Hoffman Falls Wind Project

Case No. 23-00038

900-2.14 Exhibit 13

Water Resources and Aquatic Ecology

Revision 1

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

EXHIBIT 13 WATER RESOURCES AND AQUATIC ECOLOGY

(a) Groundwater

(1) Hydrologic Information

According to a review of the U.S. Department of Agriculture (USDA) Soil Survey Geographic Database (SSURGO) depth to groundwater at the Facility Site ranges from the ground surface to greater than 4.5 feet below the surface, with a high-water table most commonly occurring in low-lying areas in and adjacent to wetlands. The SSURGO data also indicate that bedrock may be less than 1.5 feet below the ground surface to greater than 3.0 feet below the surface.

Additionally, in support of Exhibit 10 the Applicant retained Westwood Surveying and Engineering Professional Services (Westwood), to prepare a Preliminary Geotechnical Investigation Report (see Appendix 10-B). The report documents the results of soil borings conducted throughout the Facility Site. With the exception of the borings at turbine T-2 and the proposed horizontal directional drilling (HDD) of Morrisville Swamp, no groundwater was encountered at any of the geotechnical boring sites. At the two boring locations listed above, a static groundwater level was observed between depths of 8 and 10 feet below the ground surface. See Exhibit 10, Figure 10-3 and Figure 10-4 for additional information regarding depth to bedrock and groundwater, and the locations of the soil borings.

(2) Public and Private Groundwater Wells

To identify existing groundwater wells in the vicinity of the Facility Site, Freedom of Information Law (FOIL) request letters were sent to the New York State Department of Health (NYSDOH) on September 07, 2023 and the water well program database maintained by the New York State Department of Environmental Conservation (NYSDEC) was queried. The FOIL request letter asked for information pertaining to groundwater wells (including location, construction logs, depths, and descriptions of encountered bedrock) and other groundwater resources within 1 mile of the proposed Facility (see Appendix 13-A). These letters also requested information on any known surface water supply intakes (see Section (b)(4)).

A response from the NYSDOH via email on October 04, 2023 identified nine community water sources located within 1 mile of the Facility Site (see Appendix 13-A). None of these wells are located within 1,000 feet of the proposed Facility Site (see Appendix 13-A). The NYSDEC well database identified 78 wells within 1 mile of the Facility Site. Twenty of these wells are located within 1,000 feet of the proposed Facility Site and four are located within the Facility Site (see Figure 13-1 – Revision 1).

The Applicant sent private well surveys to all landowners with parcels located within 1,000 feet of the Facility Site on July 27, 2023. The water well survey was developed by the Environmental Design & Research, Landscape Architecture, Engineering, & Environmental Services, D.P.C. (EDR) and included a brief summary of the Facility and the Section 94-c process, contact information for questions, a description of where the well owner can get more information, and a questionnaire that included

questions such as: whether the parcel had well(s); the depth, size, and yield of the well; the well's depth to groundwater; sampling and testing history of the well; and location of the well (see Appendix 13-B). Included with the questionnaire was a stamped and self-addressed return envelope to facilitate the return of the surveys.

The Applicant received 135 responses to the surveys, 64 of which provided spatial information of the location of private wells. The depths of these private wells ranged from 1 foot to 280 feet below grade with an average depth of approximately 88 feet. Most of the wells were reported to be installed in bedrock and are primarily used for residential purposes; however, primary and secondary agriculture uses were identified. Groundwater yields reported in this survey ranged from 2 gallons per minute (gpm) to 20 gpm with average yields of approximately 4 gpm. The survey responses are included in Appendix 13-B. Appendix 13-B summarizes public and private water well locations, well design, and production information, to the extent such data were provided or are publicly available.

The locations of private and public water sources are depicted on Figure 13-1 – Revision 1.[1] There are no known active residential/domestic water supply wells within 100 feet of any proposed collection lines or access roads, or within 1,000 feet of a proposed wind turbines, which may require blasting.[2] In accordance with 19 New York City Rules and Regulations (NYCRR) §900-6.4(n)(1), blasting will not be conducted within 500 feet of any known existing, active, water supply well or intake on a non-participating property. There are 11 private wells located within 500 feet of collection line crossings that will be installed using trenchless technologies[3] (Well IDs 29, 30, 42, 43, 44, 45, 48, 53, 54, 56, 59, and M494); 5 of these wells are located on participating parcels.

Sole source aquifers are designated by the United States Environmental Protection Agency (EPA) as aquifers that are used as the sole or main sources of drinking water for a community and are regulated under the provisions of the Federal Safe Drinking Water Act (SDWA) of 1974. The SDWA also requires states to adopt drinking water quality standards to implement and enforce the national standards. The Upstate New York Groundwater Management Program has adopted special program policies to enhance the protection of groundwater in locations where groundwater is both highly productive and highly vulnerable. As defined in the NYSDEC (NYSDEC, 1990), protection categories include the following:

- Public Water Supply Wellhead Areas – The goal of the Wellhead Protection Program is to protect the ground water sources and wellhead areas that supply public drinking water systems from contamination. Per NYCRR, Title 10, Volume A, Part 5 – Drinking Water Supplies, land use activities are generally limited within a minimum separation distance of 200 feet from a well serving a public water supply.

[1] Some responses to the private well survey included well data but did not include any location information. These responses are included in Appendix 13-B but are not included in Figure 13-1 – Revision 1.

[2] As described in Exhibit 10, the specific locations where blasting will occur is currently unknown. However, blasting is likely to be required at some turbine foundation sites.

[3] Some of these crossings will be installed using conventional bores and some of these crossings will be installed using HDD. The exact installation method at each of these installations is not known at this time.

- Primary Water Supply Aquifer Area – A designation applied by the NYSDEC and U.S. Geological Survey (USGS) to aquifers that are presently being utilized as sources of water supply by major municipal water supply systems. NYSDEC considers all primary aquifers within New York State to also qualify as sole source aquifers; however, there is no direct relationship between the federal and state designations of sole source and primary aquifers.
- Principal Aquifer Areas – A designation applied by the NYSDEC to aquifers that are known to be highly productive, or where geology suggests the potential for abundant water supply, but which are not currently used as water supply source by major municipal systems.
- Other areas as determined to be highly productive or highly vulnerable[4] to contamination by the NYSDEC.

A review of Primary Aquifers mapped by the NYSDEC Division of Water (DOW) indicates that no Primary Aquifers are located within the Facility Site (NYSDEC, 2011). The nearest sole source aquifer is located over 5 miles southwest of the Facility Site. There are several unconfined aquifers of unknown or mid to high yields within and immediately adjacent to the Facility Site. The NYSDEC considers unconfined aquifers with yields of 10 to 100 gallons per minute, or greater than 100 gallons per minute, as principal aquifers. Therefore, according to available data on aquifer yield, there is one potential principal aquifer within the northeast portion of the Facility Site (see Figure 13-2 – Revision 1). The NYSDEC DOW is ultimately responsible for making the formal determination as to whether a location is within a principal aquifer area; however, because this proposed Facility does not involve the siting of landfills, oil and gas wells, or other potentially hazardous and contaminated materials, no consultation with the DOW is required (NYSDEC, 2022).

To avoid potential impacts to groundwater and principal aquifers (should these locations be determined to be principal aquifer areas by the NYSDEC DOW), the Applicant will implement BMPs outlined in the Facility's Stormwater Pollution Prevention Plan (SWPPP) (Appendix 13-C) and Preliminary Spill Prevention, Control and Countermeasure (SPCC) Plan (Appendix 13-D) and will implement protections for potential recharge areas including wetlands, waterbodies, and streams. Furthermore, as stated previously and presented in Appendix 13-A, there are no wells that service a public water supply within the Facility Site. Therefore, based on the separation distance between the Facility Site and known locations of primary, principal and sole source aquifers, and the fact the proposed Facility does not involve the siting of landfills, oil and gas wells, or other potentially hazardous and contaminated materials, construction and operation of the Facility are not anticipated to result in significant adverse impacts to aquifers or wells.

(3) Groundwater Impacts

The Facility is not anticipated to result in any significant impacts to groundwater quality or quantity, or to the private drinking water supply wells, aquifer protection zones, or groundwater aquifers within the

[4] The term "highly vulnerable" refers to aquifers which are highly susceptible to contamination from human activities at the land surface over the identified aquifer. Therefore, special protection policies are typically applied to the land area within the mapped boundaries of the aquifer (NYSDEC, 1990).

Facility Site, or within a 1-mile radius of the Facility Site (see Figure 13-1 – Revision 1 and Figure 13-2 – Revision 1). Most of the proposed turbines will be located on hilltops, generally well above the water table and away from significant groundwater resources (Figure 13-1 – Revision 1 and Figure 13-2 – Revision 1). Excavations for roadways, and underground collection lines are expected to be relatively shallow and are not expected to have long-term impacts on groundwater resources.

Based on the distance of these wells from proposed wind turbines and the elevated position of the wind turbines relative to the wells it is unlikely that Facility construction activities will have a long-term impact on shallow aquifer or residential water-well groundwater quality or quantity (see also Exhibit 10).

