

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Petition of Cassadaga Wind, LLC for Amendment
of the Certificate of Environmental Compatibility
& Public Need

Case No. 14-F-0490

**PETITION OF CASSADAGA WIND, LLC FOR AN AMENDMENT TO
THE CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY & PUBLIC NEED FOR
THE CASSADAGA WIND PROJECT**

Dated: August 21, 2019
Albany, New York

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I. INTRODUCTION

On January 17, 2018, the Siting Board issued an Order granting a Certificate of Environmental Compatibility and Public Need, with Conditions (“Certificate”) to Cassadaga Wind, LLC (“Cassadaga Wind” or “Certificate Holder”). Cassadaga Wind has submitted, and the Commission has approved, the requisite compliance and informational filings required by the Certificate Conditions to commence the tree clearing phase of construction, and is in the process of compiling the requisite compliance and informational filings required to commence the civil phase of construction anticipated to start in the fall of 2019. The Certificate authorizes construction of 48¹ wind turbines to be located in the Towns of Cherry Creek, Charlotte, and Arkwright, capable of producing up to 126 megawatts (“MW”) (referred to herein as the “Facility”).

Pursuant to 16 NYCRR § 1000.16, Cassadaga Wind respectfully requests an amendment to the Certificate to relocate the Point of Interconnection (“POI”) substation approximately 700 feet northeast of the original certified POI substation location. The move proposed by Cassadaga Wind addresses concerns raised by Niagara Mohawk Power Corporation d/b/a National Grid (hereinafter referred to as “National Grid”) regarding the location of the previously proposed POI substation in the Application (“Certified POI substation”). Attached as **Exhibit A** to this Petition is a memo outlining the reasons for the requested move and associated impact analysis.

The Amendment will not have a significant adverse impact on the environment and therefore, should not be considered a “revision” but instead should be considered a “modification” of the Certificate. The amendment would be minor as the impacts associated with the move, in

¹ Final Facility Design is for 37 turbines and 125.5 MW.

conjunction with the mitigation proposed, do not increase adverse environmental impacts and the types of impacts associated from the move are already assessed in the Application and addressed in the Siting Board's Order, including the accompanying Certificate Conditions. Any impacts associated with the relocation will be minimized and mitigated as outlined in Exhibit A, including wetland and visual impacts. Under 1000.2(ak) a revision is a project change that is likely to result in a "significant increase in any environmental impact of the facility." The POI relocation will not have a significant increase in the environmental impact of the Facility, as outlined in Exhibit A. As such, this amendment can be authorized pursuant to 16 NYCRR 1000.16 for modifications. Under 1000.16, no hearing is required for modifications to a Certificate. After a 30-day public comment period, the Siting Board/Commission can render a decision.

II. OVERVIEW

The POI substation is required to interconnect the Facility to the New York State electric transmission system. In the Article 10 Application the POI substation was proposed to be located immediately adjacent to National Grid's Dunkirk-Moon 115 kV transmission line ("Moon Switching Station"), on the north side of Moon Road in the Town of Stockton.

As a result of design challenges outlined in Exhibit A and based on consultation with National Grid and the New York Independent System Operator (NYISO), the Certificate Holder is now proposing to construct the POI substation on an adjacent parcel, owned by the same landowner as the certified location, approximately 700 feet northeast of the certified location. It should be noted that while the POI has shifted more than 500 feet, the proposed site is located wholly within the corridor reviewed for the Certified transmission line.

a) Necessity of Modification

The POI substation location proposed in the Article 10 Application was originally selected for its proximity to the existing Moon Road Substation and other proposed Facility components. In addition, the site was selected from a broader area based upon favorable existing grades, avoidance of wetlands, forests and other ecological resource impacts, and landowner requests/concerns. However, after receiving the National Grid required line relocations associated with the Certified POI substation location, it was determined that this combined design (Certified POI substation and associated line relocations) presented several significant problems associated with the use of this site. These included the following:

- Clearing of approximately 2.04 acres of forested NYSDEC-regulated wetland (Freshwater Wetlands CS-8 and CS-9) north of the POI location to accommodate National Grid required temporary and permanent overhead transmission lines coming in and out of the Certified POI substation.
- Installation of permanent transmission line access roads that would result in the filling of approximately 0.93 acre of wetland.
- The required substation dimensions would extend into adjacent forested wetlands.
- Poles would have to be located on land that is being utilized by Ducks Unlimited “(DU)” as a wetland mitigation site, where the Certificate Holder cannot get an easement.
- The substation would have been located within National Grid’s right-of-way (“ROW”), and portions were located under an existing National Grid sub-transmission line.
- Insufficient available land to accommodate a six-breaker ring bus station and adequately satisfy all National Grid design requirements.
- Proximity to a gas well located to the west of National Grid’s existing Moon Switching Station.

Based on a review of alternative POI sites, and the findings of the National Grid Facility Study, it was determined that the location proposed in this Petition would result in reduced wetland impacts in comparison to other sites reviewed, and presents the most feasible site given its proximity to the existing National Grid transmission line. The proposed move will significantly reduce the number of poles, access roads, and forested wetland clearing that would otherwise occur at the Certified POI substation location based on National Grid's design requirements. The location also avoids the need to cross the existing National Grid 115 kilovolt ("kV") lines with the Facility 115 kV transmission line, as originally proposed in the application. See attached Proposed POI Station Site Plan (Exhibit A).

b) Impact Analysis

To determine whether a proposed amendment is a modification or a revision, 1000.16(a) states that the criteria for determining significance under 6 NYCRR 617.7(c) shall apply. None of the criteria in 617(c) will be triggered by the Amendment. The POI relocation will not result in an increase to environmental impacts as outlined in Exhibit A. Impacts to land use and cultural resources have not changed, and the proposed POI substation complies with local laws. While the proposed POI substation will result in an increased wetland impact over the Certified POI substation and design, when coupled with the necessary transmission line relocations required by National Grid, the new proposed POI substation location will result in an overall *decrease* in permanent wetland and adjacent area impacts (0.15 acre). Impacts to wetlands will be mitigated pursuant to the wetland mitigation plan developed in consultation with NYSDEC, and visual impacts will be minimized pursuant to the screening plan included with Exhibit A. As described above, the relocation addresses design challenges associated with the certified POI location and

does not significantly increase environmental impacts. Accordingly, the Amendment is not a “revision” and the procedures applicable to modifications shall apply.

III. CONCLUSION

The certified POI location presents significant design challenges which can be eliminated by the relocation of the POI substation approximately 700 feet northeast of the original certified POI substation location. Moving the POI location to a more suitable location will significantly reduce the number of poles, access roads, and forested wetland clearing that would otherwise occur at the Certified POI substation location based on National Grid’s design requirements. Impacts associate with the relocation have been minimized and mitigated. Therefore, Cassadaga Wind respectfully requests that the Certificate be modified to allow for the relocation of the POI substation.

Dated: August 21, 2019

Respectfully submitted,

Jess A Klami

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Exhibit ‘A’



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memorandum

To: Patrick McCarthy
Leah Grossman
Chip Readling

EDR Project No: 14048

From: Ben Brazell
Lindsay Donahoe

Date: August 21, 2019

Reference: Cassadaga Wind Project – Change to the POI substation location
Case No. 14-F-0490

Comments:

Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) has prepared this memorandum to summarize changes to the Cassadaga Wind Project (the “Facility”). Specifically, this memorandum addresses the proposed re-location of the Point of Interconnect (“POI”) substation from the site approved in the Certificate of Environmental Compatibility and Public Need (“Certificate”) issued to Cassadaga Wind LLC (the “Certificate Holder”) on January 17, 2018 by the New York State Board on Electric Generation Siting and the Environment (“Siting Board”). Subsequent to receiving the Certificate, Niagara Mohawk Power Corporation d/b/a National Grid (hereinafter referred to as “National Grid”) provided additional line relocations that would need to be completed in order to build the Certified POI substation. As explained below, National Grid’s required design changes presented several problems with the use of the site identified in the Article 10 Application (hereinafter referred to as the “Certified POI substation”). The move proposed by the Certificate Holder addresses this issues and other concerns raised by National Grid regarding the original location of the Certified POI substation. Please refer to Figure 1 of this memorandum for a general depiction of the proposed POI substation change.

