



# **EAST POINT ENERGY CENTER**

**Case No. 17-F-0599**

**1001.23 Exhibit 23**

**Water Resources and Aquatic Ecology**

## Contents

Exhibit 23: Water Resources and Aquatic Ecology.....	1
23(a) Groundwater.....	1
(1) Hydrologic Character.....	1
(2) Map of Groundwater Aquifers and Groundwater Recharge Areas .....	2
(3) Impacts on Groundwater Quality and Quantity .....	3
(4) Private Well Survey Results .....	5
23(b) Surface Water .....	5
(1) Surface Water Map .....	5
(2) Surface Water Characteristics.....	5
(3) Downstream Drinking Water Supply Intakes.....	9
(4) Surface Water Impacts.....	9
(5) Groundwater Mitigation Methods.....	13
(6) Surface Water Mitigation Methods.....	15
(7) Stream Crossings.....	16
23(c) Stormwater .....	16
(1) Preliminary SWPPP .....	16
(2) Post-Construction Erosion and Sediment Practices.....	17
23(d) Chemical and Petroleum Bulk Storage .....	17
(1) SPCC .....	17
(2) Storage or Disposal of Regulated Substances .....	18
(3) Storage of Hazardous Substances Compliance with Local Law Storage Regulations	19
23(e) Aquatic Species and Invasive Species .....	19
(1) Biologic Aquatic Resource Impacts .....	19
(2) Mitigation Measures for Biological Aquatic Resources.....	20
23(f) Cooling Water.....	20

## Tables

Table 23-1. NYSDEC Mapped Streams within the Study Area.....	7
Table 23-2. Impacts to Streams .....	10
Table 23-3. Impacts to Open Water Wetlands (Ponds) .....	12

## Figures

Figure 23-1. Groundwater Aquifers and Recharge Areas

Figure 23-2. Surface Waters

## Appendices

Appendix 23-1. FOIL Requests and NYSDOH Letters

Appendix 23-2. Water Well Survey and Responses

Appendix 23-3. Preliminary SWPPP

## **Exhibit 23: Water Resources and Aquatic Ecology**

This Exhibit will track the requirements of proposed Stipulation 23, dated August 20, 2019, and therefore, the requirements of 16 NYCRR § 1001.23.

### **23(a) Groundwater**

#### ***(1) Hydrologic Character***

The average depth to the water table is 3.81 feet (45.73 inches) within the Project Area and the average depth to bedrock is greater than 6.5 feet (78 inches). This data was obtained from the NRCS, USDA Web Soil Survey tool, which lists depth to bedrock and water table by soil map unit for a given subject area. Findings of the preliminary geotechnical investigations on-site indicate groundwater at depths ranging from 5.5 to 15 feet below existing grades. Subsurface conditions generally indicate bedrock depth of 21.5 feet throughout the Project Area. The preliminary geotechnical engineering report is provided as Appendix 21-1. For purposes of the Application, this information is depicted visually in Figure 21-3 in Exhibit 21. High groundwater at the Project Area is expressed in some wetlands and ponds on-site as surface water features. These features will be largely avoided as noted in Exhibit 22. Within the areas of disturbance by virtue of Facility infrastructure installation, groundwater averages approximately 5.21 feet (62.51 inches) below the surface. At this depth, construction is not expected to intercept or affect groundwater on-site. There were several areas where the bedrock was exposed in the Project Area. Soil excavation on-site has been limited to test pits averaging 1.67 feet (20 inches) in depth, none of which encountered bedrock.

A USGS study of the groundwater within the NYSDEC-defined Mohawk drainage basin (which includes the Project Area) indicates that the groundwater quality is generally good. However, concentrations of some constituents equaled or exceeded current or proposed federal or New York State drinking-water standards. These standards are color, pH, sodium, chloride, sulfate, dissolved solids, aluminum, iron, manganese, radon-222, and bacteria. The nearest groundwater sampling site used in this study was located approximately 2 miles from the Project Area and generally had good groundwater quality. However, concentrations of sodium, sulfate, dissolved solids, radon-222, and bacteria equaled or exceeded current or proposed federal or New York State drinking-water standards (Nystrom and Scott, 2013).

## ***(2) Map of Groundwater Aquifers and Groundwater Recharge Areas***

The Project Area does not overlay any NYSDEC-listed primary aquifers. The closest primary aquifer is the Schenectady Aquifer, which is approximately 27.5 miles east of the Project Area's eastern limit (Brown et al., 1981). Primary aquifers are defined by the USGS and the NYSDEC as *"highly productive aquifers presently utilized as sources of water supply by major municipal water supply systems"* (NYSDEC, 1990).

The Project Area overlays one NYSDEC-listed principal aquifer as depicted in Figure 23-1. The yield of this aquifer is unknown. Principal aquifers are aquifers known to be highly productive or whose geology suggests abundant potential water supply, but which are not intensively used as sources of water supply by major municipal systems at the present time. Based on topography of the Project Area, groundwater flows to the northeast.