Based on the well data received and the planned setback distances required by Section 94-c, it is unlikely construction of the proposed Facility will have an impact on groundwater quality or quantity. Groundwater wells at the Facility Site average approximately 88 feet in depth based on data obtained from the private well survey (see Appendix 13-B). These depths are generally located within fractured bedrock or granular soil and are substantially deeper than the excavations proposed for Facility construction. As stated previously and shown in Figure 13-1 – Revision 1, there are no known active water supply wells within 100 feet of proposed wind turbine or access roads, or within 100 feet of proposed collection lines. Eleven private wells are known within 500 feet of collection lines that will be installed using trenchless technologies. Some of these collection line installations may be installed using HDD; however, the exact installation method for these crossings is not known at this time. The Applicant will adhere to the requirements of 19 NYCRR §900-6.4(n)(1) to conduct pre- and post-construction testing of the potability of water wells on any non-participating properties within 100 feet of proposed collection lines, 200 feet of proposed turbine locations, 500 feet of HDD, and 1,000 feet of blasting locations.

The Facility will also have no effect on groundwater recharge. Construction of the Facility will add only small areas of impervious surface (see Exhibit 5(b)), which will be dispersed throughout the Facility Site. Anticipated impervious surfaces at the Facility include, wind turbine pads, access roads, the collection substation, and POI, which encompasses 33.4 acres and represents less than 1% of the total area within the Facility Site.

Although the Applicant has designed the Facility to reduce the potential for impacts, construction of the proposed Facility could result in certain localized impacts to groundwater, and the use of that water by adjacent landowners. These impacts could include:

- Minor localized disruption of groundwater flows down-gradient of proposed turbine foundations
- Minor modification to surface runoff patterns
- Minor temporary degradation of groundwater quality from accidental spills and installation of concrete foundations
- Temporary impacts to groundwater recharge areas (e.g.,wetlands)
- Temporary groundwater migration along collection line trenches.

Impact to groundwater from the accidental discharge of petroleum or other chemicals used during construction, operation, or maintenance could occur in the form of minor leaks, or from more substantial spills during refueling and other accidents. However, the likelihood of these impacts occurring are low because the Applicant has developed avoidance, minimization, and mitigation measures that are outlined in the Facility's Preliminary SPCC Plan (Appendix 13-D). See Exhibit 13(b)(5) and Exhibit 13(d) for additional discussion of the Preliminary SPCC Plan and other mitigation measures.

Construction activities also have the potential to impact localized groundwater flow paths in areas where excavation occurs below the water table. In these instances, water is anticipated to flow around the disturbance and resume its original flow direction downgradient of the disturbance. Groundwater that infiltrates into excavations may require removal by pumping, which could have a minimal, short-term effect on the elevation of the water table. However, this water will be discharged to the ground surface through a velocity dissipating device and allowed to infiltrate back into the water table with negligible loss of volume due to evaporation. In addition, most excavations are not anticipated to occur below the water table. Therefore, any effect will be localized and temporary.

The greatest potential for impacts to groundwater from the Facility is the installation of turbine foundations. As noted in Exhibit 10(a), bedrock may be encountered at relatively shallow depths under some of the turbines. Mechanical excavation (e.g., using a pneumatic hammer or large ripper) may be possible for most of the turbine sites; however, in some cases, blasting will generate less noise overall and take less time. To minimize potential impacts to groundwater, all required blasting will comply with applicable laws and regulations and will be conducted in accordance with the Blasting Plan, included as Appendix 10-A. See Exhibit 10(a)(5) through 10(a)(9) for additional information on blasting and associated mitigation measures. Impacts associated with conventional excavation methods will be managed by utilizing BMPs contained in the Facility's SWPPP (see Appendix 13-C).

Installation of the concrete foundations could cause a temporary, localized increase in the pH of groundwater during the curing process. This effect will not extend beyond the immediate area of the foundation and will not adversely affect groundwater quality. In the event a perched groundwater condition is encountered at a turbine site, temporary construction dewatering methods will be employed. Turbine foundations are typically designed to resist hydrostatic forces, when required, eliminating the need to install permanent drainage systems.

As previously noted, preliminary soil borings have been conducted to determine groundwater levels across the Facility Site (see Appendix 10-B). Except for two boring locations, no evidence of groundwater was observed during the preliminary geotechnical field investigation. However, groundwater levels may fluctuate due to seasonal variation, the amount of rainfall, soil permeability, and other factors. Therefore, groundwater levels during construction may be higher or lower than the levels indicated on the boring logs. Depending on foundation elevation and bedrock conditions within the excavations, groundwater may need to be considered in the design and construction of foundations. Should shallow/perched groundwater be encountered, any construction impacts will be addressed through relatively common engineering measures and construction techniques, including dewatering. The determination of any

long-term dewatering (if necessary) will be addressed during design phase geotechnical investigations to be conducted following issuance of the Siting Permit.

In addition to impacts to groundwater due to turbine foundation installation, minor impacts could result from the installation of support structures and buried collection lines, which may facilitate groundwater migration along trench backfill in areas of shallow groundwater. Due to the decompaction of soils within the trench, water could collect and migrate through the trench to areas of lower elevation where it could discharge to the surface. The Applicant will consider the use of trench breakers to control erosion prior to back-filling the trench to prevent erosion and wash-out of soils within the trench.

Based on the geotechnical studies performed (see Exhibit 10, Appendix 10-B), Facility component siting, proposed construction techniques, and implementation of BMPs, construction and operation of the Facility is not anticipated to result in significant adverse impacts to the quality or quantity of groundwater resources.

(b) Surface Waters

(1) Surface Waters Map

Maps showing locations of all federal, state, and/or locally regulated surface waters within the Facility Site and within 100 feet of areas to be disturbed by construction, are depicted in Figure 14-1 – Revision 2 and presented in more detail in the Wetland and Stream Delineation Report (Appendix 14-A – Revision 1). Wetland and stream delineations conducted at the Facility Site by EDR identified all surface waters (ponds; ephemeral, intermittent, and perennial streams; and wetlands) within the Wetland Study Area. The Wetland and Stream Delineation Report (WDR) and associated shapefiles were submitted to Office of Renewable Energy Siting (ORES) staff on October 06, 2023. A revised WDR that incorporated the results of ORES's jurisdictional determinations and included an additional 3.1 acres of wetlands and 990 linear feet of streams delineated in the fall of 2023 was provided to ORES on February 15, 2024 as Appendix 14-A to the Application. Following the receipt of ORES's second Notice of Incomplete Application on August 05, 2024, small shifts in the limits of disturbance were made within the Facility Site and supplemental wetland and stream delineations were conducted by EDR in August 2024. No streams or other surface waters were identified during these supplemental wetland and stream delineations (see Appendix 14-A – Revision 1). Surface waters located outside the Facility Site but within 100-feet of the limits of disturbance were mapped by EDR using a combination of publicly available data from Madison County, NYSDEC, the Environmental Systems Research Institute (ESRI), the USGS, and the National Wetlands Inventory (NWI), as well as recent orthoimagery collected by the New York State Digital Orthoimagery Program in 2022. Surface waters outside the Facility Site but within 100-feet of the limits of disturbance are shown in Figure 14-1 – Revision 2.

(2) Stream Delineation Reports

On-site wetland and stream delineations were conducted by EDR between May and November 2023, with additional delineations conducted in August 2024. Results of the on-site field delineations, including data on all delineated surface waters are documented in the Wetland and Stream Delineation Report (Appendix 14-A – Revision 1).

Streams, which are the surface waters addressed in this Exhibit, were identified according to the Cowardin Classification System (1979). Stream boundaries were determined based on the presence of ordinary high water line characteristics, including a "*clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris*" (CFR, 1986). Stream boundaries were defined in the field with sequentially numbered surveyor's flagging and mapped using a GPS unit with reported sub-meter accuracy. Stream flow regime (i.e., perennial, intermittent, or ephemeral) was determined through evaluation of hydrologic, geomorphic, and biological characteristics. Data regarding stream gradient (gentle, moderate, or steep), stream bank and channel width, water depth, stream bed substrate, in-stream cover, and biological indicators were collected and recorded on stream inventory forms.

(3) Description of Surface Waters

The Facility Site is located in the Oneida and Chenango River watersheds (USGS Hydrologic Units 04140202 and 02050102, respectively). During on-site delineations conducted by EDR, 101 perennial, intermittent, and ephemeral streams were identified, totaling 41,159.1 linear feet within the Facility Site. Many of the streams are located adjacent to and/or within active agricultural fields, others flow through forested areas or wooded ravines. No aquatic invasive plant species were detected in any surface water within the Facility Site, although some terrestrial invasive species associated with wetland areas were identified (e.g., common reed [*Phragmites australis*], etc.). Streams delineated within the Facility Site are listed in Table 13-1, shown in Figure 14-1 – Revision 2, and further described in the Wetland and Stream Delineation Report (Appendix 14-A – Revision 1).

Under Article 15 of the Environmental Conservation Law (Protection of Waters), the NYSDEC has regulatory jurisdiction over any activity that disturbs the bed or banks of protected streams. Any stream, or particular portion of a stream, that has been assigned by the NYSDEC any of the following classifications or standards is considered a protected stream: AA, AA(t), A, A(t), B, B(t) or C(t) (6 NYCRR Part 701). A classification of AA or A indicates that the best use of the stream is as a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The best usages of Class B waters are primary and secondary contact recreation and fishing. The best usage of Class C waters is fishing and non-contact activities. Waters with a classification of D represent the lowest classification standard and are not protected under Article 15. Streams designated (T) indicate that they support trout and include those more specifically designated (TS) which support trout spawning.