POI SUBSTATION

Description of Change

The POI substation is required to interconnect the Facility to the New York State electric transmission system. In the Article 10 Application the POI substation was proposed to be located immediately adjacent to National Grid’s Dunkirk-Moon 115 kV transmission line and an existing switching station (the Moon Switching Station), on the north side of Moon Road in the Town of Stockton. The POI substation location proposed in the Article 10 Application was originally selected for its proximity to the existing Moon Road Substation and other proposed Facility components. In addition,

Landscape Architecture • Water/Wastewater Engineering • Civil Engineering • Regulatory Compliance
Ecological Resource Management • Cultural Resource Management • Visual Impact Assessment • Community Planning

the site was selected from a broader area based upon favorable existing grades, avoidance of wetlands, forests and other ecological resource impacts, and landowner requests/concerns. However, after receiving the National Grid required line relocations associated with the Certified POI substation, it was determined that this combined design (Certified POI substation and associated line relocations) presented several significant problems associated with the use of this site. These included the following:

- Clearing of approximately 2.04 acres of forested NYSDEC-regulated wetland (Freshwater Wetlands CS-8 and CS-9) north of the POI location to accommodate National Grid required temporary and permanent overhead transmission lines coming in and out of the Certified POI substation.
- Installation of permanent transmission line access roads that would result in the filling of approximately 0.93 acre of wetland.
- The required substation dimensions would extend into adjacent forested wetlands.
- Poles would have to be located on land that is being utilized by Ducks Unlimited “(DU)” as a wetland mitigation site, where the Certificate Holder cannot get an easement.
- The substation would have been located within National Grid’s right-of-way (“ROW”), and portions were located under an existing National Grid sub-transmission line.
- Insufficient available land to accommodate a six-breaker ring bus station and adequately satisfy all National Grid design requirements.
- Proximity to a gas well located to the west of National Grid’s existing Moon Switching Station.

Based on these environmental concerns, alternative sites were evaluated for a new POI substation location. These sites included the following:

- The field to the south of Moon Road that is owned by DU was considered, but it was determined through conversations with DU that there was not sufficient area on this site that was not either existing wetland or proposed wetland mitigation area.
- The field to the west of the original POI location is of sufficient size, but is active cropland with the landowner’s residence located directly adjacent to the field. Along with these conflicting land use issues, four electric circuits would have to be routed through the adjacent forested wetland, which would have required extensive clearing. In addition, the project 115 kV transmission line would have to cross the existing National Grid transmission line.
- A parcel of vacant land along the route of the project’s 115 kV transmission line on the east side of Route 60 directly across from the currently proposed location. This parcel has fewer wetlands, but the grade was too steep for cost effective construction of a substation. Further the landowner was unwilling to devote a

significant portion of the parcel to construction of the proposed POI substation. Finally, placement of the POI in this location would likely have required multiple overhead line crossings of Route 60 to facilitate the tie in with the existing National Grid line and the relocation of the Moon Switching Station.

- The proposed POI substation site is sited on a field owned by the same landowner that owns the Certified POI substation site, and that landowner is supportive of development of the station on the proposed site. Although a significant portion of this field was delineated as wetland (wet meadow), it is in active hay production and the functions and values of the wetlands have been comprised by agricultural use. The field is flat and easily accessed from Route 60. In addition, it is directly adjacent to the proposed generator lead line and the existing National Grid transmission lines, which significantly reduces the number of poles, access roads, and forested wetland clearing that would be required, relative to other alternative sites in the area.
- Other sites in the immediate vicinity are largely forested NYSDEC jurisdictional freshwater wetlands or on parcels where the landowner is not interested in hosting the proposed substation.

Based on this review of alternative POI sites, and the findings of the National Grid Facility Study, it was determined that the location proposed in this memorandum would result in reduced wetland impacts in comparison to other sites referenced above, as well as the most feasible site given its proximity to the existing National Grid transmission line.

As a result of these design challenges and based on consultation with National Grid and the NYISO, the Certificate Holder is now proposing to construct the POI substation (hereinafter referred to as the “proposed POI substation”) on an adjacent parcel located approximately 700 feet northeast of the existing Moon Switching Station (See Figure 2, Sheet 4). It should be noted that while the POI has shifted more than 500 feet, the proposed site is located wholly within the corridor reviewed for the Certified transmission line. As described above, the now proposed POI substation site is sited on land owned by the same landowner that owns the Certified POI substation location, and that landowner is supportive of development of the substation on this new proposed site and the Certificate Holder has executed an option to purchase agreement with the landowner for the new proposed location. Both the Certified POI substation and the proposed POI substation are sited on a mix of active and fallow agricultural land (hay fields). The field where the proposed POI substation is planned is flat and easily accessed from Route 60. In addition, it is directly adjacent to the proposed generator lead line and the existing National Grid transmission lines, which significantly reduces the number of poles, access roads, and forested wetland clearing that would otherwise occur at the Certified POI substation location based on National Grid’s design requirements. The location also avoids the need to cross the existing National

Grid 115 kilovolt (“kV”) lines with the Facility 115 kV transmission line, as originally proposed in the application. See attached Proposed POI Station Site Plan (Attachment A).

Once the proposed POI substation is constructed and energized, ownership of the proposed POI Station (which will be called the Moon Road Station) will be transferred to National Grid.

Interconnection to National Grid’s transmission system will be via the proposed POI substation which will split the 115 kV Laona-Falconer Lines 172 and 173 into four (4) separate lines. In addition, National Grid will relocate the Hartfield Line 159 from the existing Moon Switching Station to the proposed POI Station. Due to the proposed location of the POI substation in addition to the loop in/out of Lines 172 and 173, other transmission and distribution line assets are impacted by this project, including: Hartfield-Moon Road Line 159 and the Dunkirk-Hartfield Line 852.

The Certificate Holder and National Grid will complete these necessary system upgrades prior to the transfer of ownership to National Grid. For a complete overview of the requirements and specifications of the proposed POI substation, please see the Alternative POI Facilities Study (Updated Facility Study), filed on May 8, 2019 in accordance with Certificate Condition 41. It should be noted that National Grid will be responsible for the future decommissioning of the existing Moon Switching Station.

Impact Review

Land Use

The proposed POI substation site is located on a parcel (parcel ID 233.00-1-36.1) owned by Patrick Kelly, depicted on Figure 4-4, Sheet 23 of the Article 10 Application. This is the same landowner that owns the Certified POI location.

The Certified POI location is classified by the New York Office of Real Property Services (NYSORPS) as Vacant while the proposed POI location is classified by the NYSORPS as Agricultural, as depicted on Figure 4-1, Sheet 3 of the Article 10 Application. Based on aerial imagery and site visits, both locations are sited on active/fallow agricultural land. The Certified POI substation was sited completely on farmland of statewide importance. The majority of the proposed location (approximately 80%) is sited on areas designated as not prime farmland, with a small portion (approximately 20%) in an area designated as prime farmland if drained. New York State Department of Agriculture and Markets (NYSDAM) has been consulted and they have no concerns about the use of the proposed site (See Attachment B)

With respect to existing utilities, based on the National Pipeline Mapping System, no gas lines were identified in the location of the proposed POI. However, the Certificate Holder's ALTA survey identified a pipeline (a 2-inch diameter, plastic line owned by National Fuel) located to the west of the proposed POI location, between the POI and the existing 115 kV lines. See attached Station Site Plan (Attachment A). No impacts to this pipeline are anticipated.

On August 6, 2019, Cassadaga Wind submitted a Commercial Access Highway Work Permit Application to the New York State Department of Transportation (NYSDOT) in order to obtain a permit for the driveway that will be utilized to access the proposed POI substation. It is anticipated that the proposed driveway will be eligible for expedited review, and therefore the permit is anticipated to be issued within 28 days of NYSDOT's receipt. The permit will be filed in accordance with the Certificate.

Cultural

EDR evaluated the location of the proposed POI substation in relation to the *Phase 1B Archaeological Survey* report (EDR, 2016a) and the *Historic Architectural Resources Survey* (EDR, 2016b) that were previously prepared for the Facility. EDR determined that because the proposed POI substation is located in the same landscape classification zones that were previously subject to archaeological survey and the total ground disturbance would not increase, additional archaeological survey work is not necessary. Regarding potential visual impacts to historic properties from the proposed POI substation, it is the opinion of EDR that including the POI substation in the consideration of visual impacts does not change the previous SHPO determination as indicated in correspondence dated June 15, 2016 (Bonafide, 2016). EDR presented these findings in the *Revised Project Layout and Section 106 Updated* memorandum (EDR, 2018), which was submitted to SHPO on August 13, 2018. This memo is included as Attachment C. SHPO concurred with these findings in August 2018 (Herter, 2018). SHPO's concurrence is included as Attachment D.

Wetlands

As described above, although a significant portion of the proposed POI substation site was delineated as wetland (wet meadow), the majority of the site is in active hay production and the remainder appears to be mowed on a frequent basis, precluding any significant woody growth. The Certified POI location as depicted in the Application resulted in a permanent wetland impacts of 25 square feet to Wetland WWW and 25 square feet to Wetland YYY from the installation of two utility poles in each wetland as depicted on Sheets SW26 and SW27 of Exhibit 9 of the June 2017 Brazell Rebuttal Testimony. (Evidentiary Hearing Exhibit 9) The Certified POI location also resulted in 1.26 acre of permanent impact, and 0.293 acre of forest clearing, to NYSDEC 100-foot Adjacent Areas. As described above, based on information from National Grid, the Certified POI substation is no longer feasible. Following approval of the Certified

POI substation location, National Grid identified additional design changes that would be required due to the relocation of existing transmission lines. These new changes resulted in additional wetland impacts, including clearing up to 2.04 acres of forested NYSDEC regulated wetland.