Groundwater aquifers, groundwater recharge areas, and groundwater wells within the Project Area are mapped in Figure 23-1. The data on groundwater aquifers was obtained through the NYSDEC Division of Water Resources, Bureau of Water Management. Groundwater recharge areas were defined as well drained soils according to the USDA NRCS Web Soil Survey. Specific information pertaining to local mapped groundwater aquifers and groundwater wells are described in detail below.

In order to identify existing groundwater wells within the Project Area, Freedom of Information Law (FOIL) (Public Officers Law, Article 6 Sections 84-90) request letters were sent to the New York State Department of Health (NYSDOH) and the NYSDEC to identify the locations of existing water wells within a 500-foot radius of the proposed Project Area, and within a 2,000-foot radius of pole installation locations. These letters requested any information pertaining to groundwater wells (including location, construction logs, depths, and descriptions of encountered bedrock) within the Project Area. The NYSDOH responded on June 17, 2019 that they do not maintain these records.

An initial request letter was sent to the NYSDEC on January 25, 2019 asking for the water well completion reports within the Town of Sharon in Schoharie County, New York. The NYSDEC Central Office sent a response on February 4, 2019, providing 47 well completion reports. The NYSDEC's Water Well Program Information Search Wizard was also consulted. The records were compiled in a spreadsheet showing location coordinates, depth, and yield of the wells. Records obtained from the NYSDEC are included in Appendix 23-1 and locations of wells obtained from

the records are mapped on Figure 23-1 (note that only wells that actually provided coordinates in their well completion reports were included as “confirmed” on Figure 23-1). Copies of the FOIL letters and responses received are included in Appendix 23-1.

Well completion reports obtained from the NYSDEC showed that well depth varied throughout the Project Area. Most wells had a depth between 100 and 275 feet; however, some reported depths as shallow as 55 feet and as deep as 553 feet. Most wells reported yields between 4 and 20 gallons per minute (gpm), with some as low as 0.5 gpm and as high as 60 gpm.

A FOIL request letter was sent to the Schoharie County Department of Public Health (SCDOPH) on May 23, 2019. A response was received from the SCDOPH on May 24, 2019 stating that private wells are not regulated by the SCDOPH and that no public water sources are within the Project Area. The SCDOPH recommended contacting the local code enforcement officer for the Town of Sharon to request private well records. The local code enforcement officer for the Town of Sharon indicated that they maintain private well records only from properties with a new building permit within the past 12 years. There were no further requests to the Town of Sharon concerning private well records.

### ***(3) Impacts on Groundwater Quality and Quantity***

Sole source aquifers are defined by EPA as aquifers that supply at least 50 percent of the drinking water for their service areas; there are no reasonable alternative drinking sources should these aquifers become contaminated. The nearest sole source aquifer is approximately 22.4 miles to the east of the Project Area. Therefore, no direct impacts to sole source aquifers will result from construction or operation of the Project.

No permanent impacts to groundwater quality or quantity are anticipated to result from this Project. Any potential minor and temporary adverse impacts to the local water table during the construction phase of the Project can be avoided and mitigated through the use of best management practices including measures in the proposed SWPPP, attached as Appendix 23-3.

Temporary impacts to groundwater could potentially occur through the introduction of pollutants from inadvertent discharges of petroleum or other chemicals used during the construction, operation, or maintenance phases of the Project. These discharges could result from mechanical failures in construction, operation, and maintenance equipment, and through spills during the refueling of equipment. Impacts to groundwater, however, are not anticipated due to the

implementation of avoidance, minimization, and mitigation measures, which will be directly adhered to. These guidelines will be outlined in the Project's Preliminary SPCC Plan that will be completed upon receipt of the Certificate and submitted to the Secretary of the Department of Public Service Staff for approval prior to construction/operation of the Project.

The Project will add only a small area of impervious surface to the landscape through the placement of the collection substation, and operation and maintenance facility. These impervious areas will be dispersed throughout the Project Area and will have a negligible effect on groundwater recharge for the local region. The construction of these impervious surfaces is typical of construction projects throughout New York State with methods approved by the NYSDEC. No impervious surface will be placed over the groundwater aquifer identified at the Project Area in Figure 22-1. According to Appendix 21-1, there was no measurable groundwater observed in boring pits where the substation is planned.

Within the Project Area, depth to the Seasonal High Water Table (SHWT) is approximated to range from the surface to more than 6.5 feet (78 inches) below ground level as depicted in Figure 21-3. Groundwater was observed 5.5 feet (66 inches) to 15 feet (180 inches) below ground level according to Appendix 21-1. With conditions being so variable across the Project Area, it is not readily known if the proposed access roads will encounter or impact groundwater. One gravel access road will overlay the groundwater aquifer identified in Figure 22-1. According to Appendix 21-1, one of the boring pits near a planned access road did not encounter groundwater to a depth of 9 feet (108 inches). Based on the information provided in Figure 21-3 and the preliminary design drawings, several access roads will cross soil map units that have a SHWT at the south surface. The proposed access roads are pervious, therefore they will not significantly impact groundwater infiltration. It is presumed that groundwater may be encountered in poorly drained soils, areas with a characteristic shallow water table, areas which contain seasonally perched groundwater, or areas where semi-impervious or impervious layers of substrata do not permit groundwater to permeate deeply within the soil profile (i.e., aquitards and aquicludes). Furthermore, the ponding of surface waters and the pooling of water due to significant precipitation events could occur in open excavation areas or depressions during the construction phases of the Project.

