HEOROT
POWER

SOMERSET OPERATING COMPANY, LLC
7725 Lake Road
Barker, New York 14012
Telephone: (716) 795-9501
Fax: (716) 795-3654

December 22, 2020

Mr. Kent Sanders
New York State Department of Environmental Conservation
Division of Environmental Permits
625 Broadway
Albany, NY 12306-2014

Re: Application for Water Withdrawal Permit Renewal for an Existing Water Withdrawal System; Cayuga Operating Company, LLC, Lansing, New York
NYSDEC ID No. 7-5032-00019/0004

Dear Mr. Sanders:

In accordance with 6 NYCRR Part 601, Cayuga Operating Company submits the enclosed application for a Water Withdrawal permit renewal for the Cayuga facility. An electronic copy of the completed application package is to be submitted to Elizabeth Tracy, Regional Permit Administrator, at dep.r7@dec.ny.gov as well as the Central Office of Permits at deppermitting@dec.ny.gov.

The enclosed application for an initial water withdrawal permit does not propose any changes to the existing water withdrawal system.

The following information is provided in accordance with 6 NYCRR Part 601.10 (m):

- Applicant: Cayuga Operating Company, LLC, 228 Cayuga Drive, Lansing, NY 14882
- Applicant's attorney: Jennifer Cohan, Associate General Counsel at Beowulf Energy – New York. 575 Broadway, 3rd Floor, New York, NY 10012, (212) 343-8353
- Applicant's Consultant: Environmental Resources Management (ERM) 345 Woodcliff Dr. 2nd Floor, Fairport, NY 14450. Phone: (585) 387-0510
- Place where public hearing, if required, may be held: Lansing Town Hall – 29 Auburn Road, Lansing, New York 14882
- Local newspaper: Lansing Star (weekly)

If you have any questions concerning this matter, please contact me by phone at (607) 533-7913 or by email at jmarabella@heorotpower.com.

Sincerely,

John Marabella
Director, Environmental Affairs
Cayuga Operating Company, LLC

Attachments: Initial Water Withdrawal Application & Engineer's Report.

cc: NYSDEC DEP Region 7(w/out attachment)
R Wohaska, PE, ERM
D. Murtha, QEP, ERM

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Aug 2018

Water Withdrawal Permit Renewal/Transfer Checklist

Instructions: Complete this checklist and provide it with the Water Withdrawal Permit Renewal/Transfer Application WW-1 (R/T) **at least 30 calendar days before the current permit expires** and, if the water withdrawal system is being transferred to a new owner or operator, **at least 30 days before the change in ownership or operation is anticipated to occur**. Please refer to the current permit for your facility to complete the items below.

Applicant Name: John Marabella Facility Name: Cayuga Operating Company, LLC

Legally Responsible Party: Cayuga Operating Company, LLC

Facility Address: 228 Cayuga Drive, Lansing NY 14882 DEC Region: 7

DEC ID #: 7-5032-00019/00024 WWA #: 11753

Current Permit Effective Date: 1/26/2015

Current Permit Expiration Date: 2/1/2021

Water Use Type (see WW-1 R/T Form): Cooling

Item Number	Requirement	PDF Included (Yes/No)	Location of Item in Application Package
1	Water Withdrawal Permit Renewal/Transfer Application WW-1 (R/T)	X	
2	Updated Water Conservation Program Form	X	
3	Latest Annual Water Withdrawal Reporting Form	X	
4	Copy of Current Permit	X	
5	Copy of Current Engineering Report	X	

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sept 2020

New York State Department of Environmental Conservation

Water Withdrawal Permit Renewal/Transfer Application WW-1 (R/T)

Pursuant to 6 NYCRR Part 601

REVIEW YOUR CURRENT PERMIT AND READ THE INSTRUCTIONS ON PAGE 2 OF THIS FORM BEFORE COMPLETING THE FORM

1. **Applicant Name** Cayuga Operating Company LLC
2. **Facility Name** Cayuga Operating Company LLC
3. **Legally Responsible Party:** Cayuga Operating Company LLC
4. **Applicant Is:** ■ **Facility Owner** ■ **Facility Operator** ☐ **Proposed Owner (Transfer of Ownership)**
5. **Change in Ownership** Is a change in ownership proposed at this facility? If yes provide the date upon which the new owner will acquire the facility. ■ NO ☐ YES (Provide Date) _____
6. **Facility Address** 228 Cayuga Drive Lansing, NY 14882
7. **WWA/WW Number** 11753
8. **Permit ID Number** 7-5032-00019/00024
9. **Current Permit Effective Date** 1/26/2015
10. **Current Permit Expiration Date** 2/1/2021
11. **Water Use Type (choose all that apply)**

☐ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial
☐ Environmental ☐ Institutional ☐ Oil/Gas Production ☐ Mining ☐ Power Production
☐ Recreational ■ Industrial ☐ Agricultural ■ Other

12. **Approved Sources (from current permit)**

Source Name	Individual Source Capacity (GPM)	Maximum Permitted Well Field or Supply of Water (If Applicable) ☐ GPM ■ GPD
Cayuga Lake	170,139	245,000,000

13. **Total Approved Withdrawal Quantity** 245,000,000 ☐ GPM ■ GPD

14. **Water Withdrawal System Modifications** Have any modifications been made to the existing water withdrawal system (e.g., increases in system capacity, changes in sources, addition of new sources, change in use type, etc.) after issuance of the current water withdrawal permit? If yes, please explain and refer to Modification requirements on the department webpage: http://www.dec.ny.gov/lands/86935.html

☐ NO ■ YES, EXPLAIN Request decrease in approved withdrawal quantity to 66,168,000 GPD

15. **Water Well Decommissioning** Have any wells been abandoned or decommissioned after issuance of the current water withdrawal permit? If yes, please review the Department's Water Well Decommissioning Procedures: https://www.dec.ny.gov/lands/86955.html.

■ NO ☐ YES, EXPLAIN _____

16. **New Water Service Areas (Public Water Supply Only)** Have any new Water Service Areas been added after issuance of the current water withdrawal permit?

■ NO ☐ YES, EXPLAIN _____

Sept 2020

17. Supplementary Items The following items **must** be included electronically with this Application:

- ☐ Updated Water Conservation Program Form (http://www.dec.ny.gov/lands/94327.html)
- ☐ Latest Annual Water Withdrawal Reporting Form
- ☐ Copy of Current Water Withdrawal Permit
- ☐ Copy of Current Engineering Report

Name of Company/Legally Responsible Party for the Facility: Cayuga Operating Company LLC

Legally Responsible Party Address: 228 Cayuga Drive Lansing, NY 14882

Printed Name of Representative: John Marabella

Title of Representative: Director, Environmental Affairs

CERTIFICATION STATEMENT: I hereby certify that the information provided on this application and all reports and information submitted in association with this application are true to the best of my knowledge and belief. I understand that false statements made in this application and in any reports or information associated with this application are made under penalty of perjury and that they are punishable under section 210.45 of the New York State Penal Law.

Representative Signature _____ **Date** 12/22/20

INSTRUCTIONS

Water Withdrawal Permit Renewal/Transfer Application WW-1 (R/T)

- Before completing this form, please carefully review the Water Withdrawal Permit Program page located on the Department's website at: http://www.dec.ny.gov/lands/86935.html (non-agricultural facilities) and: http://www.dec.ny.gov/lands/86747.html (agricultural facilities).
- **Applicant Name (Item 1)** – Applications must be made in the name of the owner or operator of the water withdrawal system involved. For acquisitions of existing systems, the applicant should be the prospective owner.
- **Legally Responsible Party (Item 3)** – Legally responsible party means a business entity or applicant legally accountable for undertaking a permitted action in accordance with the provisions and conditions of a permit, or a business entity or applicant legally accountable for the content of an application.
- **Approved Sources (Item 12)** – List all sources that are included on the current water withdrawal permit for your facility.
- **Total Approved Withdrawal Quantity (Item 13)** – List the approved water withdrawal quantity listed in the Source Approval Table on the current water withdrawal permit for your facility.
- **Water Withdrawal System Modifications (Item 14)** – Water withdrawal system modifications include but are not limited to: addition of new pumps, increasing pump capacity, adding temporary portable pumps, increasing or changing well diameter, changing well location, adding new sources of water withdrawal, changing water use type. If you are unsure if a modification has taken place after issuance of the current water withdrawal permit, please contact the Department.

  Please note that if the facility is planning on making modifications to the existing water withdrawal system in the future, a **modification** must be applied for **before** making any changes to the water withdrawal system. For more information on permit modifications please view the following webpage: http://www.dec.ny.gov/lands/86935.html
- **How to Submit Electronic Documents (Item 17)** – Please send all documents electronically to your local Regional Permit Administrator: https://www.dec.ny.gov/about/39381.html **and** Central Office Permits Staff at: deppermitting@dec.ny.gov

  Note that this form and supplementary items may be printed, signed, scanned, and submitted by email if necessary. If you are having difficulty submitting documents electronically, please contact your local Regional Permit Administrator for information on how to submit paper copies.
- **Legally Responsible Party Representative (Signature Box)** – The legally responsible party representative is: **1)** For a corporation - the president, secretary, treasurer, or vice president of the corporation in charge of a principal business function; or other responsible corporate officer as specified in 6 NYCRR 601.22(a)(1)(i) or (ii); **2)** For a partnership or sole proprietorship - general partner or proprietor, respectively; **3)** For a municipality, State, Federal or other public agency - the principal executive officer or ranking elected official. For a Federal agency, the principal executive officer includes the chief executive officer of the agency; or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. regional administrators of EPA).

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

Pursuant to 6 NYCRR Part 601

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

May 2013

FOR DEPARTMENT USE ONLY
Application No.
WWA Number

1. APPLICANT NAME Cayuga Operating Company, LLC

2. FACILITY NAME Cayuga Facility

3. PROJECT TYPE
- [x] Water Withdrawal
- [ ] New Public Water Supply Service Area or Extension
- [ ] Land Acquisition for Public Water Supply
- [ ] Change in Use of Existing Water Withdrawal

4. WATER USE TYPE
- [ ] Public Water Supply
- [ ] Bottled/Bulk Water
- [ ] Commercial
- [x] Cooling
- [ ] Industrial
- [ ] Institutional
- [ ] Mine Dewatering
- [ ] Oil/Gas Production
- [ ] Power Production
- [ ] Recreational
- [ ] Other:

5. WITHDRAWAL TYPE [x] Existing [ ] New

If this is an existing public water supply, provide the most recent WSA or WWA Number:

If other than public water supply, list other existing or pending related DEC permits (e.g., SPDES, Mining, Dam):
SPDES Permit No. NY0001333

6. WATER WITHDRAWAL SOURCE [x] Surface Water [ ] Groundwater

Water Body Name(s): Cayuga Lake

Nearest Surface Water Body:

Distance From Well (in feet):

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?
[x] No [ ] Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) [ ] Yes [x] No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 66,168,000 gallons per day Source Name: Cayuga Lake

Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html [x] No [ ] Yes

If yes, [ ] Existing [ ] New From Basin: To Basin:

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) *PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)*	NA	***601.10(h)*** *ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	NA
601.10(b) *GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)*	Appendix A	***601.10(i)*** *WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	NA
601.10(c) *WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).*	NA	***601.10(j)*** *TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	NA
601.10(d) *CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)*	NA	***601.10(k)*** *PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	NA
601.10(e) *ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)*	See Eng. Report	***601.10(l)*** *CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	NA
601.10(f) *WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)*	Appendix D	***601.10(m)*** *TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	Cover Letter
601.10(g) *ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)*	Appendix F	***601.10(n)*** *GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	NA

Clear Form

Applicant Signature:

Name: John Marabella

Title: Director, Environmental Affairs

Date: 12/22/20

May 2013

INSTRUCTIONS

Water Withdrawal Application Supplement Form (WW-1)

1. Before completing this form, please carefully review the Water Withdrawal Permit Program page located on the Department's website at http://www.dec.ny.gov/lands/55509.html (non-agricultural facilities) and http://www.dec.ny.gov/lands/86747.html (agricultural facilities). Note that applications by existing systems for an Initial Permit shall be submitted in accordance with the schedule established in NYCRR Part 601.7(b)2 as shown in Table 1 at http://www.dec.ny.gov/lands/86935.html.

2. This form is to accompany the Joint Application Form. The Joint Application Form, Supplement WW-1 and their instructions are available on the Department's website at http://www.dec.ny.gov/permits/6222.html.

3. NYSDEC strongly encourages electronic submission of supporting documents. Submit 3 completed copies of the Joint Application Form, Supplement WW-1 and all attachments to the NYSDEC Regional Permit Administrator (refer to the Joint Application Instructions).

4. Applicant Name - Applications must be in the name of the owner of the water withdrawal system involved. For acquisitions of existing systems, the applicant should be the prospective owner.

5. All Water Withdrawal Applications must include a completed Water Conservation Program Form demonstrating that the applicant has developed and implemented a Water Conservation Program that incorporates environmentally sound and economically feasible water conservation measures. Information is available on the Department's website at http://www.dec.ny.gov/lands/86945.html.

6. Locate and describe all facilities and service areas on appropriate maps and plans to be submitted with this form. Choose a scale for this location map that allows you to accurately define all groundwater wellhead and surface water intake positions, and the overall project area within the county or town. Include coordinates for all wellheads and intakes on the Joint Application Form, Item 8, and on additional sheets if needed.

7. Water Withdrawal Amounts (Item 9) - Convert to gallons per day (GPD). In order to convert from gallons per minute (GPM) to GPD, multiply GPM x 1440.

8. All facts and opinions expressed in the application must be documented in appropriate legal, engineering, or other papers attached as exhibits and noted in Item 10 of this form.

9. If more room is needed to complete any item, provide the information as attachments.

10. All Water Withdrawal Applications must include the following items in a separate exhibit:
    a) Names, titles, mailing addresses, and phone numbers of the Applicant's Attorney; Engineer; and other consultants (planners, geologists, etc.) serving the applicant.
    b) A list of all maps and exhibits accompanying the application.

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State

US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. **Applications To:**

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☑ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☐ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☐ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☐ Yes ☐ No

If yes, name of Federal Agency:

General Permit Type(s), if known:

Preconstruction Notification: ☐ Yes ☐ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:

- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. **Name of Applicant**

Cayuga Operating Company, LLC

Taxpayer ID (if applicant is NOT an individual)

80-0807642

Mailing Address

228 Cayuga Drive

Post Office / City: Lansing

State: NY

Zip: 14882

Telephone: 607-533-7913

Email: jmarabella@heorotpower.com

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

3. **Name of Property Owner (if different than Applicant)**

Mailing Address

Post Office / City

State

Zip

Telephone

Email

For Agency Use Only	Agency Application Number:

4. **Name of Contact / Agent**

John Marabella

Mailing Address: 228 Cayuga Drive | Post Office / City: Lansing | State: NY | Zip: 14882

Telephone: 607-533-7913 x2222 | Email: jmarabella@heorotpower.com

5. **Project / Facility Name**

Cayuga Operating Company, LLC | Property Tax Map Section / Block / Lot Number: 11.-1-3.211 and 11.-1-3.212

Project Street Address, if applicable: 228 Cayuga Drive | Post Office / City: Lansing | State: NY | Zip: 14882

Provide directions and distances to roads, intersections, bridges and bodies of water

The facility is located on the eastern side of Cayuga Lake ~ 1 mile west of Ridge Road (Rout 34B).

