turbines with state-of-the-art Vestas V112 turbines. The revised Project layout optimizes the Project energy output, reduces the number of proposed turbines, reduces the Project footprint, and reduces the environmental impacts of the Project. An earlier layout of the proposed Project was studied and evaluated for environmental impacts (including effects on cultural resources) in 2006-2008. The Towns of Clinton and Ellenburg approved the previous layout in 2008. Marble River, LLC is currently submitting a request to the Towns for a modification of the wind energy permit for the revised layout and change in turbine. Marble River LLC anticipates that the Towns will again serve as co-Lead Agencies for purposes of State Environmental Quality Review Act (SEQRA) review. The revised layout for the Project includes the following changes (see Figure 1):

- A reduction in the number of proposed turbines from 109 to 74,
- A change in the model of turbine from a Suzlon S88 with a generating capacity of 2.1 megawatts (MW) to a Vestas V112 which has a capacity of 3.0 MW,
- Minor modifications to the locations of Turbines 91, 96S, 4A, 50, 56, and 161.
- A decrease in the length of proposed access roads,
- A decrease in the length of buried electrical collection lines and minor adjustments in the routing of these lines, and
- The removal of all overhead electrical collection lines.
- An increase in the overall height of each turbine from 407 to 492 feet,

Environmental Design & Research,
Landscape Architecture, Planning,
Environmental Services,
Engineering and Surveying, P.C.

Background

Between 2005 and 2007, John Milner Associates, Inc. (JMA) prepared cultural resources studies that addressed previous layouts of the Project. All of the cultural resources studies prepared for the Project were conducted in accordance with the *New York State Historic Preservation Office Guidelines for Wind Farm Development Cultural Resources Survey Work* (the SHPO *Wind Guidelines*) issued by the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) in 2006. The cultural resources studies included the following:

- Phase 1A Cultural Resources Survey (February 2006);
- Phase 1B Archeological Survey and Historic-Architectural Resources Survey Work Plan (March 2006);
- Phase 1B Archeological Survey (May 2007);
- Historic-Architectural Resources Survey (June 2007); and,
- Addendum Phase 1B Archeological Survey and Phase 1B-2 Archeological Investigations, Clinton Mills Historic Site (August 2007).

The historic-architectural resources survey conducted for the previous layouts of the Project resulted in the identification of 73 potential historic properties located within five miles of the proposed wind turbines. These included properties that were previously listed on the National Register of Historic Places (NRHP), previously determined by the New York SHPO to be eligible for listing on the NRHP, and newly identified properties which, in the opinion of JMA, satisfied NRHP eligibility criteria.

The total archeological survey fieldwork conducted for the previous layouts of the Project included the excavation of 4,913 shovel tests and pedestrian surface survey of an additional 84 acres in cultivated fields. The archeological survey work resulted in the identification of 15 archeological sites. These included two prehistoric Native American sites (both isolated finds of possible flaked stone tools), 11 nineteenth-to-twentieth-century domestic sites (house foundations or farmstead remains), the abandoned railroad berm of the Ogdensburg & Lake Champlain Railroad, and the Clinton Mills Historic Site (an abandoned sawmill and associated town). A Phase 2 archeological investigation was conducted for the Clinton Mills Historic Site, which resulted in the recommendation that the Clinton Mills site was eligible for listing on the NRHP.

All of the cultural resources studies were submitted to OPRHP, who issued review correspondence in accordance with their obligations as SHPO under Section 106 of the National Historic Preservation Act; Section 14.09 of the New York State Parks, Recreation, and Historic Preservation Law; and the SEQRA. SHPO review of the cultural resources studies resulted in the following actions:

- In correspondence dated October 29, 2007, SHPO determined that 52 of the historic-architectural resources identified by JMA were eligible for listing on the NRHP, and that construction and operation of the Project would result in an adverse effect on these properties due to the introduction of large scale, modern wind turbines into the rural settings associated with these resources.

- In correspondence dated January 30, 2008, SHPO determined that no additional archeological testing was necessary in association the Project and recommended that an Avoidance Plan be implemented to ensure that archeological sites within the Project Area are avoided during construction.
- In response to SHPO's determination that the Project would result in an adverse effect on historic properties, Marble River, LLC in conjunction with the Towns of Clinton and Ellenburg proposed historic mitigation plans to SHPO in correspondence dated March 10 and March 18, 2008. The mitigation plans included an agreement that Marble River would provide funding in the amounts of \$237,600 to the Town of Clinton and \$56,700 to the Town of Ellenburg. These funds are to be used by the Town of Clinton for the restoration of a local cemetery and maintenance of the Immaculate Heart of Mary Catholic Church in Churubusco. If maintenance of the Church is impracticable, then the funds would be used for construction of a Town Archives and Historical Collection. Funding to the Town of Ellenburg is to be used for construction of an archive storage facility.
- Marble River, LLC developed an Unanticipated Archeological Discovery Protocol (dated December 2, 2008) to further safeguard against the possibility that construction of the Project might affect significant archeological resources.

