



RIVERSIDE SOLAR, LLC

Matter No. 21-00752

900-2.14 Exhibit 13

Water Resources and Aquatic Ecology

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Acronym List

AES	The AES Corporation, Inc.
bgs	below ground surface
BMP's	best management practices
CWA	Clean Water Act
DANC	Development Authority of the North Country
ECL	Environmental Conservation Law
eNOI	electronic Notice of Intent
EPC	Engineering, Procurement, and Construction
FEMA	Federal Emergency Management Agency
FOIL	Freedom of Information Law
GPM	gallons per minute
HDD	horizontal directional drilling
HUC	Hydrologic Unit Code
IFP	Issued for Permit
JPA	Joint Permit Application
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDPS	New York State Department of Public Service
ORES	Office of Renewable Energy Siting
PJD	Preliminary Jurisdictional Determination
SPC	Spill Prevention, Containment, and Control
SPDES	State Pollutant Discharge Elimination System
SPT	Standard Penetration Test
SSA	sole source aquifers
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USCs	Uniform Standards and Conditions

USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WOTUS	Water of the United States
WQC	Water Quality Certification

Glossary Terms

Applicant	Riverside Solar, LLC, a subsidiary of The AES Corporation, Inc. (AES), the entity seeking a siting permit for the Facility from the Office of Renewable Energy Siting (ORES) under Section 94-c of the New York State Executive Law.
Facility	The proposed components to be constructed for the collection and distribution of energy for the Riverside Solar Project, which includes solar arrays, inverters, electric collection lines, and the collection substation.
Facility Site	The parcels encompassing Facility components which totals 1,168 acres in the Towns of Lyme and Brownville, Jefferson County, New York (Figure 2-1).
Study Area	In accordance with the Section 94-c Regulations, the Study Area for the Facility includes a radius of five miles around the Facility Site boundary, unless otherwise noted for a specific resource study or Exhibit. The 5-mile Study Area encompasses 79,169 acres, inclusive of the 1,168-acre Facility Site.
Towns	The Towns of Lyme and Brownville, Jefferson County, New York.

Exhibit 13: Water Resources and Aquatic Ecology

This Exhibit provides information required in accordance with the requirements of §900-2.14 of the Section 94-c Regulations.

13(a) Groundwater

(1) Hydrologic Character

The Facility Site is not located within or adjacent to mapped aquifers. According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the average representative depth to the water table within the Facility Site is about 2.3 feet below ground surface (bgs) and the depth to restrictive layer ranges from about 0 to 7 feet bgs (Figure 13-4). This data was obtained from the USDA NRCS Web Soil Survey tool, which lists depth to restrictive layers and water table by soil map unit for a given area of interest. In addition, findings of the geotechnical investigations onsite indicate groundwater was not observed at the time of the investigation, however, groundwater conditions may vary by season and due to weather conditions. Therefore, temporary dewatering may be required during construction if perched water, groundwater, or seepage is encountered. Based on the findings of the Geotechnical Engineering Report included as Appendix 10-1, 38 Standard Penetration Test (SPT) borings within solar array areas and three SPT borings within the substation areas encountered bedrock at depths from about 3 to 16 feet bgs throughout the Facility Site. More information on the geology within the Facility Site can be found in Exhibit 10 (Geology, Seismology and Soils).

Conditions encountered during subsurface investigations are generalized below in Table 13-1.

Table 13-1. Generalized Geotechnical Review Results

Description	Approximate Depth to Bottom of Stratum (feet)	Material Description	Relative Density/ Consistency
Stratum 1	0 to 0.5	Surficial layer consisting of topsoil; possible reworked soil	Possible reworked soil
Stratum 2	0.5 to 16	Native soil, consisting of silt, sand, clay and gravel mixtures with occasional rock/cobble fragments	Loose to Very Dense or Medium Stiff to Hard

Table 13-1. Generalized Geotechnical Review Results

Description	Approximate Depth to Bottom of Stratum (feet)	Material Description	Relative Density/ Consistency
Stratum 3	10 to 16 (maximum depth explored)	Weathered Limestone Bedrock	Medium Weathered Limestone
Source: Geotechnical Engineering Report, ANS Geo, Inc., 2021			

(2) Private Well Survey Results and Groundwater Aquifers and Groundwater Recharge Areas

The information presented in this section outlines the locations of mapped and identified groundwater sources through review conducted by the Applicant. As described below in Section 13(a)(3), the construction and operation of the Facility will be in compliance with the Uniform Standards and Conditions (USCs) under Section 94-c.