The proposed POI location was selected because of the reasons identified above, and will result in 2.795 acres of permanent wetland impact. As described above, the proposed POI substation will also include the relocation of Line 159 by National Grid. This line relocation will result in 0.818 acre of forested wetland conversion, 2.534 acres of temporary impact, and 0.428 acre of 100-foot adjacent area forest conversion.

While the proposed POI substation will directly result in an increased wetland impact over the Certified POI substation, when coupled with the necessary transmission line relocations, the proposed POI substation location will result in an overall decrease in permanent wetland and adjacent area impacts (0.15 acre) compared to the Certified POI substation and line relocation design proposed by National Grid line subsequent to receiving the Certificate.

The Certificate Holder will provide compensatory mitigation for the wetland impacts that result from the proposed POI substation. Based on consultation with the NYSDEC, Cassadaga Wind is currently evaluating sites in proximity to the proposed impacts. A Conceptual Wetland Mitigation Plan, which was reviewed by NYSDEC, was submitted to the Siting Board on June 21, 2019. This plan identified the site selection process, baseline information protocols, mitigation work plan and maintenance plan, performance standards, monitoring requirements and financial assurances that would be followed as part of the wetland mitigation. Wetland mitigation activities will include wetland establishment (creation), wetland restoration, wetland enhancement, and buffer restoration. The NYSDEC has provided approval of the Conceptual Wetland Mitigation Plan. Coordination with NYSDEC is ongoing and a Final Mitigation Plan is anticipated in mid-September.

Visual

EDR prepared a viewshed analysis to determine the visibility of the proposed POI substation (Attachment E) in relation to the Certified location. The viewshed analysis determined that within the POI Visual Study Area (a 1-mile radius of the Certified and proposed POI substations), the proposed POI substation is only visible from 2.56% of the area, whereas the Certified POI substation would be visible from 2.61% of the area.

One residence is adjacent to the proposed POI substation (north-northeast of the proposed POI location), and the Certificate Holder is working with the property owner of that residence to provide adequate visual screening. A conceptual screening plan is provided as Attachment F.

Local Laws

The Certified POI substation and the proposed POI substation are both located in the Town of Stockton Agricultural ("A") district. Utilities are allowed by right in Agricultural ("A") districts according to Section 407 "Land Use Matrix" of the Town of Stockton Zoning Law. At the time of the filing of the original Application, the Certificate Holder consulted with the Town to identify if any of the zoning restrictions for the Agricultural district would be applicable to the POI substation. Upon review of the Town of Stockton's Zoning Regulations and consultation with town officials there are no substantive or procedural requirements applicable to the point of interconnect substation. Although not applicable, the proposed POI substation (which includes the equipment necessary for relocation of the Moon Switching Station) complies with lot sizes for A Districts (Town of Stockton Zoning Law, Article IV, Section 304(b)(1)) and is proposed to be located on a lot with a base lot area of a minimum of one acre with minimum road frontage of at least 100 feet. The POI substation has also been designed to comply with unit standards for A Districts and has a maximum lot cover of 25%, minimum front yard of 65 from the centerline of the traveled roadway, minimum side yard of 5 feet, and minimum rear yard of 5 feet.



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memorandum

REFERENCES

Bonafide, John. 2016. Re: Cassadaga Wind Farm/70 Turbines/126 MW, Towns of Charlotte, Cherry Creek, Arkwright, and Stockton, Chautauqua County, 15PR02730. Review letter dated June 15, 2016. New York State Office of Parks, Recreation, and Historic Preservation, Waterford, NY.

Environmental Design & Research Landscape Architecture, Engineering, and Environmental Services (EDR). 2016a. *Cassadaga Wind Project, Phase 1B Archaeological Survey*. Environmental Design and Research, Syracuse, NY.

EDR. 2016b. *Historic Architectural Resources Survey: Cassadaga Wind Project, Chautauqua County, New York*. March 2016. Prepared by EDR, Syracuse, NY.

EDR. 2018. *Revised Project Layout and Section 106 Update*. Sent to Nancy Herter, Archaeology Unit Program Coordinator, New York State Office of Parks, Recreation, and Historic Preservation. August 10, 2018.

Herter, Nancy. 2018. Re: USACE Cassadaga Wind Project, Towns of Arkwright, Charlotte, Cherry Creek & Stockton, Chautauqua County, 15PR02730, 14-F-0490. Review letter dated August 24, 2018. New York State Office of Parks, Recreation, and Historic Preservation, Waterford, NY.

Figure 1

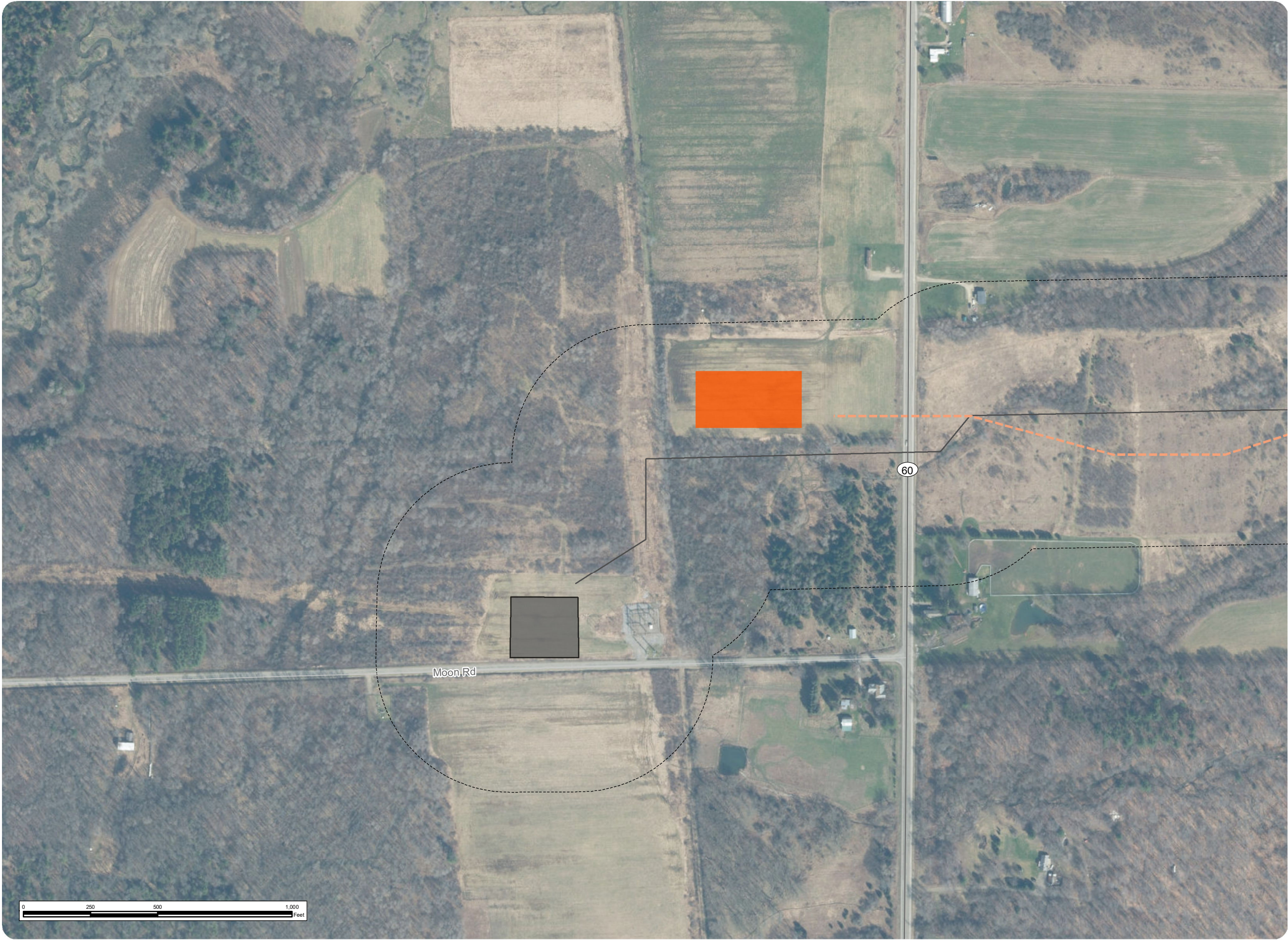
Cassadaga Wind Project

Towns of Charlotte, Cherry Creek, and Stockton, Chautauqua County, New York

Figure 1. POI Substation Layout Comparison: A10 Certified Layout and Current Layout

- Current Transmission Line
- Current POI Substation
- A10 Certified Transmission Line
- A10 Certified POI Substation
- 500-foot Buffer of the A10 Certified Layout

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on August 7, 2019. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.