These actions formed the basis for a MOA among the USACE, the New York SHPO, and Marble River, LLC. The MOA was executed by signature of Marble River on March 31, 2009, the USACE on April 1, 2009, and the New York SHPO on April 3, 2009. The signatories' obligations under the MOA remain valid until June 30, 2014. The previous historic-architectural resources survey for the Project was conducted in accordance with the SHPO *Wind Guidelines* and included all areas located within 5 miles of proposed wind turbine locations (the Study Area). USACE and SHPO concurred in the MOA that this 5-mile-radius Study Area constituted the appropriate Area of Potential Effects (or APE) for visual effects on historic properties.

Updated Cultural Resources Impacts Analysis

The revised Project layout includes the elimination of 35 of the previously proposed wind turbines, most of which were located in the northeast portion of the Project Area (Figure 1). As depicted on Figure 2, the elimination of these turbines results in a reduced 5-mile-radius Study Area for the Project. Consequently, of the 73 properties identified in the 2007 historic-architectural resources survey, 20 are now located outside of the 5-mile-radius visual APE for the Project. Per the SHPO review correspondence dated October 29, 2007, these include 11 properties that SHPO determined were eligible for listing on the NRHP, six properties that SHPO determined were not eligible for listing on the NRHP, and three properties for which SHPO did not have sufficient information to provide a determination.

Figure 2 also depicts a viewshed analysis for the revised Project layout (based on topography only) that identifies areas from which the proposed turbines could potentially be visible. EDR compared the locations of identified historic properties relative to the current layout viewshed (Figure 2) and previous layout viewshed analysis (included in the 2007 historical-architectural resources survey). The revised Project layout does not result in any changes in the visibility of the Project from historic property locations.

EDR prepared a comparison of the revised Project layout with the earlier Project layouts that were current at the time that archeological survey work was conducted for the Project (Table 1). As indicated in Table 1, the revised Project layout is located within a substantially smaller Project Area (referring to all participating parcels within which Project facilities may be constructed), reduced to 11,500 acres from 19,130 acres. The Project proposes to build 35 fewer wind turbines compared with previous layouts, which also results in substantially reduced total lengths for access roads (19 miles reduced from 48 miles) and underground electrical interconnects (38 miles reduced from 55 miles). Another significant change in the revised Project Layout is the elimination of a 13-mile-long overhead electrical interconnect that would have required a 120-foot-wide right-of-way (ROW). Overall, the revised Project Layout represents a significant reduction in the total area of ground disturbance (or archeological APE) for the Project.

Table 1. Previous Archeological Survey Project Layout Comparison.

Project Components	Phase 1B Survey (May 2007) Project Layout	Phase 1B-2 Survey (August 2007) Project Layout	Current (August 2010) Project Layout
Project Area	19,130 acres	18,520 acres	11,500 acres
Turbines	109	109	74
Access Roads (40 feet wide)	46.5 miles	48 miles	19 miles
Overhead Electrical Collection Line (120-foot ROW)	-	13 miles	-
Underground Interconnect (10-foot ROW)	55 miles	55 miles	38 miles
Substation/Point of Interconnect	5 acres	-	4.2 acres
Operations, Maintenance, & Staging	23 acres	-	23 acres
Wetland Mitigation Areas	-	22.4 acres	22.4 acres ¹

The revised Project layout is depicted in relation to the identified archeological sites and previously surveyed areas in Figure 3. The archeological survey work for the Project was conducted in accordance with the SHPO *Wind Guidelines*, which specify an archeological testing methodology that intensively samples selected areas within the larger Project Area. The amount of archeological survey work conducted (i.e., the number of shovel tests excavated) was determined based on the total area of ground disturbance (archeological APE) at the time that the archeological work was conducted. The SHPO *Wind Guidelines* are based on the assumption that additional archeological survey work is not necessary if Project components move around during the Project development process, as long as the total area of ground disturbance for the Project does not increase. As mentioned previously, the number of proposed turbines, length of access roads, and length of underground interconnects have all been substantially reduced in the revised layout. In addition, only six of the proposed turbines in the revised layout are sited in different locations than in the

¹ Wetland mitigation areas may also be smaller for the current Project layout due to reduced impacts to wetlands.

previous layout (Figure 1), and the associated changes to access road and buried interconnect routes are relatively minor.