Project construction and operation is not anticipated to cause any impacts to drinking water. Measures contained in the SWPPP and SPCC will be taken to avoid, minimize, and mitigate for possible impacts to surface water and groundwater. Additionally, the Project will not have adverse impacts on public or private water wells. If a resident feels that their well water has been adversely

affected by Project construction or operation, they may file a formal complaint to the Applicant through the Complaint Resolution Plan (Appendix 12-3).

Plans for notification and complaint resolution during construction of the Project for owners/operators of public and private wells within a 1-mile radius of the Project Area are detailed in Exhibit 12(d) of this Application and the full Complaint Resolution Plan is available in Appendix 12-3.

#### ***(4) Private Well Survey Results***

A private well survey was distributed to all landowners within a 2,000-foot radius of the proposed Project Area, totaling 122 surveys. The water well survey materials included a summary of the Project, contact information and a description of where the well owner can get more information about the Project (Project website, document repositories, etc.), as well as an invitation to join the stakeholder list. A total of 32 responses were received documenting 36 wells. The results of the private well survey are included in Appendix 23-2. Most wells were drilled, installed between 1950 and 2013, and used for drinking and washing. Well depths ranged from 60 feet (720 inches) to 440 feet (5,280 inches) with an average well depth of 194 feet (2,3331 inches). Yield ranged from 1 gpm to 60 gpm. Water quality in the wells were rated as good to excellent. A sulfur odor was noted in eight wells and eight owners reported installing a water softener. The only issues reported were seven wells with a pump replacement, two wells were hit by lightning, and one well had black particles.

### **23(b) Surface Water**

#### ***(1) Surface Water Map***

The locations of surface waters within the Study Area are mapped on Figure 23-2. This map was generated from publicly available data from the NYSDEC, USGS, and waterbody data collected during on-site waterbody and wetland delineations.

#### ***(2) Surface Water Characteristics***

The Study Area is located within the NYSDEC-defined Mohawk River major drainage basin. This major drainage basin drains an area of 3,460 square miles entirely within New York State. A majority of Schoharie County is within this drainage basin. The Mohawk River originates in the valley between the Adirondack Mountains and the Tug Hill Plateau and flows 140 miles eastward



to join the Hudson River. In the Mohawk major drainage basin, 65 percent of rivers/waterbody miles and 64 percent of lake, pond, and reservoir acres have been assessed. Water quality measurements for rivers are generally good and lakes are generally poor. Major water quality concerns include urban runoff and industrial impacts in population centers along the Mohawk River/New York State Barge Canal corridor and agricultural and other nonpoint sources of nutrients (NYSDEC, 2010).

Within the Mohawk major drainage basin, the Project is located in the USGS-defined Mohawk River Hydrologic Unit Code [HUC] 02020004 and Schoharie Creek (HUC 02020005) sub-basins. Wetlands and open water constitute 14.2 percent of the Mohawk River sub-basin (USDA NRCS, 2011a). Wetlands and open water constitute 5.9 percent of the Schoharie Creek sub-basin (USDA NRCS, 2011b). At the watershed level, the Project Area is located within the Canajoharie Creek-Mohawk River watershed (HUC 0202000409), Cayadutta Creek-Mohawk River watershed (HUC 0202000410), and the Cobleskill Creek watershed (HUC 0202000506). At the sub-watershed level, the Project Area is located within the Middle Canajoharie Creek sub-watershed (HUC 020200040907), Headwaters Flat Creek sub-watershed (HUC 020200041001), and Headwaters West Creek sub-watershed (HUC 020200050601). According to the USGS, approximately 0.76 acres of the Project Area is mapped within the West Creek sub-watershed (HUC 020200050602); however, HUC boundary mapping at this fine of a scale may be inaccurate.

Water quality in the Middle Canajoharie Creek sub-watershed (HUC 020200040907) is rated as very good to excellent (SCSWCD, 2012). Water quality in the Headwaters Flat Creek sub-watershed (HUC 020200041001) is rated as severely impaired due to agriculture (SCSWCD, 2012). Water quality in the Headwaters West Creek sub-watershed (HUC 020200050601) is not impaired (SCSWCD, 2012).

In reference to Title 5 of Article 15 within the New York State Environmental Conservation Law (Protection of Waters), the NYSDEC has implemented regulations addressing state-listed protected waterbodies. Any action that disturbs the bed or banks of these protected waterbodies requires the issuance of a permit, except that permit is supplanted by Article 10 of the PSL and the approval is instead issued by the Department of Public Service Staff as part of the Certificate. The NYSDEC has classified waterbodies state-wide with the following letters or grades, AA, AA(T), A, A(T), B, B(T), C, C(T), and D. Class AA or A waterbodies are reserved for the waterbodies with the highest water quality. AA or A classes indicate that the best use of the waterbody can be as a source of water supply for drinking, culinary or food processing purposes;

primary and secondary contact recreation; and also fishing. Class B waters are suggested to only be used for primary and secondary contact recreation and fishing. The best usage of Class C waters is fishing and non-contact related activities. Class D waters represent the poorest water quality standard and activities within this water class are advised to not occur. Waters with classifications A, B, and C may also have a standard of (T), indicating that it may support a trout population, or (TS), indicating that it may support trout spawning events. Certain waters of the state are listed as protected due to their classification level.