To collect information on private wells adjacent to the Facility Site and in accordance with Section 94-c Regulations, well survey questionnaires were mailed to landowners of tax parcels within 1,000 feet of the Facility Site boundaries. Included in the survey were questions about the size, yield, depth, and quality of water obtained from well(s) on the property, location in relation to any buildings on the property, if any type of water treatment system had ever been installed at the property, and if any issues had ever occurred with wells identified on the property. The letter also contained a phone number to reach a TRC consultant if the recipient had any questions, along with a stamped self-addressed envelope to facilitate returns to TRC on behalf of the Applicant.

At the time of filing, TRC received 22 responses to the survey questionnaire (see Appendix 13-2). Of the 22 surveys received, nine respondents indicated the presence of wells on their property. A total of 13 wells were accounted for by these 22 respondents, of which 12 wells are considered active, and one well dried up. Thirteen survey responses indicated no wells on the property. Depths of wells were reported between 25 feet and 72 feet with the average being 46 feet. Respondents who identified wells located on their parcel indicated the water quality to be good. Based on these findings, there are two private water well locations identified within the Facility Site. See Figure 13-1 for approximate private well locations as determined by survey responses.

Unconsolidated Aquifers

The United States Geological Survey (USGS) has completed hydrogeologic mapping in cooperation with New York State and local agencies. The distribution and hydrogeologic characteristics of the unconsolidated aquifers are presented at the 1:250,000 scale in a series of five maps that were published in 1988 in cooperation with the New York State Department of Environmental Conservation (NYSDEC). According to this map set, no unconsolidated aquifers are present within the Facility Site. Additional hydrogeologic maps have been published for New York State in cooperation with the NYSDEC, the New York State Department of Health (NYSDOH), and various local agencies; however, these 1:24,000 scale maps are not available for the Facility Site.

Sole Source Aquifers

The Facility Site is not located within any sole source aquifers (SSA). SSAs are defined by the United States Environmental Protection Agency (USEPA) 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 SSA is approximately 15 miles southeast of the Facility Site, near Watertown, NY and crosses parts of Jefferson, Lewis, and Oswego Counties. This aquifer is identified as the Northern Tug Hill Glacial SSA, Federal Register ID 71 FR 64524 (USEPA, n.d.). No impacts to SSAs are expected as a result of the Facility's construction or operation.

Primary Aquifers

The Facility Site does not overlap any NYSDEC-listed primary aquifers. The closest primary aquifer is the Fulton Aquifer, located approximately 50 miles southwest of the Facility Site's southern limit in Jefferson County, New York (NYSDEC, n.d.). 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).

Principal Aquifers

The Facility Site does not overlap any NYSDEC-listed principal aquifers. The closest principal aquifer is located in Watertown, NY, approximately eight miles southeast of the Facility Site's eastern limit in Jefferson County, New York. This aquifer is an unconfined NYSDEC Principal

Aquifer. As opposed to primary aquifers, principal aquifers, as per the NYSDEC, 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.

According to the *Principal Aquifers of the United States* (USGS, 2003), the Facility Site does overlap a USGS-listed principal aquifer. This aquifer is identified as a New York and New England carbonate-rock aquifer (USGS, 2003). No impacts are anticipated to this aquifer. Appropriate erosion prevention and sedimentation control measures will be implemented during construction and operation. As a result, the proposed Facility is not anticipated to have direct effects on subsurface waters. For further discussion on sedimentation control measures see Appendix 13-3. The USGS defines a principal aquifer as “a regional extensive aquifer or aquifer system that has the potential to be used as a source of potable water” (USGS, 2003).

Groundwater Aquifers and Recharge Areas

Groundwater aquifers and groundwater wells are mapped in Figure 13-1, along with groundwater flow direction and wellhead and aquifer protections zones within a 500-foot radius of the proposed Facility Site (and within a 2,000-foot radius of blasting locations, as applicable). The data on groundwater aquifers and recharge areas was obtained through the NYSDEC Division of Water Resources, Bureau of Water Management. Specific information pertaining to local mapped groundwater aquifers has been described in the above sections. Information regarding groundwater wells has been described below.

The nearest USGS groundwater monitoring site (USGS 441214075542101) Local number J-176 is located in Orleans Four Corners, NY, 12 miles northeast of the Facility Site. According to data collected at this USGS groundwater site, the average annual depth to the New York and New England carbonate-rock aquifer water level is approximately 2.73 feet bgs, with seasonal variation of 1.09 feet to 7.57 feet bgs.