As shown on Figure 3, the revised Project layout is sited to avoid impacts to archeological sites identified during the previous archeological survey work conducted for the Project. All Project components have been sited to avoid physical impacts to identified archeological sites. In the revised Project layout, no Project facilities are located in the vicinity of the NRHP-eligible Clinton Mills Historic Archeological District (Figure 3: Sheet 3). In correspondence dated January 30, 2008, the New York SHPO specified measures for an Avoidance Plan for the Clinton Mills District. Because the revised Project layout eliminates the need for any construction activities in this area, compliance with the Avoidance Plan in the vicinity of the Clinton Mills District should no longer be necessary.

Conclusions

EDR compared the revised Project layout with the findings of the previous cultural resources studies conducted for the Marble River Wind Project in 2006-2007. The revised Project layout significantly reduces the Project footprint, due to the elimination of 35 proposed wind turbines and associated reduction in the lengths of access roads, interconnects, and other facilities. The reduced number of turbines results in a somewhat reduced 5-mile APE for visual effects on historic properties, resulting in 11 NRHP-eligible historic properties identified in the historic-architectural resources survey conducted for the Project in 2007 now being located outside of the APE for the revised Project layout. Despite the reduction in the number of proposed turbines and reduced number of affected historic properties, Marble River, LLC is not seeking to revise the mitigation agreements with the Towns of Clinton and Ellenburg that were incorporated into the MOA.

In addition, the revised Project layout has a substantially reduced archeological APE, including 35 fewer wind turbine sites, 29 fewer miles of access roads, and 17 fewer miles of underground electrical interconnects. The 13-mile-long overhead electrical interconnection line (with a 120-foot-wide ROW) previously proposed for the Project has been eliminated in the revised Project layout. Consequently, the previously conducted archeological survey work associated with previous Project layouts adequately covers the current layout's archeological APE. Furthermore, the revised Project layout does not include any proposed facilities in the vicinity of the NRHP-eligible Clinton Mills Historic Archeological District, which further minimizes the potential impact of the Project and eliminates the need for implementation of an Avoidance Plan in this area.

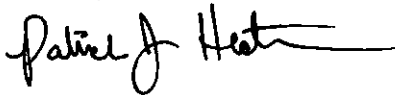
Based on this analysis, it is the opinion of EDR that the determinations of adverse effect on historic properties, proposed mitigation plans, unanticipated discovery plan, and other items agreed upon in the MOA (other than the need for an Avoidance Plan for the Clinton Mills Historic Archeological District) for the Project remain valid. Although the reduced number of turbines and corresponding reduction in the visual APE for the Project will result in fewer historic properties being affected by the Project, the rationale for the determination of adverse effect on historic properties resulting from the introduction of wind turbines into the rural landscape remains unchanged.

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It is the opinion of EDR that the mitigation measures and other terms of the MOA should be executed as agreed upon in 2009 and that no additional cultural resources analysis is warranted for the Project. On behalf of Marble River, LLC, we are requesting that the New York SHPO provide correspondence indicating their concurrence with the analysis and conclusions presented herein.

Please do not hesitate to contact Patrick Heaton (EDR) at (315) 471-0688 or pheaton@edrpc.com or Dan Fitzgerald (Marble River, LLC) at (518) 426-1650 or Dan.Fitzgerald@horizonwind.com if you have any questions or would like to arrange a meeting to discuss this further.

Sincerely,

A handwritten signature in black ink that reads "Patrick J. Heaton". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Patrick J. Heaton, RPA
Project Manager/Cultural Resources

Cc: J. Bonafide (OPRHP)
D. Fitzgerald (Horizon)
D. Enders (EDR)
D. Ward (Young Sommer)

