

Agricola Wind Project

Permit Application No. 23-03002

1100-2.15 Exhibit 14

Wetlands

Revision 1

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EXHIBIT 14 WETLANDS

(a) Map Showing Delineated Wetland Boundaries

All wetlands and streams at the Facility Site were identified through on-site field investigations within and adjacent to the proposed Facility components (e.g., 100 feet from the area to be disturbed by the construction of the Facility) where property access was available (Wetland Study Area). Wetland boundaries were approximated for areas outside the Facility Site but within 100-feet from the limit of disturbance (LOD) where the Applicant did not have access. Field delineations were conducted during the growing season between June, 2023 and September, 2024. The results of the on-site field delineations are documented in the revised Wetland and Stream Delineation Report (WDR) (Appendix 14-A). The boundaries of all delineated wetlands are depicted in Appendix 14-A, and in Figure 14-1 of this Application.

Pursuant to 16 NYCRR Section 1100-1.3(e)(2), the Applicant provided ORES with a WDR, dated June 20, 2024. A Wetlands Jurisdictional determination (JD) was issued by the Office of Renewable Energy Siting and Electric Transmission (ORES) on September 3, 2024. Following the receipt of the September 3, 2024 Wetlands JD, the Applicant made small changes to the layout and design of the Facility. The layout and design changes required additional wetland and stream delineations, primarily extensions to the boundaries of previously delineated wetlands. To support these additional delineations and to update the WDR to be consistent with the Surface Water and Wetland JDs (JDs) and comments made by ORES, the Applicant revised the WDR to summarize the results of all delineation efforts to date and reflect jurisdictional status. The Applicant provided ORES with revised copies of the WDR on September 20, 2024 and October 25, 2024 (Appendix 14-A). On November 1, 2024 a revised Wetlands JD was received from ORES (Appendix 14-B).

The Applicant is in the process of consulting with the U.S. Army Corps of Engineers (USACE) to determine federal jurisdiction of delineated wetlands.

(b) Wetland and Stream Delineation Report

As indicated above, the results of the on-site field delineations are documented in the revised Wetland and Stream Delineation Report (Appendix 14-A). The identification of wetland boundaries was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987). Determination of wetland boundaries was also guided by the methodologies presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0* (USACE, 2012) and the *New York State Freshwater Wetland Delineation Manual* (NYSDEC, 1995). All wetland boundaries were defined in the field by sequentially numbered pink surveyor's flagging, and flag locations were recorded using GPS technology with reported sub-meter accuracy. Data were collected from sample plots in representative wetland cover types and recorded on USACE Routine Wetland Determination forms.

Wetlands were categorized as one or more of the following community types: palustrine emergent wetland (PEM), palustrine scrub-shrub wetland (PSS), palustrine forested wetland (PFO), or palustrine open water

(POW). Appendix 14-A provides detailed information regarding the results of the delineation survey, including descriptions of the wetland communities identified.

(c) Wetland Functional Assessment

A Wetland Functional Assessment (Appendix 14-C) was conducted for all wetlands that would be impacts (i.e., all wetlands within the LOD). The functions and values assessment follows the methodology described in the *Wetlands Functions and Values: Descriptive Approach* described in the September 1999 supplement to *The Highway Methodology Workbook* (Supplement) by the New England Division of the USACE (USACE, 1995). The functional assessment is presented in tabular format. Individual functional assessment forms for each wetland feature are included in Appendix 14-C.

Wetland functions are ecosystem properties that result from the biologic, geologic, hydrologic, chemical and/or physical processes that take place within a wetland. As indicated in the Supplement, these functions include:

- Groundwater Recharge/Discharge
- Flood flow Alteration
- Fish and Shellfish Habitat
- Sediment/Pollutant Retention
- Nutrient Removal/Retention/Transformation
- Production (Nutrient) Export
- Sediment/Shoreline Stabilization
- Wildlife Habitat.

Wetland values are the perceived benefits for society that can be derived from the ecosystem functions and/or other characteristics of a wetland. Values attributed to wetlands in the Supplement include the following:

- Recreation
- Education/Scientific Value
- Uniqueness/Heritage
- Visual Quality/Aesthetics
- Threatened or Endangered Species Habitat.