Table 13-1 lists all delineated streams within the Wetland Study Area. As identified in the ORES Surface Waters Jurisdictional Determination letter dated April 12, 2024 (see Appendix 13-E), ORES has asserted State jurisdiction over 25[5] of these delineated surface waters, assigning them a C(T) classification.

Table 13-1. Delineated Surface Waters

Stream ID[1]	Stream Length (ln ft)	Stream Type[2]	Stream Name[3]	NYSDEC Stream Class[4]	Waterbody Identification Number (WIN)[5]	Stream Order[6]	Baseflow
01-ST003	171.31	R4	--	--	--	1	Yes
01-ST004	65.61	R6	--	--	--	1	No
01-ST007	311.48	R4	--	--	--	1	Yes
01-ST009	481.51	R4	--	C	--	2	Yes
01-ST010	52.18	R4	--	--	--	1	Yes
01-ST011	187.41	R6	--	--	--	1	No
01-ST012	447.21	R3	UNT to Blue Creek	C	ONT 66-11-P 26-25-6	2	Yes
05-D001	391.63	R6	--	--	--	1	No
05-ST001	523.54	R4	--	C(T)	--	1	Yes
05-ST002	498.68	R4	--	--	--	1	Yes
05-ST002A	165.59	R6	--	--	--	1	No
05-ST006	220.15	R6	--	--	--	1	No
10-ST001	251.73	R6	--	--	--	1	No
10-ST002	165.39	R4	--	--	--	1	Yes
10-ST003	25.31	R4	--	--	--	1	Yes
10-ST004	50.50	R4	--	--	--	1	Yes
10-ST005	373.69	R4	--	--	--	2	Yes
10-ST006	2517.79	R3	Callahan Brook	C(T)	SR-44-87	3	Yes
10-ST007	206.40	R4	--	--	--	1	Yes
10-ST008	349.06	R4	--	--	--	1	Yes
10-ST009	130.69	R4	--	--	--	1	Yes
12-ST001	145.25	R3	Chittenango Creek	C(T)	ONT 66-11-P 26-37	2	Yes
12-ST002	276.07	R4	--	--	--	2	Yes
12-ST003	281.26	R4	--	--	--	1	Yes
12-ST003A	36.84	R4	--	--	--	1	Yes
12-ST004	779.91	R4	--	--	--	1	Yes
12-ST005	72.26	R4	--	C	--	1	Yes

[5] The April 12, 2024 Surface Waters Jurisdictional Determination letter, identified an additional Surface Water: ID 66-ST002; however, this feature is located outside of the Wetland Study Area, and Facility Site, and is therefore not discussed in this Exhibit.

Stream ID[1]	Stream Length (ln ft)	Stream Type[2]	Stream Name[3]	NYSDEC Stream Class[4]	Waterbody Identification Number (WIN)[5]	Stream Order[6]	Baseflow
12-ST006	112.11	R4	--	C	--	1	Yes
12-ST007	416.75	R3	UNT to Callahan Brook	C	SR-44-87A-2A	2	Yes
12-ST008	450.20	R3	Callahan Brook	C(T)	SR-44-87	3	Yes
12-ST009	1199.07	R4	UNT to Callahan Brook	C	SR-44-86	2	Yes
12-ST010	46.39	R4	--	C	--	1	Yes
12-ST011	486.20	R4	UNT to Callahan Brook	C	SR-44-86	2	Yes
12-ST012	451.74	R4	--	--	--	1	Yes
12-ST013A	32.43	R4	--	C	--	1	Yes
12-ST014	408.72	R6	--	--	--	1	No
12-ST015	780.58	R3	Chittenango Creek	C(T)	ONT 66-11-P 26-37	3	Yes
12-ST015A	93.98	R4	--	--	--	1	Yes
12-ST016	429.13	R4	UNT to Oneida Creek	C(T)	ONT 66-11-P 26-25-4	1	Yes
12-ST016A	368.49	R6				1	
12-ST018	568.75	R4	--	--	--	1	Yes
12-ST020	80.23	R4	--	C	--	1	Yes
12-ST021	133.34	R6	--	--	--	1	No
12-ST022	269.85	R6				0	
12-ST023	69.80	R3	Chittenango Creek	C(T)	ONT 66-11-P 26-37	1	Yes
12-ST024	38.94	R3	UNT to Oneida Creek	C(T)	--	1	Yes
23-ST001	1528.64	R3	Chenango River	C(T)	SR-44	2	Yes
23-ST001A	449.04	R3	UNT to Callahan Brook	C	SR-44-87A-3b	1	Yes
23-ST002	170.78	R3	UNT to Chenango River	C(T)	--	1	Yes
23-ST002A	76.25	R4	UNT to Oneida Creek	C(T)	ONT 66-11-P 26-25-35	1	Yes
23-ST003	191.92	R4	UNT to Chenango River	C(T)	--	1	Yes

Stream ID[1]	Stream Length (ln ft)	Stream Type[2]	Stream Name[3]	NYSDEC Stream Class[4]	Waterbody Identification Number (WIN)[5]	Stream Order[6]	Baseflow
23-ST003A	87.78	R3	UNT to Oneida Creek	C(T)	ONT 66-11-P 26-25-35	1	Yes
23-ST004	2942.63	R3	UNT to Chenango River	C(T)	--	1	Yes
23-ST004A	606.77	R3	UNT to Oneida Creek	C(T)	ONT 66-11-P 26-25-35	3	Yes
23-ST005	1374.08	R3	UNT to Chenango River	C(T)	ONT 66-11-P 26-25-4	2	Yes
23-ST006	666.22	R3	UNT to Oneida Creek	C(T)	--	1	Yes
23-ST007	197.99	R4	UNT to Chenango River	C(T)	ONT 66-11-P 26-25-4	3	Yes
23-ST009	28.08	R4				0	Yes
26-ST001	252.11	R4	--	--	--	1	Yes
26-ST002	236.23	R4	--	--	--	1	Yes
26-ST003	598.26	R3	Callahan Brook	C(T)	SR-44-87	3	Yes
26-ST004	225.05	R4	--	--	--	1	Yes
26-ST005	134.65	R6	--	--	--	1	No
26-ST006	403.57	R4	--	--	--	2	Yes
26-ST007	64.72	R4	--	--	--	1	Yes
26-ST008	102.42	R4	--	--	--	2	Yes
26-ST009	768.26	R4	--	--	--	1	Yes
26-ST010	877.61	R4	--	--	--	1	Yes
26-ST011	405.35	R4	--	--	--	1	Yes
33-ST001	249.23	R4	--	--	--	1	Yes
33-ST002	945.09	R3	UNT to Chittenango Creek	C	ONT 66-11-P26-37-56	2	Yes
33-ST003	902.98	R6	--	--	--	1	No
33-ST004	59.86	R4	--	--	--	1	Yes
33-ST005	139.52	R4	--	--	--	1	Yes
33-ST006	275.57	R4	--	--	--	1	Yes
33-ST007	190.68	R4	--	--	--	1	Yes
33-ST008	38.52	R4	--	--	--	1	Yes

Stream ID[1]	Stream Length (ln ft)	Stream Type[2]	Stream Name[3]	NYSDEC Stream Class[4]	Waterbody Identification Number (WIN)[5]	Stream Order[6]	Baseflow
33-ST010	716.35	R3	UNT to Oneida Creek	C(T)	ONT 66-11-P26-25-35	3	Yes
33-ST011	553.89	R4	UNT to Oneida Creek	C(T)	ONT 66-11-P26-25-2c	1	Yes
33-ST013	733.16	R4	UNT to Oneida Creek	C(T)	ONT 66-11-P26-25-2B	2	Yes
33-ST014	277.18	R4	--	--	--	1	Yes
33-ST015	499.18	R4	--	--	--	1	Yes
33-ST016	1417.93	R4	--	--	--	1	Yes
33-ST017	101.54	R4	--	--	--	1	Yes
66-ST004	1191.19	R4	--	--	--	2	Yes
66-ST005	153.99	R4	--	--	--	1	Yes
66-ST006	470.70	R3	Oneida Creek	C(T)	ONT 66-11-P 26-25	2	Yes
66-ST007	62.84	R4	--	--	--	1	Yes
66-ST008	364.37	R4				1	Yes
93-ST001	589.98	R3	Chittenango Creek	C(T)	ONT 66-11-P 26-37-55	0	Yes
93-ST002	343.29	R4	--	--	--	1	Yes
93-ST002A	86.94	R4	--	--	--	1	Yes
93-ST003	94.27	R4	--	--	--	1	Yes
93-ST003A	792.29	R3					Yes
93-ST004	627.85	R4	--	--	--	1	Yes
93-ST004A	117.90	R4	--	C(T)	--	2	Yes
93-ST005	733.90	R3	UNT to Callahan Brook	C	SR-44-87A-3b	2	Yes
93-ST006	62.92	R3	UNT to Callahan Brook	C	SR-44-87A-4	1	Yes
93-ST007	122.90	R4	--	--	--	1	Yes
93-ST008	140.00	R4	--	--	--	1	Yes
93-ST009	93.22	R6	--	--	--	1	No

[1] Field ID assigned by EDR.
[2] Stream type is based upon the Cowardin et al. (1979) classification system: perennial stream (R3), intermittent stream (R4), and ephemeral stream (R6).
[3] UNT = Unnamed Tributary.
[4] Based on publicly available NYSDEC stream mapping.
[5] See 6NYCRR (Parts 800-941).
[6] Using Strahler method in which stream order increases when streams of the same order confluence.