To identify existing public groundwater wells within the Facility Site, a Freedom of Information Law (FOIL) (Public Officers Law, Article 6 Sections 84-90) request was sent to the NYSDEC on June 16, 2021, to identify the locations of existing water wells and data on wells within the two-mile Study Area. This request was for any information pertaining to groundwater wells (including location construction logs, depth, and descriptions of encountered bedrock) within the Study

Area (Appendix 13-1). A response, including well complete reports for wells within the Study Area, was received from the NYSDEC on July 14, 2021. The response indicated that there are 12 wells within the 5-mile Study Area. None of these wells are located within the Facility Site. Based on the well completion reports that were provided, the average depth of these wells was 76 feet and the average depth to groundwater was approximately 13 feet. The average depth to bedrock was approximately 10 feet.

The NYSDEC's Water Well Program Information Search Wizard and publicly available NYSDEC Water Wells KMZ was consulted to obtain well information. The results of the search concluded that there is one water well located within 1,000 feet of the Facility Site, identified as well J2018 located approximately 600 feet south of the Facility Site. The depth of this well is 60 feet and the depth to groundwater is 0 feet, with a recorded yield of 85 gallons per minute (GPM). The location of groundwater wells is shown in Figure 13-1. Completed well survey questionnaires received for the Facility are included in Appendix 13-2.

(3) Impacts on Groundwater Quality and Quantity

No permanent impacts to aquifers (primary, principal, or SSA) or groundwater are anticipated as a result of the construction and operation of the Facility. As with construction projects of this type, the potential for minor and temporary impacts to groundwater will be avoided and minimized through the implementation of best management practices (BMPs), including measures proposed in the Stormwater Pollution Prevention Plan (SWPPP) provided as Appendix 13-3.

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 Facility. These discharges could result from unanticipated mechanical failures in equipment onsite, or through spills during the refueling of equipment.

Impacts to groundwater, however, are not anticipated due to the implementation of required avoidance, minimization, and mitigation measures, which will be strictly adhered to. These measures will be outlined in the Facility's Spill Prevention, Containment, and Control (SPC) Plan that will be completed and submitted as a Compliance Filing prior to the construction and

operation of the Facility, as well as the BMPs described throughout the Application and the SWPPP (Appendix 13-1).

Certain construction activities have potential to result in direct and/or indirect impact to surface waters. These activities include the installation of haul roads, installation of collection lines, and the development of temporary staging areas and workspaces around the solar arrays. Impacts related to the construction of haul road and collection line crossings will be minimized to the maximum extent practicable using existing crossings and by crossing at narrow locations where feasible. In addition, the SWPPP will avoid or minimize impacts to the maximum extent practicable.

The Facility will only add a small area of impervious surface, 1.19 acres (0.218% percent of the fenced area or 0.19% of the LOD), to the landscape through the placement of inverter pads, equipment trailer pads, paved driveway aprons, and the collection substation. These impervious areas will be distributed throughout the Facility Site and will have at most a negligible effect on groundwater recharge for the local region. The construction of these impervious surfaces is typical of construction Facility throughout New York State with methods approved by the NYSDEC. Beneath the solar arrays and within the overall majority of the Facility Site will be pervious land cover (various grasses) that will allow for continued infiltration of stormwater runoff as occurs under existing site conditions. In areas of the site currently utilized for agricultural purposes, the proposed vegetated ground cover beneath the arrays will allow for greater infiltration than areas regularly disturbed by agricultural practices.

Minimal water use is expected during construction. The Applicant will work in consultation with the selected Engineering, Procurement, and Construction (EPC) Contractor to identify sources and locations for water necessary for construction activities. Concrete mixing trucks will have designated washout areas as shown in the typical presented on Sheet PV-C.03.01 of Appendix 5-1 (Issued for Permit [IFP] Design Drawings). In accordance with the USCs under Section 94-c, concrete washouts for the Facility will be located and installed to minimize impacts to water resources and will be sited least 100 feet from any wetland, waterbody or stream, and located outside wetland adjacent areas, to the maximum extent practicable. Additionally, waste concrete or wash water will be disposed of at least 100 feet from any wetland, waterbody or stream. Concrete batch plants are not expected to be required for the Facility.

Proposed haul roads are impervious and designed to distribute runoff as sheet flow to roadside buffers where it will infiltrate the groundwater. 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 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 construction of the Facility.