Wetlands functions and values recognized under Article 24 of the Environmental Conservation Law are similar to those described in the Supplement, and include:

- Flood and storm control by the hydrologic absorption and storage capacity of wetlands
- Breeding, nesting, and feeding habitat for many forms of wildlife, including migratory wildfowl and rare species such as bald eagle and osprey
- Protection of subsurface water resources and recharge of ground water supplies
- Recreation by providing areas for hunting, fishing, boating, hiking, bird watching, photography, camping, and other uses

- Pollution treatment by serving as biological and chemical oxidation basins
- Erosion control by serving as filtering basins, absorbing silt and organic matter, and protecting channels and harbors
- Education and scientific research by providing outdoor bio-physical laboratories, living classrooms, and training/education resources
- Open space and aesthetic appreciation by providing often the only remaining open areas along crowded river fronts and coastal regions
- Sources of nutrients in freshwater food cycles, nursery grounds, and sanctuaries for fish.

Based on the “Considerations/Qualifiers” outlined in the Supplement, a matrix was developed that includes the basic considerations that help identify the primary functions and values provided by wetlands. This includes observed vegetation conditions, hydrologic conditions, size, adjacent area conditions, and the availability of public access. Specific conditions within each of these consideration areas were defined to allow each wetland’s functions and values to be evaluated based on data collected during field delineation.

The functions and values assessment indicates that most of the delineated wetlands within the LOD provide some level of groundwater recharge/discharge and water quality improvement functions. In most cases these functions are limited by the small size of many of the wetlands. A total of 28 wetlands within the LOD are adjacent to active or semi-active agricultural areas. All 33 delineated wetlands within the LOD were deemed to provide groundwater recharge/discharge and sediment/pollution retention benefits, and 27 of these also had the size, vegetation diversity, and density to remove, retain, and transform nutrients. Twenty-seven wetlands delineated within the LOD meet the criteria to provide flood flow alteration benefits. Two wetlands meet the criteria to provide wildlife habitat. Due to the private ownership of most properties within the LOD, none of the delineated wetlands provide any substantial social values such as recreation, education/scientific values, or visual or aesthetic values for the general public.

(d) Offsite Wetlands Analysis

The Applicant reviewed NYS Freshwater Wetland and National Wetland Inventory (NWI) mapping, New York State Department of Environmental Conservation (NYSDEC) Stream Class mapping, 2-foot topographic contours, and recent aerial imagery of wetlands and streams that extend beyond the Wetland Study Area. Off-site wetlands were approximated using GIS review and analysis for areas within 100 feet of the LOD where the Applicant does not have access to assess potential hydrological connections outside the Facility Site.

Wetlands extending beyond the Facility Site generally have similar functions and values to those wetlands delineated in the Wetland Study Area, described in Exhibit 14(c). These wetlands are also not expected to be significantly different ecologically from those delineated in the Facility Site, and likely contain similar vegetative communities as described in the revised Wetland Delineation Report (Appendix 14-A). Wetlands within the Facility Site may also be hydrologically connected to off-site wetlands through the network of agricultural ditches and streams at the site (see Exhibit 13 for a discussion of surface waters in the Facility Site).

In addition, 11 of the wetlands extending beyond the bounds of the Facility Site are also related to mapped NYSDEC freshwater wetlands, including 12-W005, 12-W007, 12-W014, 12-W017, 12-W018, 17-W005, 23-W009, 23-W024, 26-W010, 26-W011, 33-W001, as indicated in the wetland JD issued by ORES (Appendix 14-B).

(e) Avoidance of NYSDEC-Regulated Wetland Impacts

To avoid impacts to state-regulated freshwater wetlands and adjacent areas to the greatest extent practicable, the Applicant utilized data collected during wetland and stream delineations to inform design. Facility components were sited outside of wetland/adjacent areas where practicable. Access roads, collection lines, and wind turbines were shifted multiple times to avoid and minimize wetland impacts. Wetland impacts related to collection lines will be avoided where practicable by utilizing trenchless installation technologies. However, construction of Facility components will result in unavoidable impacts to state-regulated wetlands and adjacent areas.

(f) Measures to Minimize NYSDEC-Regulated Wetland Impacts

The Applicant will implement specific measures to minimize proposed wetland impacts. However, the construction of the Facility is anticipated to result in both temporary and permanent impacts to wetlands and adjacent areas as described further in Exhibit 14(f)(1) and depicted in the Wetland and Stream Impact Drawings (Figure 14-2).