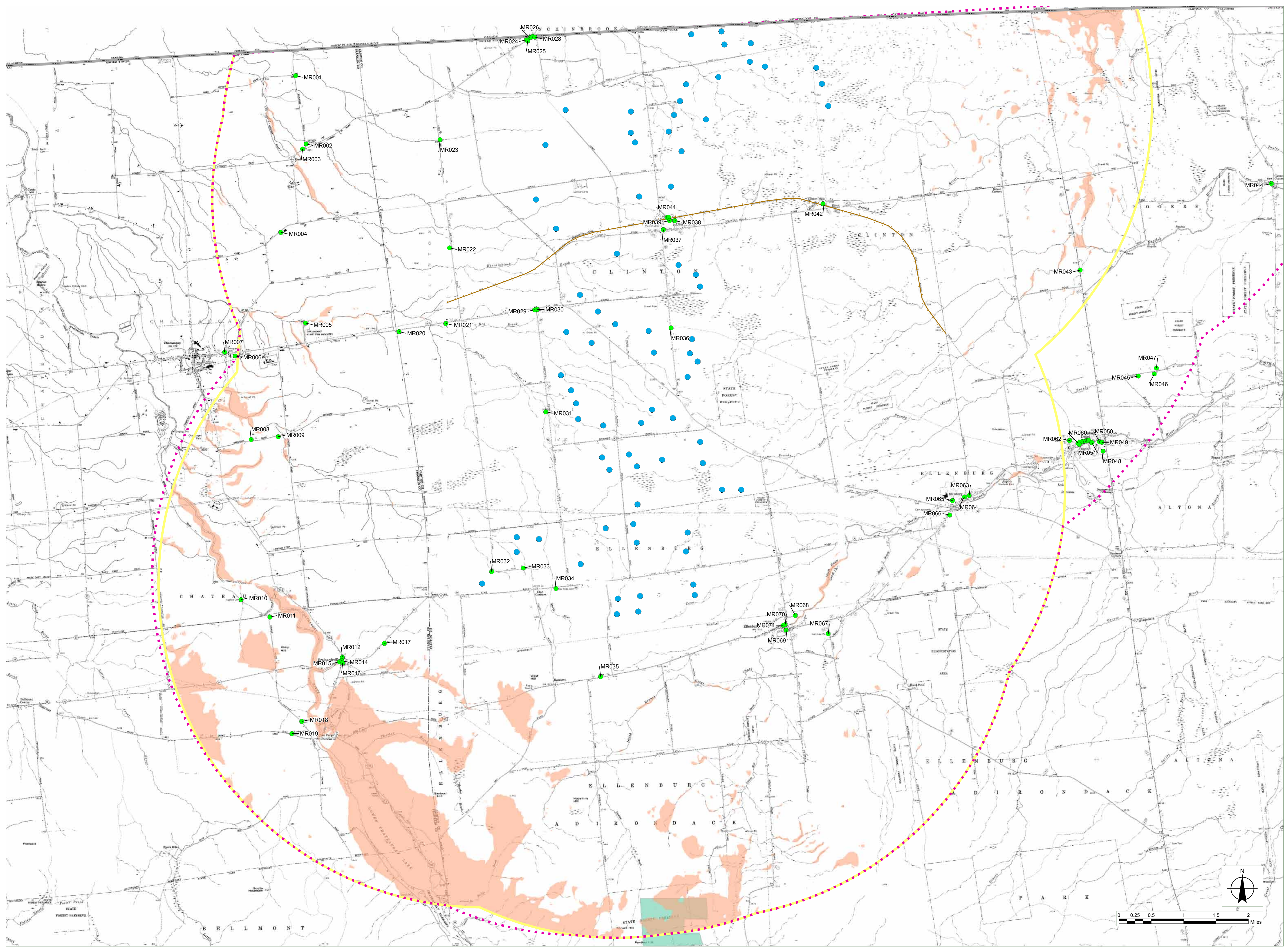
Marble River Wind

Towns of Clinton and Ellenburg
Clinton County, New York

Figure 2: Historic Resources Viewshed Analysis - Topographic Blade Tip Visibility

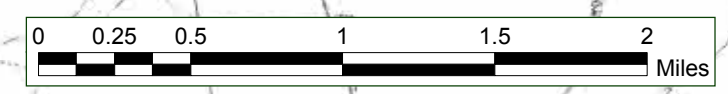
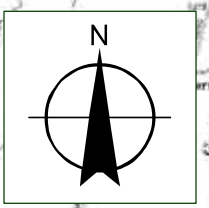
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- Wind Turbine
- Historic Sites
- Limits of 2007 Historic - Architectural Resources Survey
- Revised Project Layout
- 5-Mile Study Area
- O&C Railroad
- Turbines Not Visible
- Adirondack Forest Preserve Land

Notes:
Base Map: NYSDOT 1:24000 Brainardsville, Burke, Chasm Falls, Chateaugay, Churubusco, Ellenburg Center, Ellenburg Depot, and Ellenburg Mountain Quadrangles.