Waterbodies with a classification of AA, A, or B, or with a classification of C with a standard of (T) or (TS) are collectively referred to as "protected waterbodies," and are subject to the provisions of the Protection of Waters regulations. Special requirements apply to sustain (T) and (TS) waters that support sensitive fisheries resources. Table 23-1 below lists all NYSDEC-mapped waterbodies within the Project Area and their state classifications. Figure 23-2 portrays their locations relative to the Project Area. In addition to those NYSDEC-mapped waterbodies listed below, a number of small unnamed and unmapped (by NYSDEC) waterbodies and tributaries are also present within the Project Area. Those waterbodies within 500 feet of any proposed Project Components have been mapped and identified on Figure 23-2.

**Table 23-1. NYSDEC Mapped Streams within the Study Area**

<b>NYSDEC Stream Name</b>	<b>NYS Major Drainage Basin</b>	<b>USGS HUC 8 Sub-basin and Name</b>	<b>NYSDEC Classification and Standard</b>
Brimstone Creek and tribs	Mohawk River	02020004 (Schoharie Creek)	C
Flat Creek and tribs	Mohawk River	02020004 (Schoharie Creek)	C
West Creek, Upper, and tribs	Mohawk River	02020005 (Mohawk River)	C

Wetland and stream delineations occurred in the summer of 2017, spring and summer of 2018, and spring of 2019. A full description of the wetland and stream delineation methodology and the results of the surveys can be reviewed in the Wetland and Stream Delineation Report located in Appendix 22-4. A total of 28 stream features were identified during the delineation efforts. These stream features incorporate portions of the NYSDEC-mapped streams identified in Table 23-1, above, and also unmapped streams identified by field staff. Streams were documented as having perennial, intermittent, or ephemeral flows.

The aquatic life in the Middle Canajoharie Creek sub-watershed (HUC 020200040907) shows signs of being precluded, impaired, or stressed (SCSWCD, 2012). The aquatic life in the Headwaters Flat Creek sub-watershed (HUC 020200041001) shows signs of being precluded, impaired, or stressed (SCSWCD, 2012). The aquatic life in the Headwaters of West Creek sub-watershed (HUC 020200050601) is not impaired or stressed (SCSWCD, 2012).

Aquatic life in the Brimstone Creek and tribs is stressed due to pathogens and other pollutants from municipal wastewater; however, this was based on a survey conducted before municipal sewer system rehabilitation efforts (NYSDEC, 2010). The aquatic life in Flat Creek and tribs is stressed possibly due to agricultural activities in the upper portion of the watershed (NYSDEC, 2010). The aquatic life in West Creek, Upper, and tribs is fully supported and not stressed (NYSDEC, 2010).

In an effort to conservatively report on the potential impacts to local aquatic wildlife as a result of the Project, an inquiry was sent to the NYSDEC Division of Fish, Wildlife & Marine Resources on May 21, 2019 requesting site specific data on the fish species which reside in the waterbodies that cross or are proximate to the Project Area. Waterbodies that are encompassed in the Project Area and incorporated into the information request include Brimstone Creek, Flat Creek, and the upper portion of West Creek, as well as associated minor tributaries. A total of 25 fish species were identified as a result of the inquiry and are included in the master wildlife inventory list in Appendix 22-1. Larger, and recreationally significant fish located within the vicinity of the Project Area include largemouth bass, rainbow trout, and yellow perch.

A complete list of freshwater fish species which were observed or presumed to occur with the Project Area is located in the master wildlife inventory list attached in Appendix 22-1.

It is assumed, based on current distribution data within the NYSDEC's list of Common Aquatic Invasive Species of New York (n.d.), that only three common invasive aquatic species may occur within the vicinity of the Project Area. These species include the curly-leaf pondweed (*Potamogeton crispus*), Eurasian watermilfoil (*Myriophyllum spicatum*), and water chestnut (*Trapa natans*). Curly-leaf pondweed was observed during wetland and waterbody delineations. Methods to manage and control curly-leaf pondweed and other invasive species are detailed in Appendix 22-6 Invasive Species Management and Control Plan. Due to the location of the Project Area in the watershed, the vast majority of the Project Area does not consist of waterbodies large

enough (or with a sufficient water column) to support the prevalence of the other two aquatic invasive species.

### ***(3) Downstream Drinking Water Supply Intakes***

A FOIL request was sent to the SCDOPH on May 23, 2019 asking for the locations of any known surface water drinking supply intakes within the Project Area. The response received, included in Appendix 23-2, indicated that there are no surface drinking water intake sites in the Project Area. The closest surface water drinking supply intake is approximately 2 miles west of the Project Area in the Village of Sharon Springs at latitude 42.786564° and longitude -74.624976° (see Figure 23-1). This public water supply serves 558 people with an average day withdrawal of 0.13 million gallons per day (MGD) and has a maximum day withdrawal of 0.26 MGD. Accordingly, the Project will not result in impacts to water supply intakes.