Attachment 'A'

Attachment 'B'

McCarthy, Patrick

From: Saviola, Michael (AGRICULTURE) <Michael.Saviola@agriculture.ny.gov>
Sent: Thursday, August 15, 2019 10:32 AM
To: McCarthy, Patrick
Cc: Rasweiler, Ian (DPS); Davis, Andrew (DPS); Grossman, Leah; Morrell, David (DPS)
Subject: RE: Cassadaga Project Changes

No concerns from the Department for the POI Substation switch as its probably best to not build it on an active natural gas pipeline.

Michael J. Saviola, MPS
New York State Department of Agriculture & Markets
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From: Saviola, Michael (AGRICULTURE)
Sent: Thursday, August 15, 2019 10:27 AM
To: 'patrick.mccarthy@innogy.com' <patrick.mccarthy@innogy.com>
Cc: Rasweiler, Ian (DPS) <ian.rasweiler@dps.ny.gov>; Davis, Andrew (DPS) <Andrew.Davis@dps.ny.gov>; leah.grossman@innogy.com; Morrell, David (DPS) <David.Morrell@dps.ny.gov>
Subject: RE: Cassadaga Project Changes

Pat: I have reviewed the summary of facility changes for Cassadaga prepared by EDR and have the following comments:

- T-Line shifts in ag land. Pole structures including angle structures should be self-supporting structures (no guy wires in ag fields).
- Tower Removals associated with existing T-Lines: If they are located in areas that are actively farmed--ag field, the foundations should be removed to a minimum of 48-inches below grade.
- Access road to T-4 shifted to enter off of Lewis Road. Shift necessary to avoid the steep slope and unfavorable road geometry which will affect turbine component delivery. This field is typically worked in a N/S cropping pattern and the proposed road is oriented east west-opposite the field's historic cropping pattern. Based on a review of historic aerial photography, this field has been a permanent grass hay field for a minimum of 25 years. Because the proposed access road breaks the historic N/S cropping pattern, we recommend that the access road be constructed "at-grade" in order to allow for efficient passage over the road by mechanized farming equipment without the farmer tearing up his/her equipment.
- Access road to T-53 proposed off of Cook Road as opposed to the original route from Rood Road. Proposed access road is far enough east from the hedgerow to allow adequate room for farming equipment in between the hedgerow and the proposed access road.
- T-13 has added a pass through road past the turbine site and connects with Weaver Road. It is understand that the portion of the access road south of the turbine will be temporary for use during construction and will be removed and the area restored as per NYSDAM Guidelines after construction.
- T-31. The access road alignment shifted to better follow contours and as proposed the road only crosses 1 diversion terrace as opposed to 3 in the original design.

Please let me know if there are additional changes you would like the Department's input on.

Thanks for reaching out.

-Mike

Michael J. Saviola, MPS
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From: patrick.mccarthy@innogy.com <patrick.mccarthy@innogy.com>
Sent: Thursday, August 08, 2019 12:39 PM
To: Saviola, Michael (AGRICULTURE) <Michael.Saviola@agriculture.ny.gov>
Cc: Rasweiler, Ian (DPS) <Ian.Rasweiler@dps.ny.gov>; Davis, Andrew (DPS) <Andrew.Davis@dps.ny.gov>;
leah.grossman@innogy.com; Morrell, David (DPS) <David.Morrell@dps.ny.gov>
Subject: Cassadaga Project Changes

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hey Mike,

We're coordinating with DPS on a couple project changes and wanted to just make sure you don't have any concerns with. Specifically"

- We shifted the road to T14 to access the turbine from the west. While it arguable cuts the fields up a bit, it significantly reduces the grading and disturbance to the field that would have resulted from coming from the west then south.
- Access to T53 – Need to shift from prior access from the west, as it required a lot of grading and wetland impact. The fields are currently hay/pasture crop.
- Access to T13 – we have added a pass through road that continues south past the turbine and connects to Weaver Road. Ultimately that road to the south is temporary and will be removed after construction. We also added some UG collection along weaver road
- Road to T31 - We changed the alignment to better follow the contours. Note we previously crossed 3 terrace ditches and now only cross one. Also, the landowner has been filling in those ditches so i'm not sure how functional they are.

Do you have time tomorrow or early next week to chat with me?

Thanks!

Pat

Patrick McCarthy
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Vorsitzender des Aufsichtsrates: Dr. Erhard Schipporeit

Vorstand: Uwe Tigges (Vorsitzender), Dr. Hans Buenting,

Dr. Bernhard Guenther, Arno Hahn, Martin Herrmann, Hildegard Mueller

Sitz der Gesellschaft: Essen, Eingetragen beim Amtsgericht Essen,

Handelsregister-Nr. HRB 27091, USt-IdNr. DE304171711

Attachment 'C'



Environmental Design & Research,
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August 13, 2018

Ms. Nancy Herter
Archaeology Unit Program Coordinator
New York State Office of Parks, Recreation, and Historic Preservation
Division for Historic Preservation

**RE: Revised Project Layout and Section 106 Update
DPS
Cassadaga Wind Project
Towns of Arkwright, Charlotte, Cherry Creek & Stockton
Chautauqua County
NYSOPRHP Project Review # 15PR02730
NYSDPS Case No. 14-F-0490**

Dear Ms. Herter:

Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) is assisting Cassadaga Wind, LLC, a subsidiary of Innogy Renewables US LLC (the Applicant), with environmental permitting for the Cassadaga Wind Project (the Facility). Following the most recent correspondence with the New York State Office of Parks Recreation and Historic Preservation/State Historic Preservation Office (NYSOPRHP/SHPO) regarding the Facility, there has been a minor layout shift, which is summarized below. The purpose of this memorandum is to provide documentation to SHPO describing this layout shift and requesting confirmation that this minor layout change does not require additional archaeological testing.

Revised Facility Description

The proposed Facility is located in the Towns of Arkwright, Charlotte, Cherry Creek, and Stockton, Chautauqua County, New York. As currently proposed, the Facility will include 41 wind turbines and approximately 14.0 miles of access roads, 25.9 miles of collection lines, 5.3 miles of overhead transmission line, a collection substation, a point of interconnection (POI) substation, a permanent meteorological (met) tower, an Operations and Maintenance (O&M) building, and one temporary staging/laydown area. The layout of the proposed Facility has been revised following EDR's submission of the *Phase 1B Archaeological Survey* report (EDR, 2016a) and *Historic Architectural Resource Survey* report (EDR, 2016b) in response to issues raised by the New York State Department of Public Service and other parties to the Article 10 Proceedings.

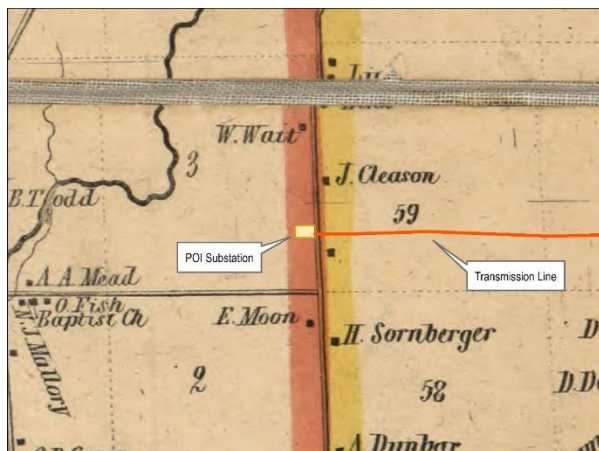
Most recently, subsequent to the Article 10 review, a National Grid Facilities Study addressing the POI Substation required a substation design that presented several significant problems associated with the use of this site, consisting of additional filling and clearing within an adjacent forested wetland. Therefore, as a result of these problems, the Applicant, in consultation with National Grid and the New York Independent System Operator, examined alternate POI locations in the area and ultimately selected the one depicted in the attached Figures 1 and 2 as posing the fewest environmental impacts. The current Facility layout is located in areas that were included in the layout evaluated in the Phase 1B report, with the exception of the POI substation and a small portion of overhead transmission line connected to the substation (see attached Figure 1). As discussed above these components were shifted slightly to minimize wetland impacts. The POI substation, located within the Town of Stockton, was originally proposed to be located immediately adjacent to National Grid's existing Dunkirk-Moon 115 kV transmission line, on the north side of Moon Road. It will now be located approximately 1,000 feet northeast of its previously proposed location, on the west side of State Route 60 (see attached Figure 2). These new areas were not shovel tested during EDR's Phase 1B archaeological survey.