☑ Town ☐ Village ☐ City | County: Tompkins | Stream/Waterbody Name: Cayuga Lake

Lansing

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 42 ° 36 ' 10.08 " Longitude: 76 ° 38 ' 0.96 "

6. **Project Description:** Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

The facility is a retired coal power plant. A new purpose for the facility/property has not yet been determined. The once-through cooling water system, which withdraws and returns water to/from Cayuga Lake, remains in place for potential future use. The system has capacity has been downsized to approximately 25% of the capacity when the facility operated as a coal fired electric generating facility.

b. Description of current site conditions:

The facility is a retired coal power plant. A new purpose for the facility/property has not yet been determined. The once-through cooling water system, which withdraws and returns water to/from Cayuga Lake, remains in place for potential future use.

c. Proposed site changes:

The once through cooling water system requirement has been reduced from a maximum flow rate of 169 kgpm (thousand gallons per minute) to 43 kgpm. Operations related to coal-fired electricity generation have ceased, and the facility is being repurposed to clear the way for potential future use of a different nature.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

N/A

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

N/A

f. Is tree cutting or clearing proposed? ☐ Yes If Yes, explain below. ☑ No

Timing of the proposed cutting or clearing (month/year):

Number of trees to be cut: | Acreage of trees to be cleared:

g. Work methods and type of equipment to be used:

Existing once-through cooling system utilizing water from Cayuga Lake. No additional equipment required.

h. Describe the planned sequence of activities:

Site is a retired coal power plant. Once-through cooling system remains intact for use by potential operations of a not yet known future facility use.

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

N/A

j. Erosion and silt control methods that will be used to prevent water quality impacts:

N/A

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

N/A

l. Proposed use: ☐ Private ☐ Public ☑ Commercial

m. Proposed Start Date: 9/1955 Estimated Completion Date: N/A

n. Has work begun on project? ☑ Yes If Yes, explain below. ☐ No

There is an existing water withdrawal

o. Will project occupy Federal, State, or Municipal Land? ☐ Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☐ Yes If Yes, list below. ☑ No

7. **Signatures.**

Applicant and Owner (If different) must sign the application. If the applicant is the landowner, the **landowner attestation form** can be used as an electronic signature as an alternative to the signature below, if necessary. Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant | Date: 12/22/20

Applicant Must be (check all that apply): ☑ Owner ☑ Operator ☐ Lessee

Printed Name: John Marabella | Title: Director, Environmental Affairs

Signature of Owner (if different than Applicant) | Date

Printed Name | Title

Signature of Contact / Agent | Date

Printed Name | Title

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number

(Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name | Title

Signature | Date

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER CONSERVATION PROGRAM FORM

NON-POTABLE WATER WITHDRAWALS

TO BE COMPLETED AND SUBMITTED AS PART OF A NYSDEC WATER WITHDRAWAL PERMIT APPLICATION
***SEE PAGE 6 FOR FURTHER INTRODUCTION AND INSTRUCTION REGARDING THIS FORM**

If your water facility already has its own written water conservation program, you may submit it as a supplement to this WCPF. If your system is new, indicate the water conservation measures that will be taken when the system is completed (e.g. All sources of withdrawal will be 100% metered).

I. GENERAL SYSTEM INFORMATION

Facility Name: Cayuga Operating Company, LLC		DEC No. For Dept Use	
Street Address: 228 Cayuga Drive		WWA No. For Dept Use	
Post Office Box:	**County:** TOMPKINS	**State:** NY	**ZIP:** 14882
Contact Name: John Marabella			
Street Address: 228 Cayuga Drive			
Post Office Box:	**County:** TOMPKINS	**State:** NY	**ZIP:** 14882
Applicant's Telephone: 607 533-7913		**Contact's Telephone:** 607 533-7913	

II. SOURCES OF WATER WITHDRAWAL

[State capacity and withdrawal in gallons per minute (**gpm**), gallons per day (**gpd**), or million gallons per day (**mgd**).]

Source Type: **S** = Surface supply, **G** = Groundwater supply, **P** = Purchased supply
Source Status: **R** = Regular use, **S** = Standby use, **E** = Emergency use, **I** = Inactive, **D** = Decommissioned

Source Name	Source Type	Source Status	Tested Capacity	Actual Current Withdrawal	Start-up Year
CAYUGA LAKE	S	R	66 mgd	1 mgd	1955

III. WATER SOURCES AND METERING

For unmetered systems, please provide your best estimates for water production and/or consumption.

Are all sources of supply (including major interconnections) equipped with master meters? No
How often are they read? METERING CALCULATED BASED ON TIME AND THE PUMP RATING CURVE
How often are they calibrated? N/A
Are there secondary meters located within the facility or system?No If yes, how many?
Describe secondary metering system if applicable: N/A

Water Production for Calendar Year		
Total metered water production:	11,957,167,000	gallons per year
Average day production (total/days of use):	32,760,000	gallons per day
Maximum day production (largest single day):	123,840,000	gallons per day

What are your future goals and schedule for water metering?
NO PLANS FOR ADDITIONAL OR DIFFERENT FUTURE METERING OF THIS PRIMARILY ONCE THROUGH COOLING WATER SYSTEM

Best Management Practices:

** 100% metering of all sources of water withdrawal.*

** Source and secondary meters must be tested and calibrated annually.*

IV. WATER AUDITING

The process of conducting an audit of a water system will enable the collection of data on how much and where water enters, leaves and is used within a facility or system. Another goal of a water audit is to estimate unaccounted-for water use, which includes: Losses through leaks, improperly-functioning or inoperative system controls and unmetered sources of water. The water audit provides a system with a baseline against which water-conservation measures can be evaluated.

Do you conduct a water audit at least once each year? No If yes, please submit a copy of your latest audit in addition to completing the following section.

**** Water Audit for Calendar Year**

Total metered water production (from previous section)		Total	11,957,167,000	
Sources of Water Use	**Metered or Estimated?**			**% of Total**
Process Water	Estimated	subtract	11,957,167	0.1
Cooling Water		subtract		
Wash Water		subtract		
Sanitary		subtract		
Incorporation into Product		subtract		
Irrigation		subtract		
Other		subtract		
Other		subtract		
TOTAL UNACCOUNTED-FOR WATER		Sub-total	**11,945,209,333**	**99.9**
Unaccounted-for water breakdown	Meter under-registration	subtract		
	Unrepaired leakage	subtract		
	Other:	subtract		
** Water measurement and accounting techniques are available in NYSDEC's Water Conservation Manual, http://www.dec.ny.gov/lands/39346.html			0	

What are your future goals for water system auditing?
NO PLANS FOR ADDITIONAL OR DIFFERENT FUTURE METERING OF THIS PRIMARILY ONCE THROUGH COOLING WATER SYSTEM

Best Management Practices:

** At least once each year, a system water audit must be conducted using metered water production and consumption data to determine unaccounted-for water.*

** Keep accurate estimates of unmetered water use.*

** Quantify all authorized water uses by consumption categories.*

V. LEAK DETECTION AND REPAIR

Do you regularly survey your facility for leakage? Yes
Are leaks repaired in a timely manner? Yes
If applicable, do you regularly survey underground piping for water leakage? Yes

Total length of underground piping	Percent of piping surveyed each year	Length of pipe surveyed each year	Listening equipment used	Year of last survey	Number of leaks found	Number of leaks repaired
900	0	0	NONE			

What are your future goals for water system leak detection and repair?
CONTINUOUS LEAK INSPECTIONS WILL CONTINUE DURING DAILY OPERATIONS

Best Management Practices:

** Check any underground water distribution systems for leaks each year.*

** Fix every detectable leak as soon as possible.*

** Have an on-going system rehabilitation program.*

VI. WATER REUSE, RECYCLING AND DROUGHT PLANNING

Does your facility reuse or recycle primary use water? No If yes, describe process:
ONCE THROUGH COOLING WATER TO CAYUGA LAKE

Does your facility use reclaimed rainwater, storm water runoff or wastewater? No If yes, describe process:

Describe any equipment or processes that promote the efficient use of water by your facility:
OVER 99% OF WATER IS RETURNED TO THE LAKE

Does your system include storage tanks or ponds to meet short term water demands?
NO

Describe any actions that can be taken to reduce water use during times of drought:
BASED ON THE VOLUME OF THE WATER SOURCE, DROUGHT CONDITIONS ARE NOT ANTICIPATED. CAYUGA LAKE IS NOT IMPACTED BY LONG TERM DROUGHT. ALSO, 99% OF WATER WITHDRAWN IS RETURNED AS NON-CONTACT COOLING WATER.

What are your future goals for recycling or reducing water usage?
NONE CURRENTLY

Best Management Practices:

** Reuse or recycle water whenever possible.*

** Employ efficient irrigation techniques*

** Develop a plan to reduce water use during times of drought.*

VI. SIGNATURE PAGE AND DISCUSSION

Facility Name: Cayuga Operating Company, LLC	WWA No. For Dept Use

Signature:	Signatory: John Marabella
Title: Director, Environmental Affairs	Date: 12/22/20

***DISCUSSION*:**

Effective February 15, 2011, New York State Environmental Conservation Law (§ECL 15-1501) has required that all applications for a NYSDEC Water Withdrawal Permit include a water conservation program. This Water Conservation Program Form (WCPF) is a required submittal of all such applications.

The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Auditing, Leak Detection/Repair, and Water Use Reduction. The Best Management Practices listed at the bottom of each page represent DEC water conservation policy objectives and should be incorporated into your program development. Additional water conservation measures that are specific to your category of water usage should also be incorporated into your individual program.

Water withdrawal permit applicants can consult the NYSDEC publication entitled "A Survey of Methods for Implementing and Documenting Water Conservation in New York".

The American Water Works Association (AWWA) is also an excellent source of information regarding water conservation practices and procedures. Information ranging from technical manuals to online resources and tools can be found at http://www.awwa.org.

Clear Entire Form

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 7-5032-00019

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
CAYUGA OPERATING COMPANY LLC
228 CAYUGA DR
LANSING, NY 14882
(607) 533-7913

Facility:
CAYUGA OPERATING COMPANY, LLC
228 CAYUGA DR
LANSING, NY 14882

Facility Location: in LANSING in TOMPKINS COUNTY **Village:** Town of Lansing
Facility Principal Reference Point: NYTM-E: 365.905 NYTM-N: 4717.889
Latitude: 42°36'06.4" Longitude: 76°38'04.7"

Project Location: East bank of Cayuga Lake
Authorized Activity: This permit authorizes the withdrawal of a supply of 245,000,000 gallons per day (GPD) of water from Cayuga Lake for cooling purposes and other processes related to electrical generation.

Permit Authorizations

Water Withdrawal Non-public - Under Article 15, Title 15
Permit ID 7-5032-00019/00024 (WWA No. 11,753)
Renewal Effective Date: 1/26/2015 Expiration Date: 2/1/2021

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: KENT P SANDERS, Deputy Chief Permit Administrator
Address: NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY 12233

Authorized Signature: Kent P. Sanders Date 1/26/2015

Permit Components

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

1. **Approval of Completed Works from NYS P.E.** Any new works constructed or modified pursuant to this water withdrawal permit shall be constructed under the general supervision of a person licensed to practice engineering in this state (professional engineer). Upon completion of construction and pre-operational testing, such works may not commence final operation until the professional engineer first certifies in writing to the Department that the works have been constructed in accordance with the issued permit.

2. **Permit Expiration and Renewal** Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration.

3. **Transfer of Ownership of Water Withdrawal Systems** Unless otherwise specified in this permit, a new water withdrawal permit application is required for the acquisition or condemnation of the approved water withdrawal system.

4. **Cooling Water Withdrawals Regulated by SPDES** Nothing in this water withdrawal permit shall supercede the need to, where necessary, obtain an appropriate SPDES permit that allows for the operation of a cooling water intake structure and the discharge of the amounts of water approved by this water withdrawal permit. If any modifications to the location, or capacity of the intake structure are required by the permittee's SPDES permit, permittee must also apply for a modification of this water withdrawal permit to reflect such changes.

5. **Incorporation of the Cooling Water SPDES Water Conservation and Fisheries Protection Measures** Required measures for water conservation and the reduction of impacts to the fisheries resource contained in the Biological Monitoring Requirement Section of the facilities SPDES permit are hereby incorporated by reference into this permit.

6. **Annual Water Withdrawal Reports** The permittee must submit a Water Withdrawal Reporting Form to the Department's Division of Water, Albany, NY. by March 31st of each year. The form is available on the Department's website and includes information regarding approved sources of water supply, source capacities, average and maximum day water use data and water conservation and efficiencies employed during the past calendar year.

7. **Source Meter Calibration** All source meters or measuring devices shall be calibrated for accuracy at least once each year.

8. **Meter All Sources** The permittee must install and maintain meters or other appropriate measuring devices on all sources of supply used in the system. Source master meters or measuring devices are to be read, and records kept of those readings, on at least a weekly basis. The permittee must maintain records of water withdrawn and consumptive use for each calendar year.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Deputy Chief Permit Administrator
NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY12233

4. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

5. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or

another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

Item E: SEQR Type II Action Under the State Environmental Quality Review Act (SEQR), this project has been determined to be a Type II Action and therefore is not subject to further procedures under this law.

Prepared By:

ERM's Rochester, NY Office
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Fairport, New York
T: +1 585 387 0510
F: +1 585 387 0603

www.erm.com

Water Withdrawal System

Engineer's Report

Cayuga Operating Company, LLC
Lansing, New York

Revised August 2020

The world's leading sustainability consultancy

ERM

FINAL REPORT

Cayuga Operating Company, LLC
Water Withdrawal System

Engineer's Report

Lansing, New York

Revised August 2020

ERM Project No. 0530221

Gary Keating
Senior Partner

Richard J. Wohaska, P.E.
Certifying Engineer

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+1 585 387 0510
+1 585 387 0603 (fax)

TABLE OF CONTENTS

List of Appendices

CERTIFICATION BY QUALIFIED PREPARER

I certify that I am familiar with the provisions of 6 NYCRR Parts 601.10(e), the information contained in this Report, and the facility to which it pertains. To the best of my knowledge, the information presented in this report is complete, accurate, and has been prepared in accordance with good engineering practices and guidelines provided by the New York State Department of Environmental Conservation for preparation of this report in accordance with 6 NYCRR Part 601.10(e).

Richard J. Wohaska, P.E.

Printed Name of Registered Professional Engineer

077225 (State of New York)

License Number of Professional Engineer

Signature of Registered Professional Engineer

11 August 2020

Date

1.0 *GENERAL DESCRIPTION AND HISTORY*

This Engineer's Report, consistent with 6 NYCRR Part 601.10(e), summarizes the engineer's observations on how the existing water withdrawal system is currently configured and operated to support the cooling water needs of the Cayuga Operating Company facility located in Lansing, New York.

The facility in Tompkins County owned by Cayuga Operating Company, LLC (formerly referred to as Cayuga Station and hereafter, Cayuga) previously existed as a 306 Megawatt (MW) coal-fired electricity generating facility that had been in operation since the 1950's until ceasing operation in 2020. Waste heat formerly generated during the electrical power production was dissipated via a once-through cooling water system. Now, the facility will maintain water withdrawal capabilities in a reduced capacity for future once-through cooling purposes at the property.

Current cooling water withdrawal capacity from Cayuga Lake will be at an approximate maximum rate of 43 thousand gallons per minute (kgpm). Cooling water enters the existing facility from an offshore intake and will potentially pass through heat exchangers before being discharged back to the lake from a surface outfall structure located on the shoreline. The intake structure was retrofitted in 2016 with wedgewire screens to physically prevent fish or other aquatic organisms from entering the cooling water system.