Although no impacts to drinking water are anticipated as a result of Facility construction or operation, the Applicant will ensure that no pier or post driving will occur within 200 feet of any identified active water supply. In accordance with the USCs, the Applicant will engage a third party to conduct pre- and post-construction water quality testing on lands for which the Applicant has been granted access. Testing will occur within specified distances from disturbances as follows:

- collection lines or haul roads within 100 feet of an existing, active water supply well or water supply intake,
- pier or post installation points within 200 feet of an existing, active water supply well or water supply intake,
- and at the location of any horizontal directional drilling (HDD) operation within 500 feet of an existing, active water supply well or water supply intake.

If the results of the pre-construction testing indicate that state standards for potable water are met (10 New York Codes, Rules and Regulations [NYCRR] Part 75, Appendix 75-c), but post-construction testing fails to meet those standards, the Applicant will work in consultation with the affected landowner(s) to construct a new well or otherwise reach a solution for the concern. Any newly constructed well shall be at least 100 feet from collection lines and haul roads, and at least 200 feet from all other Facility components.

Plans for notification and complaint resolution during construction of the Facility for owners/operators of public and private wells within a 1-mile radius of the Facility Site are detailed in the Complaint Management Plan. The Complaint Management Plan will be included in the pre-construction filings of this Application as specified under §900-10.2 of the Section 94-c

Regulations. In the unlikely event a local resident believes that their well water has been adversely impacted by the Facility construction or operation, they may file a formal complaint which the Applicant will respond to using the Complaint Management Plan. If, as a result of Facility construction, an active potable water well no longer meets federal or state potable water testing, the Applicant will work with the well owner to reach an agreeable resolution.

13(b)Surface Water

(1) Surface Water Map

The locations of surface waters within the Facility Site, which includes areas within one hundred (100) feet of areas to be disturbed by construction, are mapped on Figures 13-2 and 13-3.

Figure 13-2 displays map features mapped in publicly available data from the NYSDEC, USGS, National Wetlands Inventory (NWI); while waterbody data collected during onsite wetland and waterbody delineations conducted from June 1 to June 5 and September 23, 2020 is shown in Figure 13-3.

(2) Surface Water Delineation Survey

Surface waters, as well as general characteristics of the hydrology and character of the Facility Site, were collected as part of wetland and waterbody delineations performed by TRC wetland biologists in June and September of 2020. Prior to the field survey, the Applicant conducted a desktop review of publicly available data to determine the potential presence of federal and State-mapped resources within the Facility Site. As part of delineation efforts, TRC identified and delineated nine streams within the Facility Site (totaling 11,195 linear feet), including two ephemeral streams, six intermittent streams, and one perennial stream (Horse Creek; S-NSD-1). Three of the streams delineated (S-BF-2, S-NSD-1, and S-NSD-2) are mapped as NYSDEC Class C streams; however, none of the waterbodies onsite are protected waterbodies. Horse Creek (S-NSD-1) was identified by the ORES JD, received on June 1, 2021, as an unprotected Navigable Water. According to Article 15 of the NYSDEC ECL, unprotected, navigable streams are regulated up to the mean high-water line by the NYSDEC. NYSDEC protected streams are protected to the top of its bank and a bank will not be considered to extend more than 50 feet horizontally from the mean high-water line. There is no setback or adjacent area associated with unprotected, navigable streams.

Additional information regarding delineation methodology, stream characteristics, as well as mapping and photographs of the water resources onsite are included in the Wetland and Waterbody Delineation Report included herein as Appendix 14-1.

(3) Surface Water Characteristics

The Facility is located within the NYSDEC-defined Lake Ontario and Minor Tributaries major drainage basin. This major drainage basin drains an area of 449,088 acres and ranges in elevation from 243 to 1,102 feet above sea level (USDA NRCS, 2010). Within this major drainage basin, the Facility is located in the Chaumont-Perch sub-basin (Hydrologic Unit Code [HUC] 04150102). Average annual precipitation is between 32 to 44 inches. Wetlands and open water constitute 15.4 percent of the sub-basin (USDA NRCS, 2010). At the watershed level the Facility Site is located within the Chaumont River-Front Lake Ontario (HUC 0415010202). At the sub-watershed level, the Facility Site is located within the Horse Creek--Frontal Lake Ontario sub-watershed (HUC 041501020202) (USEPA 2017).

