RFP 2024-377 UV Disinfection Engineering Services

Report issued FOR INFORMATION ONLY. Consultants are encouraged to develop their own approach.

Oneida County WPCP UV Evaluation

Preliminary Engineering Report

Oneida County Department of Water Quality and Water Pollution Control

16 June 2023

→ The Power of Commitment

Project name		UV Disinfection Evaluation					
Document title		Oneida County WPCP UV Evaluation | Preliminary Engineering Report					
Project number		8616504					
File name		8616504-RPT-OC WPCP UV Evaluation Report.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
[Status code]		L. Derrigan/ D. Mayer			J. Story		6/16/23
[Status code]							
[Status code]							
[Status code]							
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Executive Summary

The Oneida County Sewer District (District) is administered by Oneida County (County) through the Oneida County Department of Water Quality and Water Pollution Control (WQ&WPC), which is responsible for the operation and management of the District's facilities and personnel. District facilities include 45 miles of interceptor sewers, the Sauquoit Creek Pumping Station (SCPS), the Barnes Avenue Pumping Station (BAPS), and the Oneida County Water Pollution Control Plant (WPCP). The District serves 15 municipalities throughout the County including the City of Utica.

The County and the New York State Department of Environmental Conservation (NYSDEC) entered into a Consent Order No. R620060823-67 for the mitigation of a sanitary sewer overflow (SSO) at the SCPS. The Consent Order required mitigation of the SSO at the SCPS by December 31, 2022. In addition to the Consent Order with the County, the NYSDEC required a combined sewer overflow (CSO) Long Term Control Plan (LTCP) for CSOs as part of the City of Utica's State Pollutant Discharge Elimination System (SPDES) permit. The LTCP required the City to increase its percent capture of CSO flows during wet weather. The SSO mitigation program includes upgrades to the SCPS, construction of a new forcemain between the SCPS and the WPCP, as well as upgrades at the WPCP to increase the peak influent flow capacity to 111 million gallons per day (mgd).

The WPCP is a regional wastewater treatment facility that operates under a SPDES permit with the NYSDEC. The current SPDES permit, effective April 1, 2019 and modified June 01, 2022, includes a seasonal total residual chlorine (TRC) effluent limit of 0.03 milligrams per liter (mg/L) (daily maximum) for Outfall 001 (secondary effluent) that will be effective following completion of ongoing WPCP upgrades and expansion (January 1, 2024). The 0.03 mg/L represents the method limit of the most sensitive analysis method, indicating that the WPCP will need to achieve effluent TRC equal or less than the analytical method limit. The SPDES permit also contains an interim TRC effluent limit of 0.1 mg/L during construction of the WPCP upgrades. Disinfection is required seasonally between May 1 and October 31. While the WPCP currently utilizes sodium hypochlorite and sodium bisulfite for disinfection (chlorination/dechlorination), Oneida County wishes to explore ultraviolet (UV) disinfection as an alternative due to concerns with reliably meeting the low effluent TRC limit being set as the analytical method limit, as well as rising chemical costs.

Three alternatives were evaluated for disinfection of secondary effluent at the Oneida County WPCP (Outfall 001):

1. Alternative 1 – No Action (Continued Chlorination/Dechlorination)
2. Alternative 2 – UV Disinfection
3. Alternative 3 – UV Disinfection with Photovoltaic Solar Power

Each alternative was evaluated with respect to design criteria, layout, advantages and disadvantages of the alternative, estimated probable project cost and operation and maintenance (O&M) costs, as well as other non-monetary factors.

A summary of the feasible alternatives for disinfection facilities at the Oneida County WPCP is presented in Table ES.1, including opinions of probable project cost, annual O&M costs, and the 20-year net present worth for each alternative.

Table ES.1 Cost Summary of Alternatives

Cost Component[1]	Alternative 1 – No Action/ Continued Chemical Disinfection	Alternative 2 – UV Disinfection	Alternative 3 – UV Disinfection with Photovoltaic Solar Power
Probable Project Cost	$0	$6,000,000	$7,400,000
Annual O&M Cost (rounded)	$404,000	$36,000	$38,000
20-Year Net Present Worth (rounded)[2]	$5,500,000	$6,500,000	$8,000,000

Notes: 1. All costs in 2023 dollars.
2. Based on 20 years, interest rate of 4 percent.

A comparison of the advantages and disadvantages of each alternative is presented in Table ES.2. While each alternative addresses compliance with the SPDES permit for disinfection, the UV alternatives offer a reliable solution that does not require chemicals and would eliminate the TRC effluent limit all together.