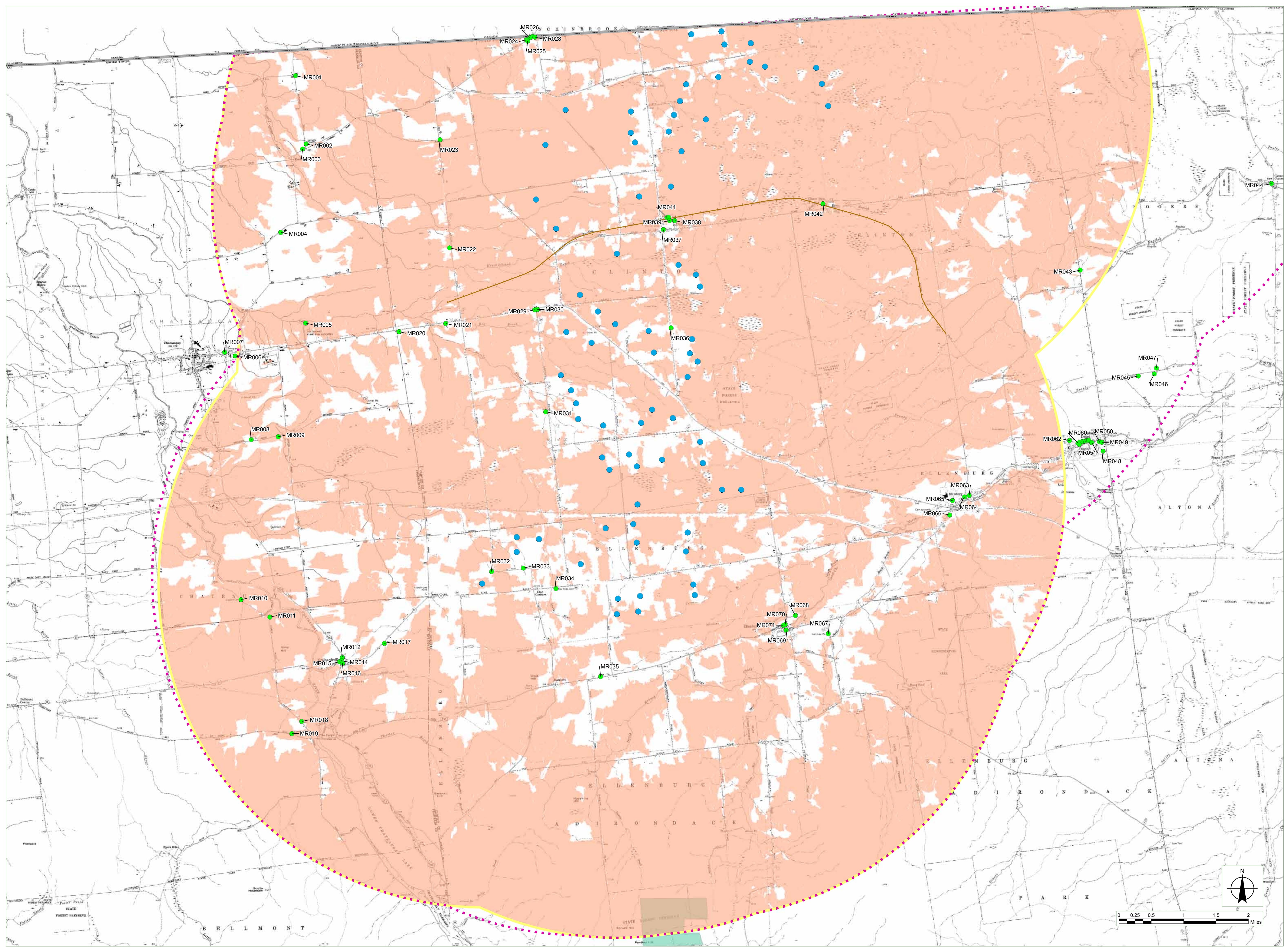


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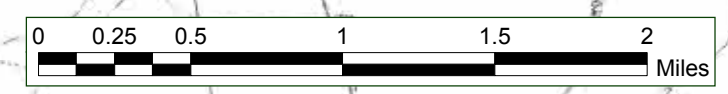
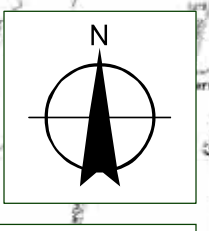
Figure 2: Historic Resources Viewshed Analysis - Blade Tip Vegetation and Topography Visibility