The Lake Ontario and Minor Tributaries Watershed is comprised of smaller drainages that lie between the large rivers that empty into Lake Ontario. These rivers include the Niagara, Genesee, Oswego, and Black River. This watershed stretches along the Lake Ontario shoreline, and is divided into western, central, and eastern sections that stretch along Lake Ontario. The Facility is located in the Horse-Creek – Frontal Lake sub-watershed. The majority of land cover in the Lake Ontario and Minor Tributaries are forest and agriculture. A smaller portion of land cover is wetland and water, with minimal developed areas in the watershed. Sources of impairment for lakes, rivers, and streams in the watershed include agriculture, priority organics, and municipal sources, with smaller portions of contamination coming from metals, septic, and other industry. The water quality exhibited by streams draining the sub-watershed varies. Chaumont Bay is listed as impaired and the Chaumont River is listed as having minor impacts from pollutants (USDA NRCS, 2010b). The waterbody uses most impaired by water quality impacts from identified pollutants are waterbody aesthetics and aquatic life. No aquatic invasive species have been previously documented within the Facility Site (iMapInvasives, 2021). TRC biologists observed Japanese honeysuckle (*Lonicera japonica*) along a stream within the Facility Site. Based on the NYSDEC's list of Prohibited and Regulated Invasive Species of New York, one species from the list was observed during wetland and waterbody delineations (NYSDEC, 2014b).

The NYSDEC has classified waterbodies state-wide according to their best use, as either AA, AA(T), A, A(T), B, B(T), C, C(T), or D. Class AA or A waterbodies are of the highest water quality. AA or A classes indicate that the best uses of the waterbody are as follows: a source of water supply for drinking, culinary, or food processing purposes, primary and secondary contact recreation, and/or fishing. The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. The best usage of Class D waters is fishing. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation. These waters shall be suitable for fish, shellfish, and wildlife survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. 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 13-1 below lists NYSDEC-mapped waterbodies within the Facility Site and their state classifications. Figure 13-2 portrays their locations relative to the Facility Site. 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 Facility Site. No aquatic invasive species were identified within these surface waterbodies. Those waterbodies within 100 feet of any Facility components have been mapped and identified on Figure 13-2.

Table 13-2. NYSDEC-Mapped Streams within Study Area

NYSDEC Stream Name and Regulatory ID Number	NYS Major Drainage Basin	USGS Sub-basin Hydrologic Unit Code (HUC) 8 and Name	NYSDEC Classification¹
Horse Creek – 847-22	Lake Ontario	04150102 – Chaumont-Perch	Class C
Unnamed tributaries to Guffin Bay – 847-23	Lake Ontario	04150102 – Chaumont-Perch	Class C

¹A 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. Waters with a classification of D are generally suitable for fishing and non-contact recreation.

New York State water quality standards are defined in 6 NYCRR Part 703 and 704, and the standards for Class C streams are provided in Table 13-3 below.

Table 13-3. NYSDEC Water Quality Standards

Parameter	NYSDEC Waterbody Classifications¹	Standard
Taste, color, and odor-producing, toxic and other deleterious substances	C	None in the amounts that will adversely affect the taste, color or odor thereof, or impair the waters for their best usage.
Turbidity	C	No increase that will cause a substantial visible contrast to natural conditions.
Suspended, colloidal and settleable solids	C	None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.

Table 13-3. NYSDEC Water Quality Standards

Parameter	NYSDEC Waterbody Classifications¹	Standard
Oil and floating substances	C	No residue attributable to sewage, industrial wastes or other wastes, not visible oil film nor globules of grease.
Phosphorus and nitrogen	C	None in the amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usage
Thermal discharges	C	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.
Flow	C	No alteration that will impair the waters for their best usage.
pH	C	Shall not be less than 6.5 nor more than 8.5.
Dissolved Oxygen	C	For non-trout waters, the minimum daily average shall not be less than 5.0 mg/L, and at no time shall the dissolved oxygen concentration be less than 4.0 mg/L.
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	C	The monthly median value and more than 20 percent of the samples, from a minimum of five examinations, shall not exceed 2,400 and 5,000, respectively.
Fecal coliforms	C	The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.
Source: 6 NYCRR Parts 703.2, 703.3, 703.4, 704.1		

Table 13-3. NYSDEC Water Quality Standards

Parameter	NYSDEC Waterbody Classifications ¹	Standard
<p>¹A 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. Waters with a classification of D are generally suitable for fishing and non-contact recreation.</p>		

(4) Downstream Drinking Water Supply Intakes

The Applicant evaluated the potential for downstream drinking water impacts based on publicly available information regarding water supply intakes in relation to the Facility Site and the construction and operational methods anticipated for the Facility. Based on this review, no impacts to downstream drinking water supply intakes are anticipated.