Table ES.2 Advantages and Disadvantages of Alternatives

Alternative	Advantages	Disadvantages
Alternative 1	• Addresses current regulatory compliance • Staff familiar with operation • Proven technologies	• Increased process control to ensure sufficient sodium bisulfite is dosed to achieve stringent TRC effluent limit of 0.03 mg/L • Potential for frequent permit violations due to stringent TRC effluent limit • Requires long-term purchase of sodium hypochlorite and sodium bisulfite chemicals; rising chemical costs • Potential health and safety concerns with respect to storage and handling of chemicals • Potential to produce disinfection byproducts • Sodium hypochlorite degrades over time • Use of HRD depletes chemical storage
Alternative 2	• Addresses regulatory compliance • No disinfection byproducts (Outfall 001) • Simple, low maintenance requirements • Reduces chemical purchase cost and demand • Alleviates depleted chemical storage condition caused by operation of the HRD	• High capital cost • Increased electrical power cost • Unfamiliar technology; operator training required for new technology
Alternative 3	• All advantages of Alternative 2 • Reduced or eliminated electrical cost of operating UV disinfection • Reduced net utility costs through November – April	• All disadvantages of Alternative 2 • Additional labor costs for PV maintenance • Occupies significant site area

The recommended alternative for disinfection at the Oneida County WPCP is Alternative 2, UV disinfection. While Alternative 1, continued chlorination/dechlorination has a lower 20-year net present worth cost compared to Alternative 2, mainly due to no additional capital costs, Alternative 2 eliminates the concerns with reliably meeting the effluent TRC final SPDES permit limit as TRC monitoring would no longer be required with UV disinfection. Under Alternative 2, the existing sodium hypochlorite and sodium bisulfite feed facilities would remain in operation and be utilized solely for the HRD system, but with reduced chemical demand and costs; this would also help alleviate the

concerns with chemical storage depletion during HRD operation. Alternative 3, which includes a solar PV array to help offset power costs, has a higher net present worth cost due to increased capital costs and slightly higher O&M costs due to additional labor to maintain the lawn around the solar PV panels.

Alternative 2 would include the following key modifications:

– UV system components including the UV lamp banks, cleaning system, sensors and controls, level control (finger or serpentine weir), spare lamps and parts.
– Two channels (manufacturer dependent), cast-in-place concrete UV disinfection channels constructed within each of the existing chlorine contact tanks, for a total of four channels.
– Aluminum grating, framing, and handrail to be provided for access around the channels.
– Slide gates for channel isolation.
– A small building would be constructed overtop the existing tank to provide housing and weather protection for the electrical and control equipment, spare parts, tools, and accessories associated with the UV system. A pre-engineered FRP building, or similar, would be considered.

The opinion of probable cost for constructing the recommended alternative is $6.0 million (2023 dollars). Table ES.3 presents the proposed project schedule and milestones for implementing Alternative 2. These dates are estimated based on the assumption that financing for the project is approved by April 1, 2024, and design commences in May 2024. As the WPCP will need to continue seasonal disinfection, the schedule assumes construction will take place from November 1 through April 30 to avoid the disinfection season.

Table ES.3 Proposed Project Schedule

Task/Milestone	Target Date
Basis of Design Report	September 1, 2024
Detailed Design Documents (plans, specifications to EFC)	February 1, 2025
Bid/Advertise	April 1, 2025
Construction Start/Notice to Proceed	May 5, 2025
Construction Completion	May 29, 2026

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1. Project Background and History

The Oneida County Sewer District (District) is administered by Oneida County (County) through the Oneida County Department of Water Quality and Water Pollution Control (WQ&WPC), which is responsible for the operation and management of the District's facilities and personnel. District facilities include 45 miles of interceptor sewers, the Sauquoit Creek Pumping Station (SCPS), the Barnes Avenue Pumping Station (BAPS), and the Oneida County Water Pollution Control Plant (WPCP). The District serves 15 municipalities throughout the County including the City of Utica.

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The WPCP is a regional wastewater treatment facility that operates under a SPDES permit with the NYSDEC. The current SPDES permit, effective April 1, 2019 and modified June 01, 2022, includes a seasonal total residual chlorine (TRC) effluent limit of 0.03 milligrams per liter (mg/L) (daily maximum) that will be effective following completion of ongoing WPCP upgrades and expansion. The 0.03 mg/L represents the method limit of the most sensitive analysis method, indicating that the WPCP will need to achieve effluent TRC equal or less than the analytical method limit. The SPDES permit also contains an interim TRC effluent limit of 0.1 mg/L during construction of the WPCP upgrades. Disinfection is required seasonally between May 1 and October 31. While the WPCP currently utilizes sodium hypochlorite and sodium bisulfite for disinfection (chlorination/dechlorination), Oneida County wishes to explore ultraviolet (UV) disinfection as an alternative due to concerns with reliably meeting the low effluent TRC limit being set as the analytical method limit, as well as rising chemical costs.

1.1 Site Information

The Oneida County WPCP is located in the City of Utica and is part of Oneida County, which is located in the central portion of New York State and has an area of 1,258 square miles. The WPCP site is bounded by the Mohawk River to the north, the Oneida-Herkimer Solid Waste Facility to the east, and railroad tracks to the south. Wastewater treatment tanks and buildings occupy the majority of the WPCP site. Access roads are present throughout the site to provide access to each building/treatment process. The majority of the existing impervious area is located in the center of the site and generally includes the parking lots, Administration/Operations Building, Influent Pumping Station/Screening Buildings, Grit Removal Buildings, a Blower Building, the Digester Complex/Energy Recovery Building, Lime Stabilization Building, Septage Receiving Building, and Garage. An area of light vegetation is located on the southeast corner of the site.

Figure 1.1 shows the location of the WPCP on the USGS topographic map. The existing WPCP site is relatively flat, with limited grade change. An aerial site plan of the WPCP showing the major processes is presented on Figure 1.2.