(1) Unavoidable Impacts to State Jurisdictional Wetlands

The Project is estimated to impact approximately 0.82 acres within NYS-jurisdictional wetlands. Tables 14-1 and 14-2 outline the anticipated impacts to state-regulated wetlands and adjacent areas, respectively. Locations of all impacts to state-regulated wetlands and adjacent areas are depicted in Figure 14-2.

Most impacts will be temporary and are associated with the installation of power interconnections (0.21 acres), the clearing and manipulation of undisturbed herbaceous and woody vegetation (0.17 acres), and the grading and manipulation of disturbed areas (0.03 acres). Although not a permanent impact, wetland forest clearing proposed by the Applicant (0.25 acres) will take some time to recover. Impacts associated with the installation of access roads (0.16 acres) will persist for the life of the Facility.

As outlined in Tables 14-1 and 14-2 and 16 NYCRR Section 1100-2.15(g)(2) in the Article VIII regulations, the wetland and regulated adjacent area impacts proposed by the Applicant are allowed. However, mitigation will be required for 0.82 acres of wetland impacts and 3.07 acres of regulated adjacent area impacts. The Applicant proposes to restore and mitigate state-jurisdictional wetland impacts in accordance with a Wetland Restoration and Mitigation Plan, submitted as Appendix 14-D to this Exhibit.

Table 14-1 Impacts to State-Regulated Wetlands Within the Facility Site

Delineation ID	Figure 14-2 Sheet Number	Wetland Class	NYSDEC Wetland ID	Wetland Impact				Mitigation Required ¹	Why Avoidance is Not Practicable ²	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area (acres)			
12-W017	10	2	MO-2	PFO	Major	Clearing of Forest	0.024	A(M2)	Wetland 12-W017 and wetland 12-W018 are located along all collection line routes available to the Applicant between Wind Turbine #18 and #19. Avoiding crossing these wetlands with collection is not possible. Considering the existing access road that bisects these wetlands and the intermittent arrangement of wetlands and uplands, conventional trenching is the most practicable crossing method.	To minimize impacts to wetlands 12-W017 and 12-W018 and their regulated adjacent areas, the Applicant routed the proposed collection lines to cross through the narrowest known portions of these wetlands along a previously disturbed corridor associated with an existing road to minimize direct impacts. Impacts were further minimized by utilizing the narrowest disturbance limits allowable at the proposed wetland crossing, considering the applicable engineering constraints (e.g., access, equipment delivery clearance, etc.).
				PEM	Minor	Grading and manipulation of disturbed area	0.0018	A(M3)		
12-W018	10	2	MO-2	PEM	Major	Power Interconnection	0.027	A(M2)		
					Minor	Grading and manipulation of disturbed area	0.028	A(M3)		
				PFO	Major	Power Interconnection	0.15	A(M2)		
						Clearing of forest	0.23	A(M2)		
23-W009	2, 4	2	SC-12	PEM	Major	Access Road	0.162	A(M2)	The access road and power interconnection crossings proposed by the Applicant are necessary to construct, access, and maintain Wind Turbines #16 and #17 and associated infrastructure. Considering the land currently controlled by the Applicant, no viable alternatives to these access roads are available, and as wetland 23-W009 bisects the entirety of parcel 186.00-1-20 from north to south, avoidance is not possible.	To minimize impacts to wetland 23-W009 and its regulated adjacent area, the Applicant routed the proposed collection lines with the proposed access roads needed for turbine delivery. Impacts were further minimized by utilizing the narrowest disturbance limits allowable at the proposed wetland crossing, considering the applicable engineering constraints (e.g., grading, work corridors necessary for trenching and cable installation).
					Major	Power Interconnection	0.014	A(M2)		
					Intermediate	Clearing and manipulation of undisturbed area	0.12	A(M3)		
26-W006	6, 7	N/A	Unmapped	PSS	Major	Power Interconnection	0.019	A(M3)	Wetland 26-W006 and other state-regulated wetlands are located along all viable collection line routes available to the Applicant between Wind Turbine #12 and #18. The proposed crossing location is the narrowest point of this wetland delineated by the Applicant. Considering the narrowness of the crossing at this location, conventional trenching is the most practicable crossing method.	The Applicant has selected the narrowest crossing point of wetland 26-W006 and has carefully sited the collection line and Wind Turbine #18 to avoid direct impacts to all other state-regulated wetlands in this area (e.g., 26-W005). The Applicant has also utilized the narrowest disturbance limits allowable at the proposed wetland crossing, considering the applicable engineering constraints (e.g., work corridors necessary for trenching and cable installation).
					Intermediate	Clearing and manipulation of undisturbed area	0.023	A(M3)		
26-W007	8	N/A	Unmapped	PSS	Major	Access Road	0.0012	A(M3)	The grading and manipulation of wetland 26-W007 proposed by the Applicant is necessary to construct, access, and maintain Wind Turbine #18. Considering the land currently controlled by the Applicant, no viable alternatives to this access road are available. Wind Turbine #18 is surrounded by several wetlands and forest—the selected route is the best option for the Applicant to limit environmental impacts in this area.	The Applicant routed the access road and collection lines along a previously disturbed farming corridor to minimize wetland impacts and tree clearing. The selected route was carefully sited to weave through gaps between state-regulated wetland 26-W007 and federally regulated wetland 26-W009, while minimizing impacts to the greatest extent practicable.
Total A(M3) Impacts							0.215			
Total A(M2) Impacts							0.607			
Total Impacts							0.822			