As described above, streams delineated within the Wetland Study Area are limited to Class C, Class C(T), and unmapped streams. The NYSDEC establishes water quality standards for specific substances, which

are found in 6 NYCRR Part 703. In the absence of established water quality standards, numeric guidance values can be found in the guidance document for Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (NYSDEC, 1998)[6]. Table 13-2 provides the ambient water quality standards and guidance values applicable to streams within the Facility Site.

Table 13-2. New York State Ambient Standards and Guidance Values

Parameter	NYSDEC Classification	Standard
Taste-, color-, and odor-producing, toxic, and other deleterious substances	C	None in amounts that will adversely affect the taste, color, or odor thereof, or impair the waters for their best usages.
Turbidity	C, D	No increase that will cause a substantial visible contrast to natural conditions.
Suspended, colloidal, and settleable solids	C, D	None from sewage, industrial wastes, or other wastes that will cause deposition or impair the waters for their best usages.
Oil and floating substances	C, D	No residue attributable to sewage, industrial wastes, or other wastes, nor visible oil film nor globules of grease.
Phosphorus and nitrogen	C, D	None in amounts that will result in growths of algae, weeds, and slimes that will impair the waters for their best usages.
Thermal discharges	C, D	Standard for this refers to 6 NYCRR Part 704.1 Water quality standards for thermal discharges. (a) All thermal discharges to the waters of the State shall assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water. (b) The criteria contained in this Part shall apply to all thermal discharges and shall be complied with, except as provided in this Part.
Flow	C, D	No alteration that will impair the waters for their best usages.
pH	C, C(T)	Shall not be less than 6.5 nor more than 8.5.
	D	Shall not be less than 6.0 nor more than 9.5.
Dissolved Oxygen	C, C(T)	For trout spawning waters (TS) the DO concentration shall not be less than 7.0 mg/L from other than natural conditions. For trout waters (T), the minimum daily average shall not be less than 6.0 mg/L, and at no time shall the concentration be less than 5.0 mg/L. For non-trout waters, the minimum daily average shall not be less than 5.0 mg/L, and at no time shall the DO concentration be less than 4.0 mg/L.
	D	Shall not be less than 3.0 mg/L at any time.
Dissolved solids	C	Shall be kept as low as practicable to maintain the best usage of waters but in no case shall it exceed 500 mg/L.
Total coliforms * (number per 100 mL)	C, D	The monthly median value and more than 20% of the samples, from a minimum of five examinations, shall not exceed 2,400 and 5,000, respectively.
Fecal coliforms * (number per 100 mL)	C, D	The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.

Source: 6 NYCRR 703.2, NYCRR 703.3, 6 NYCRR 703.4, 6 NYCRR 704.1

[6] Available at https://www.dec.ny.gov/docs/water_pdf/togs111.pdf

As stated previously, no aquatic invasive plant species identified in NYSDEC Part 575 List of *Prohibited and Regulated Invasive Species* (NYSDEC, 2014), were identified during on-site wetland and stream delineations. The most common terrestrial invasive species observed during wetland and stream delineations included Morrow's honeysuckle (*Lonicera morrowii*), multiflora rose (*Rosa multiflora*), *common buckthorn* (*Rhamnus cathartica*), and common reed (*Phragmites australis*). Pursuant to 19 NYCRR §900-10.2(f)(4), and in compliance with 6 NYCRR Part 575, the Applicant will prepare and submit an Invasive Species Control and Management Plan as a pre-construction compliance filing, including baseline mapping of all invasive species within 100 feet of the limits of construction activity and an identification of specific control, removal, monitoring, management, and disposal methods to be implemented for each identified invasive species.

(4) Drinking Water Supply Intakes

As previously noted, the Applicant sought information from the NYSDOH regarding public water supplies (including public water supply intakes). In their October 04, 2023, response, the NYSDOH Bureau of Water Supply Protection provided the locations of nine wells associated with community and non-community water systems; however, the NYSDOH did not identify any surface water supply intakes. According to the NYSDEC Info Locator, the nearest surface water supply intake is located four miles north of the Facility in the Town of Lincoln. See Exhibit 13(a)(2) for a description of public and private groundwater wells. See Exhibit 13(a)(3) for a description of potential impacts to known public and private groundwater wells.

(5) Avoidance and Minimization of Impacts to NYS Protected Waters

According to the Surface Waters Jurisdictional Determination issued by ORES on April 12, 2024, there are 25 NYS protected surface waters delineated by EDR within the Facility Site. The Applicant has sited Facility components to avoid both temporary and permanent impacts to surface waters, to the maximum extent practicable.

As detailed in Table 13-3 and shown in the Civil Design Drawings (Appendix 5-A), the Facility has avoided all direct and indirect impacts to 10 of the 25 NYS protected streams within the Facility Site.

Table 13-3. Avoidance of Impacts to NYS Protected Streams

NYS Protected Stream ID	Facility Components within 50 feet	Notes
10-ST006	Collection Line	Trenchless crossing would avoid all impacts within 50 feet of this stream.
12-ST001	None	No impacts would occur within 50 feet of this stream.
12-ST023	None	No impacts would occur within 50 feet of this stream. A small portion of the limit of disturbance (LOD) associated with the installation of an intersection improvement is located within 50 feet of this stream; however, the overlap occurs entirely within the existing roadbed, i.e., no activity types discussed in 19 NYCRR §900-2.14(6)(iv)-(vii) would occur within 50 feet of this stream.
12-ST024	None	No impacts would occur within 50 feet of this stream.
23-ST001	Collection Line	Trenchless crossing would avoid all impacts within 50 feet of this stream.

23-ST002	Collection Line	Trenchless crossing would avoid all impacts within 50 feet of this stream.
23-ST003	None	No impacts would occur within 50 feet of this stream.
23-ST004	Collection Line	Trenchless crossing would avoid all impacts within 50 feet of this stream.
23-ST007	None	The access road to T-11 was moved to avoid impacts to this stream and state-regulated wetland 66-011. No impacts would occur within 50 feet of this stream
26-ST003	Collection Line	Trenchless crossing would avoid all impacts within 50 feet of this stream.
93-ST001	Collection Line	Trenchless crossing would avoid all impacts within 50 feet of this stream.
93-ST004A	None	The access road to T-11 was moved to avoid impacts to this stream and state-regulated wetland 66-011. No impacts would occur within 50 feet of this stream

As detailed in Table 13-4 and shown in Figures 13-3, Figure 14-2 – Revision 1, and Appendix 5-A, the Applicant is proposing direct impacts to 10 NYS protected streams.

Table 13-4. Direct Impacts to NYS Protected Streams

NYS Protected Stream ID	**Direct Impacts**			**Notes**
	Facility Component	Impact Type	Mitigation Requirement[1]	
12-ST008	Access Road	Reconstructed Road Crossing (23 ln ft)	A	Existing low water crossing will be replaced with culvert designed in accordance with 19 NYCRR §900-6.4(r)(6).
12-ST015	Access Road	Reconstructed Road Crossing (88 ln ft)	A	Existing low water crossing will be replaced with culvert designed in accordance with 19 NYCRR §900-6.4(r)(6).
	Collection Line	Trenchless Crossing (No Impact)	A	Trenchless crossing would avoid all impacts to this stream.
12-ST016	Access Road	New Road Crossing (86 ln ft)	A(M1)	New road crossing will be installed with culvert designed in accordance with 19 NYCRR §900-6.4(r)(6).
	Collection Line	Installed with New Road Crossing (No Additional Impact)	A	Collection line crossing collocated with new access road crossing; direct impacts associated with the installation of this collection line crossing would be subsumed by impacts associated with the new access road crossing.
23-ST002A	n/a	Minor Disturbance (43 ln ft)	n/a	Installation of the culverted access road crossing of Stream 23-ST004A, which is located adjacent to this stream, will result in temporary disturbance to the stream associated with the operation of construction equipment.
				Trenchless crossing would avoid all impacts to this stream.

NYS Protected Stream ID	Direct Impacts			Notes
	Facility Component	Impact Type	Mitigation Requirement[1]	
23-ST003A	n/a	Minor Disturbance (26 ln ft)	n/a	Installation of the culverted access road crossing of Stream 23-ST004A, which is located adjacent to this stream, will result in temporary disturbance to the stream associated with the operation of construction equipment.
				Trenchless crossing would avoid all impacts to this stream.
23-ST004A	Access Road	Reconstructed Road Crossing (51 ln ft)	A	Existing low water crossing will be replaced with culvert designed in accordance with 19 NYCRR §900-6.4(r)(6).
	Collection Line	Trenchless Crossing (No Impact)	A	Trenchless crossing would avoid all impacts to this stream.
23-ST006	Access Road	New Road Crossing (103 ln ft)	A(M1)	New road crossing will be installed with culvert designed in accordance with 19 NYCRR §900-6.4(r)(6).
	Collection Line	Installed with New Road Crossing (No Additional Impact)	A	Collection line crossing collocated with new access road crossing; direct impacts associated with the installation of this collection line crossing would be subsumed by impacts associated with the new access road crossing.
33-ST010	Access Road	New Road Crossing (82 ln ft)	A(M1)	New road crossing will be installed with culvert designed in accordance with 19 NYCRR §900-6.4(r)(6).
	Collection Line	Trenchless Crossing (No Impact)	A	Trenchless crossing would avoid all impacts to this stream.
33-ST011	Access Road	New Road Crossing (200 ln ft)	A(M1)	New road crossing will be installed with culvert designed in accordance with 19 NYCRR §900-6.4(r)(6).
	Collection Line	Trenchless Crossing (No Impact)	A	Trenchless crossing would avoid all impacts to this stream.
33-ST013	Access Road	Reconstructed Road Crossing (44 ln ft)	A	Existing culvert crossing will be replaced with culvert designed in accordance with 19 NYCRR §900-6.4(r)(6).
	Collection Line	Trenchless Crossing (No Impact)	A	Trenchless crossing would avoid all impacts to this stream.