As identified in the Comprehensive Plans for Lyme and Brownville, the Town of Brownville has one water district and the Town of Lyme has five water districts which provide drinking water. The Town of Lyme Comprehensive Plan has indicated that municipal water is provided by the Village of Chaumont through the Development Authority of the North Country’s (DANC) western regional water line to the five water districts within the Lyme. The closest downstream public water supply that is utilized as a drinking water intake is located 12 miles northwest of the Facility Site in the Village of Cape Vincent, Jefferson County at 44.0747 and -76.1948. The water source is the St. Lawrence River. Treated water is distributed through an underground piping system that serves the residents of the Villages of Chaumont, Dexter, and Brownville, the Towns of Cape Vincent, Lyme, Brownville, and the General Brown School. The Village of Cape Vincent supplies water to the Town of Cape Vincent’s water storage tank, which pumps water through a pipeline to the Limerick Pump Station where it is chlorinated before distribution. The Village of Cape Vincent’s water supply serves 1,500 people through 516 service connections (Village of Cape Vincent, 2020). The Facility is not expected to have any impacts on the downstream drinking water supply for the Towns of Lyme and Brownville (Towns).

(5) Avoidance of Impacts on NYS-Protected Waters

As described above, nine streams were identified within the Facility Site during delineation efforts. No NYS-protected waters were identified or delineated onsite; therefore, no impacts to the NYS-protected waters are anticipated as a result of the construction and operation of the Facility. The nearest NYSDEC classified waterbody is West Creek (Class A(T)) located approximately 14 miles east of the Facility Site.

(6) Minimization of Impacts on NYS-Protected Waters

There will be no impacts to NYS-protected streams (ECL 15-0501) due to construction or operation of the Facility. There is one perennial waterbody onsite designated as navigable by ORES (Horse Creek, S-NSD-1). Although navigable, this waterbody is not classified as a protected waterbody under ECL 15-0501 or within the final jurisdictional determination issued by ORES. There will be no direct impacts to Horse Creek. The closest impacts to Horse Creek (S-NSD-1) are 12.79 acres of tree clearing no closer than 28 feet of the streambank to reduce shading on the arrays. As described herein, the Applicant will adhere to the SWPPP, SPC Plan, and BMPs for the Facility, as well as the USCs under Section 94-c to minimize impacts to Horse Creek.

(7) Stream Restoration and Mitigation Plan

There will be no impacts to NYS-protected streams (ECL 15-0501) due to construction or operation of the Facility. Accordingly, pursuant to § 900-10.2(f)(3) of the Section 94-c Regulations, a mitigation plan is not required and has therefore not been prepared.

13(c) Stormwater

(1) SWPPP and SPDES Permit

The NYSDEC requires coverage under the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) 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 but is coordinated with the 94-c process. The Applicant will seek coverage under the NYSDEC SPDES General Permit for construction of the Facility.

The Applicant has prepared a SWPPP in accordance with the guidelines set forth in GP-0-20-001 and has included it as Appendix 13-3 herein. The SWPPP describes in specific terms 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 Facility construction has been completed. As part of these requirements, an Environmental Monitor (EM) is required to be onsite daily to inspect the Facility’s erosion and sediment control practices when soil-disturbing activities are being performed.

This SWPPP has been prepared as part of the requirements for coverage under GP-0-20-001. It is anticipated that an electronic Notice of Intent (eNOI) will be prepared and submitted to the NYSDEC (with a copy filed with ORES), who will review and authorize a SPDES General Permit number along with the NYSDEC Letter of Acknowledgement certifying that the Facility will comply the technical requirements of GP-0-20-001 prior to construction. The Applicant will request a 5-acre waiver to disturb greater than five acres at one time during construction. Once the Facility receives this required documentation, the Letter of Acknowledgement will be inserted within the SWPPP and kept onsite, as required by GP-0-20-001. The eNOI will be included in the SWPPP in Attachment A.

(2) Post-Construction Stormwater Management Practices Plan

The 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. Pre- and post-development hydrology, in addition to evaluation of runoff and drainage patterns, will be analyzed as part of stormwater design in accordance with final Facility layout, and if necessary, the SWPPP will be updated prior to construction.