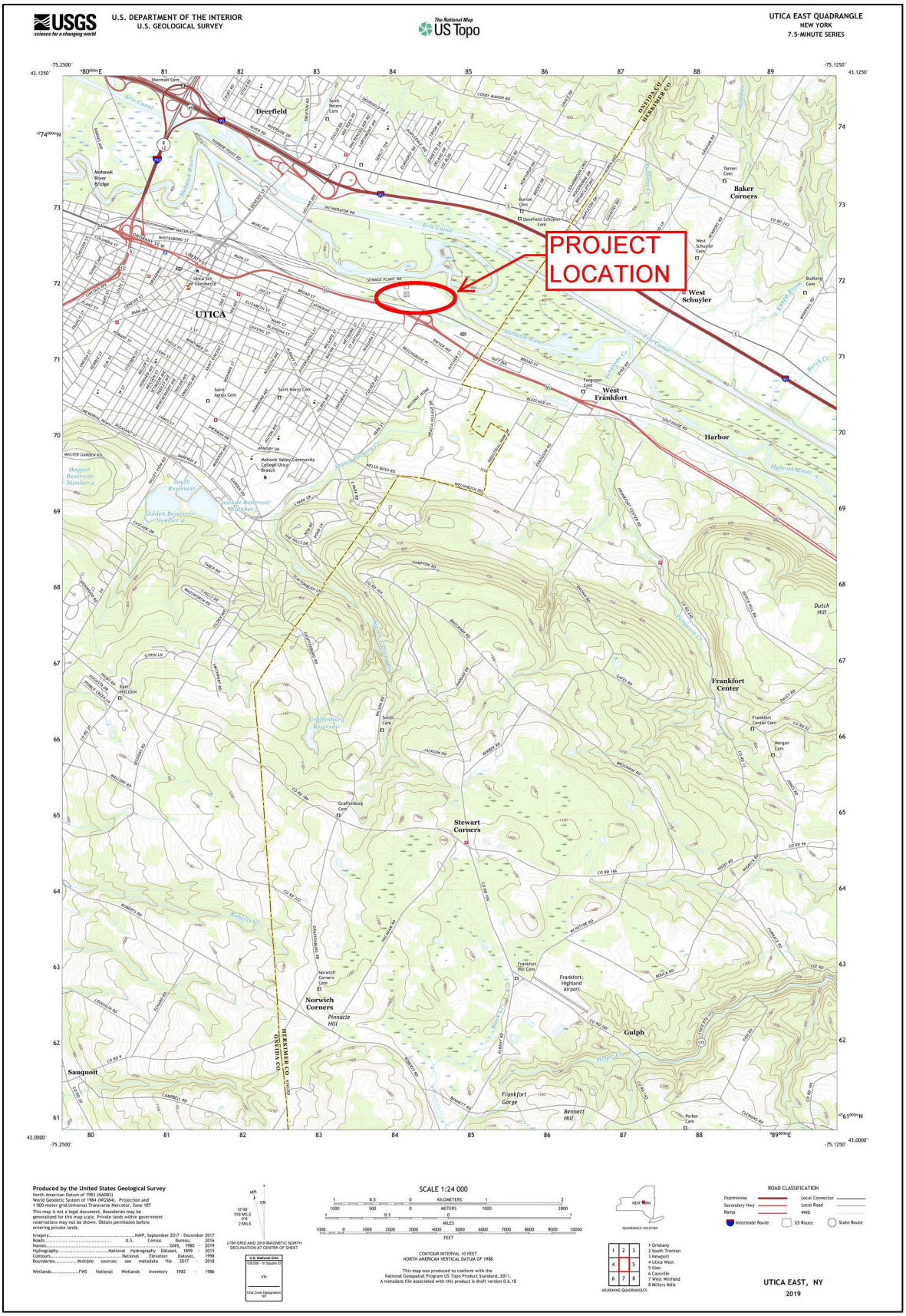

Figure 1.1 WPCP Project Location Topographic Map

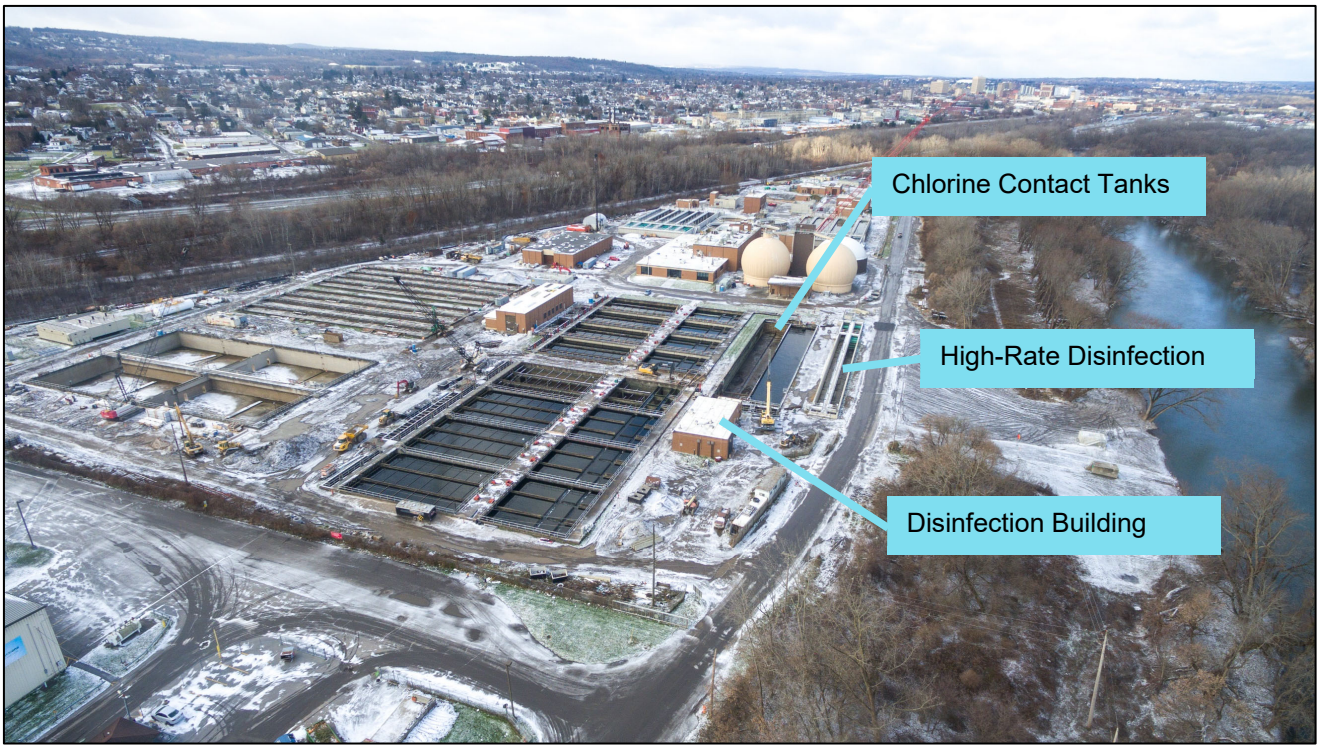

Figure 1.2 WPCP Aerial Site Plan

1.1.1 Geologic Conditions

The United States Department of Agriculture (USDA) National Resources Conservation Services (NRCS) Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx) shows the WPCP site to be approximately 9 percent Wayland soils complex, 81 percent Udorthents, and 10 percent Urban land. The topography of the area is mainly flat, consisting of slopes varying from 0 to 3 percent.

A geotechnical report for the project area was completed by an outside contractor in October 2018. The borings taken at the site indicated that no bedrock was located within a depth of 10 feet. The soil encountered in the drilling process is a glacio-lacustrine soil consisting of soft silt, clay, fine sand, and organic matter. Based on the moisture content of the recovered soil, it was determined that the groundwater table elevation is at a depth of 14 feet, though this will vary dependent on the season.

1.1.2 Environmental Resources and Floodplain Considerations

The WPCP is located adjacent to the Mohawk River, a Class C waterbody. Based on a review of the NYSDEC Environmental Resource Mapper, a small portion of the WPCP site is considered to be in the vicinity of a regulated freshwater wetland (New York State); the wetland area itself is located north of the Mohawk River. Based on previous construction activities at this site, being in the vicinity of the regulated freshwater wetland would likely not impact the proposed project in this report.

The area surrounding the WPCP is within in an area of minimal flood hazard and not located in a Federal Emergency Management Agency (FEMA) designated floodplain. See Figure 1.3 for the National Flood Hazard Layer FIRMette.

It should be noted that prior to the recent upgrades at the WPCP, the project was reviewed through the State Environmental Quality Review Act process (SEQRA). A Full Environmental Assessment Form was completed, which included an assessment of potential environmental and socio-economic impacts, as well as mitigation to reduce or eliminate those impacts. The project was determined to have no significant adverse impacts on the environment, and

a ‘Negative Declaration’ was issued. The Full Environmental Assessment Form and Negative Declaration resolution can be found in Appendices B and C, respectively.