As detailed in Table 13-5 and shown in the design drawings, the Applicant is proposing activities within 50 feet of the 10 NYS-protected streams identified in Table 13-4, as well as four additional NYS-protected streams that will not be directly impacted. Activity types discussed in Table 13-5 match those discussed in 19 NYCRR §900-2.14(6)(iv)-(vii).

Table 13-5. Impacts within 50 feet of NYS Protected Streams

NYS-protected Stream ID	Activities within 50 feet of NYS-Protected Streams			Notes
	Facility Component	Activity Type	Restoration Requirement	
12-ST008	Access Road	Grading (0.05 ac)	None within access road or along road margins;[2] otherwise install low height stabilizing vegetation with fine root biomass and some stream shading potential along stream banks.	
12-ST015	Access Road	Grading (0.21 ac)	None within access road or along road margins;[2] otherwise install low height stabilizing vegetation with fine root biomass and some stream shading potential along stream banks. Disturbed areas within 50 feet of this stream that are within the boundaries of state-regulated Wetland 66-W016 will be restored in accordance with the Facility's approved Wetland Restoration and Mitigation Plan.	
	Collection Line	Trenchless Crossing (No Impact)	None	No disturbance associated with collection line installation would occur within 50 feet of this stream.
12-ST016	Access Road	Grading (0.20 ac) Tree Clearing (0.16 ac)	None within access road or along road margins;[2] otherwise install low height stabilizing vegetation with fine root biomass and some stream shading potential along stream banks.	
	Collection Line	Installed with New Road Crossing (No Additional Impact)	None	Collection line crossing collocated with new access road crossing; installation of this collection line crossing would result in no additional impacts.
23-ST002A, 23-ST003A, and 23-ST004A	Access Road	Grading (0.11 ac)	None within access road or along road margins;[2] otherwise install low height stabilizing vegetation with fine root biomass and some stream shading potential along stream banks. Disturbed areas within 50 feet of this stream that are within the boundaries of state-regulated Wetland 66-W011	

NYS-protected Stream ID	Activities within 50 feet of NYS-Protected Streams			Notes
	Facility Component	Activity Type	Restoration Requirement	
			will be restored in accordance with the Facility's approved Wetland Restoration and Mitigation Plan.	
	Collection Line	Trenchless Crossing (No Impact)	None	No disturbance associated with collection line installation would occur within 50 feet of this stream.
23-ST005	n/a	General construction activities, but no activity types discussed in 19 NYCRR §900-2.14(6)(iv)-(vii).	Areas within 50 feet of this stream that are within the boundaries of state-regulated Wetland 66-W011 and are subject to general construction activities will be restored in accordance with the Facility's approved Wetland Restoration and Mitigation Plan.	Installation of an access road adjacent to this stream will result in temporary disturbance within 50 feet of this stream associated with the operation of construction equipment.
23-ST006	Access Road	Grading (0.23 ac) Tree Clearing (0.16 ac)	None within access road or along road margins;[2] otherwise install low height stabilizing vegetation with fine root biomass and some stream shading potential along stream banks. Disturbed areas within 50 feet of this stream that are within the boundaries of state-regulated Wetland 66-W011 will be restored in accordance with the Facility's approved Wetland Restoration and Mitigation Plan.	
	Collection Line	Installed with New Road Crossing (No Additional Impact)	None	Collection line crossing collocated with new access road crossing; installation of this collection line crossing would result in no additional impacts.
33-ST010	Access Road	Grading (0.19 ac) Tree Clearing (0.04 ac)	None within access road or along road margins;[2] otherwise install low height stabilizing vegetation with fine root biomass and some stream shading potential along stream banks.	
	Collection Line	Trenchless Crossing (No Impact)	None	No disturbance associated with collection line installation would occur within 50 feet of this stream.
33-ST011	Access Road	Grading (0.45 ac)	None within access road or along road margins;[2] otherwise install low height stabilizing vegetation with fine root	

NYS-protected Stream ID	Activities within 50 feet of NYS-Protected Streams			Notes
	Facility Component	Activity Type	Restoration Requirement	
		Tree Clearing (0.06 ac)	biomass and some stream shading potential along stream banks.	
	Collection Line	Trenchless Crossing (No Impact)	None	No disturbance associated with collection line installation would occur within 50 feet of this stream.
33-ST013	Access Road	Grading (0.15 ac)	None within access road or along road margins;[2] otherwise install low height stabilizing vegetation with fine root biomass and some stream shading potential along stream banks.	
	Collection Line	Trenchless Crossing (No Impact)	None	No disturbance associated with collection line installation would occur within 50 feet of this stream.
66-ST006	Collection Line	Tree Clearing (0.04 ac)	None	Installation of the bore pit on the north side of this stream will require some tree clearing within 50 feet of this stream.
93-ST003A	Collection Line	Tree Clearing (<0.01 ac)	None	Installation of bore pits and collection line will require limited tree clearing within 50 feet of this stream.

An explanation of all efforts the Applicant made to avoid and minimize direct and indirect impacts the NYS protected waters, including a discussion of all BMPs used during the design process is provided below for the streams identified in Table 13-4 and Table 13-5.

12-ST008

Stream 12-ST008 (Callahan Brook) is a major stream that flows from the northwest to the southeast through the Facility Site. No public road delivery routes that would allow the Applicant to deliver turbines to US Route 20 are suitable, and all possible turbine delivery routes that could be constructed by the Applicant cross this stream, i.e., crossing this stream is unavoidable. The Applicant is proposing to cross this stream with an access road.

To minimize impacts to this resource, the proposed permanent access road crossing of this stream has been sited in the location of an existing farm road low water crossing. Low water crossings have

substantially greater negative effects on water quality than properly designed culverts and bridges (Clarkin et al., 2006). The replacement of the existing low water crossing with a culvert designed in accordance with 19 NYCRR §900-6.4(r)(6) will result in a net benefit to Callahan Brook by improving water quality.

Although the installation of the proposed culvert crossing would result in some direct and indirect impacts during construction, tree clearing within 50 feet of this stream has been avoided, and the Applicant is proposing to restore and revegetate areas adjacent to the stream with appropriate low height stabilizing vegetation that would provide fine root biomass and some stream shading potential (see Table 13-5). Slopes in the vicinity of this crossing are relatively gentle and the proposed erosion and sediment control practices as well as the proposed post-construction stormwater practices (see Appendix 05-A and Appendix 13-C) have been designed to appropriately manage stormwater flows and erosion potential in the vicinity of the proposed crossing.

12-ST015

Stream 12-ST015 (Chittenango Creek) is a major stream that flows from the northeast to the southwest through the Facility Site. All possible access road or collection line routes available to the Applicant that connect T-3 and T-4 to Wyss Road cross this stream, i.e., crossing this stream is unavoidable. The Applicant is proposing to cross this stream with one collection line circuit and an access road.

To avoid direct and indirect impacts to this resource, the proposed collection line crossing will be installed using trenchless technologies and the bore pits necessary to complete this trenchless crossing have been sited more than 50 feet from this stream. The installation of this collection line crossing will result in no direct or indirect impacts to stream 12-ST015.

To minimize impacts to this resource, the proposed permanent access road crossing of this stream has been sited in the location of an existing farm road low water crossing. Low water crossings have substantially greater negative effects on water quality than properly designed culverts and bridges (Clarkin et al., 2006). The replacement of the existing low water crossing with a culvert designed in accordance with 19 NYCRR §900-6.4(r)(6) will result in a net benefit to Chittenango Creek by improving water quality.

Although the installation of the proposed culvert crossing would result in some direct and indirect impacts during construction, tree clearing within 50 feet of this stream has been avoided, and the Applicant is proposing to restore and revegetate areas adjacent to the stream with appropriate low height stabilizing vegetation that would provide fine root biomass and some stream shading potential (see Table 13-5). Slopes in the vicinity of this crossing are relatively gentle and the proposed erosion and sediment control practices as well as the proposed post-construction stormwater practices (see Appendix 05-A and Appendix 13-C) have been designed to appropriately manage stormwater flows and erosion potential in the vicinity of the proposed crossing.