13(d)Chemical and Petroleum Bulk Storage

(1) Spill Prevention and Control Measures

No onsite storage or disposal of large volumes of substances regulated under the chemical and petroleum bulk storage programs of New York State is proposed. On a typical solar project, spill containment is included at the substation transformers. However, 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 Facility will adhere to a SPC Plan, provided as Appendix 13-4 of this Exhibit, to minimize the potential impact to aquatic resources from minor leaks or mechanical failures of construction equipment/vehicles.

This plan dictates that all contractors will be required to keep materials on hand to control and contain a petroleum spill. In accordance with §900-6.4(m)(5) spill kits will be kept in all construction vehicles. Any leaks will be stopped and cleaned up immediately. Spillage of fuels, waste oils, other petroleum products or hazardous materials shall be reported to the NYSDEC's Spill Hotline within two hours, in accordance with the NYSDEC Spill Reporting and Initial Notification Requirements Technical Field Guidance. ORES and the New York State Department of Public Service (NYSDPS) shall also be notified of all reported spills in a timely manner. Contractors will be responsible for ensuring responsible action on the part of construction personnel.

(2) Storage or Disposal of Regulated Substances

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

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

Onsite storage of large volumes of substances, regulated under the chemical and petroleum bulk storage programs of any local laws, is not proposed for the Facility, as discussed in Sections 13(d)(1) and (2) above. Onsite disposal will not occur. If construction operations require petroleum or other hazardous chemicals to be stored onsite, those substances will be stored in a manner such that the applicable, substantive provisions of local laws and guidelines will be followed.

13(e) Aquatic Species and Invasive Species:

(1) Biological Aquatic Resource Impacts

It is assumed that any potential impacts to surface waters within the Facility Site could potentially impact ecologies, organisms, and ecosystems dependent upon these aquatic resources through the introduction of invasive species. Only a small portion of these biological complexes, however, could be impacted by the construction and operation of the Facility due to its siting design. Exhibit 14 directly addresses potential impacts to wetlands and waterbodies within the Facility Site. Additionally, Exhibit 11 (Terrestrial Ecology), Exhibit 12 (NYS Threatened and Endangered Species), and the Wildlife Site Characterization Report (Appendix 12-1) within this Application discuss NYS threatened and endangered species that may be impacted by the Facility.

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 Facility Site. A list of animal species likely to occur on the Facility Site within each vegetative community is included in Exhibit 11 in Table 11-3. Table 11-3 was completed based on publicly available data sources and observations made during field surveys and site visits. None of the invasive species within the Common Aquatic Invasive Species of New York list (NYSDEC, n.d.) were documented during onsite survey work conducted by environmental field staff. Therefore, adverse impacts to aquatic biology resulting from the spread of invasive species caused by Facility construction are not anticipated.

(2) Avoidance, Minimization, or Mitigation Measures for Biological Aquatic Resources

The Facility has been sited to avoid impacts to aquatic resources and will not require any stream crossings or impacts to delineated waterbodies. As stated above, there are no NYS-protected streams located in the Facility Site or in the immediate vicinity. There is one perennial waterbody onsite designated as navigable by ORES (Horse Creek, S-NSD-1). Although navigable, this waterbody is not classified as a protected waterbody under ECL 15-0501. There will be no direct impacts to Horse Creek. This waterbody is located within a mapped Federal Emergency Management Agency (FEMA) Flood Zone. The closest impacts to Horse Creek (S-NSD-1) are 12.79 acres of tree clearing no closer than 28 feet of the streambank to reduce shading on the arrays. As described herein, the Applicant will adhere to the SWPPP, SPC Plan, and BMPs for the Facility, as well as the USCs under Section 94-c. Based on the careful siting of Facility components and avoidance and minimization of impacts, no impacts on aquatic biological resources are anticipated.

In summation, protection of surface waters during Facility construction through implementation of the SWPPP, SPC, and BMPs, will in turn protect the biological aquatic resources that depend on these surface waters. As described throughout this Exhibit, no impacts to waterbodies, including NYS-protected waters, will occur during construction or operation of the Facility.