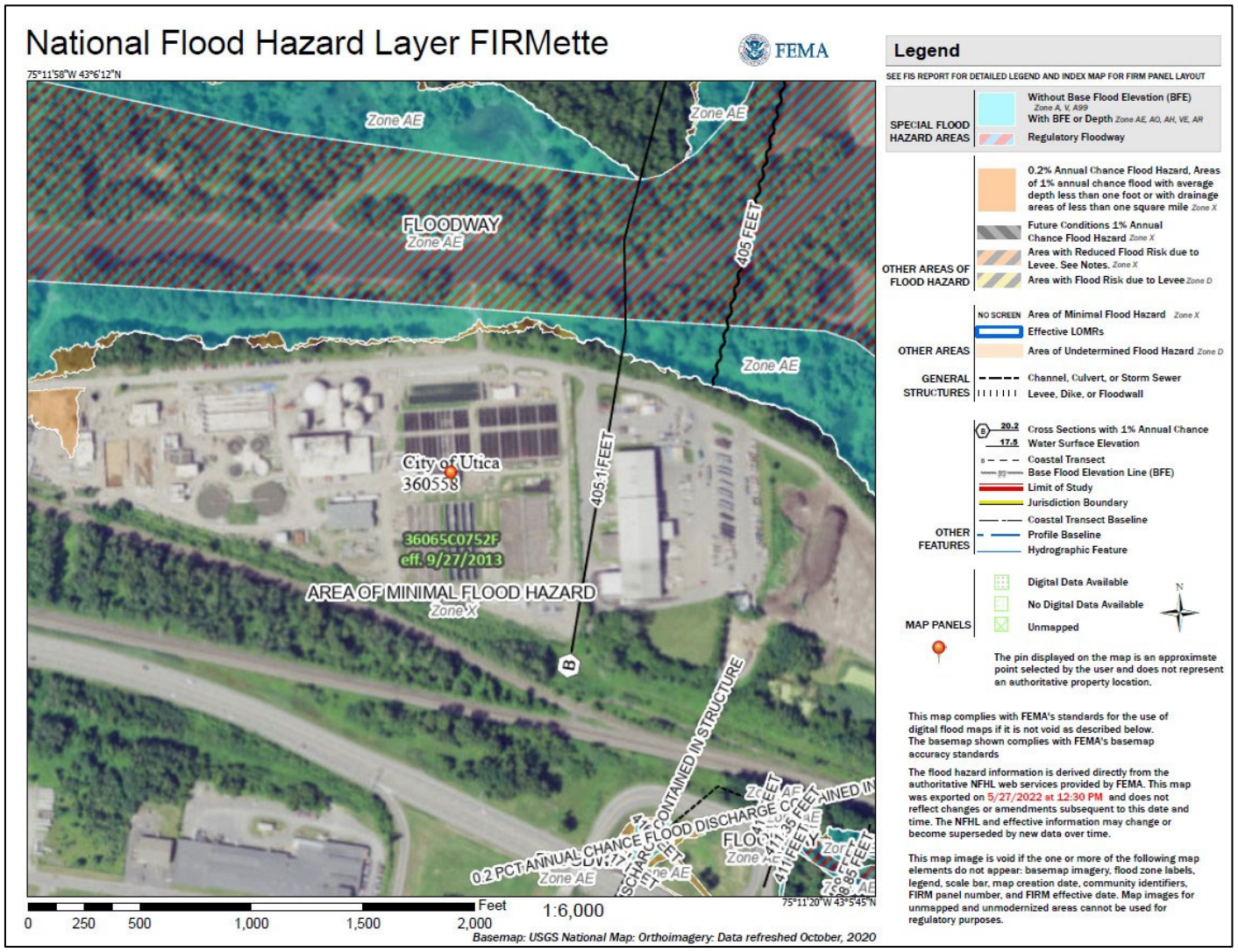

Figure 1.3 Oneida County WPCP FEMA Flood Hazard Map

1.1.3 Potential Environmental Justice Areas

The NYSDEC’s Geospatial Information System (GIS) tools were used to identify the Potential Environmental Justice Areas (PEJA) in the WPCP service area, and the resulting map is provided on Figure 1.4. While the Oneida County WPCP is not located directly in a PEJA, there are several PEJAs located in the WPCP service area, including the City of Utica, Town of Whitesboro and Village of New York Mills. The proposed UV project would have a direct beneficial impact to the PEJAs within Oneida County by improving the water quality in the Mohawk River. By installing the UV disinfection system and reaching zero TRC there will be an environmental justice benefit for local community as water quality of the Mohawk River will improve. The WPCP effluent is tributary to about one mile of the Mohawk River which is in a PEJA. This part of the river is used for recreational purposes. This project will also eliminate chemical trucking through PEJAs. The PEJA recognizes populations that meet or exceed certain statistical criteria related to percentage minority population and percentage of households with incomes below the federal poverty level.

According to the US Census Bureau, the Oneida County has a median household income (MHI) of $59,113 (2020 dollars based on the American Community Survey 5-Year Estimates, 2016-2020), compared to the New York State

average MHI of $71,117 (2020) and the United States MHI of $64,994 (2020 dollars). The US Census Bureau lists that 12.4 percent of Oneida County lives in poverty compared to the national average of 11.4 percent.

The NYSEFC has issued guidelines on hardship financing eligibility based on municipal, project and environmental justice criteria. The NYSEFC established criteria that the municipal population must be less than 300,000, and the MHI of a municipality must be less than 80 percent of the regionally adjusted MHI of $68,486 for the upstate region ($54,789) or the MHI be between 80 to 100 percent of the regionally adjusted MHI with a poverty level that is greater than the 2019 state-wide poverty of 10.4 percent, to be eligible for hardship financing. While the MHI for Oneida County ($59,113) is greater than 80 percent of the regionally adjusted MHI ($54,789), it does satisfy the alternate criteria of MHI being between 80 to 100 percent of the regionally adjusted MHI and the poverty of 12.4 percent is greater than the state-wide poverty of 10.4 percent. Oneida County's population of 230,274 (2021 estimate) is also below the 300,000-person threshold. Therefore, Oneida County may qualify for hardship financing for this project.