12-ST016 and 23-ST006

Streams 12-ST016 and 23-ST006 (Oneida Creek Tributaries) are perennial tributaries located upstream of a large beaver dam complex (state-regulated wetland 66-W011). All possible access road or collection line routes available to the Applicant that connect T-11 to Mutton Hill Road would require crossing Oneida Creek and/or its tributaries and state-regulated wetland 66-W011, i.e., crossing these streams or similar resources is unavoidable. The Applicant is proposing to cross streams 12-ST016 and 23-ST006 with one collection line circuit and an access road.

To minimize impacts, the proposed permanent access road crossings of these streams have been sited in a location that minimizes impacts to state-regulated wetland 66-W011 and adjacent state-protected streams, to the maximum extent practicable. The new crossings will be installed with culverts designed in accordance with 19 NYCRR §900-6.4(r)(6), minimizing potential impacts associated with these two new crossings. The proposed collection line crossings will be installed concurrent with and within the disturbance footprint required to install the new road crossing. The installation of this collection line crossing will result in no additional direct or indirect impacts to streams 12-ST016 and 23-ST006.

The Applicant is proposing to restore and revegetate areas adjacent to the streams with appropriate low height stabilizing vegetation that would provide fine root biomass and some stream shading potential (see Table 13-5). Disturbed areas within 50 feet of these streams that are within the boundaries of state-regulated Wetland 66-W011 will be restored in accordance with the Facility's approved Wetland Restoration and Mitigation Plan. In consideration of the slopes within the impacted area, the proposed erosion and sediment control practices as well as the proposed post-construction stormwater practices (see Appendix 05-A and Appendix 13-C) have been designed to appropriately manage stormwater flows and erosion potential in the vicinity of the proposed crossings.

23-ST002A, 23-ST003A, 23-ST004A, and 23-ST005

Streams 23-ST002A, 23-ST003A, 23-ST004A, and 23-ST005 (Oneida Creek Tributaries) are perennial tributaries located downstream of or adjacent to a large beaver dam complex (state-regulated wetland 66-W011). All possible access road or collection line routes available to the Applicant that connect T-11 and T-12 would require crossing Oneida Creek and/or its tributaries. The connection between T-11 and T-12 is necessary to carry power from the east side of the Facility to the substation as well as deliver turbines to and access T-11 and T-12, i.e., crossing this stream is unavoidable. The Applicant is proposing to cross stream 23-ST004A with three collection line circuits and an access road. The installation of the access road will also result in direct and/or indirect impacts to streams 23-ST002A, 23-ST003A, and 23-ST005.

To minimize direct and indirect impacts to these resources, the proposed collection line crossing will be installed using trenchless technologies and the bore pits necessary to complete this trenchless crossing have been sited more than 50 feet from all fours of these streams. The installation of this collection line crossing will result in no direct or indirect impacts to streams 23-ST002A, 23-ST003A, 23-ST004A, and 23-ST005.

To minimize impacts to these resources, the proposed permanent access road crossing of stream 23-ST004A has been sited in the location of an existing farm road low water crossing. Low water crossings have substantially greater negative effects on water quality than properly designed culverts and bridges (Clarkin et al., 2006). The replacement of the existing low water crossing with a culvert designed in accordance with 19 NYCRR §900-6.4(r)(6) will result in a net benefit to Oneida Creek by improving water quality.

The installation of the proposed culvert crossing will result in some direct and indirect impacts to these streams and areas within 50 feet of these streams. These impacts have been minimized by siting the access road along the previously disturbed corridor associated with the existing farm road; however, complete avoidance was not possible as significant upgrades to the existing road will be needed to facilitate turbine delivery.

The Applicant is proposing to restore and revegetate areas adjacent to the stream with appropriate low height stabilizing vegetation that would provide fine root biomass and some stream shading potential (see Table 13-5). Disturbed areas within 50 feet of this stream that are within the boundaries of state-regulated Wetland 66-W011 will be restored in accordance with the Facility's approved Wetland Restoration and Mitigation Plan. Slopes in the vicinity of this crossing are relatively gentle and the proposed erosion and sediment control practices as well as the proposed post-construction stormwater practices (see Appendix 05-A and Appendix 13-C) have been designed to appropriately manage stormwater flows and erosion potential in the vicinity of the proposed crossing.

33-ST010 and 33-ST011

Streams 33-ST010 and 33-ST011 (Oneida Creek Tributaries) are parallel tributaries that flow south to north through the Facility Site. There are two possible access road routes available to the Applicant that would connect T-14 and T-15 to public roads: the proposed route, which connects to Pleasant Valley Road, and an alternative route considered by the Applicant, which would connect T-15 to Stone Bridge Road from the south along the collection line route. The Stone Bridge Road alternative is not feasible, due to the presence of cultural resources and wetlands. As streams 33-ST010 and 33-ST011 fully bisect the parcels the applicant has leased, crossing these streams with Facility components unavoidable. The Applicant is proposing to cross streams 33-ST010 and 33-ST011 with three collection line circuits and an access road.

To minimize direct and indirect impacts to these resources, the proposed collection line crossings will be installed using trenchless technologies and the bore pits necessary to complete these trenchless crossings have been sited more than 50 feet from these streams. The installation of this collection line crossing will result in no direct or indirect impacts to streams 33-W010 and 33-W011.

The new access road crossings will be installed with culverts designed in accordance with 19 NYCRR §900-6.4(r)(6), minimizing potential impacts associated with these two new crossings. Although the installation of the proposed culvert crossings would result in some direct and indirect impacts during construction, tree clearing within 50 feet of these streams has been minimized, and the Applicant is

proposing to restore and revegetate areas adjacent to the stream with appropriate low height stabilizing vegetation that would provide fine root biomass and some stream shading potential (see Table 13-5). Slopes in the vicinity of this crossing are relatively gentle and the proposed erosion and sediment control practices as well as the proposed post-construction stormwater practices (see Appendix 05-A and Appendix 13-C) have been designed to appropriately manage stormwater flows and erosion potential in the vicinity of the proposed crossing.

33-ST013

Stream 33-ST013 (Oneida Creek Tributary) is an agricultural ditch that flows from the south to north through the Facility Site. All possible access road or collection line routes available to the Applicant that connect T-12 to Pleasant Valley Road cross this stream. In addition, the connection between Mutton Hill Road and Pleasant Valley Road is necessary to carry power from the east side of the Facility to the substation, as well as deliver turbines to the western half of the Facility, i.e., crossing this stream is unavoidable. The Applicant is proposing to cross this stream with three collection line circuits and an access road.

To avoid direct and indirect impacts to this resource, the proposed collection line crossing will be installed using trenchless technologies and the bore pits necessary to complete this trenchless crossing have been sited more than 50 feet from this stream. The installation of this collection line crossing will result in no direct or indirect impacts to stream 33-ST013.

To minimize impacts to this resource, the proposed permanent access road crossing of this stream has been sited in the location of an existing farm road culvert crossing. The replacement of the existing culvert crossing with a culvert designed in accordance with 19 NYCRR §900-6.4(r)(6) will result in a net benefit to this tributary of Oneida Creek by ensuring natural stream hydrologic patterns and water quality are maintained or improved, when compared to the current culvert.

Although the installation of the proposed culvert crossing would result in some direct and indirect impacts during construction, tree clearing within 50 feet of this stream has been avoided, and the Applicant is proposing to restore and revegetate areas adjacent to the stream with appropriate low height stabilizing vegetation that would provide fine root biomass and some stream shading potential (see Table 13-5). Slopes in the vicinity of this crossing are relatively gentle and the proposed erosion and sediment control practices as well as the proposed post-construction stormwater practices (see Appendix 05-A and Appendix 13-C) have been designed to appropriately manage stormwater flows and erosion potential in the vicinity of the proposed crossing.

66-ST006

Stream 66-ST006 (Oneida Creek) is a perennial creek located on steep terrain upstream from a large beaver dam complex. The Applicant is proposing to cross this stream with three collection line circuits.

To avoid direct impacts to this resource, the proposed collection line crossing will be installed using trenchless technologies.

Although the southern bore pit of this crossing was able to be sited more than 50 feet from the stream, the northern bore pit is located in a constrained area between the stream and Mutton Hill Road. To maintain appropriate cable turning radii and facilitating required orientation for the adjacent Mutton Hill Road crossing, the northern bore pit for the Stream ST66-006 crossing was required to be sited within 50 feet of Stream 66-ST006. The Applicant considered combining the stream and road crossings, but achieving an appropriate orientation of the road crossing while crossing the stream in a location perpendicular to the direction of flow was determined to not be feasible—only an approximately 50-foot-wide corridor is available to the Applicant to cross Mutton Hill Road in this location with 3 circuits.

Although only a small number of trees will be required to be removed, where areas adjacent to the stream are impacted, the Applicant is proposing to restore and revegetate these areas with appropriate low height stabilizing vegetation that would provide fine root biomass and some stream shading potential (see Table 13-5). In consideration of the slopes within the impacted area, silt fence and other erosion and sediment control practices appropriate to the site will be installed to ensure that erosion potential is not increased during construction (see Appendix 05-A).

93-ST003A

Stream 93-ST003A (Chittenango Creek Tributary) is a roadside ditch that flow east to west where it intersects the Facility Site. All possible collection line routes available to the Applicant that connect T-1, T-2, T-3, and T-4 to the substation cross this stream, i.e., crossing this stream is unavoidable. The Applicant is proposing to parallel and then cross this stream with one collection line circuit.