13(f) Water Quality Certification

(1) Water Quality Certification Request

In accordance with Section 401 of the Clean Water Act (CWA), if construction or operation of a proposed major renewable energy facility would result in any discharge into the navigable Water of the United States (WOTUS) and require a federal license or permit, the Applicant shall request and, prior to commencing construction, obtain a Water Quality Certification (WQC) indicating that the proposed activity will be in compliance with water quality standards, as set forth in 6 NYCRR Section 608.9. The Applicant submitted the 30-day Pre-Filing Meeting Request for the WQC to ORES on July 29, 2021 and anticipates applying for a WQC concurrently with the Section 404 permit for the Facility. Based on the impacts to WOTUS associated with the Facility, the Applicant anticipates impacts will qualify for coverage under the USACE Nationwide Permit (NWP) program. Applications for coverage under the NWP as well

as the WQC request are expected to be submitted by the end of 2021. Specific information regarding water quality standards and the resources onsite can be found in the Wetland and Waterbody Delineation Report (Appendix 14-1) of Exhibit 14. The Applicant expects that the construction and operation of this Facility shall comply with the New York State Water Quality standards, as described in 6 NYCRR Section 608.9, pursuant to compliance with Section 401 of the CWA.

(2) Related Federal Permit Applications

As stated above, the Applicant anticipates the need for a coverage under Section 404 and Section 401 of the CWA for impacts to WOTUS related to the Facility. Due to the limited impacts to federally regulated WOTUS, the Applicant will be applying for coverage under the USACE NWP Program. Additional information regarding these anticipated submittals can be found in Exhibit 25 (Other Permits and Approvals). The Applicant initiated the Preliminary Jurisdictional Determination (PJD) process with the USACE in May 2021 and a copy of this correspondence is provided in Appendix 25-1 of Exhibit 25.

The Applicant plans to request issuance of the Section 401 WQC by the end of 2021 and, in accordance with 900-1.4., ORES will issue the WQC.

(3) Compliance with 6 NYCRR Section 608.9

As stated above, the Applicant is seeking a WQC pursuant 6 NYCRR Section 608.9 concurrently with this filing. The Applicant does not anticipate the Facility will impact water quality.

(4) Pertinent Contact Information Related to Water Quality Certification

The United States Army Corps of Engineers (USACE) federal wetlands process for the Facility is described above in Section 13(f)(2). The Application will be filed with the Buffalo District of the USACE located at 1776 Niagara Street, Buffalo, New York, 14207.

(5) Plan and Timetable for Water Quality Certification Request

Please see Section 13(f)(1) above. The Applicant expects the Facility to be in compliance with state water quality standards.

Conclusion

Nine streams were delineated within the Facility Site. There are no impacts to NYS-regulated waterbodies as part of the construction and operation of Facility, and only minor impacts to USACE regulated WOTUS (approximately 130 linear feet). Therefore, no compensatory mitigation is required. Only one stream, Horse Creek, is regulated by ORES as a navigable waterbody; however, Horse Creek is not a NYS-protected waterbody. Therefore, no protected NYS waters are found within the Facility Site, and no NYS protected waters will be impacted by the construction or operation of the Facility. Construction activities have the potential to impact surface waters, but these impacts will be minimized to the maximum extent practicable using existing crossings and by crossing at narrow locations where feasible. Further impact avoidance and minimization will be outlined in the SWPPP, SPC Plan, and NWP application package. Twenty-two well survey questionnaire responses were received, nine of which indicated the presence of wells on their property. There are no anticipated groundwater impacts associated with these wells. The Facility has been designed to comply with 19 NYCRR § 900-2.14 and the USCs and impacts related to water resources and aquatic ecology have been avoided and minimized to the maximum extent practicable.

References

EPA. n.d. Sole Source Aquifers.

<https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b>. Accessed April 2021.

New York State Department of Environmental Conservation (NYSDEC). 1990. *Division of Water Technical & Operational Guidance Series 2.1.3. Primary and Principal Aquifer Determinations*. https://www.dec.ny.gov/docs/water_pdf/togs213.pdf. Accessed March 2021.

NYSDEC. 2021. Water Well Information – Search Wizard.

<https://www.dec.ny.gov/cfmx/extapps/WaterWell/index.cfm?view=searchByCounty>. Accessed March 2021.

NYSDEC. n.d. *Common Aquatic Invasive Species of NY*.

<https://www.dec.ny.gov/animals/50272.html> Accessed May 2021.

United States Geological Survey (USGS). 2003. *Principal Aquifers of the United States*.

<https://water.usgs.gov/ogw/aquifer/map.html>. Accessed April 2021.

Village of Cape Vincent. 2020. Annual Drinking Water Quality Report for 2020. Accessed May 2021. <https://www.villageofcapevincent.org/departments/utilities/69-2009drinkingwaterreport.html>