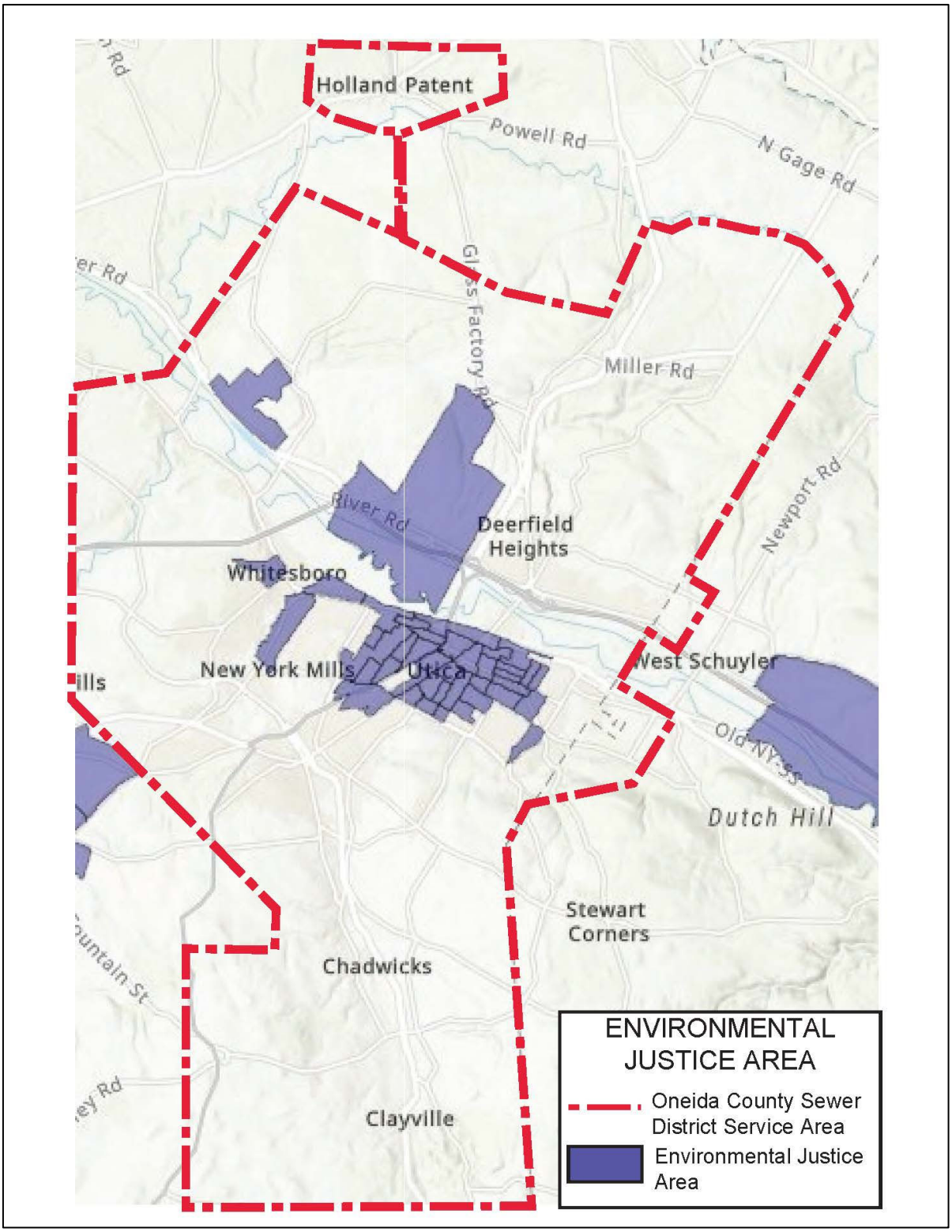

Figure 1.4 ***Potential Environmental Justice Areas in OCSD Service Area***

1.2 Ownership and Service Area

The Oneida County Sewer District was formed in 1965 through an act by the former Oneida County Board of Supervisors. It is administered by Oneida County through the Oneida County Department of Water Quality and Water Pollution Control, which is responsible for the operation and management of the District's facilities and personnel. District facilities include 45 miles of interceptor sewers, two main pump stations (SCPS and BAPS), and the County WPCP. The District serves the municipal wastewater treatment capacity needs of 15 municipalities. These include the City of Utica, the Villages of New York Mills, Yorkville, Whitesboro, Oriskany, New Hartford, Clayville, and Holland Patent, the Towns of Whitestown, New Hartford, Paris, Marcy, Deerfield, Frankfort, and Schuyler, as well as the Oneida County Business Park (and former Airport) whose sanitary sewers are owned directly by the County.

The WPCP was constructed in 1968 as a regional wastewater treatment facility. The County WPCP treats wastewater from the municipalities throughout the County, although these municipalities own and operate their own collection systems. Wastewater from the City of Utica (City) is combined sewage, while wastewater from regions other than the City includes sanitary sewage and extraneous infiltration and inflow (I/I). The WPCP is designed and operated to accept sanitary sewage, I/I, and combined sewage.

While the District's service area does not cover all of Oneida County, the historical populations of the County were examined to provide the general population trends. Table 1.1 presents the historical US Census populations since 2020. The US Census data show a declining trend in population within Oneida County over the past 21 years, with an overall decrease of 2.2 percent since 2000.

Table 1.1 Oneida County Historical Population

Year	Population	Source
2000	235,469	US Census
2010	234,878	US Census
2020	232,125	US Census
2021	230,274	US Census (estimate)

1.3 Existing Facilities and Present Condition

The WPCP was originally constructed in 1968 and has undergone several upgrades over the years. The most recent upgrades at the WPCP, which are being conducted as part of the Consent Order and LTCP, are completed or nearing completion and include:

– Solids handling upgrades
– Headworks upgrades
– Primary treatment upgrade/disinfection
– Secondary treatment process upgrades

The recent WPCP upgrades have increased the influent peak capacity to 111 million gallons per day (mgd), with up to 65 mgd receiving preliminary, primary and secondary treatment following by disinfection, and flow greater than 65 mgd receiving preliminary and primary treatment followed by high-rate disinfection (HRD). As this report is focused on disinfection of the secondary effluent, only the disinfection facilities and present condition are detailed in this section.