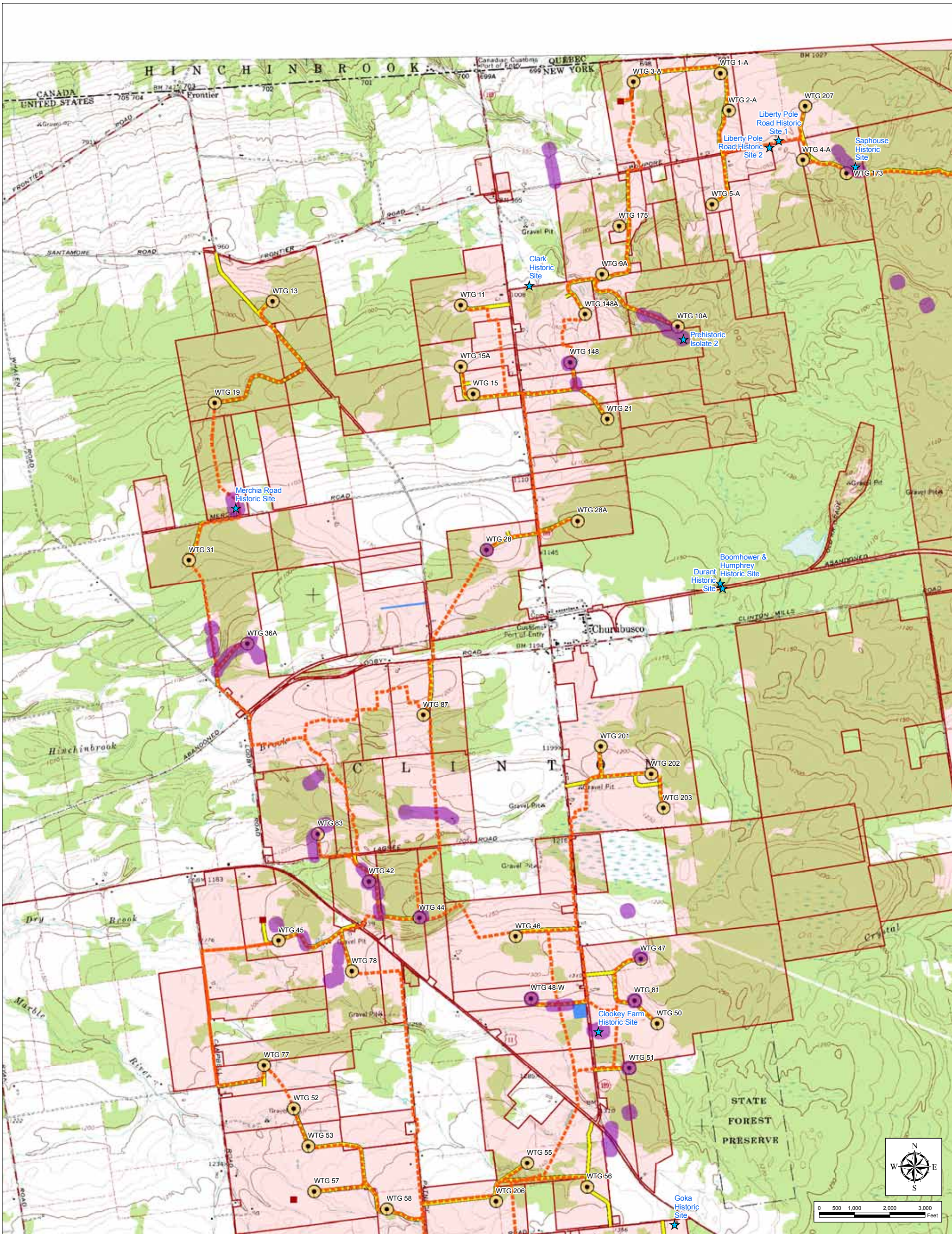
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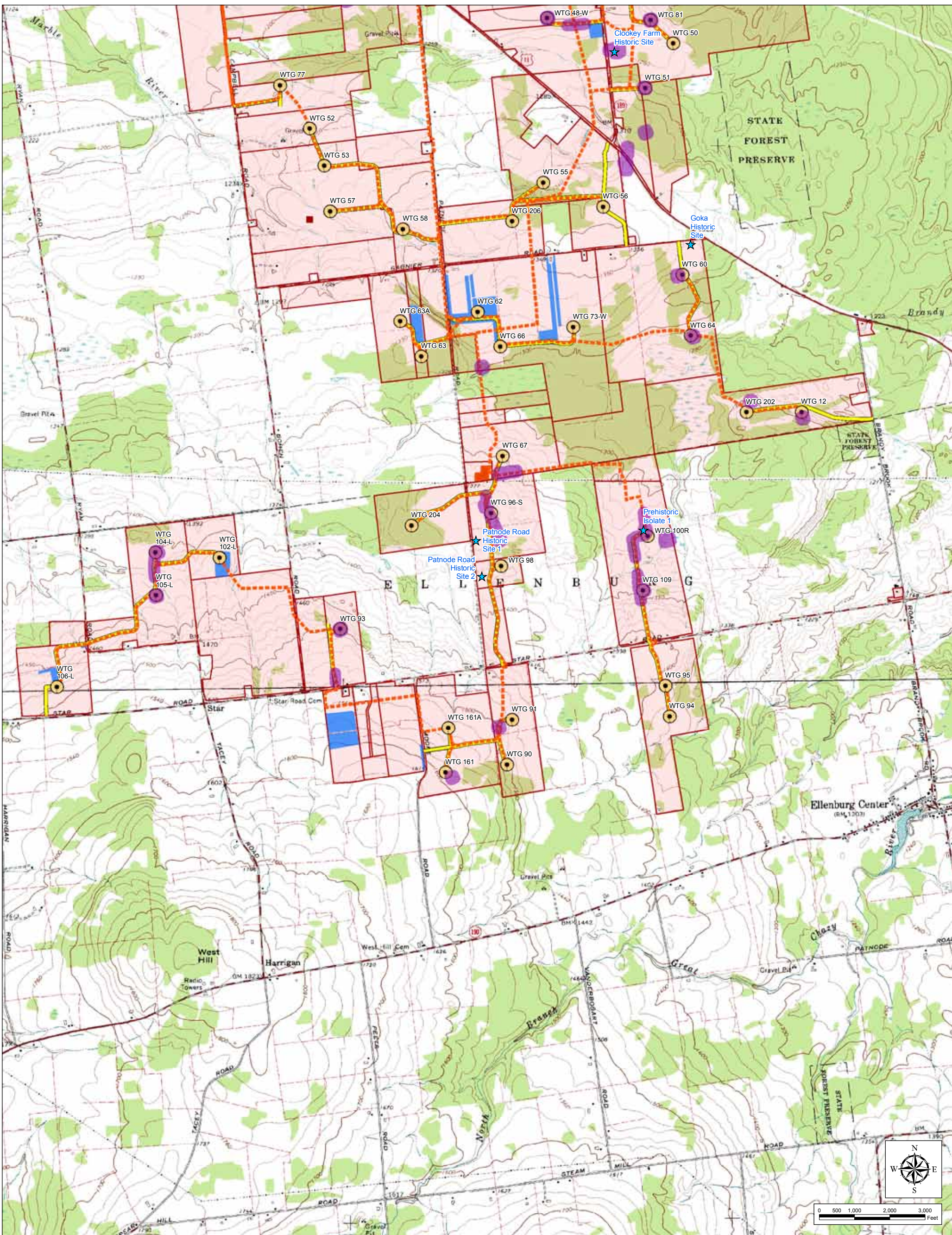
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Title	Legend	Notes	Author
<p>Marble River Wind Farm <i>Towns of Clinton and Ellenburg, Clinton County, New York</i></p> <p>Figure 3: Revised Project Layout Relative to Previous Archeological Survey Results Sheet 1 of 3</p>	<ul style="list-style-type: none"> ★ Archeological Sites ⊙ Wind Turbine ■ Met Tower --- Electrical Collection Line — Access Road ■ Shovel Test Areas ■ Pedestrian Surface Survey Areas □ Participating Parcels ■ Substation 	<p>Map Created: August 2010.</p> <p>Base Map: USGS 1:24,000 Churubusco, Ellenburg Center, Ellenburg Depot and Ellenburg Mountain Quadrangles.</p> <p>© 2010 Environmental Design & Research. Landscape Architecture, Planning, Environmental Services, Engineering and Surveying, P.C.</p>	<p>Author:</p> 