¹ Per 16 NYCRR Section 1100-2.15(g)(3): A(M2) = allowed, mitigation required (2:1 mitigation ratio by area of impact – creation, restoration, and enhancement) and A(M3) = allowed, mitigation required (1:1 mitigation ratio by area of impact – creation, restoration, and enhancement).

² Article VIII setback requirements dictate where wind turbine infrastructure may be placed on a parcel relative to where participating and non-participating properties, residences, and structures, public roadways, gas wells, substations, and above-ground electric systems exist; siting of the wind turbines and associated infrastructure must balance where sensitive resources exist, setback requirements, and landowner requests. Electrical engineering of a wind facility must be designed to accommodate power from individual turbines to the collection substation. Access roads are necessary for infrastructure maintenance and emergency response. Temporary work areas may be required to allow for construction and installation of Facility infrastructure.

Table 14-2. Impacts to State-Regulated Wetland Adjacent Areas Within the Facility Site

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Adjacent Area Impact				Mitigation Required¹	Why Avoidance is Not Practicable²	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area			
12-W005	1	3	SC-11	Row Cropland	Wind Turbine	Major	0.081	A	The Applicant was able to avoid direct impacts to wetlands 12-W005 and 12-W005 by siting Wind Turbine #10 equidistant between these two state regulated wetlands. Avoiding impacts to the associated regulated adjacent areas would only be possible by shifting Wind Turbine #10 to the southeast, which would bring the turbine closer to adjacent residences and Sherwood Road.	The Applicant has minimized impacts to wetlands 12-W005 and 12-W007 and their regulated adjacent areas by avoiding direct impacts to these wetlands and generally limiting regulated adjacent area impacts to areas that are regularly disturbed by farming operations.
				Row Cropland	Grading and manipulation of disturbed area	Minor	0.51	A		
12-W007	1	3	SC-11	Row Cropland	Grading and manipulation of disturbed area	Minor	0.45	A		
				Successional Northern Hardwood	Selective cutting of trees	Minor	0.0098	A		
12-W009	12	N/A	Unmapped	Successional Northern Hardwoods	Clearing of Forest	Major	0.023	A	Wetland 12-W009 is a linear wetland that borders Stream 12-ST006, which flows from the north to south draining wetlands 12-W008 and 12-W010 through parcels 197.00-1-38, 197.00-1-50.1, and 197.00-1-52.211. Wetland 12-W009 lies between all viable collection line routes available to the Applicant for Wind Turbine #20 and Wind Turbine #21.	The Applicant is utilizing HDD to avoid all impacts to wetland 12-W009 and has sited the bore pits in areas that are regularly disturbed by farming operations. Impacts to undisturbed ecological communities adjacent to this wetland have been limited to approximated 1,000 square feet. The Applicant considered placing the western and eastern bore pits for the proposed HDD crossing outside of the regulated adjacent areas on either side of wetland 12-W009. However, this would result in a significant increase in the length of the proposed boring, potentially increasing the inadvertent return risk. Considering the primary current use of the regulated adjacent area (row cropland) and the added inadvertent return risks associated with increasing the length of the bore, it was determined that the proposed approach was likely to be the least impactful overall.
				Row Cropland	Power Interconnection	Major	0.11	A		
					Grading and manipulation of disturbed area	Minor	0.2	A		