1.3.1 General Description

A process flow schematic of the WPCP is presented on Figure 1.5. Preliminary treatment, consisting of mechanical screening and grit removal, and primary treatment is provided in separate trains for combined sewer flows (City of Utica) and sanitary sewer flows. Flows up to 65 mgd receive secondary treatment in the activated sludge system that consists of aeration basins followed by the final clarifiers. Secondary effluent flows to the chlorine contact tank for

seasonal sodium hypochlorite addition and dechlorination using sodium bisulfite, before discharging to the Mohawk River via Outfall 001. When wet weather flows exceed 65 mgd, the combined sewer flow receives preliminary and primary treatment and is disinfected in the recently constructed HRD facility before discharging to the Mohawk River via Outfall 003.

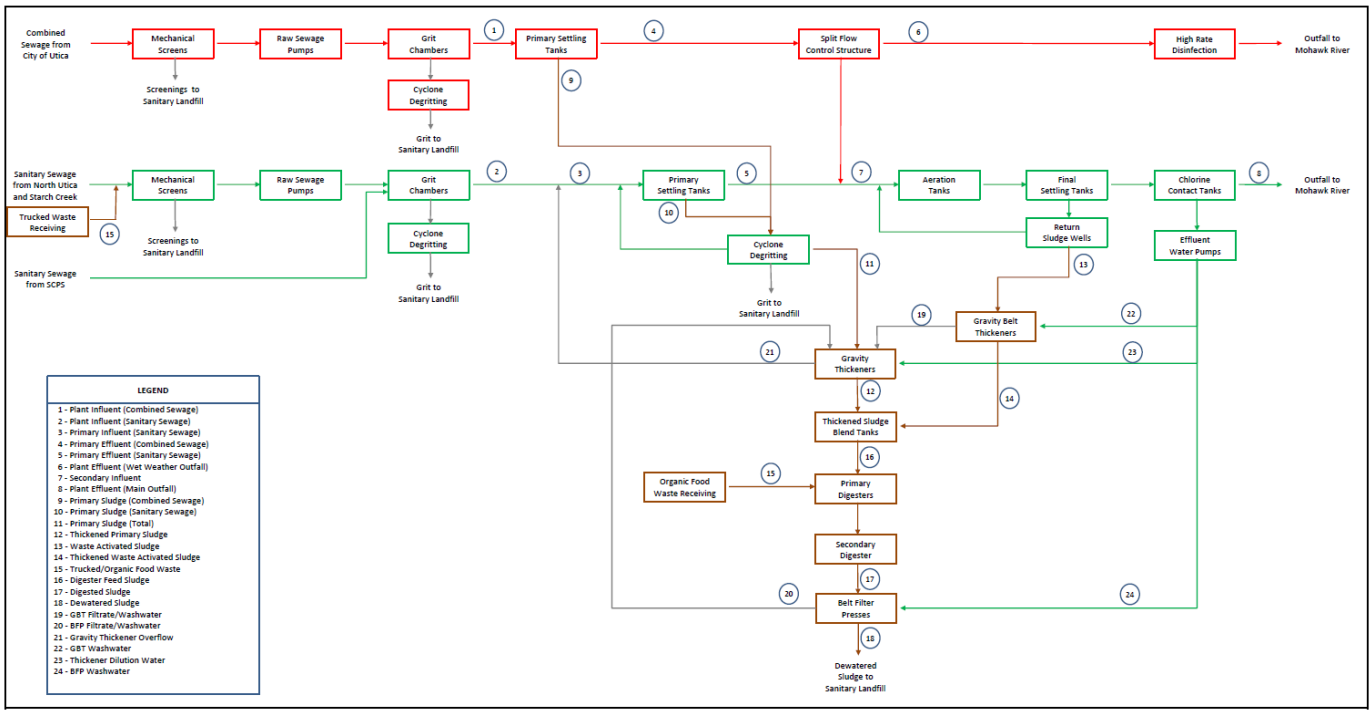

Figure 1.5 Oneida County WPCP Process Flow Schematic

Solids handling at the WPCP consists of gravity thickeners for primary sludge and gravity belt thickeners for secondary sludge. The thickened sludges are blended and digested before dewatering by belt filter presses and ultimately disposed of at a sanitary landfill.

1.3.2 SPDES Permit

The WPCP currently operates under a SPDES permit that became effective April 1, 2019 and recently was modified on June 1, 2022 (copy included in Appendix D). Under this permit, there are four permitted outfalls:

– Outfall 001 – Main outfall from the WPCP, which conveys fully treated effluent to the Mohawk River
– Outfall 001S – Separate sewer system primary treatment (internal to Outfall 001)
– Outfall 001C – Combined sewer primary treatment train (internal to Outfall 001)
– Outfall 003 – High-rate disinfection discharge to the Mohawk River

The focus of this report is the disinfection for Outfall 001, therefore, the key SPDES permit limits for flow and disinfection are summarized in Table 1.2. Outfall 001 discharges to the Mohawk River, which is classified as a Class C receiving waterbody by the NYSDEC.