Cayuga will maintain water withdrawal capability equivalent to approximately 25.4% of the historical withdrawal rate. Only one of the existing water circulating pumps or equivalent installed pump capable of approximately 42,250 gpm will be operational for purposes of cooling for future equipment needs at the site. Additionally, one smaller house service pump capable of 700 gpm provides water for ancillary services on site while the larger circulator pumps remain off. The house service pump withdraws from Cayuga Lake continuously. Two emergency fire pumps are present at the facility, one with a rated capacity of 2,000 gpm, the other with a capacity of 1,000 gpm. These pumps contributing to water withdrawal have a combined maximum withdrawal rate of 45,950 gpm or approximately 66 million gallons a day (MGD). The operating schedule and typical flow rates for the larger pump is not yet known, and will be based on the future development projects at the site.

Cooling water enters the facility through an array of brush cleaned wedge-wire screens situated 633 feet from shore at a depth of approximately 44 feet (Figures 5 & 6). This intake manifold replaced the previous intake arrangement in 2016. Water is delivered to the facility via a partially buried steel intake pipe with a diameter of 8 feet.

The discharge structure at Cayuga is a concrete box-like structure, approximately 13-feet high, 10-feet wide, and 20-feet long (Figure 7). Circulating water is discharged into the east end of the box through an 8-ft diameter pipe. Approximately 14 feet of the western portion of the top of the box and 7 feet of the upper portion of the west end are open. The lower 6 feet of the west wall forms a weir. Water is discharged out of the structure over the weir at a depth ranging from 4 to 7 feet, depending on lake level and the number of circulating pumps in operation.

Previously flow patterns observed within the discharge structure are largely turbulent for most of its length. However, flow over the weir wall at the west end is fairly laminar with high velocities under typical operations (about 6 fps). Given the reduction in capacity it is expected there will be a commensurate drop in the maximum velocity to about 25% or 1.5 fps. The discharge structure is adjacent to a discharge pool. The pool is turbulent with back eddies and cross currents. When the water level in the lake is relatively high, usually in the spring through fall (approximately 382 feet mean sea level), the discharge water exits from the pool directly to the west over a gravel bar that runs north and south about 200 to 250 feet west of the structure. As the lake level is lowered to winter levels (approximately 380.5 feet mean sea level), the discharge water exits from the pool to the south, parallel to the shoreline and gravel bar.

The water withdrawal system is currently operational and the following documents were used to assist in the preparation of this engineer's report (refer to Appendix B for Engineering Report documents).

- Facility SPDES Permit Number NY0001333
- Impingement and Entrainment Characterization Study, (Henningson, Durham & Richardson Architecture and Engineering, P.C., In Association with HDR Engineering, Inc., March 2010)
- AES Design and Technology Construction Review, (ASA Analysis & Communication, Inc., June 2010)
- USGS Surface Water Data for USA: USGS Surface Water Daily Statistics
- Cornell University - Cayuga Lake Modelling Project, July, August, and

2.0 *GENERAL MAP OF PROJECT*

Refer to Appendix A Figures 3 through 7 for the site location map in the cooling water piping schematic, system drawings and figures. Photos referenced on the drawing are located in the photo-log included as Appendix E. The water withdrawal is not a public supply withdrawal; thus, service area maps are not needed. There are no wellhead protection areas or dams associated with this lake-water withdrawal

3.0 *WATER SOURCE CAPACITY AND SYSTEM DEMAND CALCULATIONS*

3.1 *WATER SOURCE*

Cayuga Lake is one of the Finger Lakes, located within Seneca, Cayuga, and Tompkins counties in central New York. It drains a predominantly agricultural watershed; discharging to the north via the Cayuga-Seneca Canal, which is part of the Seneca-Oneida-Oswego River system that eventually drains to Lake Ontario. It is the longest and second largest by area of the Finger Lakes. The city of Ithaca is located at the southern end of the lake, and the village of Seneca Falls is located just west of the outlet at the northern terminus.

Cayuga Lake is approximately 38 miles long from south to the north, and averages about 1.75 miles wide. It is approximately 3.5 miles across at its widest point, near Aurora NY. At the Cayuga station, the lake measures about 1.6 miles across. Surface area of the lake is approximately 66.4 square miles (42,500 acres). Normal water surface elevation is 382 feet (116.4 m) above mean sea level. The maximum depth of the lake is 435 feet, and the average depth is 179 feet. Volume is estimated at 331,080 million cubic feet (9,380 million cubic meters) at a lake elevation of 381 feet.

The Cayuga Lake watershed covers about 1,620 square miles. Roughly half of that land area drains directly into the lake and its immediate tributaries, and the other half is in the Seneca and Keuka Lake watersheds, which enter Cayuga Lake via the Seneca River near the outlet. Land use within the Cayuga Lake watershed is predominantly agriculture, with areas of forest and residential development. There are 44 municipalities and six counties that are all or partially within the watershed. The watershed is home to over 120,000 people.

The water level of the lake is regulated by Mud Lock at the north end. The lake has been connected to Lake Ontario by the Erie Barge Canal system since 1828. The lake is also connected by the Seneca River to Seneca Lake. Cayuga Lake is drawn down about two feet in mid-December to minimize ice damage and for maximizing storage during the period of heavy spring runoff. Water levels are at their lowest in the winter and are allowed to rise slowly in the spring with snowmelt and runoff in anticipation of summer recreation and navigation needs.

Seneca River, which passes through the north end of the lake, is the largest tributary. The next largest tributaries, Cayuga Inlet and Fall Creek, flow into the southern portion of Cayuga Lake. Numerous small streams, intermittent streams, and gullies drain from the west and east directly to Cayuga Lake. Stream flow patterns are typically seasonal, with high flows in March and April, and low flows in August and September.

Table 1 provides a summary of annual rainfall as recorded by the National Oceanographic and Atmospheric Administration (NOAA) monitoring site over a 24-year period. The average rainfall for the area in close proximity to the Cayuga Station over this 24 year period is 39.1 inches. Please note that the years provided in Table 1 are for years when a complete data set is provided by the NOAA website.

Table 1 – Annual Rainfall Summary

Year	Rainfall (in)	Year	Rainfall (in)
2013	41.98	2000	37.96
2012	33.31	1999	31.42
2011	47.54	1996	47.57
2005	39.67	1995	34.66
2003	43.06	1994	43.44
2001	31.79	1989	36.95
		Average:	**39.11**

Estimates of Cayuga Lake's average hydraulic retention time vary from 5.1 years with Seneca River flows included (Likens 1974) to 12.8 years with Seneca River flows excluded (Oglesby 1978). Given the high probability of Seneca River flow-through at the north end of the lake, actual hydraulic retention times are likely to be greater in the southern portion of the lake basin and shorter in the northern portion.

The Cayuga facility withdraws cooling water from Cayuga Lake at a maximum withdrawal rate of 66 million gallons a day (MGD) and discharges over 99% of this water back to the lake via its cooling

system. Historically the maximum consumptive water use of the facility was approximately 0.7 MGD. Given that the power plant has shut down this consumptive use will be substantially lower still. Cayuga Lake contains 2,476,478 million gallons (MG) of water with a residence time on average of 5.1 years. Among other streams that feed Cayuga Lake, the Seneca River contributes an annual average flow of 253 MGD (per USGS gage 04232730). Past operations have not resulted in adverse impacts on lake quality or water resources.

Using the installed pump capacity and the current operations of the facility as of July 2020, Table 2 below presents the projected average water withdrawal of the facility under current operations as well as the maximum possible withdrawal.

Table 2 – Summary of Water Production Data

	Average[1]	Maximum[2]
Annual	367,920,000	24,151,320,000
Monthly (30-day)	30,240,000	2,012,610,000
Daily	1,008,000	66,168,000

[1] Based on current operation of 700 gpm house service pump, only. Water circulation pump is not operating.
[2] Based on maximum potential withdrawal of all pumps for combined 45,950 gpm

Since this is an existing water withdrawal system, further information on stream classification, safe yield analyses, passby flow calculations, and intake design and screening is not provided in this report. Because of the size of the upstream basin (1,620 square miles), a table of other water withdrawals is not provided due to the expected magnitude of such an effort. Moreover, the existing intake has not had any adverse impact on the volume of Cayuga Lake therefore, consideration of other withdrawal information would not be expected to affect the intake's existence or its withdrawal volumes as over 99% of this volume is returned to the lake.

There is no need for a separate, more detailed supply evaluation report, given the reliability of the information source(s) cited and that >99% of the cooling water used by Cayuga Station is returned to Cayuga Lake.

The maximum cooling water flow of 66 MGD taken in by a cooling water pump (see Section 3.3 for further discussion of withdrawal rates) constitutes approximately 1.0% of the volume annually of the lake. This flow is returned from generating units to Cayuga Lake through a single outfall at a maximum temperature of 98 °F as conditionally required by the facility's state pollutant discharge elimination system (SPDES) permit (ID No. NY0001333)

3.2 *WITHDRAWAL CONFIGURATION*

Water is obtained from Cayuga Lake using an existing intake pipe located at the lake bottom that supplies water for the cooling system as well as other facility water uses. The steel intake pipe is 8 feet in diameter and extends over outward into the lake. Water enters the intake pipe via an array of brush cleaned wedge-wire screens situated 633 feet from shore at a depth of approximately 44 feet. This screened intake system replaced the previous intake arrangement in 2016. Water exiting the cooling system is discharged into a concrete discharge tunnel, leading to an existing 8 foot steel pipe extending to the lakeshore.

Cooling water was previously used for the power generation system, where water withdrawal was driven by four 350 horsepower (HP) pumps, each rated at 42,250 gpm. One of the existing pumps or equivalent installed pump will provide water for a future cooling operation. An additional house service pump (700 gpm) contributes to water withdrawal from Cayuga Lake for purposes of ancillary facility water uses. The approximate pumping capacity was calculated based pump curve readings and falls within just over 0.5% of maximum permitted withdrawal included in the SPDES permit. Descrepencies between the two numbers could be attributed to the accuracy of reading the pump curves. Circulating water pumps are manually controlled depending on cooling water requirements.

3.3 *WATER DEMAND*

Due to the shutdown of the coal operating units,the non-contact maximum cooling water flow has been lowered to 66MGD. The cooling water demand fluctuates and is dependent upon the pumps operating. The instantaneous demand and daily maximum demand that can be supplied are the same, as it is operationally limited by pump capacity, as discussed below.

The SPDES permit provides for a maximum thermal discharge temperature of 36.7°C (98°F). The new cooling system is designed to provide once-through cooling water for a system not yet specified at a maximum withdawal rate of 42,950 gpm (45,950 gpm including withdrawal capacity of fire pumps). The rejected heat cannot be quantified as the process has not yet been specified, therefore a precise thermal balance cannot be calculated. The previously existing cooling system at the facility involved cooling water flow rates up to 169,000 gpm with rejected heat at approximately 1,392.6 MMBTU/hr, resulting in a maximum temperature rise of 16.5°F. This temperature change suggested

a maximum lake water inlet temperature of 81.5°F (27.5°C). The future cooling system is expected to have a temperature rise less than or equal to that of the previous system.

Cornell University has collected various data including temperature at depth at 9 sample points from the South end to the North end with sample point #4 & 5 labelled as South and North of the power plant. This data indicates that the highest temperatures are in late summer August - September time frame with the temperatures recorded at approximately 21°C (69.8 °F). This data indicates that the Cayuga plant will not have difficulty with maintaining compliance with the SPDES permit thermal criteria.

The projected future cooling water demand is no greater than what is provided by the current pumps. This is not a public water system; thus demand information for such a system is not included in this report. Appendix F provides the most recent annual water withdrawal reporting form.

4.0 EVALUATION OF ALTERNATIVES AND PROJECT JUSTIFICATION

Consistent with the guidance provided by the New York State Department of Environmental Conservation (NYSDEC), evaluation of alternatives and project justification are unnecessary for existing water withdrawals that were reported prior to 15 February 2012.

5.0 WATER CONSERVATION

Apart from the existing flow regulation and monitoring for piping system leaks, there is no justification for establishing additional formal programs to conserve water. This is because the application is only for non-consumptive, once-through noncontact cooling without significant evaporative or product losses. As stated earlier in this report, greater than 99% of the amount of water withdrawn from the lake is returned to the lake after use. Flow reporting is submitted to the NYSDEC monthly on the daily operating data report.

The requisite Water Conservation Form has been included in Appendix D.

6.0 OTHER APPROVALS/REQUIREMENTS

Project plans are not needed for this withdrawal, as it is an existing water withdrawal system.

Water Analyses – Cooling water flow back to the lake is independent and not sampled in combination with site stormwater, process water, and service water. Thus, there are no specific analytical data for the cooling water returns exclusively, with the exception of the SPDES permit requirements that include monitoring flow, thermal discharge requirements (e.g. intake and discharge with a 98 °F (36.7°C) maximum) and total residual chlorine during periods of chlorination, if any. It is noted that the outfall serves as the non-contact lake cooling water discharge point.

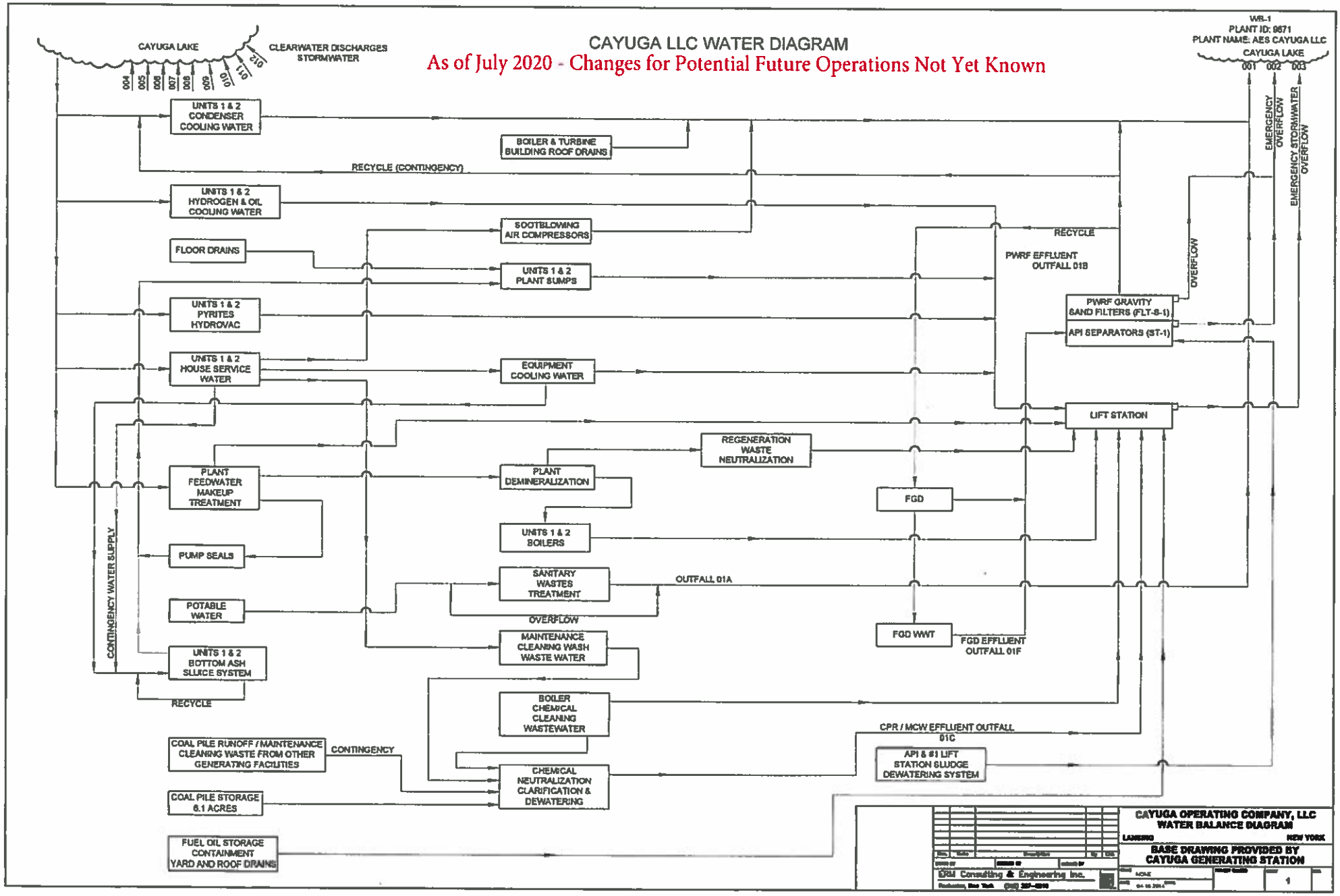
7.0 BIBLIOGRAPHY

The following documents were used to assist in the preparation of the Cayuga Station Water Withdrawal Engineering Report.