To avoid direct impacts to this resource, the proposed collection line crossing will be installed using trenchless technologies. Although the southern bore pit of this crossing, and two other bore pits associated with an adjacent road crossing, are located within 50 feet from this stream, the proposed bore pits are located in previous disturbed agricultural or residential areas—only the selective trimming and clearing of a small number of trees will be required to install this crossing. In addition a small number of trees will be required to be trimmed or cleared where the collection line limits of disturbance area are located within 50 feet of this stream to the west of the proposed trenchless crossing.

Where areas adjacent to the stream with natural vegetation are impacted, the Applicant is proposing to restore and revegetate areas these areas with appropriate low height stabilizing vegetation that would provide fine root biomass and some stream shading potential (see Table 13-5). Slopes in the vicinity of this crossing are relatively gentle and the proposed erosion and sediment control practices (see Appendix 05-A and Appendix 13-C) have been designed to appropriately manage erosion potential in the vicinity of the proposed crossing.

(6) Best Management Practices to Minimize Impacts to NYS Protected Waters

An explanation of all efforts the applicant made to minimize the impacts to NYS protected is provided in Exhibit 13(b)(5). Best management practices outlined in 19 NYCRR §900.2.14(b)(6) are discussed below.

(i) Solar Panel and Perimeter Fence Crossings of NYS Protected Waterbodies

No perimeter fence crossings of NYS protected waterbodies are proposed.

(ii) Excavation, Grading, or Fill in NYS Protected Waters

The Applicant has designed the proposed access road crossings of state-protected streams to comply with the applicable conditions in 19 NYCRR §900.6.4(r) and will otherwise comply with the conditions in this section.

(iii) Slopes and Erosion Potential within 50 feet of NYS Protected Waters

See stream specific discussion in Exhibit 13(b)(5).

(iv) Grading within 50 feet of NYS Protected Waters

See stream specific discussion in Exhibit 13(b)(5).

(v) Tree Clearing within 50 feet of NYS Protected Waters

See stream specific discussion in Exhibit 13(b)(5).

(vi) Restoration Requirements

Table 13-5, Exhibit 13(b)(5), and Appendix 13-F provide a discussion of restoration practices that will be implemented by the Applicant where impacts within 50 feet if NYS protected water are proposed.

Impacts to surface waters within the Facility Site are also anticipated to fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA). The Applicant will adhere to the erosion and sediment control measures outlined in the SWPPP (Appendix 13-C) and comply with USACE permit conditions during construction near any federally jurisdictional surface waters. Additional information regarding Water Quality Certification and the status of consultation with the USACE is provided in Section 13(f).

(7) Stream Restoration and Mitigation Plan for NYS Protected Waters

As described in Exhibit 13(b)(5) and Exhibit 13(b)(5), the Applicant has sited Facility components to avoid or minimize both temporary and permanent impacts to surface waters to the maximum extent

practicable. Most of the activities conducted within 50 feet of NYS protected waters are "Allowed (A)" in accordance with Table 1 of 19 NYCRR §900.2.14(b)(7).

As detailed in Table 13-5, the proposed access road crossings of streams 12-ST016, 23-ST006, 33-ST010, and 33-ST011 will require mitigation. The single culvert crossings proposed by the Applicant in these locations will be designed in accordance with 19 NYCRR § 900-6.4(r)(6). Accordingly, as detailed in 19 NYCRR §900-6.4(r)(7), to mitigate the impacts of the four proposed permanent crossings of NYS protected waters:

"[The] applicant shall replace one (1) existing substandard culvert for each new crossing with a culvert designed in accordance with section 900-6.4(r)(6) of this Part. Substandard culverts are those with a significant barrier to aquatic organism passage and/or those that cannot pass a four (4) percent design flow event."

The Applicant's proposed mitigation projects are discussed in detail in Appendix 13-F. In light of these impacts and the mitigation proposed, pursuant to 19 NYCRR §900-1.4, Hoffman Falls Wind requests the following site-specific condition be included in the Permit to address the Facility's impacts to state-regulated wetlands:

"Construction of the Facility, as proposed, will result in disturbance of NYS-protected waterbodies, which disturbance is allowed pursuant to 19 NYCRR §900-2.14(b)(7)(i)(a)(2) and which will be identified in the final Stream Restoration and Mitigation Plan consistent with the pre-construction compliance filings pursuant to 19 NYCRR §900-10.2(f)(3). To minimize impacts, the Permittee will construct new permanent single culverts designed in accordance with 19 NYCRR §900-6.4(r)(6) in consultation with and as approved by ORES. With these measures, the Permittee will have avoided, minimized, and mitigated impacts to NYS protected waterbodies to the maximum extent practicable."

(c) Stormwater

(1) Stormwater Pollution Prevention Plan

Prior to construction, the Applicant will submit a Notice of Intent seeking coverage under the NYSDEC State Pollution Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, issued and effective on January 29, 2020, or its successor (NYSDEC, 2020). This CWA authorization has been delegated by the federal government to the NYSDEC. The NYSDEC Letter of Authorization will be submitted as a compliance filing in accordance with 19 NYCRR §900-10.2(a).

As required by the SPDES General Permit and on behalf of the Applicant, Westwood Surveying and Engineering, P.C. (Westwood) developed a SWPPP (see Appendix 13-C). The SWPPP includes an introduction and overview of the proposed Project, and the purpose and need and appropriate contents of a complete SWPPP; a description of anticipated stormwater management practices, including temporary and permanent erosion and sediment control measures (vegetative and structural); anticipated construction activities, including preliminary construction phasing and disturbance limits; waste management and spill control measures; proposed site inspection and maintenance measures,

including construction site inspections and recordkeeping; and conditions that will allow for the termination of permit coverage.

(2) Post-Construction Erosion and Sediment Control Practices

As described above in the previous subsection, the final SWPPP and associated erosion and sedimentation control plan will be submitted prior to construction and will address the anticipated stormwater management practices and green infrastructure practices (e.g., vegetative filters) that will be used to reduce the rate and volume of stormwater runoff during construction and after Facility construction has been completed. The SWPPP also requires that there is at least one person on site daily to inspect the site's erosion and sediment control practices when soil disturbing activities are being performed. The SWPPP was prepared in accordance with New York State Standards and Specifications for Erosion and Sediment Control (NYSDEC, 2016), and the New York State Stormwater Management Design Manual (NYSDEC, 2015). Examples of potential post-construction erosion and sediment control practices are provided in Appendix 05-A and Appendix 13-C and include, but are not limited to, vegetation buffers, mulching, erosion control blankets, and application of temporary and permanent seed mixes.

(d) Chemical and Petroleum Bulk Storage

(1) Spill Prevention and Control Measures

To prevent unintended releases of petroleum and other hazardous chemicals, a preliminary SPCC Plan has been prepared that outlines preventative measures and response procedures in the unlikely event of a release (see Appendix 13-D). The Applicant will visually examine oil storage areas (including drums, totes, slip tanks, turbines, and transformers) regularly and conduct formal visual inspections on a monthly basis to prevent unintended releases of petroleum and other hazardous chemicals. Formal visual inspections will be completed in accordance with written procedures detailed in the preliminary SPCC. Personnel performing inspections will follow the Monthly Facility Inspection Checklist, provided in Appendix G of the preliminary SPCC (this checklist is subject to change). The monthly and annual inspection records will be maintained at the Facility with the preliminary SPCC Plan, in written or electronic form, for at least three years.

Oil products to be used during construction will primarily be stored at the laydown yards. In addition, oil products will be stored and used at the concrete batch plant, substation, O&M Facility, and in each wind turbine's gearbox and hydraulic unit, both of which will be contained within the turbine itself. The SPCC outlines steps and information on spill reporting procedures, prevention, and response. The SPCC also includes a description of secondary containment methods to prevent oil from reaching surface waters. Diesel exhaust fluid, herbicides, and other non-petroleum chemicals are not included in this SPCC Plan. However, potential spills from these containers will be subject to the NYSDEC spill reporting requirements.

Containment and diversionary structures will be used to limit the spread of a spill prior to cleanup. Containment pits will surround tanks, totes, drums, and transformers at the laydown yard, batch plant, and collection substation. These areas will be drained by manually activated pumps. Retained rainwater will be inspected prior to draining to ensure that only oil-free water is discharged. Methods of secondary containment at the Facility include a combination of prefabricated structure and land-based spill response. All secondary containment structures shall be sized to hold a minimum of 110% of the volume of the single largest tank within the containment area. During construction, clean-up kits that contain absorbent materials, booms, and other portable barriers will be located at the laydown yard to respond to spills on-site. Portable spill kits will be located in lube trucks and mechanic trucks.

An SPCC Plan for the operating Facility will be prepared if the Applicant elects to store petroleum in quantities that exceed federal requirements, to meet regulations set forth in CFR, Title 40, Part 112, Oil Pollution Prevention. A non-transportation-related facility is subject to SPCC regulations if the total above-ground oil storage capacity exceeds 1,320 gallons in containers 55 gallons or larger. A complete copy of the construction SPCC Plan will be maintained on-site and posted in the construction trailer at the laydown yard during construction activities. During operation of the Facility, a copy of the operational SPCC Plan will be kept in an accessible area (e.g., the O&M Facility or within the substation yard). In accordance with 40 CFR 112.5(a), the SPCC Plans will be reviewed and potentially amended under the following circumstances:

- Every five years
- If there is a change in Facility design, construction, operation, or maintenance that materially affects the Facility's potential for discharge of oil into the environment
- In the event of a significant spill.

