



Cassadaga Wind Project

Case No. 14-F-0490

1001.3 Exhibit 3

Location of Facilities

EXHIBIT 3 LOCATION OF FACILITIES

(a) Topographic Maps

Figure 3-1 shows the location of the components of the major electric generation and interconnection facilities associated with the proposed Cassadaga Wind Project including the turbines, access roads, electrical collection system, generator lead line, collection and point-of-interconnect (POI) substations, permanent meteorological towers, operations and maintenance (O&M) building, and laydown areas. These components are collectively referred to as the "Facility", and are mapped on the "USGS Topo" topographic tile cache base map service. This map service combines the most current data (Boundaries, Elevation, Geographic Names, Hydrography, Land Cover, Structures, Transportation, and other themes) that make up The National Map (USGS, 2016). The National Map is a collaborative effort between the USGS and other Federal, State, and local partners to improve and deliver topographic information for the United States (USGS, 2015). The "USGS Topo" map service is designed to provide a seamless view of the data in a geographic information system (GIS) accessible format, and depicts information consistent with the USGS 7.5-minute (1:24,000) quadrangle topographic maps at large scales (USGS, 2016).

(1) Proposed Major Electric Generating Facility Locations

For the purposes of this Article 10 Application, the Facility Site is defined as those parcels currently under, or being pursued for lease (or option for lease) with the Applicant for the location of all Facility components. Figure 3-1 depicts the location of all Facility components within the Facility Site, including the following:

- wind turbines
- permanent meteorological towers
- access roads
- buried electrical collection
- overhead electrical collection
- O&M building
- laydown areas
- centerline of the 115 kilovolt (kV) generator lead line
- collection substation
- point of interconnect substation
- Alternate turbine locations (Please also note that as described in Exhibit 9, one of the alternatives being evaluated is the use of taller turbines in the same location as those proposed

and evaluated throughout this Application. Therefore, in relation to Figure 3-1, the taller turbines would be in the same location as those depicted with the “wind turbine” symbol.)

As currently designed, it is not anticipated that any permanent storm water devices of a significant nature (e.g., large detention basin) will be utilized during construction and operation of the Facility. In addition, to the extent that they are utilized, a concrete batch plant will be located in the Facility’s central laydown area. Furthermore, at the time of the submission of this Application, the Applicant has not determined potential locations of permanent mitigation/offset sites for wetlands or historic resources. For more information on potential wetland impacts and mitigation see Exhibit 22, and for more information on potential historic resources impacts and mitigation, see Exhibit 20.

(2) Interconnection Location

All Facility components, including the interconnection facilities, will be located within the defined Facility Site and therefore are mapped in Figure 3-1 as indicated in Section 3(a)(1), above.

(3) Location of Ancillary Features

Based on all studies and analyses conducted to date, the only off-site ancillary features associated with the Facility are temporary public road improvements. These features are depicted on Figure 3-2.

(4) Location of Article VII Transmission Lines Not Subject to Article 10

The Facility does not include any components that are subject to Article VII of the PSL. The proposed 115kV generator lead line is approximately 5.6 miles in length (well below the 10-mile threshold for regulation under Article VII), and is therefore being presented and evaluated as part of this Article 10 Application.

(5) Study Area

The Facility has been the subject of a number of studies in support of this Article 10 Application. A single, universal study area has not been utilized for all studies/analyses, rather the various studies have applied resource-specific study areas, which are described briefly below along with a reference to the exhibit in which more information is provided.

- Land Use (see Exhibit 4 for additional detail): Various aspects of land use such as zoning, land use classification, and existing transmission facilities were characterized within a 5-mile radius of the Facility. In addition, a detailed review of land use was conducted for the Facility Site.
- Shadow Flicker (see Exhibits 15 and 24 for additional detail): The potential for impacts resulting from shadow flicker was assessed within a radius equal to 10 turbine diameters (1,360 m) around each proposed turbine location.
- Noise (see Exhibit 19 for additional detail): The potential for noise impacts resulting from the construction and operation of the proposed Facility was assessed for all sensitive receptors located within one mile of any proposed turbine location.
- Archaeological Area of Potential Effect (see Exhibit 20 for additional detail): The Archaeological Area of Potential Effect was defined as the maximum extent of potential soil disturbance for all Facility components with the exception of the generator lead line and spans of overhead collection line, for which the maximum extent of potential vegetation disturbance was assessed.
- Architectural Survey Area (see Exhibit 20 for additional detail): Potential impacts to architectural resources resulting from the construction and operation of the proposed facility were assessed within a five mile radius of the Facility Site.
- Wetland/Stream Survey Area (see Exhibits 22 and 23 for additional detail): The study area utilized to conduct wetland and stream investigations was defined as the maximum extent of soil and vegetation disturbance that could result from construction and operation of the proposed Facility.
- Visual Study Area (see Exhibit 24 for additional detail): The study area utilized to conduct visual impact assessments for the proposed Facility was defined as a 10 mile radius around the Facility Site.
- Transportation (see Exhibit 25 for additional detail): The study area utilized to assess potential impacts resulting from the transportation needs for the construction and operation of the proposed Facility was defined as the entire length of all potential transportation routes beginning where the routes exit from Interstate 90, and ending at the proposed turbine locations.