- Facility SPDES Permit Number NY0001333
- Impingement and Entrainment Characterization Study, (Henningson, Durham & Richardson Architecture and Engineering, P.C., In Association with HDR Engineering, Inc., March 2010)
- AES Design and Technology Construction Review, (ASA Analysis & Communication, Inc., June 2010)
- USGS Surface Water Data for USA: USGS Surface Water Daily Statistics
- Cornell University - Cayuga Lake Modelling Project, July, August, and September

Appendices

Appendix A
Drawings


CAYUGA LLC WATER DIAGRAM
As of July 2020 - Changes for Potential Future Operations Not Yet Known
WR-1
PLANT ID: 9671
PLANT NAME: AES CAYUGA LLC
CAYUGA LAKE
CLEARWATER DISCHARGES STORMWATER
004
005
006
007
008
009
010
011
012
001
002
003
UNITS 1 & 2 CONDENSER COOLING WATER
BOILER & TURBINE BUILDING ROOF DRAINS
RECYCLE (CONTINGENCY)
UNITS 1 & 2 HYDROGEN & OIL COOLING WATER
SOOTBLOWING AIR COMPRESSORS
FLOOR DRAINS
UNITS 1 & 2 PLANT SUMPS
RECYCLE
PWRF EFFLUENT OUTFALL 01B
OVERFLOW
EMERGENCY OVERFLOW
EMERGENCY STORMWATER OVERFLOW
UNITS 1 & 2 PYRITES HYDROVAC
PWRF GRAVITY SAND FILTERS (FLT-S-1)
API SEPARATORS (ST-1)
UNITS 1 & 2 HOUSE SERVICE WATER
EQUIPMENT COOLING WATER
LIFT STATION
REGENERATION WASTE NEUTRALIZATION
PLANT FEEDWATER MAKEUP TREATMENT
PLANT DEMINERALIZATION
FGD
UNITS 1 & 2 BOILERS
PUMP SEALS
SANITARY WASTES TREATMENT
OUTFALL 01A
POTABLE WATER
OVERFLOW
FGD WWT
FGD EFFLUENT OUTFALL 01F
MAINTENANCE CLEANING WASH WASTE WATER
CONTINGENCY WATER SUPPLY
UNITS 1 & 2 BOTTOM ASH SLUICE SYSTEM
RECYCLE
BOILER CHEMICAL CLEANING WASTEWATER
CPR / MCW EFFLUENT OUTFALL 01C
COAL PILE RUNOFF / MAINTENANCE CLEANING WASTE FROM OTHER GENERATING FACILITIES
CONTINGENCY
API & #1 LIFT STATION SLUDGE DEWATERING SYSTEM
CHEMICAL NEUTRALIZATION CLARIFICATION & DEWATERING
COAL PILE STORAGE 6.1 ACRES
FUEL OIL STORAGE CONTAINMENT YARD AND ROOF DRAINS
CAYUGA OPERATING COMPANY, LLC
WATER BALANCE DIAGRAM
LANSING NEW YORK
BASE DRAWING PROVIDED BY CAYUGA GENERATING STATION
CRM Consulting & Engineering Inc.
NONE
1

CAYUGA STATION CORPORATION PUMP HOUSE PUMP DATA

PUMP	GPM	HEAD (FT)	RPM	EFF	BHP	MOTOR HP	AMP	VOLTAGE
P-1	42,500	28	270	88	340	350	52	4160
P-2	42,500	28	270	88	340	350	52	4160
P-3	42,500	28	270	88	340	350	52	4160
P-4	42,500	28	270	88	340	350	52	4160

As of July 2020 - Changes for Potential Future Operations Not Yet Known

SWITCH YARD

WAREHOUSE

COAL RECYCLING HOPPER

COAL PILE

COAL CONVEYOR #2

COAL CONVEYOR #1

CAYUGA STATION

WATER TREATMENT PLANT

TURBINE GENERATOR #2

10

TURBINE GENERATOR #1

CONDENSER #2

CONDENSER #1

9 8

FGD PLANT

BOILER #2

BOILER #1

1 2 3 4 5 6

UNIT# 2 PUMPS

UNIT# 1 PUMPS

PUMP HOUSE

ESP

ESP

SAND FILTER BED

BAR SCREENS

11

TRACK HOPPER HOUSE

12 ② 8'Ø DISCHARGE

①

CAYUGA LAKE

② OUTFALL 001 DISCHARGE TO RIVER

① SUBMERGED INTAKE LOCATED 526 FEET OFF SHORE

① 8'Ø SUBMERGED INTAKE LOCATED 526 FEET OFF SHORE

AERIAL

LEGEND

5' Ø INTAKE PIPE 640' LONG

5' Ø DISCHARGE PIPE 156' LONG

KEY NOTES:

① REFER TO FIGURE 3

② REFER TO FIGURE 4

[X] REFER TO PHOTOLOG

CAYUGA OPERATING COMPANY, LLC

LANSING NY

COOLING WATER PIPING SCHEMATIC

ERM CONSULTING & ENGINEERING, INC.

HOME

24757

2

A

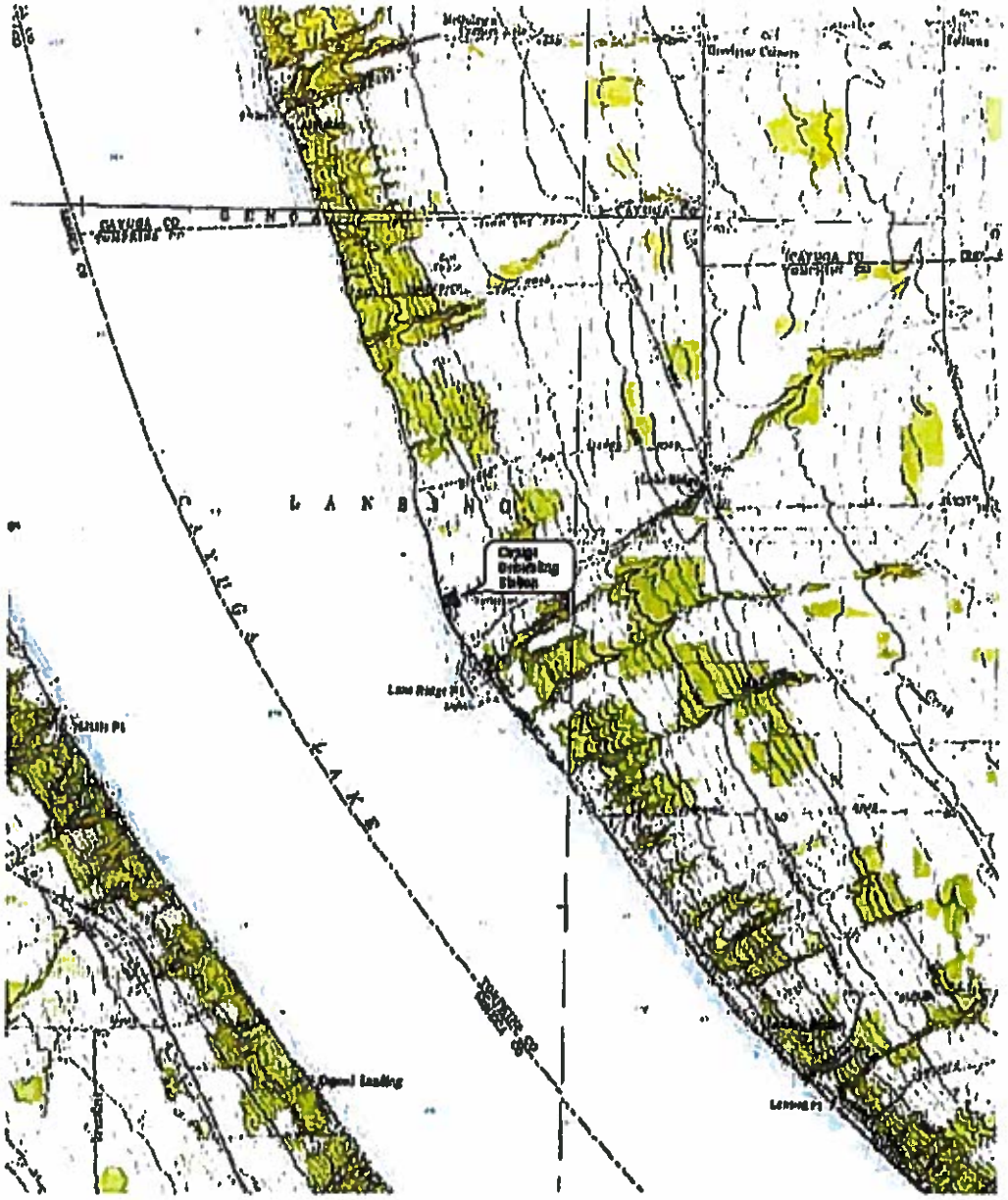


Figure-3 Topographic map of area surrounding AES Cayuga (USGS, Binghamton West 7.5-minute quadrangle, 1976)

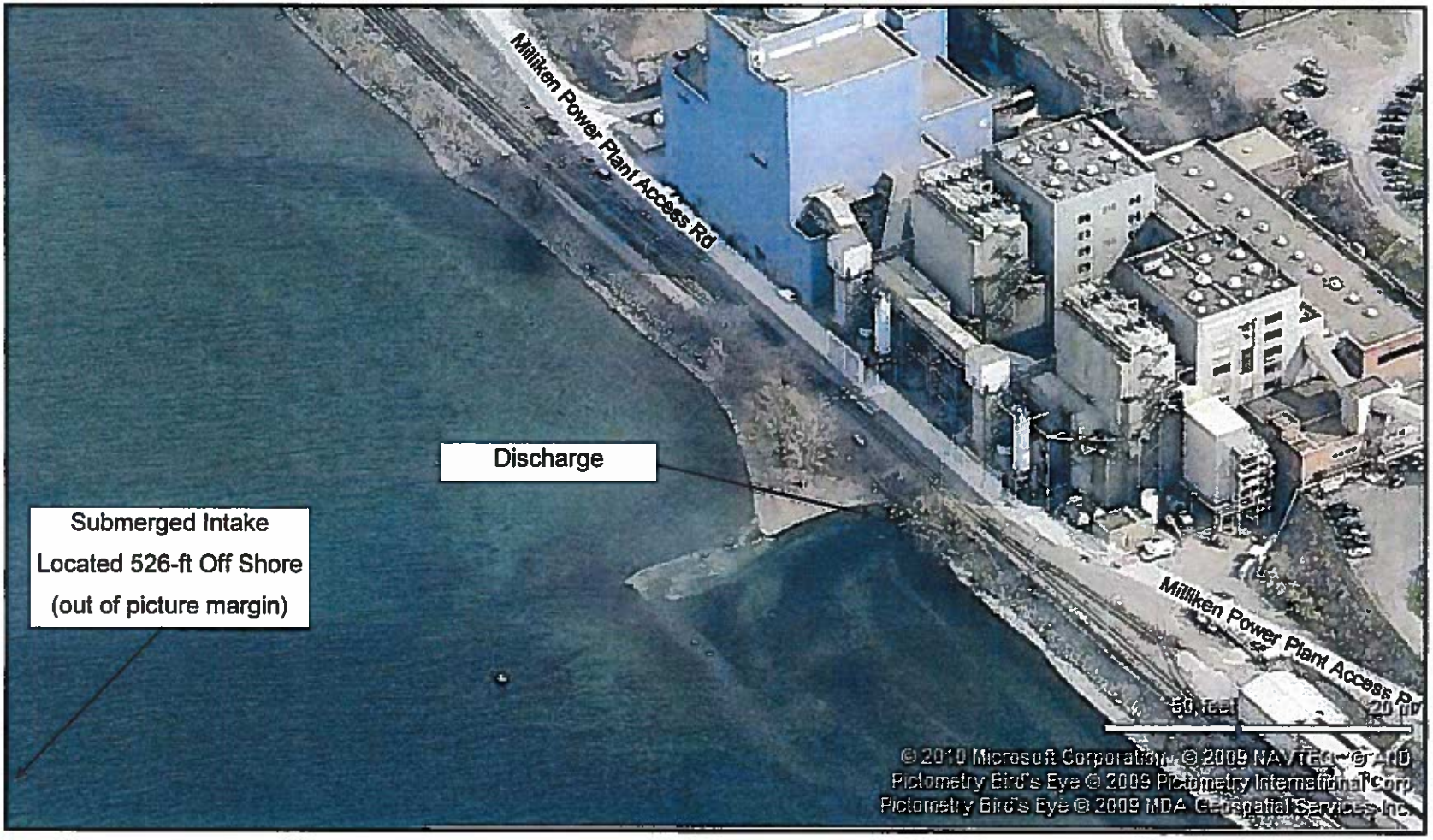
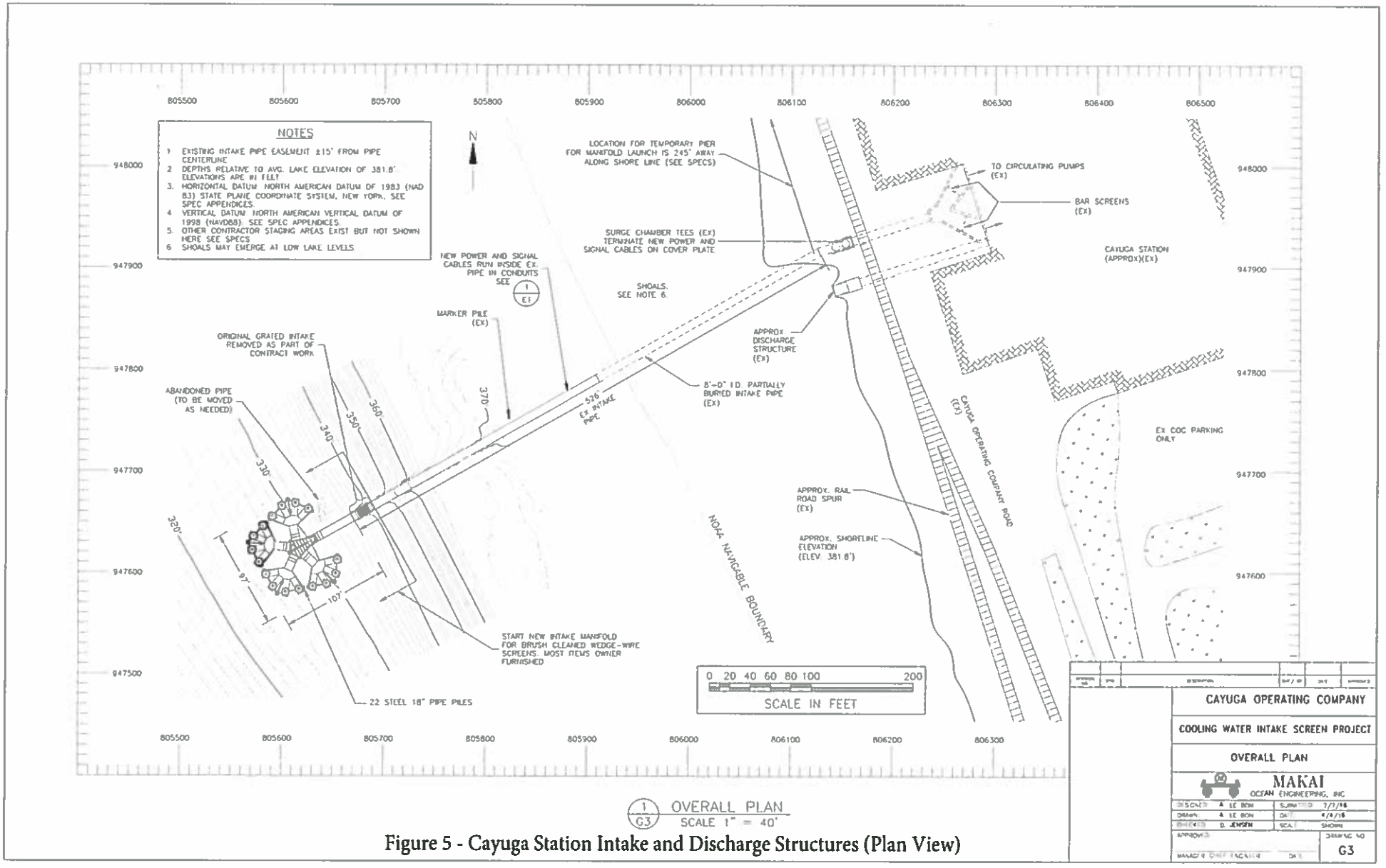