Potential Impacts to Archaeological Sites

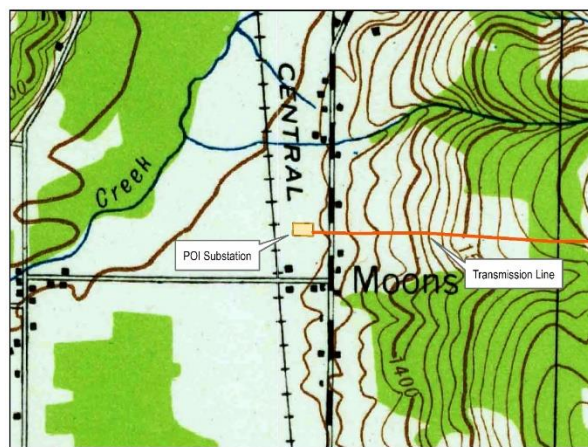
In 2016, EDR conducted a Phase 1B archaeological survey, and prepared a Phase 1B archaeological survey report (EDR, 2016), which was submitted to the SHPO on April 21, 2016. On April 24, 2016, SHPO responded with a letter which issued concurrence with the findings of EDR's report, and concluded the following:

The OPRHP has no further archaeology concerns with this project with the condition that the mapped locations of all identified archaeological sites within 100 ft (31 meters) of proposed project related impacts are identified as "Environmentally Sensitive Areas" on project construction maps and marked in the field by construction fencing with sign[s] that restrict access (Herter, 2016).

Sixteen archaeological sites were identified by this Phase 1B archaeological survey, none of which are located within or near the newly proposed POI substation location or revised transmission line route. Likewise, no previously identified archaeological sites depicted on the Cultural Resources Information System (CRIS) are located within or near these areas. Although map documented structures are located nearby, a review of Keeney's 1854 *Wall Map of Chautauqua County, NY* (Keeney, 1854; Inset 1), the 1881 F.W. Beers & Co. *Illustrated Historical Atlas of the County of Chautauqua, New York* (Beers, 1881), the 1900 and 1943 United States Geological Survey (USGS) *Dunkirk, NY* 15-minute topographic quadrangles (USGS, 1900; USGS, 1943; Inset 2), and the 1954 USGS *Cassadaga, NY* 7.5 minute topographic quadrangle (USGS, 1954) indicate that no structures were situated within the proposed POI substation location or along the revised transmission line route. It is important to note that the two map-documented structures depicted immediately north and south of the proposed transmission line route on the east side of State Route 60 (Insets 1 and 2) respectively correspond to a structure which stood until at least 1994 (Google Earth, 2018) and an existing structure, the locations of which will not be impacted.



Inset 1. Keeney's 1854 Wall Map of Chautauqua County, NY (Keeney, 1854).



Inset 2. 1943 USGS Dunkirk, NY 15-minute topographic quadrangle (USGS, 1943).

Visual Impact of the Proposed POI Substation on Historic Properties

Historic resources surveys prepared for the Facility included a *Historic Architectural Resources Survey* (EDR, 2016), which was submitted to the NYSOPRHP/SHPO on April 20, 2016 and summarized within Exhibit 20 of the Cassadaga Wind Project's Article 10 Application. In addition, a *Summary of Visual Impacts on Historic Properties* memorandum (EDR, 2017) was provided to NYSDPS on April 3, 2017 to provide additional information regarding the Facility's potential visual impact on historic properties.¹ As described in the *Historic-Architectural Resources Survey* (included as Appendix EE of the Article 10 Application) and Exhibit 20, the Facility will have no physical impacts to historic properties (i.e., no historic structures will be damaged or removed). The Facility's potential effect on a given historic property would be a change (resulting from the introduction of wind turbines) in the property's visual setting. In review correspondence dated June 15, 2016, the NYSOPRHP/SHPO provided determinations of NRHP-eligibility for the historic properties identified in the *Historic-Architectural Resources Survey* and concluded that the Facility would have an Adverse Effect on cultural resources (Bonafide, 2016).

The potential visual effect of the Facility's proposed POI substation was not explicitly addressed in the *Historic-Architectural Resources Survey* report, or in the *Summary of Visual Impacts on Historic Properties* memorandum. However, the *Visual Impact Assessment* (or VIA; EDR, 2016c) prepared for the Facility, which was included as Appendix VV of the Article 10 Application and Summarized in Exhibit 24, does address the visibility and visual impact of the original location of the POI substation. The historic properties identified in *Historic-Architectural Resources Survey* are included as a category of visually sensitive sites that are considered in the VIA (see Section 3.6 and Figure 6 in the VIA report). In addition, the VIA report includes a discussion (included below) that addressed the potential visibility and visual effect of the POI substation:

¹ A copy of this memo is available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={F4016F32-3CFC-4002-B5EA-AA6CEB2605BA}>.

Substations

The POI substation is proposed to be located next to an existing National Grid Substation on Moon Road in the Town of Stockton. As shown in the photograph from Viewpoint 61 included in Inset 46, the site is open, reverting agricultural land that is adjacent to the road and is therefore readily visible. Other than the road frontage, the site is surrounded by dense, tall forest vegetation. The proposed site for the POI substation is adjacent to an existing electrical substation. Therefore, the addition of the POI substation will appear to be an expansion of these existing facilities and the degree of impact will be less than it would be in a site where this type of infrastructure is not already present. There are no residences immediately adjacent to the site. The surrounding forest cover will screen visibility from residences along NYS Route 60 and at its intersection with Moon Road (0.2 miles to the east). Therefore, no visual impacts on nearby residents are anticipated. (EDR, 2016c:126).

To further supplement this discussion, there are two properties that NYSOPRHP/SHPO determined to be NRHP-eligible located within 0.5-mile of the proposed POI substation, which are listed in the table below.

NYSOPRHP #	Address	Description	Municipality	County	Determination of NRHP Eligibility	Distance to POI substation (miles)
01325.000111	Charlotte District No. 10 Schoolhouse - North side of Moon Road	One-story front-gabled schoolhouse	Town of Stockton	Chautauqua County	NRHP-Eligible	0.15
01325.000012	3607 Moon Road	Two-story brick Italianate residence (Moon House)	Town of Stockton	Chautauqua County	NRHP-Eligible	0.19

Based on the viewshed analysis that was prepared (see attached map: Figure 3: Historic Resources Visual Effects Analysis – POI Substation), the POI substation is not likely to be visible from the two NRHP-eligible properties located approximately 0.2-mile away (Charlotte District No. 10 Schoolhouse and the Moon House). It is not anticipated that the POI substation will have a significant visual effect on properties located greater than 0.5-mile from the proposed POI substation location, due to the effect of distance, intervening vegetative screening, and the presence of existing substations, transmission lines and other aboveground utilities in the visual environment.

The factors that resulted in these two properties being determined NRHP-eligible, and the potential visual effect of the Facility on these properties, are consistent with the language from the *Historic-Architectural Resources Survey*, a portion of which is repeated here:

These properties are typically determined NRHP-eligible because they are representative examples of vernacular nineteenth-century architectural styles that retain their overall integrity of design and materials. These properties would retain the characteristics that caused them to be recommended eligible after the introduction of wind turbines...into their visual settings (EDR, 2016b).

It is worth noting that based on the *Summary of Visual Impacts on Historic Properties* memorandum (EDR, 2017) these two NRHP-eligible properties also fall within areas of potential wind turbine visibility. Therefore, the introduction of the POI substation does not significantly increase the visual impacts posed by the Facility, or alter the determination by NYSOPRHP that the Facility will have an Adverse Effect on historic properties.

Summary and Conclusions

It is the opinion of EDR that additional archaeological testing as a result of the revised Facility layout is not warranted, per the 2006 New York State Historic Preservation Office *Guidelines for Wind Farm Development Cultural Resources Survey Work* (New York State Office of Parks, Recreation, and Historic Preservation, 2006), which are based on the assumption that additional archaeological survey work is not necessary if the locations of Facility components are revised during the Facility development process, as long as the total area of ground disturbance for the Facility does not increase. The revised locations of the POI substation and overhead transmission line do not increase the size of the Archaeological Area of Potential Effect (APE) that was evaluated in the Phase 1B archaeological survey. In addition, these revised Facility components are located in the same landscape classification zones (per the research design included in the Phase 1B archaeological survey report) that were previously subjected to archaeological survey. Furthermore, EDR surveyed the Archaeological APE at a 181% level of effort relative to the proposed research design (EDR, 2016:13). As part of this effort, a total of 3,853 shovel tests were excavated and 174.7 acres of pedestrian survey was completed, compared to the proposed 3,716 shovel tests and 69 acres of pedestrian survey, for the Facility (EDR, 2016:13).