12-W010	11	N/A	Unmapped	Row Cropland	Access Road	Major	0.071	A	Direct impacts to wetland 12-W010 were avoided by siting Wind Turbine #19 to the south of this wetland, but within the upland forest to also minimize agricultural impacts. Shifting Wind Turbine #19 and its associated access road and collection lines outside of the regulated adjacent area of this wetland is not practicable considering the current use of the impacted areas (row cropland), and the fact that any shift that would result in complete avoidance would orphan additional agricultural land.	Considering the site constraints (i.e., landowner requirements and minimizing impacts to farmland), the Applicant has minimized impacts by siting the access road to generally follow the existing edge of the farm field while routing the proposed access road further from wetland 12-W010 to minimize impacts to the adjacent area. Additionally, the Applicant has routed the proposed collection lines on the opposite side of the access road from wetland 12-W010 to avoid trenching in the adjacent area. Further, regulated adjacent area impacts have been largely limited to areas that are regularly disturbed by farming operations
				Beech-maple Mesic Forest	Clearing of forest	Major	0.036	A		
				Row Cropland	Grading and manipulation of disturbed area	Minor	0.087	A		
12-W017 / 12-W018³	10	2	MO-2	Successional Northern Hardwoods, Successional Old Field, Developed/disturbed	Power Interconnection	Major	0.39	A(E)	See the wetland 12-W017/12-W018 avoidance discussion in Table 14-1.	See the wetland 12-W017/12-W018 minimization discussion in Table 14-1.
				Successional Northern Hardwoods,	Clearing of forest	Major	0.34	A(E)		
				Successional Old Field, Develop/disturbed	Grading and manipulation of disturbed area	Minor	0.52	A		
12-W029	13	N/A	Unmapped	Developed/disturbed	Grading and manipulation of disturbed area	Minor	0.18	A	Improvements to the existing farm road are necessary to support the development of the laydown yard, and to support the large equipment that will be transported to and stored in the laydown yard. While impacts to wetland 12-W029 have been avoided, impacts to the adjacent area are unavoidable.	The Applicant has sited the laydown yard in a location that avoids state regulated wetland impacts and minimizes impacts to adjacent agricultural land and federally regulated wetlands. Impacts to regulated adjacent areas have been minimized to the maximum extent practicable by utilizing an existing farm road to access the laydown road.
17-W005	3, 5	2	SC-12	Row Cropland	Power Interconnection	Major	0.7	A(E)	Considering the land available to the Applicant, multiple collection line circuits must cross wetland 17-W005. Through the use of HDD and careful siting of the collection line and associated bore pits, the Applicant is avoiding all direct impacts to this wetland. Avoidance of all impacts to state-regulated wetland adjacent area—without increasing impacts to federally regulated wetlands—would require lengthening the HDD by at least an additional 600-800 feet. Considering the current length of the HDD, the presence of row cropland on the southern end of the bore, and engineering considerations associated with the installation of the boring, it is not practicable to avoid impacts to the adjacent area.	The Applicant is utilizing HDD to avoid all impacts to wetland 17-W005 and has utilized the narrowest disturbance limits allowable within the regulated adjacent area, considering the available access to the site and engineering constraints (e.g., work corridors necessary for trenching and cable installation). Further, regulated adjacent area impacts at the southern bore location have been limited to areas that are regularly disturbed by farming operations
				Beech-maple Mesic Forest	Clearing of forest	Major	0.37	A(E)		
				Row Cropland	Grading and manipulation of disturbed area	Minor	1.1	A		
23-W009	2, 4	2	SC-12	Row Cropland, Successional Old Field	Access Road	Major	0.85	A(E)	See the wetland 23-W009 avoidance discussion in Table 14-1. Impacts associated with the collection line north of Wind Turbine #16 are not	See the wetland 23-W009 minimization discussion in Table 14-1. Impacts associated with the collection line north of Wind Turbine #16
					Power Interconnection	Major	0.32	A(E)		