Figure-4 - Cayuga Station



1 / G3 OVERALL PLAN
SCALE 1" = 40'

Figure 5 - Cayuga Station Intake and Discharge Structures (Plan View)

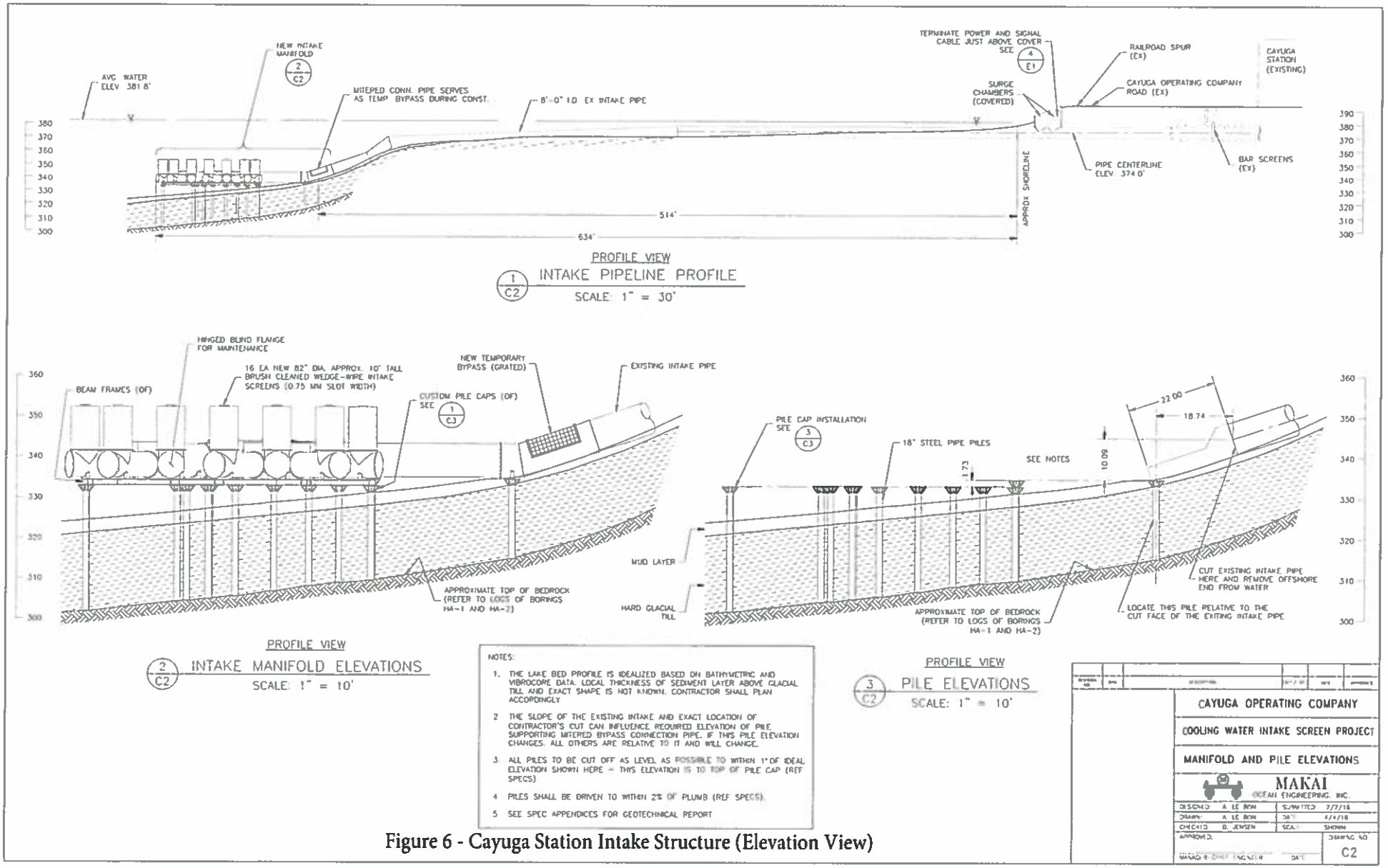


Figure 6 - Cayuga Station Intake Structure (Elevation View)

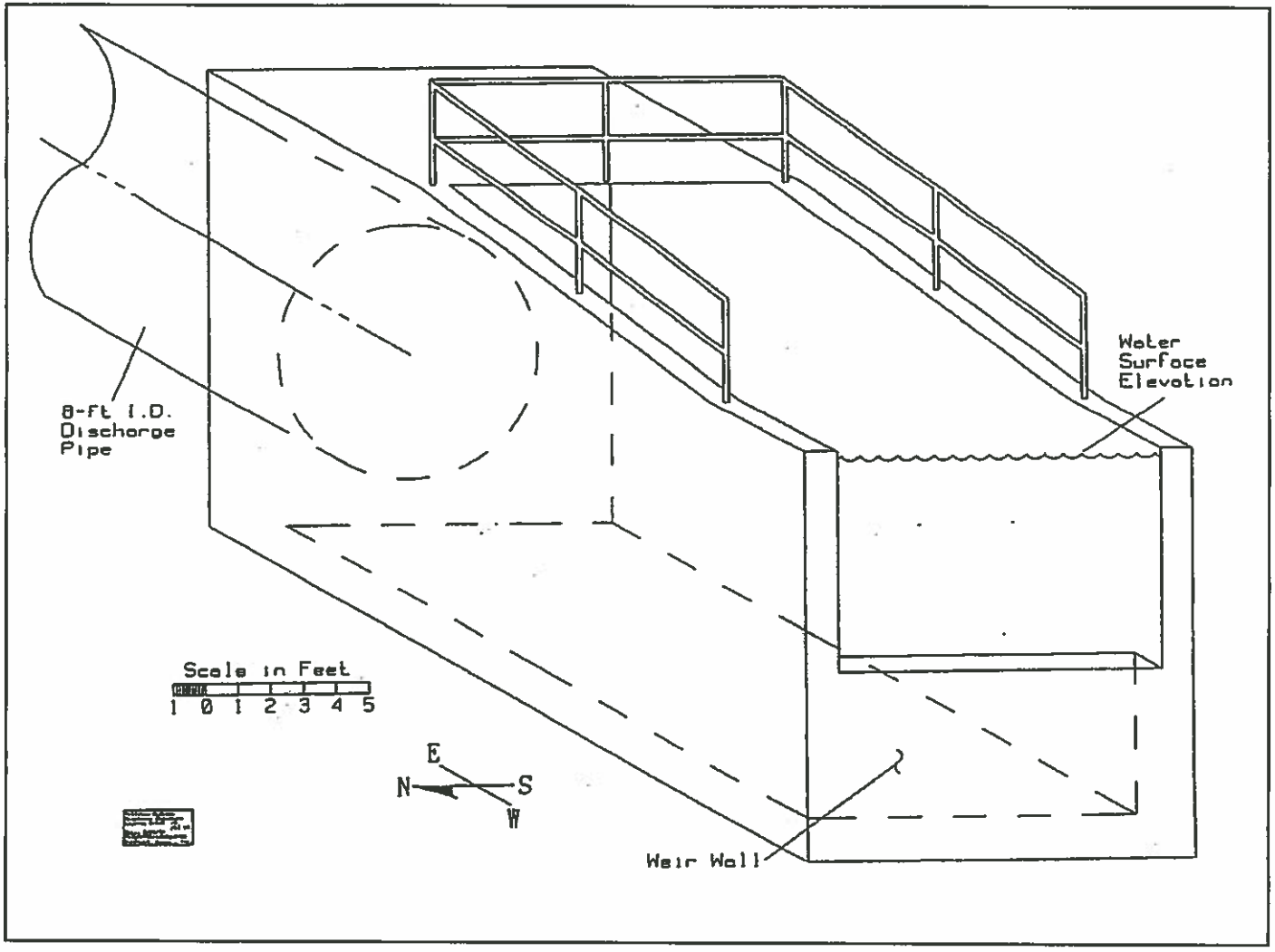


Figure-7 - Cayuga Station Discharge Structure

Appendix B
Engineering Report Documents

2013 Cayuga Lake Map

Site Numbers and Description

Site 9: 2.3 mi N of Frontenac Island

Site 8: 2.5 mi S of Union Springs

Site 7: 2.1 mi W Aurora

Site 6: 1.1 mi N of Sheldrake Pt.

Site 5: 1.8 mi N of Milliken Power Plant

Site 4: 1.6 mi S of Milliken Power Plant

Site 3: ~ 0.5 mi NE of Taughannock Park Marina

Site 2: 0.9 mi NW of Cornell Sailing Club

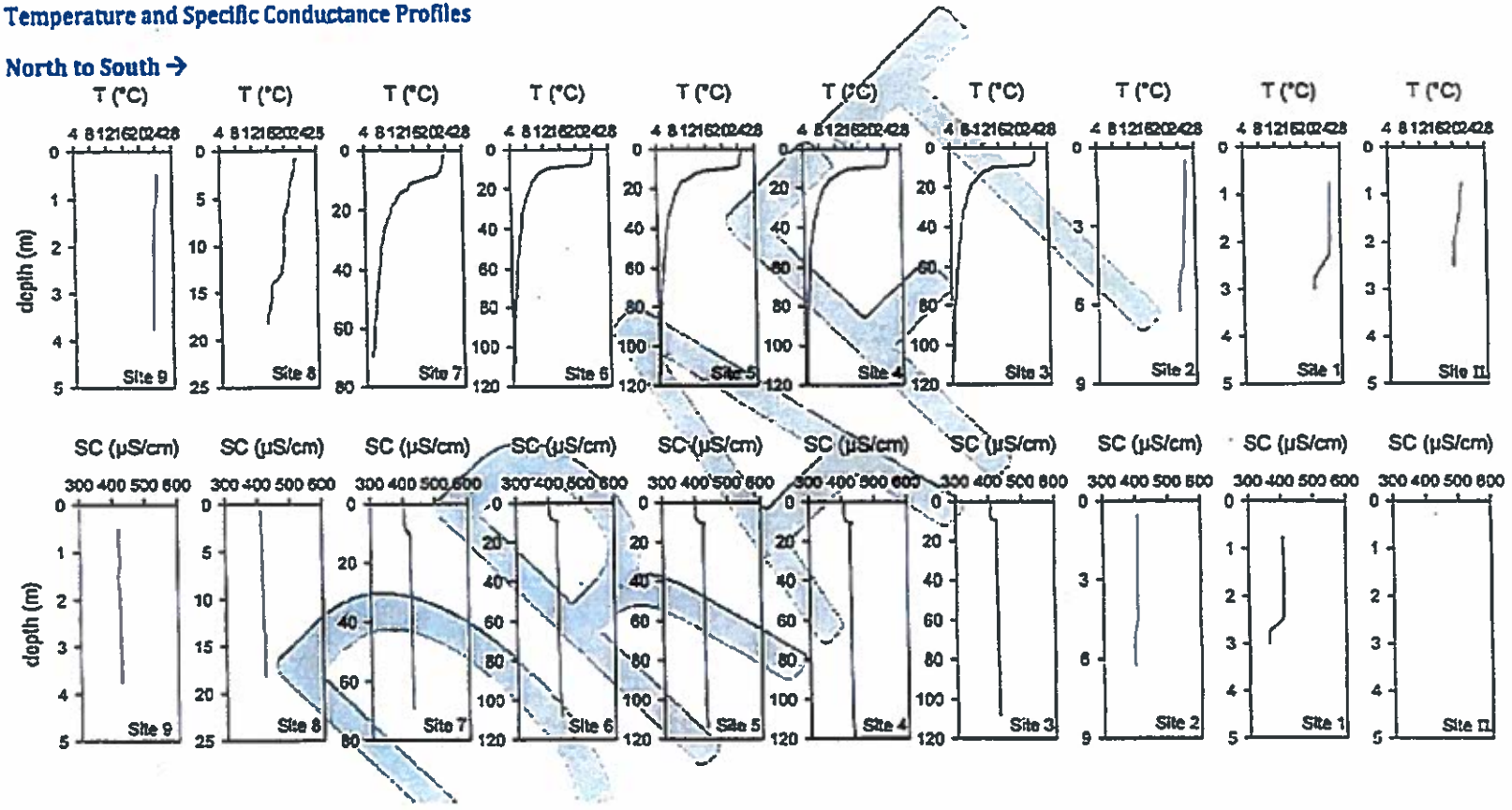
Site 1: 0.6 mi N of Allan H. Treman Marina