Regarding potential visual impacts to historic properties from the construction of the proposed POI substation, it is the opinion of EDR that including the POI substation in the consideration of visual impacts does not change the overall determination that the Facility will result in an Adverse Effect on historic properties due to the introduction of modern elements into the rural landscape that serves as the setting for these properties, as indicated by NYSOPRHP/SHPO in correspondence dated June 15, 2016 (Bonafide, 2016).

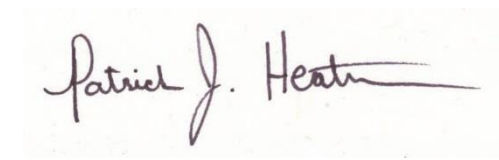
The Applicant has prepared a Cultural Resources Mitigation Plan (EDR, 2018) that addresses the overall adverse impacts to cultural resources that will result from construction of the Facility. The mitigation plan was submitted to NYSOPRHP on March 9, 2018. On March 23, 2018, NYSOPRHP responded with a letter indicating that:

Based upon this review, the SHPO agrees that the amount of mitigation funding is appropriate for the scope of this undertaking. We also agree that the updated project selections are appropriate to offset the adverse effects to historic/cultural resources associated with this undertaking (Bonafide, 2018).

The Applicant is currently in the process of developing a Memorandum of Agreement to satisfy review of the Facility by the United States Army Corps of Engineers (USACE) under Section 106 of the National Historic Preservation Act.

Following your review of this memorandum, please provide EDR with a letter confirming your concurrence at your earliest convenience. The Applicant needs written documentation from SHPO that the previous findings regarding archaeology and visual effects on historic properties remain valid to conclude both the Article 10 process and to obtain a revised United States Army Corps of Engineers wetlands permit.

If you have any questions/concerns or would like to discuss the revised Facility layout described herein, please contact Patrick Heaton at pheaton@edrdpc.com or Nicholas Freeland (nfreeland@edrdpc.com), or (315) 471-0688.



Patrick Heaton, RPA
Principal, Director of Cultural Resources
Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C.

Attachments:

- Figure 1. Revised Facility Layout
- Figure 2. Revised POI Substation Location
- Figure 3: Historic Resources Visual Effects Analysis – Revised POI Substation Location

REFERENCES CITED

Beers, F.W. & Co. 1881. *Illustrated Historical Atlas of the County of Chautauqua, New York*. F.W. Beers & Co., New York, NY. Available at www.ancestry.com.

Bonafide, John. 2016. Re: Cassadaga Wind Farm/70 Turbines/126 MW, Towns of Charlotte, Cherry Creek, Arkwright, and Stockton, Chautauqua County, 15PR02730. Review letter dated June 15, 2016. New York State Office of Parks, Recreation, and Historic Preservation, Waterford, NY.

Bonafide, John. 2018. Re: ACE/NYSPSC Cassadaga Wind Farm/70 Turbines/126 MW, Towns of Charlotte, Cherry Creek, Arkwright, and Stockton, Chautauqua County, 15PR02730. Review letter dated March 23, 2018. New York State Office of Parks, Recreation, and Historic Preservation, Waterford, NY.

Environmental Design & Research Landscape Architecture, Engineering, and Environmental Services (EDR). 2016a. *Cassadaga Wind Project, Phase 1B Archaeological Survey*. Environmental Design and Research, Syracuse, NY.

EDR. 2016b. *Historic Architectural Resources Survey: Cassadaga Wind Project, Chautauqua County, New York*. March 2016. Prepared by EDR, Syracuse, NY.

EDR. 2016c. *Visual Impact Assessment: Cassadaga Wind Project, Towns of Charlotte, Cherry Creek, Arkwright and Stockton, Chautauqua County, NY*. April 2016. Prepared by EDR, Syracuse, NY.

EDR. 2017. *Cassadaga Wind – Summary of Visual Effects on Historic Properties*. Memorandum prepared for Cassadaga Wind, LLC by EDR, Syracuse, NY. March 31, 2017.

EDR. 2018. *Revised Cultural Resources Mitigation Plan. Cassadaga Wind Project, Towns of Charlotte, Cherry Creek, Arkwright and Stockton, Chautauqua County, NY*. March 2018. Prepared by EDR, Syracuse, NY.

Google Earth. 2018. 1994 Historical Imagery, 42.284820 -79.295410. Google, Mountain View, CA.

Herter, Nancy. 2016. Re: DPS, Cassadaga Wind Project, Towns of Arkwright, Charlotte, Cherry Creek, Ellington, Gerry & Stockton, Chautauqua County, 15PR02730, 14-F-0490. Correspondence from Nancy Herter (NYSOPRHP) to Grant Johnson (EDR). New York State Office of Parks, Recreation, and Historic Preservation, Waterford, New York. April 24, 2016.

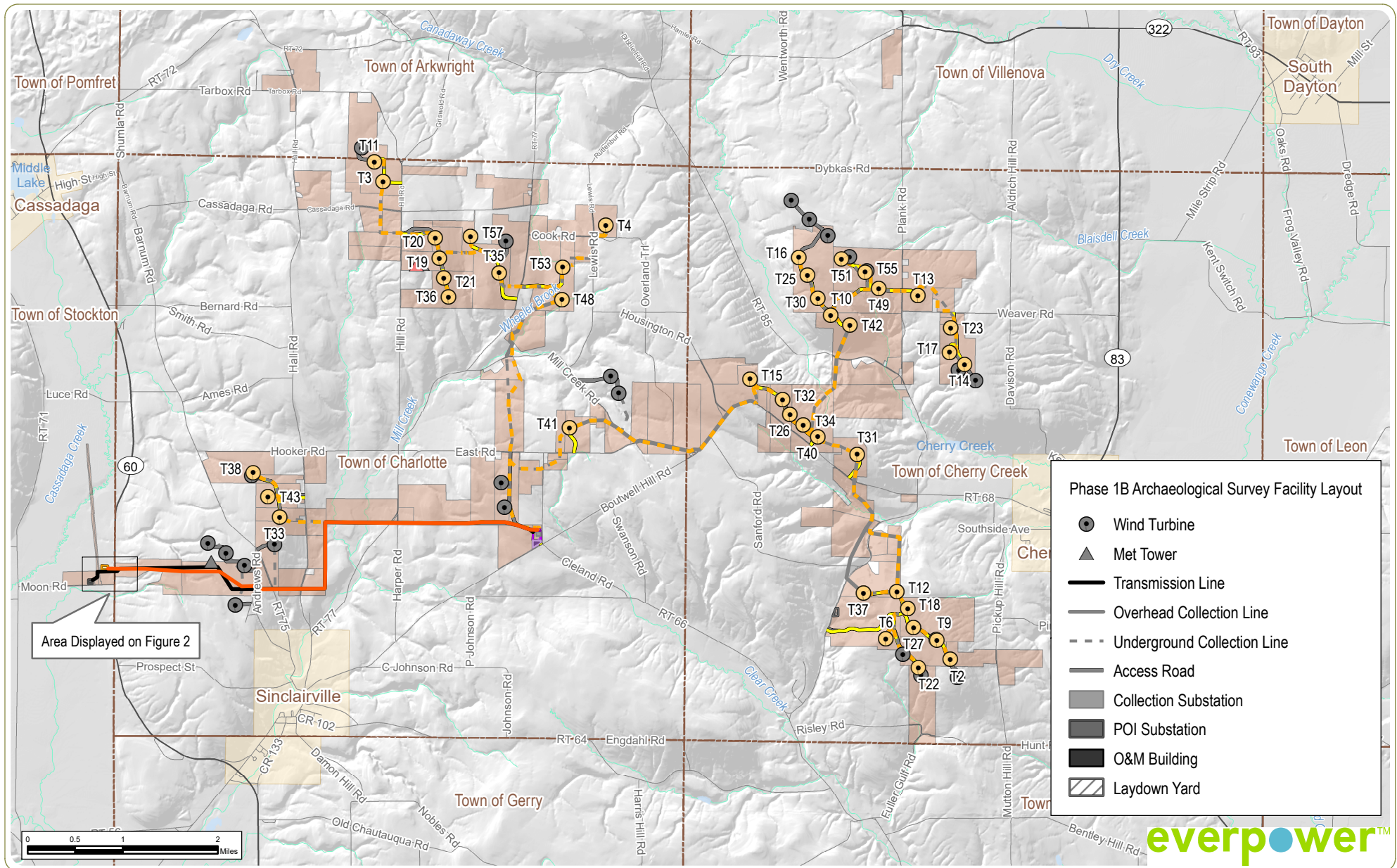
Keeney, Collins G. 1854. *Wall Map of Chautauqua County, New York*. Collins G. Keeney, Philadelphia, PA. Available at <http://www.rootsweb.ancestry.com/~nychauta/HISTORY/1854Atlas/WallMapOfChautauquaCounty1854.html>.