Review and evaluation of the Plans will be documented in a Plan Review Log. The Plan Review Log will state whether the Plans will be amended based on the review. Any technical revisions to the Plan will be certified by a professional engineer.

The SPCC Emergency Coordinator will be responsible for oil discharge prevention, control, and response preparedness activities for the operating Facility. Oil handling personnel will be trained to operate and maintain oil pollution prevention equipment and follow discharge protocol, applicable pollution control laws, rules and regulations, and the content of the SPCC Plan. Any new Facility personnel tasked with oil handling responsibilities will be provided with the same training prior to involvement in any oil operation. The SPCC Emergency Coordinator will hold annual discharge prevention briefings for all Facility personnel involved in oil operations. The briefings will focus on the SPCC Plan to ensure adequate understanding, and will address any discharge events or failures, malfunctioning components, and any recently developed precautionary measures. Records of discharge prevention training and briefings will be kept for a minimum of three years from the training/briefing date and will be documented in the Discharge Prevention Briefing and Training Log provided in Appendix 13-D.

(2) Compliance with New York State Chemical and Petroleum Bulk Storage Regulations

The Facility will have oil containers located at the collection substation, batch plant, O&M facility, and laydown yards. The design of the containers will include adequate secondary containment. Operational tank systems (i.e., transformers) are not subject to the provisions of 6 NYCRR Part 613.

It is not anticipated that large volumes of petroleum or hazardous substances will be stored in tanks subject to regulation under the State of New York's chemical and petroleum bulk storage programs. If the Applicant elects to store petroleum or chemicals in tanks in quantities that exceed applicable regulatory thresholds, it will submit the necessary registration application(s) to the NYSDEC and comply with all applicable requirements set forth in the petroleum and chemical bulk storage regulations. See 6 NYCRR Part 613 (petroleum bulk storage) and 6 NYCRR Parts 596-599 (chemical bulk storage).

(3) Compliance with Local Chemical and Petroleum Bulk Storage Regulations

There are no local (county or town) regulations regarding chemical and/or petroleum bulk storage. The Applicant will comply with all state regulations as described above.

(e) Aquatic Species and Invasive Species

(1) Impact to Biological Aquatic Resources

Impacts to surface waters can affect certain biological aquatic resources associated with those surface waters. These impacts are primarily related to sediment loading in surface waters, which increases turbidity, as well as alteration of channels through the installation of culverts necessary for Facility construction. The Applicant has prepared a SWPPP (Appendix 13-C) to avoid and minimize sedimentation impacts to surface waters within and adjacent to the Facility Site during construction and operation. Direct impacts have also been minimized. As indicated in Table 13-3, Exhibit 11, Exhibit 14, and Figures 13-3 and 14-2, only a small fraction of the available aquatic habitat (wetlands and streams) that exists within the Facility Site will be directly impacted by Facility construction or operation. Any culverts required will be installed in accordance with the applicable regulatory requirements to avoid impacting flow characteristics and aquatic organisms. See Exhibit 13(b)(5) through Exhibit 13(b)(7) for a discussion of anticipated impacts to state-protected streams, as well as avoidance, minimization, and mitigation measures. See Exhibit 14(e) for a discussion of impacts to wetlands within the Facility Site.

A Wildlife Species List is included in Appendix 11-A. The Wildlife Species List identifies species that may occur within the ecological communities present in the Facility Site at some time during the year. It is based on site-specific field survey results, as well as assessments of habitat availability and existing publicly available data, summarized in the Wildlife Site Characterization Report (Appendix 12-A).

The Wildlife Species List includes one aquatic species, the green floater (*Lasmigona subviridis*), that is listed as threatened in New York State and proposed threatened at the federal level. The green floater an aquatic bivalve mollusk (i.e., clam) species that was identified by the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Official Species List as a species that may

occur within the Facility Site and/or may be affected by the Facility. However, based on pre-application agency consultations and database reviews, no known occurrences or habitat areas have been identified for the green floater within the Facility Site specifically. In addition, the USFWS IPaC Official Species List notes that the Facility Site does not overlap the proposed critical habitat defined for this species (refer to Appendix 12-A). The NYSDEC Environmental Resource Mapper (ERM) identifies one mussel screening stream (Chenango River, WIN SR-44; Stream 23-ST001) that crosses through the Facility Site (NYSDEC, 2024).

As detailed in Tables 13-3 and 13-4, construction and operation of the Facility will not result in any direct impacts or impacts within 50 feet of the Chenango River (Stream 23-ST001); therefore, no impacts to this mussel screening stream are anticipated. Sedimentation and changes in water hydrology are the main threats to the green floater as well as most other aquatic species, and these impacts will be minimized through the implantation of the approved SWPPP, the proper installation of culverts, and the replacement existing low water crossings with properly installed culverts. Therefore, no impacts to threatened or endangered aquatic species are anticipated to result from Facility construction or operation.

Most aquatic invasive species are introduced to lakes, and then travel to streams and rivers. Aquatic invasive species are typically spread by ships, boats, barges, aquaculture, recreation, and connected waterways (NYSDEC, 2021). The primary vectors for aquatic invasive species within the Facility Site would be aquatic invasive vegetation propagules on fishing equipment or invasive aquatic pests or parasites associated with bait fish used for recreation in perennial streams in the vicinity of the Project.

Based on the lack of observed aquatic invasive species on site (see the data forms included with Appendix 14-A – Revision 1), and because the most common pathways for aquatic invasive species introduction are not applicable to the construction or operation of the Facility, the risk of spreading invasive aquatic species is low. The Invasive Species Control and Management Plan for the Facility, to be filed as a pre-construction compliance filing in accordance with 19 NYCRR §900-10.2(e) of the Section 94-c regulations, will require that all construction equipment and materials arrive at the site clean and are regularly cleaned as they move throughout the Project Site. Additionally, because of the Applicant's efforts to avoid and minimize impacts to surface waters in the Facility Site, it is not anticipated that significant exposure to any existing aquatic invasive species that may currently exist will occur. Consequently, no significant impacts to aquatic resources from the introduction or spread of invasive species are anticipated. As mentioned above, where permanent access roads cross streams, special crossing techniques will be used in accordance with regulatory requirements and NYSDEC guidance. These measures will collectively minimize stream disturbance and the potential for invasive species spread.

(2) Measures to Avoid or Mitigate Impacts to Aquatic Species

As detailed in Exhibit 13(e)(1), significant impacts to aquatic species within the Facility Site are not anticipated and potential direct and indirect impacts to the Chenango River (Stream 23-ST001), a mussel screening stream identified by the NYSDEC, have been avoided. There is no indication that listed

threatened or endangered aquatic species or aquatic invasive species are present within the Facility Site specifically. Common pathways for aquatic invasive species introduction are likely not to occur during Facility construction and operation, and the Applicant will prepare an Invasive Species Control and Management Plan in accordance with 19 NYCRR §900-10.2(f)(4). In addition, avoidance of direct impacts and measures implemented to minimize indirect impacts to surface waters (e.g., SWPPP [Appendix 13-C]) will also serve to avoid or mitigate impacts to any commonly occurring aquatic species in the area.

(f) Water Quality Certification

Construction and operation of the Facility will result in some temporary and permanent impacts to wetlands and streams that are anticipated to fall under USACE jurisdiction. Under Section 404 of the CWA, the USACE has regulatory authority over any activity that involves the discharge of fill into Waters of the United States (WOTUS). The Applicant anticipates obtaining a USACE Section 404 Permit prior to initiating any construction activities that would result in jurisdictional impacts to WOTUS.

In addition, in accordance with Section 401 of the CWA and the 94-c regulations, the Applicant will comply with the water quality standards set forth in 6 NYCRR §608.9 and obtain a Water Quality Certification from ORES.

(1) Request for Certification

The first step in requesting a Water Quality Certification (WQC) compliance is to request a pre-filing meeting with ORES and NYSDEC. No less than 30 days later, the Applicant may submit the Section 401 WQC application and a copy of the Section 404 Joint Application for Permit to ORES, NYSDEC Region 7, and the USACE Buffalo District Office. At this time, the Applicant has not yet applied for a federal permit from the USACE.

(2) Copies of Pertinent Federal Permit Applications

As stated above, the Applicant has not yet applied for a federal permit from the USACE. Copies of pertinent federal permit applications will be distributed to ORES and NYSDEC following their submission.

(3) Demonstration of Compliance with 6 NYCRR Section 608.9

The Applicant hereby states that construction and operation of the Facility will adhere to the requirements of 6 NYCRR §608.9.

(4) Contact Information for USACE District Engineer

USACE Buffalo District Engineer
1776 Niagara Street, Buffalo, NY 14207
Phone: (716)879-4330
Email: LRB.NewYork.RegActions@usace.army.mil

(5) Request for Certification Timetable

The Applicant intends to initiate consultation with the USACE in the fourth quarter of 2024. A Joint Application for Permit/Request for Water Quality Certification is expected to be submitted to the USACE and ORES in the fourth quarter of 2024. It is anticipated that ORES approval would be provided in the second quarter of 2025, and USACE approval would follow in the fourth quarter of 2025.

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