Site IL: ~across from Allan H. Treman Launch Area

September 3, 2013 Lake-Wide Survey

Temperature and Specific Conductance Profiles

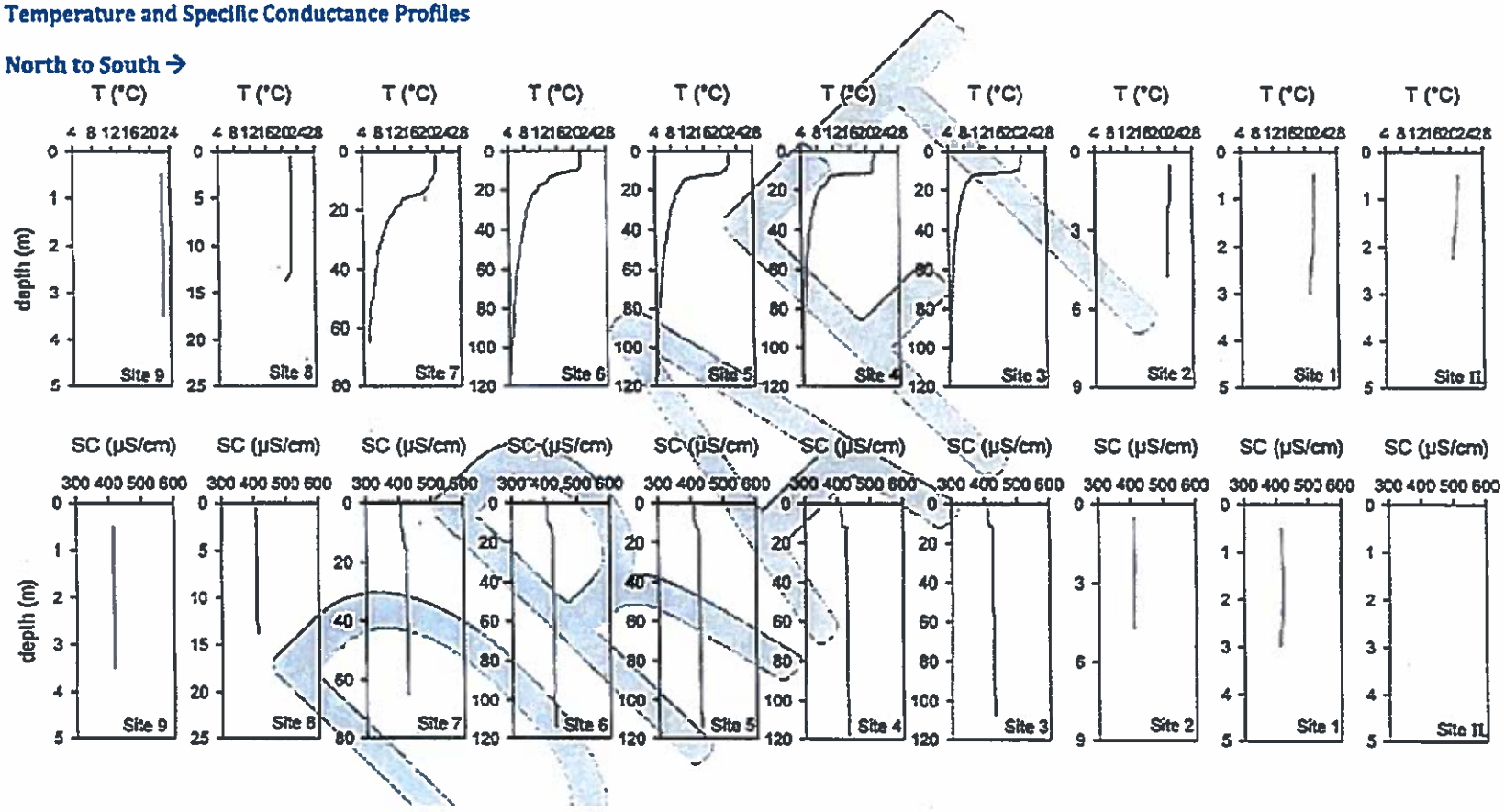
North to South →



July 25, 2013 Lake-Wide Survey

Temperature and Specific Conductance Profiles

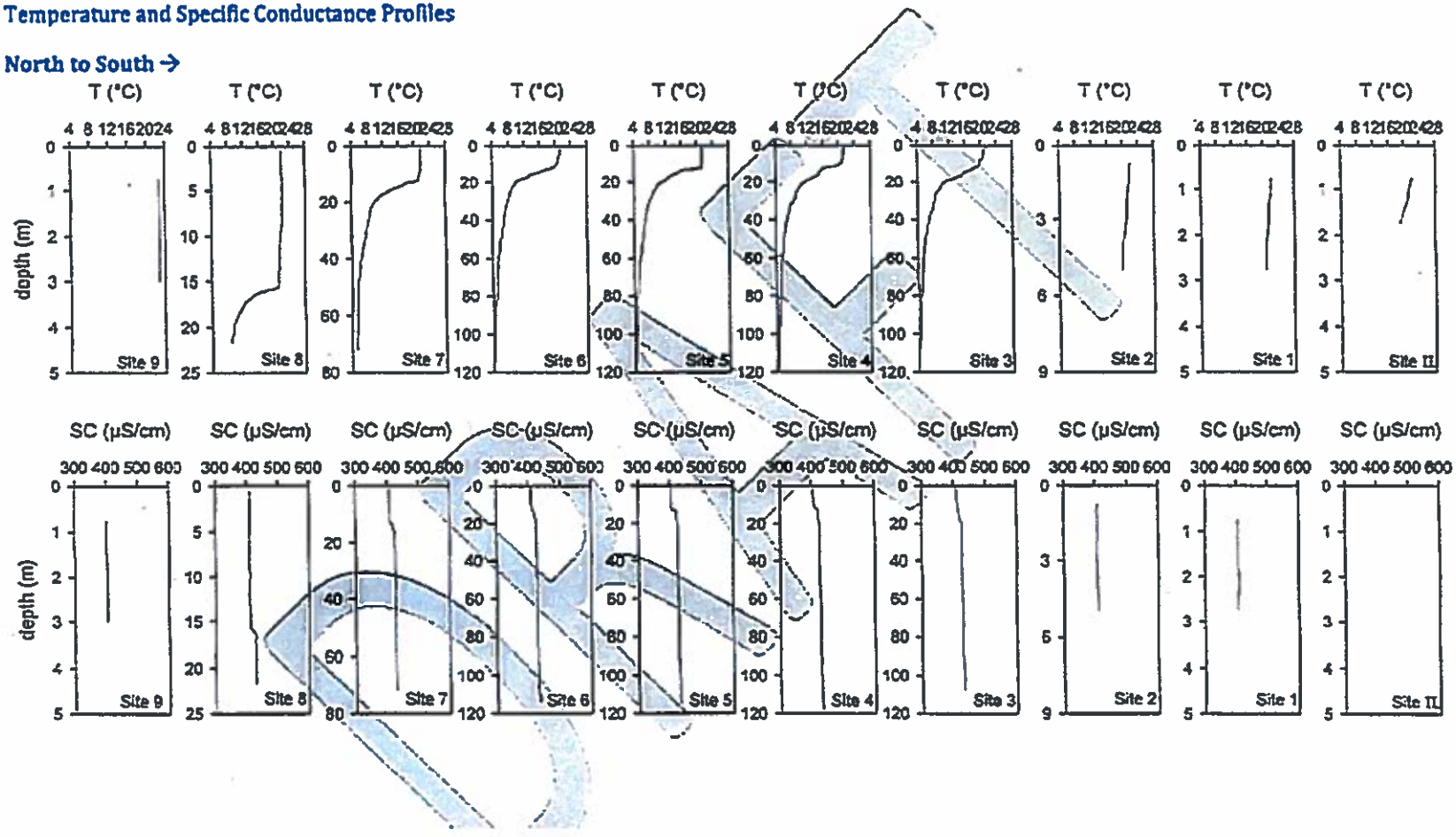
North to South →



August 6, 2013 Lake-Wide Survey

Temperature and Specific Conductance Profiles

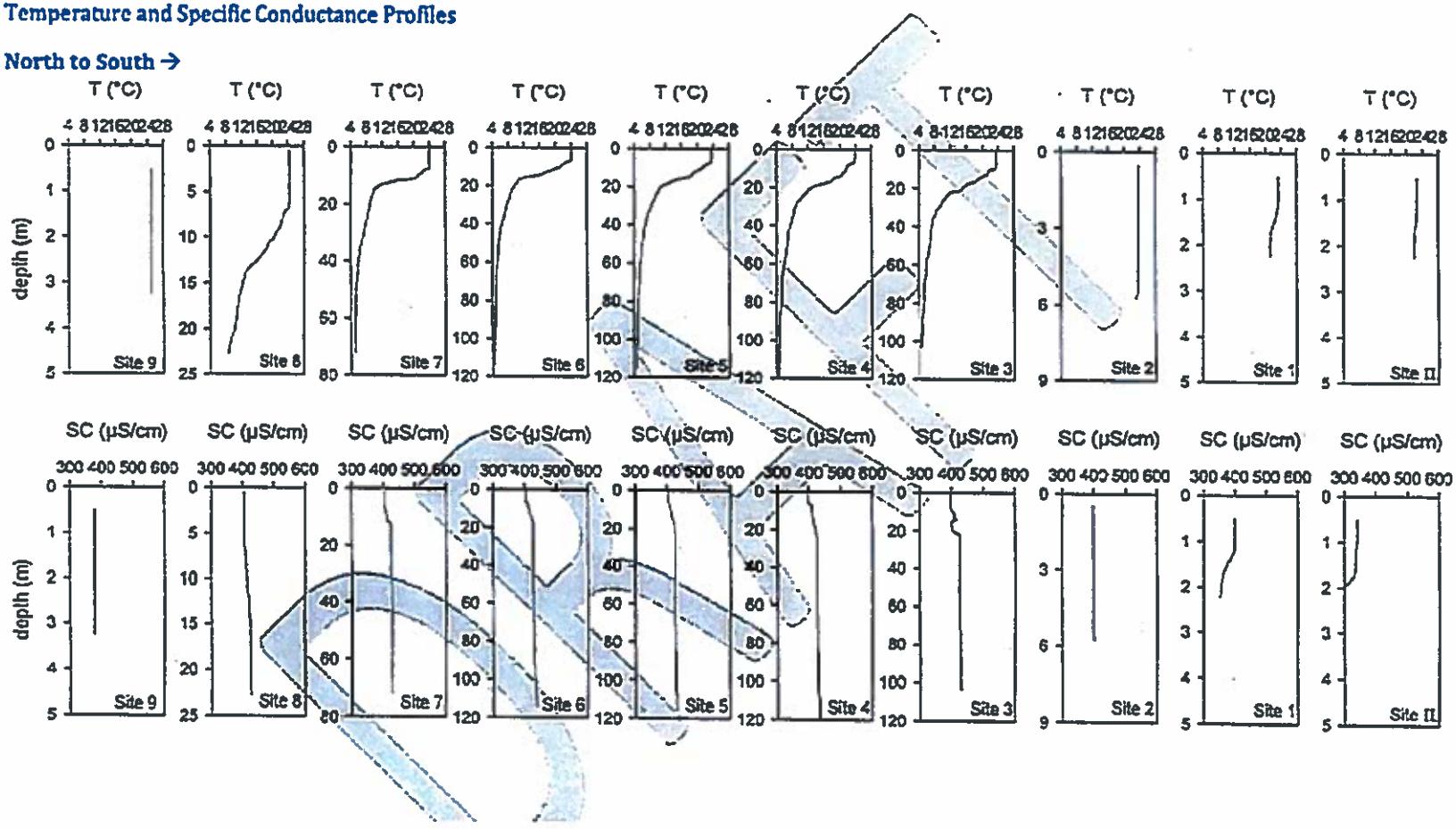
North to South →



August 20, 2013 Lake-Wide Survey

Temperature and Specific Conductance Profiles

North to South →



September 3, 2013 Lake-Wide Survey

NEW YORK STATE ELECTRIC & GAS CORP.
MILLIKEN STATION UNIT NO. 2
CONDENSER CIRCULATING WATER PUMPS

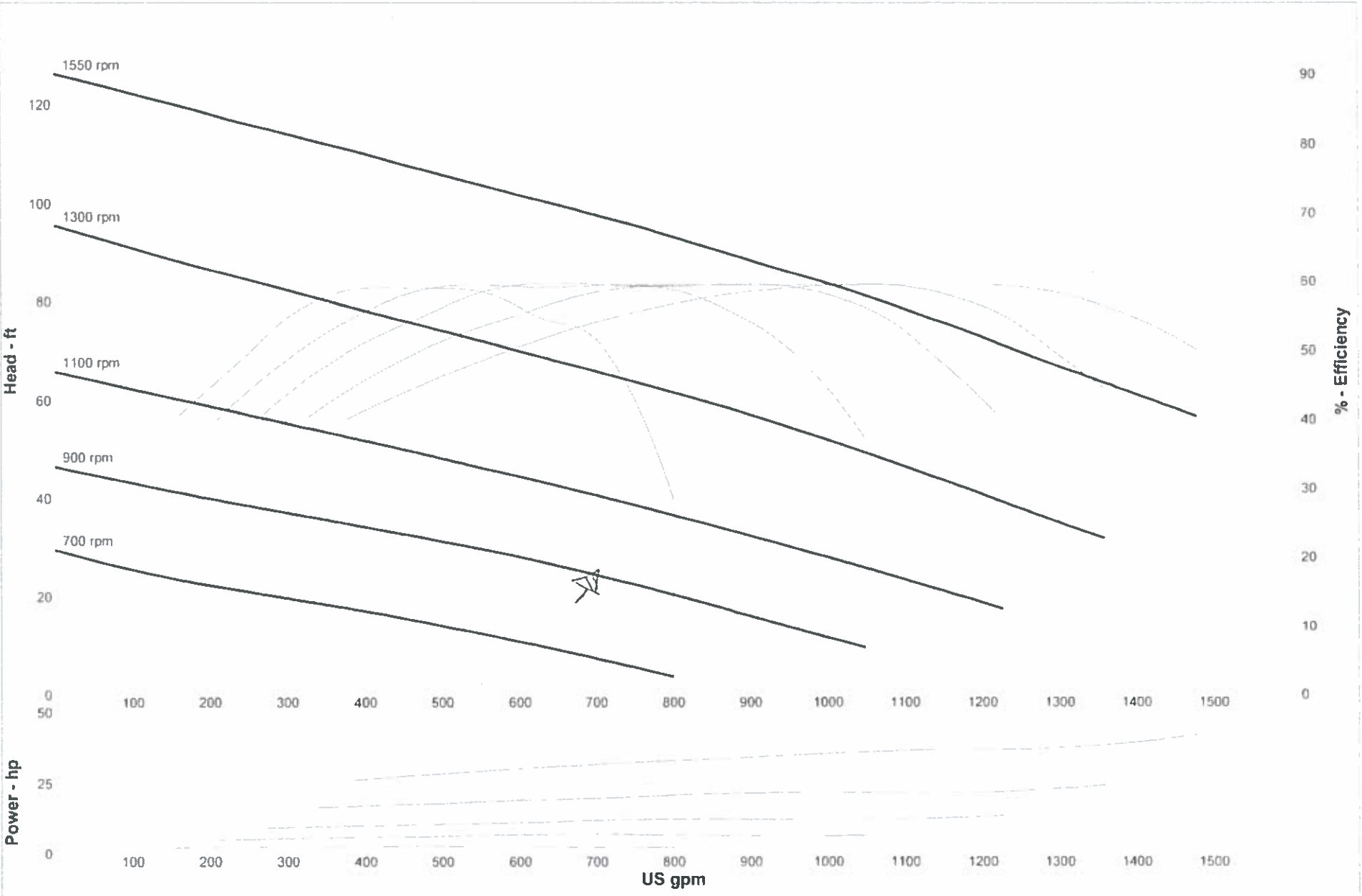
MILLIKEN NO.2UNIT

1958 Issue

GILBERT ASSOCIATES, INC.

H-3084

II - 3084



Company: SUMMIT PUMP, INC
Name:
12/3/2007

Summit
Calalog: Summit SN, Vers 1
SN - Adjustable

Size. SN06A
Speed: 700 - 1550 rpm
Dia: 12.375 in

SUMMIT™
PUMP, Inc

Appendix C
Joint Application Form

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State

US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. Applications To:

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☑ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☐ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☐ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☐ Yes ☐ No

If yes, name of Federal Agency:

General Permit Type(s), if known:

Preconstruction Notification: ☐ Yes ☐ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:

- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. Name of Applicant

Cayuga Operating Company

Taxpayer ID (if applicant is NOT an individual): 80-0807642

Mailing Address: 228 Cayuga Drive

Post Office / City: Lansing

State: NY

Zip: 14882

Telephone: 607-533-7913

Email: jmarabella@heorotpower.com

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

3. Name of Property Owner (if different than Applicant)

Mailing Address

Post Office / City

State

Zip

Telephone

Email

For Agency Use Only | Agency Application Number:

4. **Name of Contact / Agent**

John Marabella

Mailing Address: 228 Cayuga Drive | Post Office / City: Lansing | State: NY | Zip: 14882

Telephone: 607-533-7913 | Email: jmarabella@heorotpower.com

5. **Project / Facility Name**

Cayuga Operating Company, LLC | Property Tax Map Section / Block / Lot Number: 11.-1-3.211 and 11.-1-3.212

Project Street Address, if applicable: 228 Cayuga Drive | Post Office / City: Lansing | State: NY | Zip: 14882

Provide directions and distances to roads, intersections, bridges and bodies of water

The facility is located on the eastern side of Cayuga Lake ~ 1 mile west of Ridge Road (Rout 34B).