### ***(4) Surface Water Impacts***

Project Components have been sited to avoid temporary or permanent impacts to wetlands and streams to the maximum extent practicable. Refer to Exhibit 22 for a more detailed discussion of wetlands and measures employed to avoid, minimize and mitigate potential impacts thereto. Certain construction activities have potential to result in direct and/or indirect impacts to surface waters. These activities include the installation of access roads, upgrading of one existing farm lane, installation of collection lines (aboveground and buried), and the development of temporary staging areas and workspaces around the solar arrays and substation. Impacts related to the construction of access road and collection line crossings will be minimized to the maximum extent practicable by using existing crossings and also crossing at narrow wetland and waterbody locations where feasible.

The Applicant evaluated potential temporary and permanent impacts to surface waters resulting from the construction and operation of the Project based upon the Project design as shown in the Preliminary Design Drawings (Appendix 11-1). Construction of the Project is anticipated to result in no temporary disturbance and no permanent disturbance to streams identified during on-site wetland and stream delineation.

Impacts to wetlands and streams have been minimized and avoided through the siting of Components after surveys were completed to avoid wetlands and waterbodies to the maximum extent practicable. Table 23-2 lists a summary of the potential impacts to streams identified in

close proximity to proposed Project Component placement and construction. As shown in Table 23-2, there are no impacts to streams in the Project Area.

**Table 23-2. Impacts to Streams**

Field ID	Flow Regime <sup>1</sup>	Linear Feet within Project Area	Potential Jurisdiction	NYSDEC Classification	Temporary Impact (Linear Feet)	Permanent Impact (Linear Feet)	Project Component	Method of Crossing
S-AJF-01	RIN	1,536	USACE	None	0	0	-	-
S-AJF-02	REPH	370	USACE	None	0	0	-	-
S-AJF-03	REPH	543	USACE	None	0	0	-	-
S-AJF-04	RUP	146	USACE	C	0	0	-	-
S-AJF-05	RIN	142	USACE	None	0	0	-	-
S-AJF-06	REPH	230	USACE	None	0	0	-	-
S-AJF-07	REPH	131	USACE	None	0	0	-	-
S-AJF-08	RIN	148	USACE	None	0	0	-	-
S-AJF-09	RUP	330	USACE	C	0	0	-	-
S-AJF-10	RUP	803	USACE	C	0	0	-	-
S-AJF-11	RIN	272	USACE	None	0	0	-	-
S-ARS-01	REPH	232	USACE	None	0	0	-	-

Table 23-2. Impacts to Streams

Field ID	Flow Regime <sup>1</sup>	Linear Feet within Project Area	Potential Jurisdiction	NYSDEC Classification	Temporary Impact (Linear Feet)	Permanent Impact (Linear Feet)	Project Component	Method of Crossing
S-ARS-02	REPH	767	USACE	None	0	0	-	-
S-ARS-03	RIN	876	USACE	None	0	0	-	-
S-ARS-04	REPH	1,759	USACE	None	0	0	-	-
S-CL-01	RIN	613	USACE	None	0	0	-	-
S-CL-02	REPH	346	USACE	C	0	0	-	-
S-CL-03	RUP	3,899	USACE	C	0	0	Collector Line	HDD <sup>2</sup>
S-CL-04	REPH	364	USACE	None	0	0	-	-
S-CL-05	REPH	77	USACE	None	0	0	-	-
S-CL-06	REPH	179	USACE	None	0	0	-	-
S-CL-07	REPH	379	USACE	None	0	0	-	-
S-MJR-01	RIN	411	USACE	None	0	0	-	-
S-MJR-02	RIN	77	USACE	None	0	0	-	-
S-MJR-03	REPH	139	USACE	None	0	0	-	-
S-MJR-04	REPH	216	USACE	None	0	0	-	-
S-JJB-01	RUP	338	USACE	C	0	0	-	-
S-JJB-02	REPH	966	USACE	None	0	0	-	-

**Table 23-2. Impacts to Streams**

Field ID	Flow Regime <sup>1</sup>	Linear Feet within Project Area	Potential Jurisdiction	NYSDEC Classification	Temporary Impact (Linear Feet)	Permanent Impact (Linear Feet)	Project Component	Method of Crossing
1. Flow Regime: REPH – Ephemeral, RIN – Intermittent, RUP – Perennial. 2. HDD – Horizontal Directional Drilling								

As indicated in Table 23-2 and on the Preliminary Design Drawings in Appendix 11-1, there will be no planned stream crossings. Horizontal directional drilling (HDD) will be used to avoid impacts to the bed and banks of stream S-CL-3.

To also address impacts to wetlands containing open waters as a result of Project-related construction and operation, temporary and permanent impacts to delineated wetlands with open water features were documented. Open water wetlands that were identified during the field surveys were included in the summary. Table 23-3 below lists the associated open water wetlands within the Project Area. No Project Components have been sited within or adjacent to these open water wetlands. Therefore, construction and operation of the Project is anticipated to result in no temporary disturbance to open water resources.