Delineation ID	Figure 14-2 Sheet Number	NYSDEC Mapped Wetland Class	NYSDEC Mapped Wetland ID	Adjacent Area Impact				Mitigation Required ¹	Why Avoidance is Not Practicable ²	Minimization Strategy
				Community Type	Activity Type	Impact Type	Impact Area			
					Clearing and manipulation of undisturbed area	Intermediate	0.156	A	avoidable due to the presence of an environmentally sensitive area to the west of these collection lines.	have been minimized to the extent practicable considering the environmentally sensitive area located to the west. Further, regulated adjacent area impacts have been limited to areas that are regularly disturbed by farming operations
					Grading and manipulation of disturbed area	Minor	0.88	A		
23-W012	14, 15	N/A	Unmapped	Row Cropland	Wind Turbine	Major	0.0081	A	Considering the land available to the Applicant, a collection line circuit must cross wetland 23-W012. Through the use of HDD and careful siting of the collection line and associated bore pits, the Applicant is avoiding all direct impacts to this wetland. Avoidance of all impacts to state-regulated wetland adjacent area would require lengthening the HDD by at least an additional 400-600 feet. Considering the current length of the HDD, the presence of row cropland on the eastern end of the bore, and engineering considerations associated with the installation of the boring, it is not practicable to avoid impacts to the adjacent area.	The Applicant is utilizing HDD to avoid all impacts to wetland 23-W012 and has utilized the narrowest disturbance limits allowable within the regulated adjacent area, considering the available access to the site and engineering constraints (e.g., work corridors necessary for trenching and cable installation). Further, regulated adjacent area impacts at the eastern bore location have been limited to areas that are regularly disturbed by farming operations
					Power Interconnection	Major	0.154	A		
				Beech-maple Mesic Forest	Clearing of forest	Major	0.51	A		
				Row Cropland	Grading and manipulation of disturbed area	Minor	0.6	A		
23-W013	14	N/A	Unmapped	Row Cropland	Grading and manipulation of disturbed area	Minor	0.64	A	The Applicant was able to avoid direct impacts to wetland 23-W013 through careful siting Wind Turbine #22 and its associated turbine delivery and erection work areas. Avoiding impacts to the regulated adjacent areas of this wetland would only be possible by shifting Wind Turbine #22 to the east, which would bring the turbine closer to adjacent residences and Stewarts Corners Road. Shifting the turbine to the north, and the grading associated with the wind turbine delivery pad, is not possible, due to the presence of a federally jurisdictional stream (23-ST018).	The Applicant has minimized impacts to wetland 23-W013 and its regulated adjacent area by avoiding direct impacts to this wetland and limiting regulated adjacent area impacts to areas that are regularly disturbed by farming operations.
23-W024	9	2	MO-2	Successional Old Field	Power Interconnection	Major	0.099	A(E)	The Applicant was able to avoid direct impacts to wetland 23-W024 through the use of HDD. Complete avoidance of impacts to the adjacent area is not practicable, as the only impacts proposed are in an area that is regularly disturbed by the landowner and complete avoidance would require the Applicant to significantly lengthen the proposed HDD.	The Applicant has minimized impacts to wetland 23-W024 and its regulated adjacent area by avoiding direct impacts to this wetland through the use of HDD and limiting regulated adjacent area impacts to areas that are regularly disturbed by the landowner.
					Grading and manipulation of disturbed area	Minor	0.216	A		
26-W005 / 26-W006 ³	6, 7	N/A	Unmapped	Successional Northern Hardwoods, Field Crops	Power Interconnection	Major	0.56	A	See the wetland 26-W006 avoidance discussion in Table 14-1.	See the wetland 26-W006 minimization discussion in Table 14-1.
				Successional Northern	Clearing of Forest	Major	1.26	A		
				Field Crops	Grading and manipulation of disturbed area	Minor	0.17	A		
26-W007	8	N/A	Unmapped	Field Crops	Access road	Major	0.32	A	The Applicant has sited Wind Turbine #18 to avoid all impacts to wetland 26-W007 and its adjacent area in the area proximal to Wind Turbine #18. See the wetland 26-W007 discussion in Table 14-1 for a discussion of why impacts to this wetland and its regulated adjacent area associated with the access road are unavoidable.	The Applicant has sited Wind Turbine #18 to avoid all impacts to wetland 26-W007 and its adjacent area in the area proximal to Wind Turbine #18. See the wetland 26-W007 discussion in Table 14-1 for a discussion of why impacts to this wetland and its regulated adjacent area associated with the access road have been minimized.
					Power interconnection	Major	0.089	A		
				Successional Northern Hardwoods	Clearing of forest	Major	0.068	A		
				Field Crops	Grading and manipulation of disturbed area	Minor	0.17	A		
26-W010	9	2	MO-2	Field Crops, Developed/disturbed	Grading and manipulation of disturbed area	Minor	0.016	A	Avoidance of impacts to the regulated adjacent area of wetland 26-W010 is not practicable as all impacts are located within Long Hill Road and its right-of-way, an area that is either impervious or regularly disturbed during road maintenance.	The Applicant has minimized impacts to the regulated adjacent area of wetland 26-W010 by shifting the Wind Turbine #18 access road to the west and narrowing the limits of disturbance to limit impacts to Long Hill Road and the associated disturbed right-of-way.
Total A Impacts							9.195			
Total A(E) Impacts							3.069			
Total Impacts							12.264			