☑ Town ☐ Village ☐ City | County: Tompkins | Stream/Waterbody Name: Cayuga Lake

Lansing

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 42 ° 36 ' 10.08 " Longitude: 76 ° 38 ' 0.96 "

6. **Project Description:** Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

The facility is a retired coal power plant. A new purpose for the facility/property has not yet been determined. The once-through cooling water system, which withdraws and returns water to/from Cayuga Lake, remains in place for potential future use. The system has capacity has been downsized to approximately 25% of the capacity when the facility operated as a coal fired electric generating facility.

b. Description of current site conditions:

The facility is a retired coal power plant. A new purpose for the facility/property has not yet been determined. The once-through cooling water system, which withdraws and returns water to/from Cayuga Lake, remains in place for potential future use.

c. Proposed site changes:

The once through cooling water system requirement has been reduced from a maximum flow rate of 169 kgpm (thousand gallons per minute) to 43 kgpm. Operations related to coal-fired electricity generation have ceased, and the facility is being repurposed to clear the way for potential future use of a different nature.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

N/A

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

N/A

f. Is tree cutting or clearing proposed? ☐ Yes If Yes, explain below. ☑ No

Timing of the proposed cutting or clearing (month/year):

Number of trees to be cut: Acreage of trees to be cleared:

g. Work methods and type of equipment to be used:

Existing once-through cooling system utilizing water from Cayuga Lake. No additional equipment required.

h. Describe the planned sequence of activities:

Site is a retired coal power plant. Once-through cooling system remains intact for use by potential operations of a not yet known future facility use.

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

N/A

j. Erosion and silt control methods that will be used to prevent water quality impacts:

N/A

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

N/A

l. Proposed use: ☐ Private ☐ Public ☑ Commercial

m. Proposed Start Date: 9/1955 Estimated Completion Date: N/A

n. Has work begun on project? ☑ Yes If Yes, explain below. ☐ No

There is an existing water withdrawal

o. Will project occupy Federal, State, or Municipal Land? ☐ Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☐ Yes If Yes, list below. ☑ No

7. **Signatures.**

Applicant and Owner (if different) must sign the application. If the applicant is the landowner, the **landowner attestation form** can be used as an electronic signature as an alternative to the signature below, if necessary. Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant | Date: 12/22/20

Applicant Must be (check all that apply): ☑ Owner ☑ Operator ☐ Lessee

Printed Name: John Marabella | Title: Director, Environmental Affairs

Signature of Owner (if different than Applicant) | Date

Printed Name | Title

Signature of Contact / Agent | Date

Printed Name | Title

For Agency Use Only — **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number

(Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name | Title

Signature | Date

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sept 2020

New York State Department of Environmental Conservation

Water Withdrawal Permit Renewal/Transfer Application WW-1 (R/T)

Pursuant to 6 NYCRR Part 601

REVIEW YOUR CURRENT PERMIT AND READ THE INSTRUCTIONS ON PAGE 2 OF THIS FORM BEFORE COMPLETING THE FORM

1. Applicant Name Cayuga Operating Company LLC **2. Facility Name** Cayuga Operating Company LLC

3. Legally Responsible Party: Cayuga Operating Company LLC

4. Applicant Is: ■ **Facility Owner** ■ **Facility Operator** ☐ **Proposed Owner (Transfer of Ownership)**

5. Change in Ownership Is a change in ownership proposed at this facility? If yes provide the date upon which the new owner will acquire the facility. ■ NO ☐ YES (Provide Date) _____

6. Facility Address 228 Cayuga Drive Lansing, NY 14882

7. WWA/WW Number 11753 **8. Permit ID Number** 7-5032-00019/00024

9. Current Permit Effective Date 1/26/2015 **10. Current Permit Expiration Date** 2/1/2021

11. Water Use Type (choose all that apply)

☐ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial
☐ Environmental ☐ Institutional ☐ Oil/Gas Production ☐ Mining ☐ Power Production
☐ Recreational ■ Industrial ☐ Agricultural ■ Other

12. Approved Sources (from current permit)

Source Name	Individual Source Capacity (GPM)	Maximum Permitted Well Field or Supply of Water (If Applicable) ☐ GPM ■ GPD
Cayuga Lake	170,139	245,000,000

13. Total Approved Withdrawal Quantity 245,000,000 ☐ **GPM** ■ **GPD**

14. Water Withdrawal System Modifications Have any modifications been made to the existing water withdrawal system (e.g., increases in system capacity, changes in sources, addition of new sources, change in use type, etc.) after issuance of the current water withdrawal permit? If yes, please explain and refer to Modification requirements on the department webpage: http://www.dec.ny.gov/lands/86935.html

☐ NO ■ YES, EXPLAIN Request decrease in approved withdrawal quantity to 66,168,000 GPD

15. Water Well Decommissioning Have any wells been abandoned or decommissioned after issuance of the current water withdrawal permit? If yes, please review the Department's Water Well Decommissioning Procedures: https://www.dec.ny.gov/lands/86955.html.

■ NO ☐ YES, EXPLAIN _____

16. New Water Service Areas (Public Water Supply Only) Have any new Water Service Areas been added after issuance of the current water withdrawal permit?

■ NO ☐ YES, EXPLAIN _____

Sept 2020

17. Supplementary Items The following items **must** be included electronically with this Application:

- Updated Water Conservation Program Form (http://www.dec.ny.gov/lands/94327.html)
- Latest Annual Water Withdrawal Reporting Form
- Copy of Current Water Withdrawal Permit
- Copy of Current Engineering Report

Name of Company/Legally Responsible Party for the Facility: Cayuga Operating Company LLC

Legally Responsible Party Address: 228 Cayuga Drive Lansing, NY 14882

Printed Name of Representative: John Marabella

Title of Representative: Director, Environmental Affairs

CERTIFICATION STATEMENT: I hereby certify that the information provided on this application and all reports and information submitted in association with this application are true to the best of my knowledge and belief. I understand that false statements made in this application and in any reports or information associated with this application are made under penalty of perjury and that they are punishable under section 210.45 of the New York State Penal Law.

Representative Signature _____ **Date** 12/22/20

INSTRUCTIONS

Water Withdrawal Permit Renewal/Transfer Application WW-1 (R/T)

- Before completing this form, please carefully review the Water Withdrawal Permit Program page located on the Department's website at: http://www.dec.ny.gov/lands/86935.html (non-agricultural facilities) and: http://www.dec.ny.gov/lands/86747.html (agricultural facilities).
- **Applicant Name (Item 1)** – Applications must be made in the name of the owner or operator of the water withdrawal system involved. For acquisitions of existing systems, the applicant should be the prospective owner.
- **Legally Responsible Party (Item 3)** – Legally responsible party means a business entity or applicant legally accountable for undertaking a permitted action in accordance with the provisions and conditions of a permit, or a business entity or applicant legally accountable for the content of an application.
- **Approved Sources (Item 12) –** List all sources that are included on the current water withdrawal permit for your facility.
- **Total Approved Withdrawal Quantity (Item 13)** – List the approved water withdrawal quantity listed in the Source Approval Table on the current water withdrawal permit for your facility.
- **Water Withdrawal System Modifications (Item 14)** – Water withdrawal system modifications include but are not limited to: addition of new pumps, increasing pump capacity, adding temporary portable pumps, increasing or changing well diameter, changing well location, adding new sources of water withdrawal, changing water use type. If you are unsure if a modification has taken place after issuance of the current water withdrawal permit, please contact the Department.

  Please note that if the facility is planning on making modifications to the existing water withdrawal system in the future, a **modification** must be applied for **before** making any changes to the water withdrawal system. For more information on permit modifications please view the following webpage: http://www.dec.ny.gov/lands/86935.html
- **How to Submit Electronic Documents (Item 17) –** Please send all documents electronically to your local Regional Permit Administrator: https://www.dec.ny.gov/about/39381.html **and** Central Office Permits Staff at: deppermitting@dec.ny.gov

  Note that this form and supplementary items may be printed, signed, scanned, and submitted by email if necessary. If you are having difficulty submitting documents electronically, please contact your local Regional Permit Administrator for information on how to submit paper copies.
- **Legally Responsible Party Representative (Signature Box) –** The legally responsible party representative is: **1)** For a corporation - the president, secretary, treasurer, or vice president of the corporation in charge of a principal business function; or other responsible corporate officer as specified in 6 NYCRR 601.22(a)(1)(i) or (ii); **2)** For a partnership or sole proprietorship - general partner or proprietor, respectively; **3)** For a municipality, State, Federal or other public agency - the principal executive officer or ranking elected official. For a Federal agency, the principal executive officer includes the chief executive officer of the agency; or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. regional administrators of EPA).

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

Pursuant to 6 NYCRR Part 601

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

May 2013

FOR DEPARTMENT USE ONLY
Application No.
WWA Number

1. APPLICANT NAME Cayuga Operating Company, LLC **2. FACILITY NAME** Cayuga Facility

3. PROJECT TYPE ☑ Water Withdrawal ☐ New Public Water Supply Service Area or Extension ☐ Land Acquisition for Public Water Supply ☐ Change in Use of Existing Water Withdrawal

4. WATER USE TYPE ☐ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial ☑ Cooling ☐ Industrial ☐ Institutional ☐ Mine Dewatering ☐ Oil/Gas Production ☐ Power Production ☐ Recreational ☐ Other:

5. WITHDRAWAL TYPE ☑ Existing ☐ New If this is an existing public water supply, provide the most recent WSA or WWA Number:

If other than public water supply, list other existing or pending related DEC permits (e.g., SPDES, Mining, Dam):
SPDES Permit No. NY0001333

6. WATER WITHDRAWAL SOURCE ☑ Surface Water Water Body Name(s) Cayuga Lake ☐ Groundwater Nearest Surface Water Body Distance From Well (in feet)

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?
☑ No ☐ Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) ☐ Yes ☑ No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 66,168,000 gallons per day Source Name Cayuga Lake

Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html ☑ No ☐ Yes

If yes, ☐ Existing ☐ New From Basin To Basin

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) *PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)*	NA	***601.10(h)*** *ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	NA
601.10(b) *GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)*	Appendix A	***601.10(i)*** *WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	NA
601.10(c) *WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).*	NA	***601.10(j)*** *TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	NA
601.10(d) *CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)*	NA	***601.10(k)*** *PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	NA
601.10(e) *ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)*	See Eng. Report	***601.10(l)*** *CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	NA
601.10(f) *WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)*	Appendix D	***601.10(m)*** *TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	Cover Letter
601.10(g) *ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)*	Appendix F	***601.10(n)*** *GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	NA

Clear Form

Applicant Signature

Name John Marabella Date 12/22/20

Title Director, Environmental Affairs

Appendix D
Water Conservation Form

Note: Water audit values taken from calendar year 2019

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER CONSERVATION PROGRAM FORM

NON-POTABLE WATER WITHDRAWALS

TO BE COMPLETED AND SUBMITTED AS PART OF A NYSDEC WATER WITHDRAWAL PERMIT APPLICATION
***SEE PAGE 6 FOR FURTHER INTRODUCTION AND INSTRUCTION REGARDING THIS FORM**

If your water facility already has its own written water conservation program, you may submit it as a supplement to this WCPF. If your system is new, indicate the water conservation measures that will be taken when the system is completed (e.g. All sources of withdrawal will be 100% metered).

I. GENERAL SYSTEM INFORMATION

Facility Name: Cayuga Operating Company		DEC No. For Dept Use	
Street Address: 228 Cayuga Drive		WWA No. For Dept Use	
Post Office Box:	**County:** TOMPKINS	**State:** NY	**ZIP:** 14882
Contact Name: John Marabella			
Street Address: 228 Cayuga Drive			
Post Office Box:	**County:** TOMPKINS	**State:** NY	**ZIP:** 14882
Applicant's Telephone: 607 533-7913		**Contact's Telephone:** 607 533-7913	

II. SOURCES OF WATER WITHDRAWAL

[State capacity and withdrawal in gallons per minute (**gpm**), gallons per day (**gpd**), or million gallons per day (**mgd**).]

Source Type: S = Surface supply, G = Groundwater supply, P = Purchased supply
Source Status: R = Regular use, S = Standby use, E = Emergency use, I = Inactive, D = Decommissioned

Source Name	Source Type	Source Status	Tested Capacity	Actual Current Withdrawal	Start-up Year
CAYUGA LAKE	S	R	66 mgd	1 mgd	1955

III. WATER SOURCES AND METERING

For unmetered systems, please provide your best estimates for water production and/or consumption.

Are all sources of supply (including major interconnections) equipped with master meters? No
How often are they read? METERING CALCULATED BASED ON TIME AND THE PUMP RATING CURVE
How often are they calibrated? N/A
Are there secondary meters located within the facility or system? No If yes, how many?
Describe secondary metering system if applicable: N/A

Water Production for Calendar Year		
Total metered water production:	11,957,167,000	gallons per year
Average day production (total/days of use):	32,760,000	gallons per day
Maximum day production (largest single day):	123,840,000	gallons per day

What are your future goals and schedule for water metering?
NO PLANS FOR ADDITIONAL OR DIFFERENT FUTURE METERING OF THIS PRIMARILY ONCE THROUGH COOLING WATER SYSTEM

Best Management Practices:

** 100% metering of all sources of water withdrawal.*

** Source and secondary meters must be tested and calibrated annually.*

IV. WATER AUDITING

The process of conducting an audit of a water system will enable the collection of data on how much and where water enters, leaves and is used within a facility or system. Another goal of a water audit is to estimate unaccounted-for water use, which includes: Losses through leaks, improperly-functioning or inoperative system controls and unmetered sources of water. The water audit provides a system with a baseline against which water-conservation measures can be evaluated.

Do you conduct a water audit at least once each year? No If yes, please submit a copy of your latest audit in addition to completing the following section.

**** Water Audit for Calendar Year**

Total metered water production (from previous section)		Total	11,957,167,000	
Sources of Water Use	**Metered or Estimated?**			**% of Total**
Process Water	Estimated	subtract	11,957,167	0.1
Cooling Water		subtract		
Wash Water		subtract		
Sanitary		subtract		
Incorporation into Product		subtract		
Irrigation		subtract		
Other		subtract		
Other		subtract		
TOTAL UNACCOUNTED-FOR WATER		Sub-total	**11,945,209,333**	**99.9**
Unaccounted-for water breakdown	Meter under-registration	subtract		
	Unrepaired leakage	subtract		
	Other:	subtract		
** Water measurement and accounting techniques are available in NYSDEC's Water Conservation Manual, http://www.dec.ny.gov/lands/39346.html			0	

What are your future goals for water system auditing?
NO PLANS FOR ADDITIONAL OR DIFFERENT FUTURE METERING OF THIS PRIMARILY ONCE THROUGH COOLING WATER SYSTEM

Best Management Practices:

** At least once each year, a system water audit must be conducted using metered water production and consumption data to determine unaccounted-for water.*

** Keep accurate estimates of unmetered water use.*

** Quantify all authorized water uses by consumption categories.*

V. LEAK DETECTION AND REPAIR

Do you regularly survey your facility for leakage? Yes
Are leaks repaired in a timely manner? Yes
If applicable, do you regularly survey underground piping for water leakage? Yes

Total length of underground piping	Percent of piping surveyed each year	Length of pipe surveyed each year	Listening equipment used	Year of last survey	Number of leaks found	Number of leaks repaired
900	0	0	NONE			

What are your future goals for water system leak detection and repair?
CONTINUOUS LEAK INSPECTIONS WILL CONTINUE DURING DAILY OPERATIONS

Best Management Practices:

** Check any underground water distribution systems for leaks each year.*

** Fix every detectable leak as soon as possible.*

** Have an on-going system rehabilitation program.*

VI. WATER REUSE, RECYCLING AND DROUGHT PLANNING

Does your facility reuse or recycle primary use water? No If yes, describe process:
ONCE THROUGH COOLING WATER TO CAYUGA LAKE

Does your facility use reclaimed rainwater, storm water runoff or wastewater? No If yes, describe process:

Describe any equipment or processes that promote the efficient use of water by your facility:
OVER 99% OF WATER IS RETURNED TO THE LAKE

Does your system include storage tanks or ponds to meet short term water demands?
NO

Describe any actions that can be taken to reduce water use during times of drought:
BASED ON THE VOLUME OF THE WATER SOURCE, DROUGHT CONDITIONS ARE NOT ANTICIPATED. CAYUGA LAKE IS NOT IMPACTED BY LONG TERM DROUGHT. ALSO, 99% OF WATER WITHDRAWN IS RETURNED AS NON-CONTACT COOLING WATER.