(b) Municipal Boundary Maps

Figure 3-3 depicts the location of the proposed Facility with respect to village, town, county, and school district boundaries. These locational relationships are described in section (c), below.

(c) Description of Proposed Facility Locations

As shown in Figure 3-3, the villages of Cassadaga, Sinclairville, Cherry Creek, and South Dayton are relatively proximate to the Facility but do not overlap the Facility Site (NYS GPO, 2016). The Facility Site is located to the south and east of the Village of Cassadaga with the closest turbine located approximately 2.9 miles from the Village boundary. The Village of Sinclairville is located south of the Facility Site, approximately 0.3 mile from the nearest turbine. The Village of Cherry Creek is located east of the Facility Site, approximately 0.8 mile from the nearest turbine; and the Village of South Dayton is located northeast of the Facility Site, approximately 3.9 miles from the nearest turbine. The Facility Site falls within the Towns of Charlotte, Cherry Creek, Arkwright, and Stockton; and lies wholly within Chautauqua County (the Facility Site is approximately 2.3 miles west of the Chautauqua/Cattaraugus County Line; NYS GPO, 2016). The Facility Site also falls within the Cassadaga Valley Central School District and the Pine Valley (South Dayton) Central School District (USCB, 2015). See Table 3-1 for a summary of the number of turbines that are proposed within each of these boundaries. The Applicant is not aware of any other applicable municipal boundaries, taxing jurisdictions, or designated neighborhoods or community districts within the Facility Site.

Table 3-1. Number of Turbines by Municipal Boundary and Taxing Jurisdiction

Municipal Boundary/Taxing Jurisdiction	Number of Turbines
Town of Arkwright	1
Town of Charlotte	25
Town of Cherry Creek	32
Town of Stockton	0
Chautauqua County	58
Cassadaga Valley Central School District	26
Pine Valley (South Dayton) Central School District	32

Please note that with respect to siting various Facility components, existing disturbances were utilized wherever practicable. For instance, in many locations linear features of the Facility (e.g., access roads, collection lines) have been sited, in part, on existing logging roads, gas well roads, four-wheeler trails, or agricultural farm roads.

(d) Facility Shapefiles

Facility shapefiles provided include turbine locations, access roads, collection lines, collection substation, generator lead line, POI substation, construction lay down and temporary concrete batch plant areas, and the O&M building.

However, the Applicant is seeking confidential information protection for shapefiles for all Facility components. Therefore, The Applicant has submitted the shapefiles under separate and confidential cover, and has sought the requisite protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.4.

(e) Turbine Coordinates and Surface Elevation

Table 3-2 provides the latitude and longitude coordinates for each proposed Facility wind turbine, along with the approximate ground surface elevation as derived from USGS 10-meter resolution digital elevation model data.