¹ Per 16 NYCRR Section 1100-2.15(g)(2)(i) of the Article VIII regulations: A(E) = Allowed, enhancements and/or mitigation required (e.g., planting of adjacent area, mitigating hydrological change), A(E) = no enhancements or mitigation required with 75 foot or more setback, and A = Allowed, no mitigation or enhancement required.

² Article VIII setback requirements dictate where wind turbine infrastructure may be placed on a parcel relative to where participating and non-participating properties, residences, and structures, public roadways, gas wells, substations, and above-ground electric systems exist; siting of the wind turbines and associated infrastructure must balance where sensitive resources exist, setback requirements, and landowner requests. Electrical engineering of a wind facility must be designed to accommodate power from individual turbines to the collection substation. Access roads are necessary for infrastructure maintenance and emergency response. Temporary work areas may be required to allow for construction and installation of Facility infrastructure.

³ These wetlands are located proximal to each other, and their regulated adjacent areas overlap. Impacts to the regulated adjacent areas of these two wetlands are therefore being analyzed together.

(2) How the Facility Design has Minimized Proposed Impacts

Site-specific actions are proposed that will minimize direct and indirect impacts to wetlands and regulated adjacent areas that could not be avoided and are included in Tables 14-1 and 14-2. Existing farm roads were utilized for access road and collection line routes, where feasible, to take advantage of previously disturbed corridors and avoid further disturbance. Where access road and/or collection line crossings of wetlands are proposed, the Applicant sited the crossing location at existing crossings, at the narrowest part of the wetland, or along edges to reduce the extent of direct impacts to the wetland to the greatest extent practicable. In addition, as previously noted, trenchless installation of buried collection line crossings is proposed in several locations, to eliminate or minimize direct disturbance to wetland areas that would otherwise occur from trenching buried collection lines within wetlands.

Construction-related indirect impacts to wetlands and streams noted earlier, such as sedimentation and erosion, have the potential to result in degradation of downstream water quality. These impacts will be minimized and/or mitigated to the maximum extent practicable, because the Applicant will use best management practices, including implementing a Stormwater Pollution Prevention Plan (SWPPP; see preliminary SWPPP in Appendix 13-C). Specific impact avoidance and minimization measures for impacts could include, but are not limited to:

- *No Equipment Access Areas:* Except where crossed by permitted access roads or through use of temporary timber or composite matting, wetlands will be designated "No Equipment Access," thus prohibiting the use of motorized equipment in these areas.
- *Restricted Activities Area:* A buffer zone of 100 feet, referred to as "Restricted Activities Area," will be established where Facility construction will cross wetlands and other bodies of water. Restrictions will include:
 - No deposition of slash within or adjacent to a waterbody/wetland;
 - No accumulation of construction debris within the area;
 - No equipment washing or refueling within the area;
 - No disposal of excess concrete or concrete wash water.
- *Fuel storage:* Fuel or other chemical storage containers shall be appropriately contained and located at least three hundred (300) feet from wetlands, waterbodies, and streams.
- *Sediment and Siltation Control:* A soil erosion and sedimentation control (E&SC) plan will be developed and implemented as part of the State Pollutant Discharge Elimination System (SPDES) General Permit for the Facility. Temporary E&SC practices may include silt fences, hay bales, and other options presented in the Preliminary SWPPP, and the civil design drawings in Appendix 5-A. Exposed soil will be seeded and/or mulched to assure that erosion and siltation is kept to a minimum along wetland boundaries. These features will be inspected on a regular basis to assure that they function properly throughout the period of construction, and until completion of all construction restoration work.