**Table 23-3. Impacts to Open Water Wetlands (Ponds)**

ID	Type	Acres Within Project Area*	Potential Jurisdiction	Temporary Impact (Acre)	Permanent Impact (Acre)	Related Component
W-AJF-06	PSS/PAB	0.14/0.81	USACE	None	None	None
W-AJF-07	PEM/PUB	0.15/0.57	USACE	None	None	None
W-AJF-08	PEM/PSS/ PFO/PUB	3.37/13.73/ 5.84/0.73	USACE/ NYSDEC	None	None	None

**Table 23-3. Impacts to Open Water Wetlands (Ponds)**

<b>ID</b>	<b>Type</b>	<b>Acres Within Project Area*</b>	<b>Potential Jurisdiction</b>	<b>Temporary Impact (Acre)</b>	<b>Permanent Impact (Acre)</b>	<b>Related Component</b>
W-AJF-17	PEM/PFO/ PAB	0.03/8.88/ 0.30	USACE/ NYSDEC	None	None	None
W-ARS-09	PUB	0.14	USACE	None	None	None
W-MJR-18	PUB	0.40	None	None	None	None
W-JJB-04	PEM/PUB	1.95/0.34	USACE	None	None	None
W-JJB-06	PEM/PUB	0.04/0.40	USACE	None	None	None
*The acreages are broken out by their corresponding cover class						

Surface waters surrounded by steep uplands are subject to more erosion potential and decisively, are more susceptible to erosion and sedimentation events during any construction-related activity that may take place in close proximity to these slopes. In order to pursue safe and economical design and construction procedures, the Project has been designed to avoid steep slopes to the maximum extent practicable. Construction of the Project could result in minor siltation and sedimentation in waterbodies that are adjacent to steep uplands. The Applicant will take measures to avoid and minimize siltation events pursuant to the SWPPP that is ultimately approved.

***(5) Groundwater Mitigation Methods***

Site planning was done to avoid impacts to groundwater to the maximum extent practicable as noted in Section 23(a)(3). Pre-construction planning for the Project will be designed with the understanding that groundwater could be encountered recurrently due to the variable SHWT throughout the Project Area. Conventional sump and pump methods are anticipated to be sufficient approaches to control accumulation of groundwater in shallow trenches or ponded surface water in low-laying areas used during construction. The sediment-laden water removed



during these dewatering activities will be sufficiently filtered and discharged in upland locations avoiding waterbodies and wetlands. Please refer to the discussion on the avoidance and mitigation of surface water impacts (Section 23(b)(4)) for additional detail on dewatering methods, and the Preliminary Design Drawings (Appendix 11-1) for typical details. Additionally, construction of the Project will adhere to a SPCC plan and a SWPPP using established avoidance, minimization and mitigation measures that prevent the contamination of and/or erosion due to surface water runoff or groundwater discharge, thereby avoiding significant adverse impacts to associated water resources.

In areas where construction activity occurs below the water table, it is assumed groundwater could flow around the disturbance area and assume normal flow regimes further down slope. If groundwater infiltrates work areas that occur below the water table, removal of the groundwater by pumping, will be localized. Temporary capacity and measures to restore the groundwater to the table will be implemented. Water subject to the pumping operations will be pumped to the surface and discharged in an approved technique of decreasing its outlet velocity. Slowly discharged water through sediment bags, will be allowed to permeate back into the ground and re-settle below the water table down slope. It is assumed that the location selected for re-infiltration into the water table will occur on easily permeable soils (but not in wetland areas), which will help increase the rate of infiltration and reduce a net loss of water volumes to evaporation. As stated, construction of the Project will adhere to a SPCC plan and a SWPPP using established guidelines that prevent the contamination of and/or erosion due to surface water runoff or groundwater discharge, thereby avoiding significant adverse impacts to associated water resources.

Groundwater migration events could result from the installation of buried interconnect lines, which may facilitate groundwater to travel along the loosened soils surrounding the buried collection line. It is believed water could collect in the trench and migrate along the trench route to areas downslope. However, it is presumed there will be no net loss of groundwater as volumes will be naturally allowed to infiltrate back into the water table at lower elevations.

The Project will not have adverse impacts on public or private water wells considering their distances from the Project construction areas. It is believed that any potential impacts to groundwater as a result of the Project will be minimal and localized. If a local resident believes that their well water has been adversely impacted by the Project construction or operation, they

may file a formal complaint, which will be responded to by the Applicant through the Complaint Resolution Plan mentioned above.

#### ***(6) Surface Water Mitigation Methods***

No stream crossings are proposed for the Project and no impacts to surface waters are anticipated as a result of the Project. Project Components have been sited to avoid temporary and permanent impacts to surface waters. Large temporary construction facilities (staging areas, etc.) will not impact surface waters as shown in the Preliminary Design Drawings (Appendix 11-1).

When the crossing of a surface water resource is deemed necessary for the Project, BMPs will be put into place following the measures adopted by the Siting Board in prior Article 10 proceedings. Proper briefing and signage will be used with construction crews to dictate areas where equipment access is prohibited. Crossing will only occur along permitted access roads or through non-jurisdictional use of temporary matting to traverse delineated wetlands. Also, a selection of activities will be restricted within a predetermined buffer zone around delineated waterbodies, wetlands, and other waterbodies. These buffer restrictions will include no equipment refueling or washing in the buffer area, no storage of petroleum or chemical materials, no disposal of concrete or washwater, no amassing of construction debris or accumulation of slash materials in the area, no use of herbicides within the area, and no actions that may result in the degradation of waterbody banks or steep slopes above water resources.