Table 3-2. Turbine Coordinates and Surface Elevation

Turbine ID	Latitude	Longitude	Surface Elevation (feet)
T1	42° 16' 14.40" N	79° 7' 22.01" W	2035.8
T2	42° 16' 24.22" N	79° 7' 27.48" W	2053.5
T3	42° 20' 43.98" N	79° 14' 29.07" W	1900.9
T4	42° 20' 20.99" N	79° 11' 44.13" W	1988.9
T5	42° 18' 57.32" N	79° 7' 10.18" W	1888.6
T6	42° 16' 35.34" N	79° 8' 15.13" W	2042.2
T7	42° 21' 2.51" N	79° 14' 45.16" W	1841.4
T8	42° 20' 35.54" N	79° 9' 27.10" W	1860.2
T9	42° 16' 35.05" N	79° 7' 37.85" W	2061.3
T10	42° 19' 32.39" N	79° 8' 57.31" W	1933.6
T11	42° 20' 54.94" N	79° 14' 35.54" W	1870.1
T12	42° 17' 1.21" N	79° 8' 7.16" W	1995.5
T13	42° 19' 43.63" N	79° 7' 53.06" W	1901.4
T14	42° 19' 3.03" N	79° 7' 22.59" W	1859.0
T15	42° 18' 57.29" N	79° 9' 56.83" W	2006.4
T16	42° 20' 4.32" N	79° 9' 21.24" W	1897.5
T17	42° 19' 12.71" N	79° 7' 29.38" W	1864.3
T18	42° 16' 51.94" N	79° 7' 59.10" W	2030.4
T19	42° 20' 2.32" N	79° 13' 47.10" W	1960.7
T20	42° 20' 13.52" N	79° 13' 50.11" W	1945.7
T21	42° 19' 51.47" N	79° 13' 43.65" W	1929.5
T22	42° 16' 15.56" N	79° 7' 49.04" W	1983.8
T23	42° 19' 26.05" N	79° 7' 28.72" W	1877.6
T24	42° 16' 26.73" N	79° 8' 2.28" W	2017.2
T25	42° 19' 54.52" N	79° 9' 14.71" W	1923.0
T26	42° 18' 38.11" N	79° 9' 27.03" W	1982.6
T27	42° 16' 41.49" N	79° 7' 54.60" W	2055.3

Turbine ID	Latitude	Longitude	Surface Elevation (feet)
T28	42° 17' 24.74" N	79° 15' 47.27" W	1741.4
T29	42° 20' 25.14" N	79° 9' 13.64" W	1879.5
T30	42° 19' 41.69" N	79° 9' 7.00" W	1901.9
T31	42° 18' 16.39" N	79° 8' 37.22" W	1827.1
T32	42° 18' 46.08" N	79° 9' 32.65" W	1964.5
T33	42° 17' 39.67" N	79° 15' 43.46" W	1748.2
T34	42° 18' 32.21" N	79° 9' 17.20" W	1949.1
T35	42° 19' 54.63" N	79° 13' 2.70" W	1912.8
T36	42° 19' 41.17" N	79° 13' 40.09" W	1850.3
T37	42° 17' 0.31" N	79° 8' 31.68" W	1907.1
T38	42° 18' 2.19" N	79° 16' 4.32" W	1678.9
T39	42° 16' 51.10" N	79° 16' 15.70" W	1672.6
T40	42° 18' 25.95" N	79° 9' 6.46" W	1922.0
T41	42° 18' 29.80" N	79° 12' 9.89" W	1915.3
T42	42° 19' 27.17" N	79° 8' 43.13" W	1878.1
T43	42° 17' 50.63" N	79° 15' 52.33" W	1721.7
T44	42° 17' 13.01" N	79° 16' 9.12" W	1699.4
T45	42° 17' 24.90" N	79° 16' 36.48" W	1637.2
T46	42° 17' 19.68" N	79° 16' 23.00" W	1690.1
T47	42° 20' 16.36" N	79° 8' 59.91" W	1882.2
T48	42° 19' 40.12" N	79° 12' 16.10" W	1876.0
T49	42° 19' 47.45" N	79° 8' 22.13" W	1881.2
T50	42° 17' 45.90" N	79° 12' 57.38" W	1775.6
T51	42° 20' 4.72" N	79° 8' 43.91" W	1895.0
T52	42° 17' 59.43" N	79° 13' 0.10" W	1795.6
T53	42° 19' 57.95" N	79° 12' 15.81" W	1876.8
T54	42° 18' 49.11" N	79° 11' 33.78" W	1932.0
T55	42° 19' 57.06" N	79° 8' 30.98" W	1898.9
T56	42° 20' 12.03" N	79° 12' 57.97" W	1860.1
T57	42° 20' 14.38" N	79° 13' 23.99" W	1881.1
T58	42° 18' 58.31" N	79° 11' 39.68" W	1930.8

REFERENCES

NYS GIS Program Office (GPO). 2016. *NYS Civil Boundaries* [shapefile]. Available at: <http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=927> (Downloaded February 23, 2016).

United States Census Bureau (USCB). 2015. *Unified School Districts* [shapefile]. Available at: <ftp://ftp2.census.gov/geo/tiger/TIGER2015/UNSD/> (Downloaded January 28, 2016).

United States Geological Survey (USGS). 2015. *The National Map: Introduction to The National Map*. Available at: <http://nationalmap.gov/about.html> (Accessed February 23, 2016).

USGS. 2016. *The National Map: USGSTopoLarge (MapServer)*. Available at: <http://services.nationalmap.gov/arcgis/rest/services/USGSTopoLarge/MapServer> (Accessed February 23, 2016).