New York State Office of Parks, Recreation, and Historic Preservation. 2006. *New York State Historic Preservation Office Guidelines for Wind Farm Development Cultural Resources Survey Work*. New York State Office of Parks, Recreation, and Historic Preservation, Waterford, NY.

United States Geological Survey (USGS). 1900. *Dunkirk Quadrangle*. New York. 15 Minute Series (Topographic). United States Department of the Interior, Geological Survey, Reston, VA.

USGS. 1943. *Dunkirk Quadrangle*. New York. 15 Minute Series (Topographic). United States Department of the Interior, Geological Survey, Reston, VA.

USGS. 1954. *Cassadaga Quadrangle*. New York. 7.5 Minute Series (Topographic). United States Department of the Interior, Geological Survey, Reston, VA.



Cassadaga Wind Project

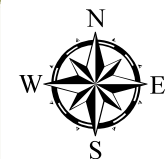
Towns of Arkwright, Charlotte, Cherry Creek, and Stockton, Chautauqua County, New York

Figure 1: Revised Facility Layout

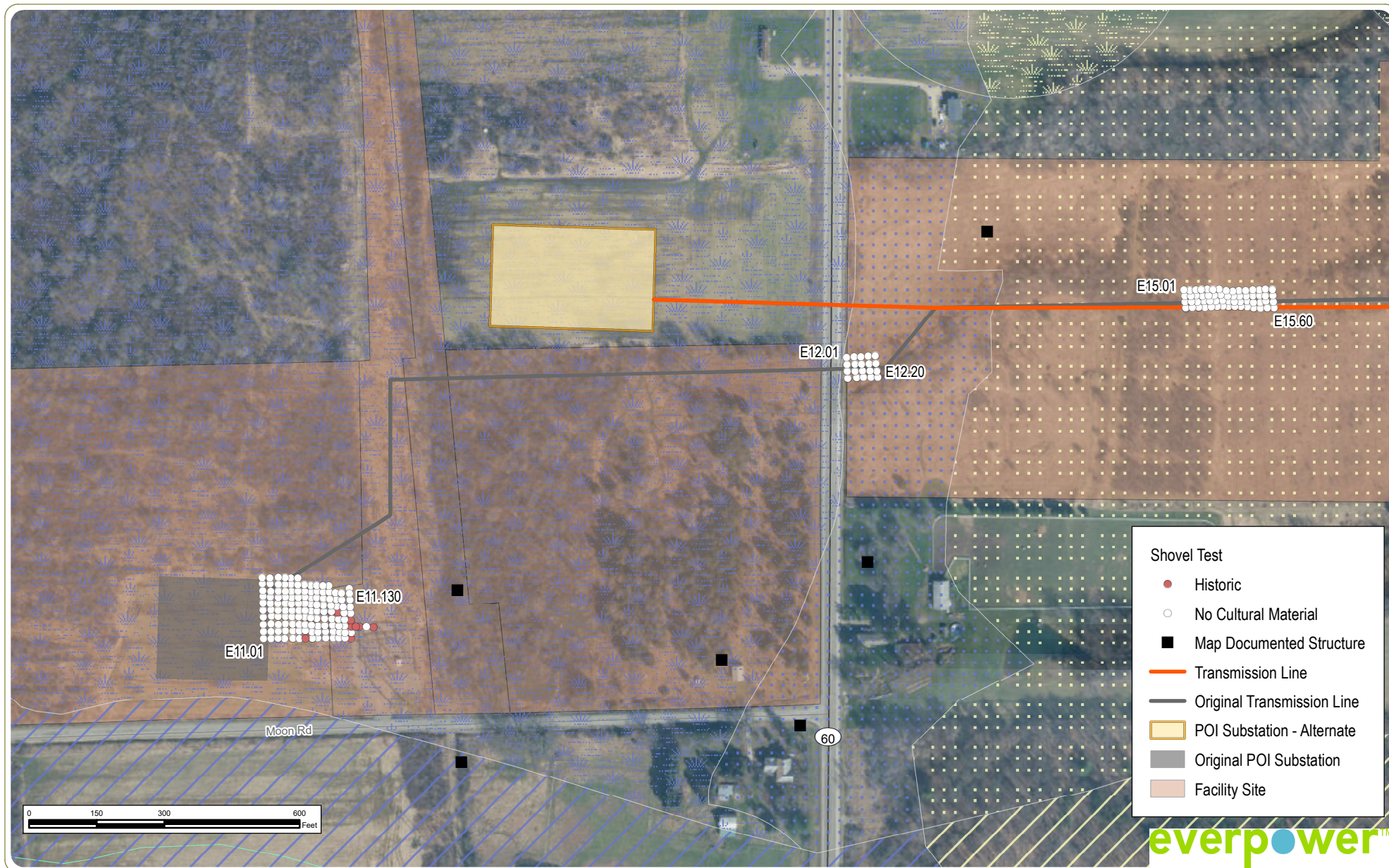
Notes: 1. Basemap: Hillshade derived from USGS 10-meter DEM data. 2. This map was generated in ArcMap on July 31, 2018. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

Current Proposed Facility Layout

- | | | |
|-------------------|----------------------------|---------------|
| Wind Turbine | Access Road | Laydown Yard |
| Met Tower | Collection Substation | Facility Site |
| Transmission Line | POI Substation - Alternate | Town Boundary |
| Collection Line | O&M Building | |



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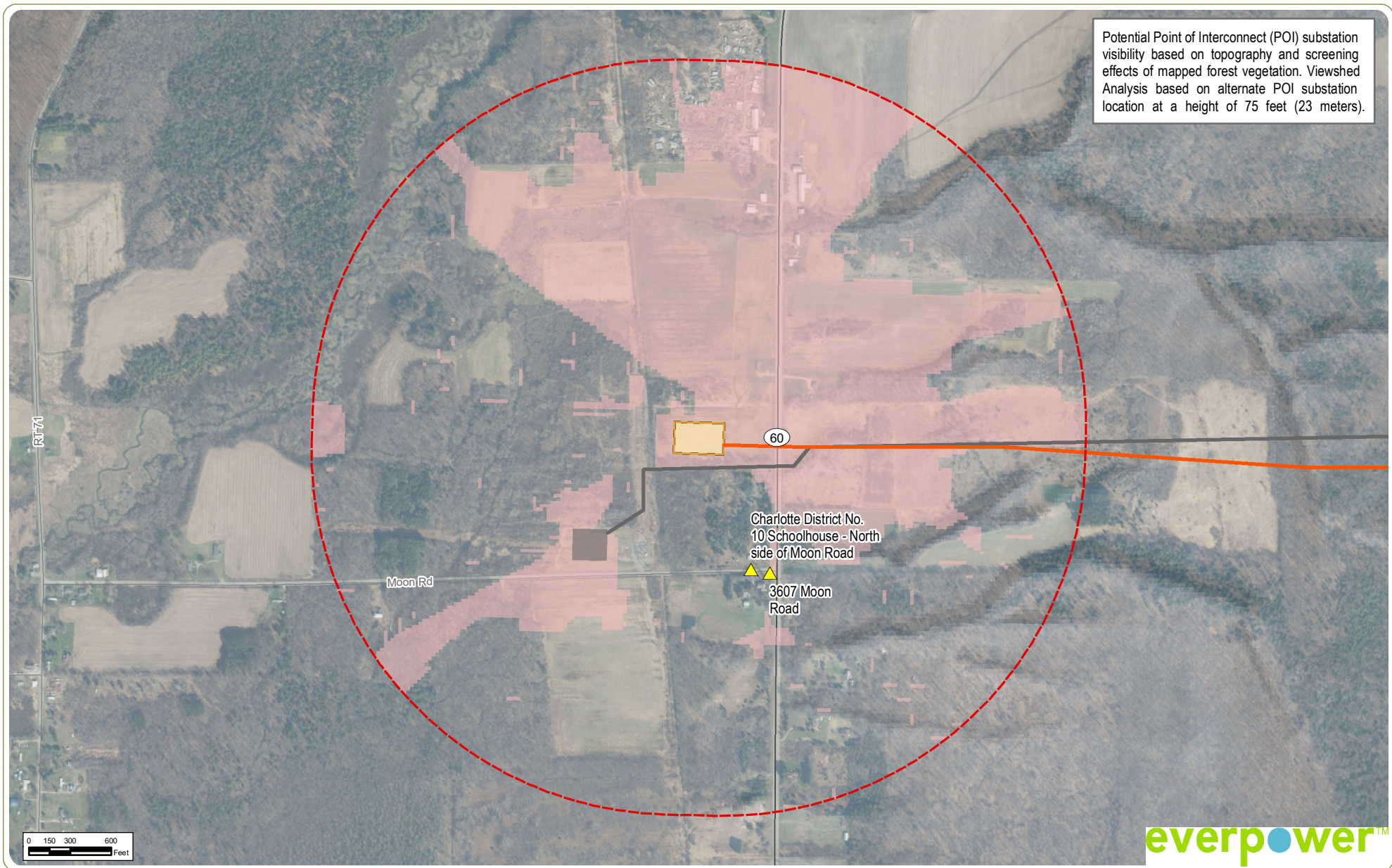