During construction, the use of silt fences, hay bales, siltation catch basins, check dams, and other standardized sedimentation control measures will be installed and maintained throughout the Project and until impact areas become stabilized as determined by the appointed Environmental Monitor. To facilitate soil stabilization, exposed soils will be seeded and mulched in a timely manner to reduce the risk of sedimentation events arising from storm events. Control measures will be dictated in the Project SWPPP (see below). Their locations and design will be shown on appropriate construction drawings in the Compliance Filing.

As part of the SWPPP, an Environmental Monitor will be in place throughout the work period and during the restoration period to inspect and assess sedimentation risk and also mitigate any unforeseen issues specific to the nature of the Project Area. Dewatering will likely occur if shallow groundwater is encountered during the construction phase of the Project. Methods to mitigate groundwater impacts are described in Section 23(b)(5).

Thermal changes to waterbodies as a result of clearing vegetation are unlikely, as there are no waterbodies where tree clearing is proposed. Waterbodies will remain shaded by overhanging trees. The effect of turbidity on nearby aquatic habitat will be reduced by the following the SWPPP. There will likely be no impacts to or take of state-listed threatened and endangered species, species of special concern, or species of greatest conservation need in aquatic habitat in the Project Area, as these species are unlikely to occur in the Project Area. Refer to Section 22(f)(9) for further discussion on take of threatened and endangered species and Section 22(p)(2) for further discussion on impacts to state and federally listed species.

### ***(7) Stream Crossings***

No stream crossings are proposed for the Project.

## **23(c) Stormwater**

### ***(1) Preliminary SWPPP***

The NYSDEC requires coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002) or that in effect at time of construction for any “construction activities involving soil disturbances of one or more acres; including disturbances of less than one acre that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land; excluding routine maintenance activity that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.” This authorization is subject to review by NYSDEC and is coordinated with the Article 10 process. The Applicant will seek coverage under the NYSDEC SPDES General Permit for the construction phase of the Project.

Prior to construction, the Applicant will be required to prepare a Final SWPPP, which will specifically describe the erosion and sediment control practices that will be implemented during construction activities, and the stormwater management practices that will be used to reduce the pollutants in stormwater discharges after Project construction has been completed. This SWPPP will be prepared as part of the requirements for coverage under GP-0-15-002. It is anticipated that a Notice of Intent (NOI) will be prepared and submitted to the NYSDEC, who will review and authorize a SPDES General Permit number along with the NYSDEC Letter of Acknowledgement certifying that the Project will comply with the technical requirements of GP-0-15-002. Once the

Project receives this required documentation, the Letter of Acknowledgement will be inserted within the SWPPP and kept on-site

A Preliminary SWPPP has been designed in accordance with the guidelines set forth in the SPDES General Permit and is provided as Appendix 23-3. The attached Preliminary SWPPP includes a detailed description of preconstruction requirements. As part of these requirements, an Environmental Monitor is required to be on site daily to inspect the Project's erosion and sediment control practices during soil-disturbing activities.

The Preliminary SWPPP provides information on stormwater management practices, including erosion and sediment control (vegetative and structural measures, temporary and permanent measures), construction phasing and disturbance limits, waste management and spill prevention, and site inspection and maintenance.

The Applicant anticipates that submission and approval of a Final SWPPP will be a condition of the Article 10 Certificate.

## ***(2) Post-Construction Erosion and Sediment Practices***

Increases in stormwater runoff will be minimal, as Project construction will result in the limited addition of impervious surface. Therefore, no significant changes to the rate or volume of stormwater runoff are anticipated as a result of Project operations. However, precautionary and appropriate post-construction sediment and erosion control measures will be installed and maintained according to the Project-specific NYSDEC-approved SWPPP for the Project per applicable regulations. The Applicant is proposing the use of infiltration trenches alongside access roads for pre-treatment in combination with other commonly used New York State Stormwater Management Design Manual approved practices.

## **23(d) Chemical and Petroleum Bulk Storage**

### ***(1) SPCC***

No on-site storage or disposal of large volumes of substances regulated under the chemical and petroleum bulk storage programs of New York State is proposed. The GSU transformer proposed within the collection substation will contain mineral oil (such as ASTM D3487 Type II Inhibited Mineral Oil, or similar) for insulating purposes. Transformers are exempt from the petroleum bulk storage program as they are considered operational tank systems. Operational tank system

means a tank system that is integral to, or connected to, equipment or machinery for which the petroleum in the system is used solely for operational purposes. Petroleum in an operational tank system is not consumed in any context (such as being combusted as fuel or used as a raw material in a manufacturing process).

The Project will adhere to a Spill Prevention, Control, and Countermeasure (SPCC) Plan to minimize the potential impact to aquatic resources from minor leaks or mechanical failures of construction equipment/vehicles. The SPCC Plan will be completed prior to receipt of the Certificate and submitted to the Secretary of the Department of Public Service Staff for approval prior to construction/operation of the Project.