(3) How the Facility Design and Siting Minimizes Impacts to NYS Wetland Functions and Values

As described above, the proposed Facility design results in several direct impacts to the state-regulated wetlands and adjacent areas. Construction of collection lines and access roads will result in impacts to two Unmapped wetlands and three Class II wetlands and their regulated adjacent areas. Additionally, the construction of collection lines, access roads, wind turbines, and other disturbance associated with the installation of the Facility will result in impacts to the regulated adjacent areas of three other Class II wetlands, two other Class III wetlands and six other Unmapped wetlands. Many of these wetlands and their adjacent areas are located in stream floodplains, forested areas, wet shrublands in forest clearings, or agricultural fields.

These wetlands provide many functions including groundwater recharge/discharge, sediment/toxicant retention, nutrient removal/retention/transformation, flood flow alteration, and wildlife habitat. The Applicant has sought to minimize impacts to wetlands function and values primarily through micro-siting of Facility components to minimize the amount of impact area. In siting linear facility components such as collection lines and access roads, it was infeasible to avoid wetlands crossings entirely. In those instances, the Applicant utilized existing disturbance corridors (e.g., farm roads, active farmland, etc.), identified the narrowest crossing of wetlands, or sited components on the edges of impacted features to limit the impact to the larger wetland or wetland complex. Additionally, the Project incorporated design features to minimize impacts to the existing hydraulic functions and the overall footprint of the Facility in wetlands. This includes utilizing trenchless crossing technologies (HDD) for crossing specific wetlands (Figure 14-2).

The avoidance and minimization considerations applied during Facility design minimize adverse impacts to high value on-site wetlands and their functions and values to the greatest extent practicable. In addition, implementation of the best management practices described above during construction will further minimize and mitigate impacts to wetland functions and values. However, the Applicant acknowledges that the proposed layout may result in unavoidable loss of some wetland functions and values (see Appendix 14-C).

(4) How the Facility Design and Siting Maximizes or Improves Functions and Values of Remaining NYS Wetlands

As stated above, impacts to state-jurisdictional wetlands and regulated adjacent areas requiring mitigation have been avoided and minimized to the maximum extent practicable as a result of the Applicant's iterative design process. Upon completion of construction, wetlands and adjacent areas will be restored to improve functions and values based on the pre-existing ecological community types.

The functions and values of most remaining wetlands and adjacent areas will not be affected by Facility construction or operation. However, some remaining wetlands and adjacent areas will be improved

through the installation of permanent post-construction stormwater practices in areas previously lacking such controls (e.g., row cropland adjacent to state-regulated wetlands), the removal of invasive species as part of the Facility's Invasive Species Control and Management Plan, and the cessation of certain agricultural practices in proximity to state-regulated wetlands (e.g., plowing, planting, and fertilizer/herbicide application).

(g) Wetland Restoration and Mitigation

As stated previously, there will be unavoidable impacts to state-regulated wetlands and adjacent areas requiring mitigation per 16 NYCRR Section 1100-2.15(g). As stated in Exhibit 14(e) and 14(f), approximately 0.82 and 3.07 acres of impacts within state-regulated wetlands and adjacent areas will require mitigation, respectively. As outlined in the draft Wetland Restoration and Mitigation Plan (Appendix 14-D), the Applicant is pursuing various options such as mitigation banks and/or permittee-sponsored mitigation projects to satisfy these mitigation obligations. In accordance with Section 1100-10.2(f)(2), the finalized Wetland Restoration and Mitigation Plan will be submitted as a pre-construction compliance filing pursuant to Section 1100-10.2(f)(2).

The Facility will also be permitted with the USACE under a Nationwide Permit, and to the extent necessary, mitigation for impacts to federally regulated wetlands will be developed through consultation with the USACE.

REFERENCES

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. U.S. Army Corps of Engineers: Waterways Experiment Station. Vicksburg, MS.

New York State Department of Environmental Conservation (NYSDEC). 1995. New York State Freshwater Wetland Delineation Manual. July 1995.

U.S. Army Corps of Engineers (USACE). 1995. *The Highway Methodology Workbook Supplement. Wetland Functions and Values: A Descriptive Approach*. U.S. Army Corps of Engineers, New England Division. NENEP-360-1-30a. 32 pp.

USACE. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. Version 2.0. ERDC/EL TR-12-1. Vicksburg, MS.