Title
Marble River Wind Farm
 Towns of Clinton and Ellenburg,
 Clinton County, New York

Figure 3: Revised Project Layout Relative to Previous Archeological Survey Results
 Sheet 2 of 3

Legend

- ★ Archeological Sites
- Wind Turbine
- Met Tower
- Electrical Collection Line
- Access Road
- Shovel Test Areas
- Pedestrian Surface Survey Areas
- Participating Parcels
- Substation

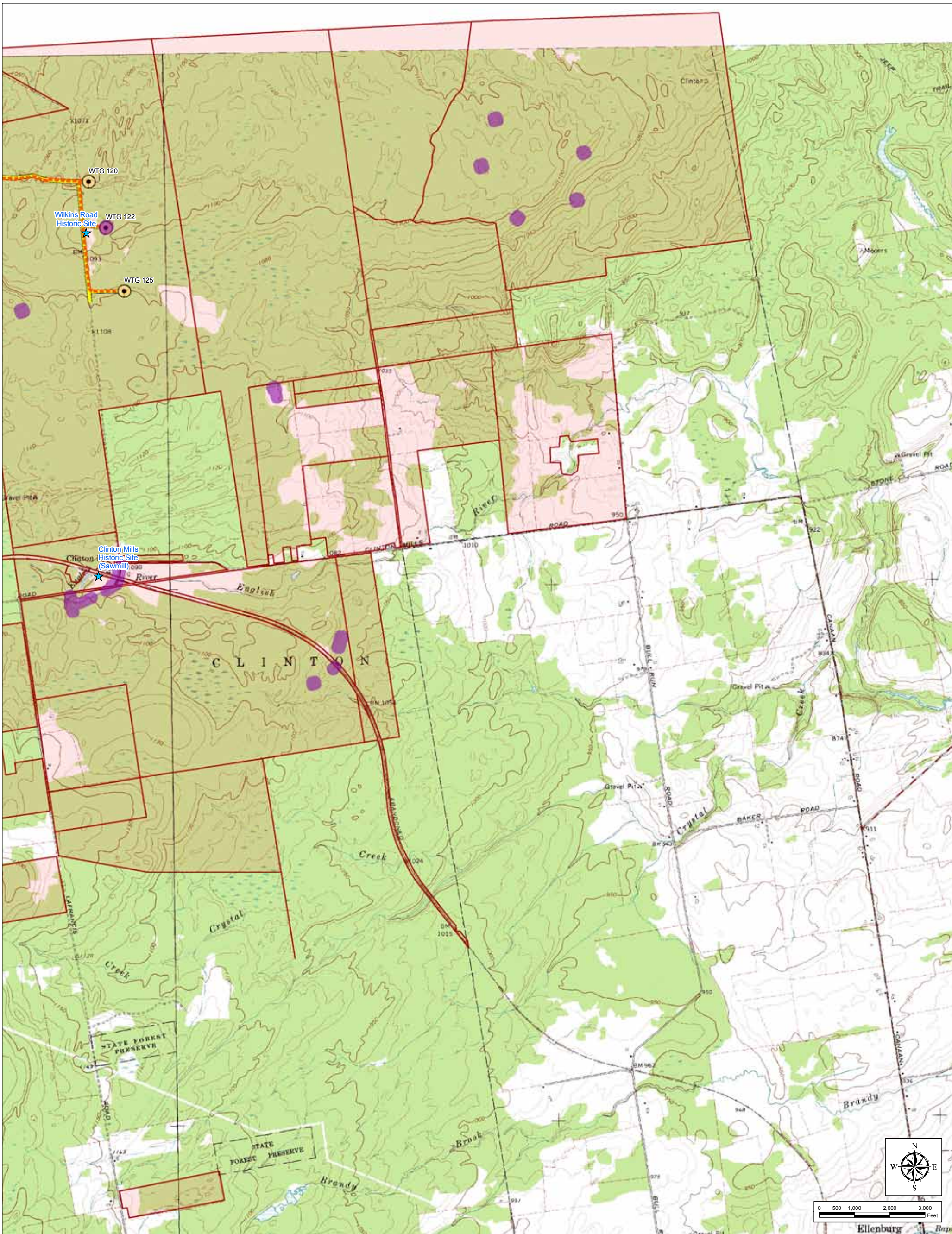
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Base Map:
 USGS 1:24,000 Churusco, Ellenburg Center, Ellenburg Depot and Ellenburg Mountain Quadrangles.

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Author



Title

Marble River Wind Farm
*Towns of Clinton and Ellenburg,
 Clinton County, New York*

Figure 3: Revised Project Layout Relative to Previous Archeological Survey Results
 Sheet 3 of 3

- Legend**
- ★ Archeological Sites
 - Wind Turbine
 - Met Tower
 - Electrical Collection Line
 - Access Road
 - Shovel Test Areas
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 - Participating Parcels
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