This plan dictates that all contractors will be required to keep materials on hand to control and contain a petroleum spill. Any spills will be reported in accordance with state and/or federal regulations. Contractors will be responsible for ensuring responsible action on the part of construction personnel.

The purpose of this SPCC Plan is to:

- Provide guidance and information to the personnel that would be called upon to respond to sudden oil releases from oil-filled equipment and oil storage containers;
- Describe measures in place that would prevent released oil from reaching nearby navigable waters;
- Describe the inspection procedures; and,
- Discuss the discharge response actions and notifications to ensure employees are prepared to carry out their responsibilities during an oil spill incident.

This Plan has the full approval of management with authority to commit the necessary resources to fully implement the Plan, and expeditiously respond to releases of oil.

## ***(2) Storage or Disposal of Regulated Substances***

The on-site storage or disposal of large volumes of substances regulated under the chemical and petroleum bulk storage programs of New York State is not proposed. If construction operations require petroleum or other hazardous chemicals to be stored on site, applicable state and federal laws and guidelines will be followed.

### ***(3) Storage of Hazardous Substances Compliance with Local Law Storage Regulations***

As mentioned in Section 23(d)(1), the on-site storage or disposal of large volumes of substances regulated under the chemical and petroleum bulk storage programs of any local laws is not proposed. If construction operations require petroleum or other hazardous chemicals to be stored on site, those substances will be stored in a manner such that applicable local laws and guidelines will be followed.

### **23(e) Aquatic Species and Invasive Species**

#### ***(1) Biologic Aquatic Resource Impacts***

Exhibit 22 and Section 23(b)(4) directly addresses impacts to wetlands and waterbodies within the Project Area. A secondary reference can also be made through reviewing Tables 23-2 and 23-3 encountered in this Exhibit. Only 195 square feet of impacts to wetlands are proposed during construction or operation of the Project.

It is assumed that any potential impacts to surface waters within the Project Area could, in turn, possibly impact ecologies, organisms, and ecosystems dependent upon these aquatic resources. Only a small portion of these biological complexes could be impacted by the construction and operation of the Project.

One invasive species listed within the Common Aquatic Invasive Species of New York (NYSDEC, n.d.) list was documented during on-site survey work conducted by environmental field staff: curly-leaf pondweed. Adverse impacts to aquatic biology as a result of the spread of invasive species as a direct result of the Project construction are not anticipated. TRC, on behalf of the Applicant, consulted local, statewide, and federal desktop databases and environmental agencies to determine common species documented to occur in the region of the Project Area.

The Project Area contains limited suitable habitat for the prevalence of aquatic invasive species and general aquatic communities and ecologies. This is due to a vast majority of the Project residing within higher elevations where documented waterbodies and wetlands act as headwaters, and to the limited depth and size of waterbodies within the Project Area. For these reasons, the biological diversity of aquatic life on-site is low.

***(2) Mitigation Measures for Biological Aquatic Resources***

Impacts to biological aquatic resources have been avoided through Project siting; therefore, mitigation measures for biological aquatic resources is unnecessary.

**23(f) Cooling Water**

This Project will not use cooling water during construction or operation and, therefore, cooling water withdrawals will not be addressed in the Application.

## **References**

- Brown, G.A., Moore, R.B., Mahon, K.I., and Allen, R.V. 1981. Geohydrology of the Schenectady Aquifer, Schenectady Count, New York. U.S. Geological Survey Open-File Report 82-84. Available at: <https://pubs.er.usgs.gov/publication/ofr8284>. Accessed on July 31, 2019.
- NYSDEC. 1990. Division of Water Technical & Operational Guidance Series 2.1.3. Primary and Principal Aquifer Determinations. Available at: <https://www.dec.ny.gov/animals/50272.html>. Accessed on July 31, 2019.
- NYSDEC. 2010. Mohawk River WI/PWL. Available at: <https://www.dec.ny.gov/chemical/36739.html>
- NYSDEC. n.d. Common Aquatic Invasive Species of NY. Available at: <https://www.dec.ny.gov/animals/50272.html>
- Nystrom, E.A., and Scott, T. 2013. Groundwater quality in the Mohawk River Basin, New York, 2011: U.S. Geological Survey Open-File Report 2013-1021. Available at: <http://pubs.usgs.gov/of/2013/1021/>.
- U.S. Geological Survey. 2003. Principal Aquifers of the United States. Available at <https://water.usgs.gov/ogw/aquifer/map.html>.
- USDA NRCS. 2011a. New York Rapid Watershed Assessment Profile: Mohawk Watershed. Available at: <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ny/technical/dma/rwa/?cid=stelprdb1246971>. Accessed June 27, 2019.
- USDA NRCS. 2011b. New York Rapid Watershed Assessment Profile: Schoharie Watershed. Available at: <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ny/technical/dma/rwa/?cid=stelprdb1246971>. Accessed June 27, 2019.
- Schoharie County Soil and Water Conservation District (SCSWCD). 2012. Available at: <https://www.schohariesoilandwater.org/>. Accessed June 27, 2019.