What are your future goals for recycling or reducing water usage?
NONE CURRENTLY

Best Management Practices:

** Reuse or recycle water whenever possible.*

** Employ efficient irrigation techniques*

** Develop a plan to reduce water use during times of drought.*

VI. SIGNATURE PAGE AND DISCUSSION

Facility Name: Cayuga Operating Company	WWA No. For Dept Use

Signature:	Signatory: John Marrabella
Title: Director, Environmental Affairs	Date: 12/22/20

DISCUSSION:

Effective February 15, 2011, New York State Environmental Conservation Law (§ECL 15-1501) has required that all applications for a NYSDEC Water Withdrawal Permit include a water conservation program. This Water Conservation Program Form (WCPF) is a required submittal of all such applications.

The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Auditing, Leak Detection/Repair, and Water Use Reduction. The Best Management Practices listed at the bottom of each page represent DEC water conservation policy objectives and should be incorporated into your program development. Additional water conservation measures that are specific to your category of water usage should also be incorporated into your individual program.

Water withdrawal permit applicants can consult the NYSDEC publication entitled "A Survey of Methods for Implementing and Documenting Water Conservation in New York".

The American Water Works Association (AWWA) is also an excellent source of information regarding water conservation practices and procedures. Information ranging from technical manuals to online resources and tools can be found at http://www.awwa.org.

Clear Entire Form

Annual Water Withdrawal Reporting Form: At a minimum, provide the previous year's completed Annual Reporting Form that was submitted to DEC. For Initial Permit Applications, the Reporting form submitted for Operating Year 2011, submitted prior to February 15, 2012, must also be included. *See,* § 601.7

Section IV: Evaluation of Alternatives and Project Justification

Evaluation of Alternatives: Discuss all of the water source alternatives that were evaluated for this project. *See,* § 601.10(e)(3).
For Initial Permit Applications pursuant to ECL § 15-1501.9 for existing water withdrawals that were reported prior to February 15, 2012 for operating year 2011, an evaluation of alternatives and project justification are unnecessary. In general, an initial permit may only be issued for the volume reported for 2011.

Project Justification *See,* § 601.10(k).: Include a discussion of:

1. why the proposed project was selected from the evaluated alternatives;
2. why increased water conservation or efficiency measures cannot negate or reduce the need for the proposed water withdrawals;
3. why the proposed water withdrawal quantity is reasonable for the proposed use;
4. why the proposed water conservation measures are environmentally sound and economically feasible;
5. whether the proposed water supply is adequate;
6. whether the proposed project is just and equitable to other municipalities and their inhabitants in regards to present and future needs for sources of potable water;
7. whether the proposed withdrawal will result in no significant individual or cumulative adverse environmental impacts on the quantity or quality of the water source and water dependent natural resources; and
8. whether the proposed withdrawal will be consistent with all applicable municipal, state and federal laws as well as regional interstate and international agreements.

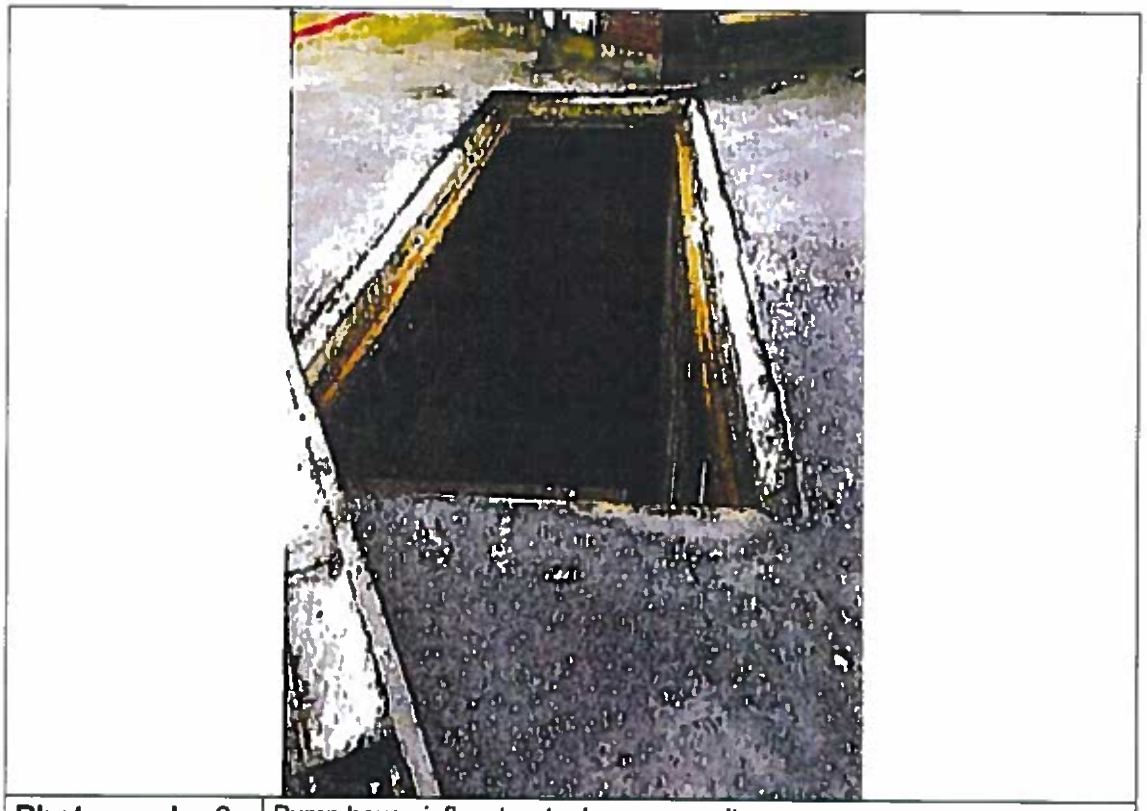
Appendix E
Photo Log

Photograph: 1	Water Circulating Pump – Only 1 of 4 remains connected

Photograph: 2	House Service Pump

ERM

Cayuga Operating Company
228 Cayuga Drive
Lansing, NY 14882



Photograph: 3	Pump house influent water bar screen pit

Photograph: 4	Outfall 001

ERM	**Cayuga Operating Company** 228 Cayuga Drive Lansing, NY 14882

Appendix F
Annual Water Withdrawal 2019

HEOROT
POWER

Cayuga Operating Company, LLC
228 Cayuga Drive
Lansing, NY 14882
Tel: 607-533-7913
Fax: 607-533-8744

March 16, 2020

New York State Department of
Environmental Conservation
Division of Water
Bureau of Water Resources Management
625 Broadway
Albany, N.Y. 12233-3508

Subject: Cayuga Operating Company, LLC
Cayuga Water Withdrawal Permit ID 7-5032-00019/00024 (WWA No. 11753)
2019 Annual Water Withdrawal Report

Dear Sir or Madam:

In accordance with Item No. 6 of the referenced Water Withdrawal Permit, enclosed is the original document of the file that was submitted via email on March 16, 2020 regarding the subject 2019 Annual Water Withdrawal Report. The received confirmation email is also attached.

If you have any questions concerning the attached documents please feel free to contact me at (607) 533-7913 ext. 2222.

Sincerely,

John C. Marabella
Environmental Director

John Marabella

From: dec.sm.AWQRSDEC <AWQRSDEC@dec.ny.gov>
Sent: Monday, March 16, 2020 3:27 PM
To: John Marabella
Subject: Automatic reply: Cayuga Operating Company - Annual Water Withdrawal Report 2019

Your e-mail has been received. Thank you

Dec. '15

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management
625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

Due by March 31st each year

Prior to filling out this form, please read the instructions on the last page

This form not for Agricultural Facilities

Section 1 of 6 - Basic Information

Facility Name: Cayuga Operating Company, LLC
Facility Street Address: 228 Cayuga Drive
Reporting Year: 2019

City: Lansing
Zip: 14882
Town: Lansing
County: Tompkins

Contact Name: John Marabella
Email: jmarabella@heorotpower.com
Telephone: (607) 533-7913

Source Name	Source Type	Well Depth	Max Rate	Units
Cayuga Lake	L		245	MGD

32.759	MGD	243.36	MGD	245	MGD
Average Day Withdrawal	Units	Maximum Day Withdrawal	Units	Maximum System Capacity or NYSDEC Permitted Withdrawal	Units

Submitted by: John Marabella
Title: Environmental Director
Date: 3/16/2020

Water Withdrawal Category
(Check One)

- ○ Agricultural - Must use form at http://www.dec.ny.gov/lands/86904.html
- ○ Bottled / Bulk Water
- ○ Commercial
- ○ Environmental
- ○ Industrial
- ○ Institutional
- ○ Mine Dewatering
- ○ Oil / Gas Production
- Power Production:
  - ◉ Fossil Fuel
  - ○ Nuclear
  - ○ Other Pwr
- ○ Public Water Supply
- Recreational:
  - ○ Golf Course
  - ○ Snow Making
  - ○ Other Rec
- ○ Other Category

Water Withdrawal Reporting Form

Section 2 of 6 - Water Use

Calculation Method: P

If multiple methods are used, choose the one that measures the greatest percentage of water in your system. E = Estimated M = Metered readings W = Flow through a weir P = Flow through a pipe or pump run times C = Pump curve calculation

Units: Must be in gallons per month	January	February	March	April	May	June
Withdrawn	1,721,557,008	1,771,963,534	1,965,752,696	30,240,000	31,248,000	419,023,329
Transferred / Imported / Purchased	48,718	46,480	51,460	37,098	25,209	24,396
Consumed	901,161	154,644	443,087	0	0	45,005
Returned	1,720,704,564	1,771,855,370	1,965,361,069	30,277,098	31,273,209	419,002,720
Diversions In / Out, if any						

For Transferred water or Diversions Out, use a negative (-) sign

Units: Must be in gallons per month	July	August	September	October	November	December
Withdrawn	2,015,817,710	3,396,355,884	512,472,340	31,248,000	30,240,000	31,248,000
Transferred / Imported / Purchased	28,041	30,697	29,707	40,297	47,707	49,297
Consumed	1,179,087	2,111,517	0	0	0	0
Returned	2,014,666,664	3,394,275,063	512,502,047	31,288,297	30,287,707	31,297,297
Diversions In / Out, if any						

Describe location of returned water: Cayuga Lake

Water Withdrawal Reporting Form

Section 3 of 6 - General Map and Interbasin Diversions

General Map Required

Please submit a map showing the location of all withdrawals and any points of return flow. Precise locations will remain confidential.

A map is not necessary if one was submitted in a previous year and no changes have occurred.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. Please ensure that the map scale is sufficient to be able to see specific locations. Designate all water withdrawal locations on the map. Add markers to locate any related dams, weirs, or diversion structures. Label the name of each point.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290. Include cover letter identifying facility owner.
- Print, scan and email to awqrsdec@dec.ny.gov
- Copy electronically and email to awqrsdec@dec.ny.gov

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, go to the DEC Major Drainage Basins map (http://www.dec.ny.gov/lands/56800.html). Then enter the basin ID by using the drop down menus under Originating and Receiving Major Drainage Basin headings below. Describe the locations of originating and receiving sites in the site description boxes (e.g. Town water intake on Route 12 at northern end of Pleasant Lake to Stony Reservoir near Bear Road).

Originating Major Drainage Basin	Receiving Major Drainage Basin
Basin Name	Basin Name
Originating Site Description	Receiving Site Description

Water Withdrawal Reporting Form

Section 4 of 6 - Water Conservation and Efficiencies

Instructions: Check one of the boxes below for EITHER Section A or Section B, as appropriate for your facility type. A list of questions pertinent to that facility type will appear. Please answer all questions.

☐ Section 4A: Public Water Supply Facilities

☒ Section 4B: Non-Public Water Supply Facilities

If the incorrect box is selected, just scroll back up a page and change selection

NOTE: All permitted water withdrawal systems must have a Water Conservation Program.

Water Withdrawal Reporting Form

Section 4B: Non-Public Water Supply Facilities

Please answer all the questions in this section

1. Are all sources of supply including major interconnections equipped with master meters? ○ Yes ◉ No

2. How many times were master meters read in the past year? 0

3. How many times were master meters calibrated in the past year? 0

4. Are there secondary meters located within the facility or system? ○ Yes ◉ No

5. Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

Regular inspections are conducted for leakage and maintenance as required. Primarily once through cooling. Withdrawal rates estimates based on pump curves. Water recycling and reuse utilized in various plant processes. Variable speed drives were installed on 1B and 2A circulating water pumps in November 2016 as part of the 316b biological requirements contained in the facility SPDES permit for impingement and entrainment reductions.

Water Withdrawal Reporting Form

Section 5 of 6 - Outside Sales to Other Water Systems or Facilities

Instructions:

Permittees must record any sales to outside water systems or facilities. If this applies to your facility, please check the box titled, "Section 5 - Outside Sales" and fill in the information requested.

If your facility does not sell water to systems or facilities other than your own, skip the section by clicking the box for "No Outside Sales".

☐ Section 5 - Outside Sales

☒ No Outside Sales

If the incorrect box is selected, just scroll back up a page and change selection

Water Withdrawal Reporting Form

Section 6 of 6 - Forward Form To NYSDEC

Unless required fields have not been filled in, the form can now be sent to NYSDEC. To send the form electronically, simply click the green box titled, "Click here to submit by email after filling out all sections of this form". Alternatively, the form can be printed and then mailed or faxed to NYSDEC at the address found on the first page.

When the form is sent by clicking the "submit by email" button, an automatic confirmation is returned. If this does not arrive within 10 minutes, please contact awqrsdec@dec.ny.gov

Click here to submit by email after filling out all sections of this form

Print Form

Print Blank Form For Handwritten Submission

Clear Entire Form

Water Withdrawal Reporting Form
Instructions & Definitions

Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal to or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn.
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Maximum Sys Capacity or Permitted Withdrawal	If permit information is unknown, contact NYSDEC at awqrsdec@dec.ny.gov or 518-402-8182. Maximum system capacity is the sum of all sources simultaneously pumping at full rate.
Calculation Method	If multiple methods are used, choose the one that measures the greatest percentage of water in your system E = estimated. M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. C = Pump curve calculation.
Withdrawn	Amount of water removed from all sources. This includes groundwater and/or surface water.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers. Irrigation is considered "consumed water".
Returned	Amount of water discharged to a water treatment system or discharged back to the environment. Irrigation is not returned water.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use the internet link available on the form and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.