Cassadaga Wind Project

Towns of Arkwright, Charlotte, Cherry Creek, and Stockton, Chautauqua County, New York

Figure 2: Revised POI Substation Location

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service and Hillshade derived from USGS 10-meter DEM data. 2. This map was generated in ArcMap on July 31, 2018. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

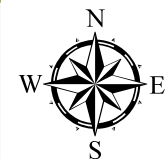
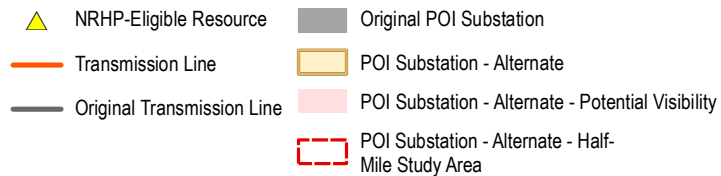


Cassadaga Wind Project

Towns of Arkwright, Charlotte, Cherry Creek, and Stockton, Chautauqua County, New York

Figure 3: Historic Resources Visual Effects Analysis – Revised POI Substation

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service and Hillshade derived from USGS 10-meter DEM data. 2. This map was generated in ArcMap on August 10, 2018. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.



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Attachment ‘D’



Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

August 24, 2018

Mr. Grant Johnson
Cultural Resources Analyst
Environmental Design & Research, D.P.C. (EDR)
217 Montgomery Street, Suite 100
Syracuse, NY 13202

Re: USACE
Cassadaga Wind Project
Towns of Arkwright, Charlotte, Cherry Creek & Stockton
Chautauqua County
15PR02730
14-F-0490

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the *Revised Project Layout and Section 106 Update*, prepared by edr and dated August 13, 2018, in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

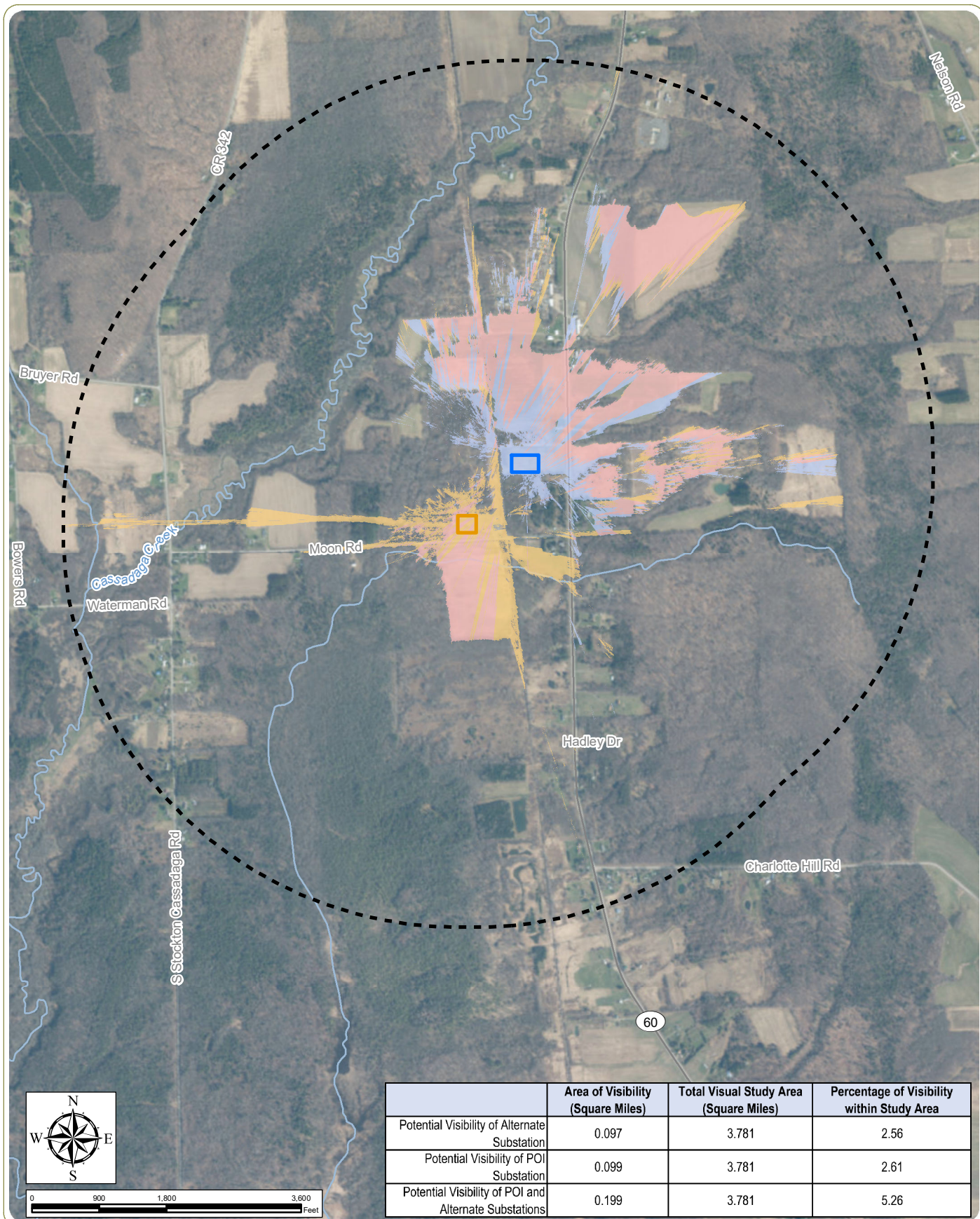
Based on this review, the SHPO concurs that additional archaeological testing as a result of the revised Facility layout is not warranted and we continue to recommend that this undertaking will have an Adverse Effect on historic properties due to the introduction of modern elements into the rural landscape that serves as the setting for these properties.

If you have any questions, I can be reached at (518) 268-2179.

Sincerely,

Nancy Herter
Archaeology Unit Program Coordinator

Attachment ‘E’



Cassadaga Wind Project

Towns of Charlotte, Cherry Creek, Arkwright, and Stockton, Chautauqua County, New York

Viewshed Analysis Results

Notes: 1. Basemap: ESRI ArcGIS Online "World Imagery" map service. 2. This map was generated in ArcMap on September 20, 2018. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data. 4. Potential substation visibility is based on the screening effects of topography, vegetation, and man-made structures as represented in the 2017 NYSGPO Southwest lidar dataset. Viewshed analysis based on maximum substation structure height of 22.25 meters (73 feet).

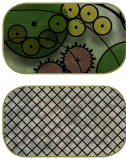
- Potential Visibility of Alternate Substation
- Potential Visibility of POI Substation
- Potential Visibility of POI and Alternate Substations
- 1-Mile Visual Study Area
- Alternate Substation Location
- POI Substation

Attachment ‘F’

Mitigation Concept Plan



Cassadaga Wind Project
Towns of Charlotte, Cherry Creek, Arkwright, and Stockton
Chautauqua County, New York
Appendix D: Conceptual Mitigation Plan
March 2019



- Planting Plan

- Delineated Wetland



- Cone of View From Residence

Original Photograph



Cassadaga Wind Project
Towns of Charlotte, Cherry Creek, Arkwright, and Stockton
Chautauqua County, New York
Appendix D: Visual Simulations
March 2019

Viewpoint 171
Original Photograph
County Route 60

Location:
Town of Stockton and Charlotte,
Chautauqua County

Landscape Similarity Zone:
Transportation Corridor, Rural Valley

Direction of View:
Southwest

Photo Date:
August 21, 2018

Visual Simulation - Mitigation Year 1



Cassadaga Wind Project
Towns of Charlotte, Cherry Creek, Arkwright, and Stockton
Chautauqua County, New York
Appendix D: Visual Simulations
March 2019

Viewpoint 171
Original Photograph
County Route 60

Location:
Town of Stockton and Charlotte,
Chautauqua County

Landscape Similarity Zone:
Transportation Corridor, Rural Valley

Direction of View:
Southwest

Photo Date:
August 21, 2018

Visual Simulation - Mitigation Year 5



Cassadaga Wind Project
Towns of Charlotte, Cherry Creek, Arkwright, and Stockton
Chautauqua County, New York
Appendix D: Visual Simulations
March 2019

Viewpoint 171
Original Photograph
County Route 60

Location:
Town of Stockton and Charlotte,
Chautauqua County

Landscape Similarity Zone:
Transportation Corridor, Rural Valley

Direction of View:
Southwest

Photo Date:
August 21, 2018