Table 1.2 Summary of Key SPDES Permit Disinfection Requirements for Outfall 001

Parameter	Outfall 001
Flow, Influent(1) (12-month rolling average)	54 mgd
Flow, Influent(1) (daily maximum)	Monitor
Total Residual Chlorine(2) (Daily Maximum)	0.10 mg/L (Interim limit) **0.03 mg/L (Final limit effective January 1, 2024)**
Total Residual Chlorine(2) (30-day average)	Monitor
Fecal Coliform(2) (30-day geometric mean)	200 / 100 mL
Fecal Coliform(2) (7-day geometric mean)	400 / 100 mL
Fecal Coliform(2) (daily maximum)	Monitor
NOTE: (1) Calculated as sum of flows from Outfalls 01S and 01C effluent (2) Seasonal disinfection from May 1 through October 31 each year	

Also noted in the WPCP SPDES permit is that the water quality-based effluent limit (WQBEL) for TRC was determined to be 0.02 mg/L; however, since the WQBEL is below the method limit of the most sensitive analysis method for residual chlorine, compliance with the method limit shall be considered compliant with the WQBEL.

The SPDES permit also contains *Best Management Practices for POTW Servicing Publically Owned Sewer System(s) with Combined Sewage*, which includes maximizing flow to the POTW and requires that the treatment plant be capable of receiving and treating the peak design hydraulic loading rates, or a minimum of 65 mgd (48 mgd throughout C8 construction) through secondary treatment during wet weather.

1.3.3 Design and Existing Flows

Because this report focuses on improvements to disinfection of Outfall 001 at the WPCP, the most critical design factor is flow. Also important to certain alternatives evaluated in this report are the effluent total suspended solids (TSS) concentrations, as well as effluent TRC and fecal coliforms. Therefore, this section provides information on the historical and current design flows and effluent TSS and TRC concentrations and fecal coliform counts.

As presented in Section 1.3.2, a minimum of 65 mgd must be conveyed through secondary treatment during wet weather events. Historical influent flows and concentrations are provided in Table 1.3 based on data from January 2019 to December 2021 for the overall average, maximum monthly average, and peak day. The effluent TRC data showed compliance with the interim daily maximum limit of 0.1 mg/L for all but one day over the three-year period reviewed; however, only 42 percent of the data reviewed were less than the final limit of 0.03 mg/L. This suggests that consistently achieving the final limit may be challenging using chemical disinfection and close monitoring and chemical feed dosing adjustments will be necessary to reliably meet the final limit by the compliance date (January 1, 2024).

Table 1.3 Historical WPCP Flows and Effluent Concentrations

Parameter	Average	Maximum Monthly Average	Daily Maximum
Flow, mgd	29.0	42.7	57.8
Effluent TSS, mg/L	<5	10.0	16.0
TRC, mg/L	0.04	0.05	0.11
Fecal Coliform, count/100mL (30-day geomean)	31	63	921

1.3.4 Energy Consumption

The WPCP obtains electric power from National Grid. According to the WPCP's electric bills, energy consumption averaged approximately 763,160 kilowatt-hours (kWh) per month during 2021 and totaled 9,157,944 kWh for the year. Electric usage for the existing chemical disinfection system is a small component, consisting of less than 2 horsepower (hp) total operating for chemical feed pumps.

The County continues to pursue measures to reduce overall energy consumption. Digester gas is currently treated and sent to a microturbine system, which produces up to 600 kW of electricity and recaptures microturbine exhaust heat in a hot water loop for heading the digesters and 3 buildings. Two additional microturbines are being installed, which will increase the digester gas power production capacity to 1,000 kW. In addition to increasing the microturbine capacity, the ongoing upgrades of the secondary treatment system feature new blowers which run on variable frequency drives, as opposed to the large horsepower motors on the decommissioned blowers which were constant speed and had cross-the-line starters. When the plant expansion is complete, the County anticipates overall energy use may be one quarter of what it was prior to the upgrades which began in 2016.

1.3.5 History of Damage due to Storm/Flood

An October 31, 2019 rainfall event caused widespread flooding in the Mohawk Valley with the WPCP recording 3.75 inches of rain and a peak intensity of over 3 inches per hour. Damages were incurred to the Influent Building, sections of the Sauquoit Creek Interceptor Sewer and Force Main along Sauquoit Creek, and the Sauquoit Creek Pumping Station. The Influent Building at the WPCP was flooded to nearly the first floor during this storm event, which damaged major equipment such as submersible pumps, slide gates, flowmeters, and lighting and electrical conduit. The identified corrective actions and repairs are now complete, and the station was put back in service in early 2020. There was no impact to the disinfection system.

1.3.6 Existing Unit Processes and Present Condition

As this report is focused on disinfection of the secondary effluent, only the disinfection facilities and present condition are detailed in this section. The existing disinfection process consists of the following primary components:

– Two rectangular, concrete construction, chlorine contact tanks (CCTs)
– Sodium hypochlorite storage and feed facilities
– Sodium bisulfite storage and feed facilities
– Fixed coarse bubble aeration diffusers
– Parshall flume for effluent flow measurement at end of CCTs

Each CCT is 225 feet long and 30 feet wide with a side water depth of 10.25 feet, for a volume of approximately 0.52 gallons per tank, or total volume of 1.04 million gallons (MG). At a peak secondary effluent flow of 65 mgd, the chlorine contact time provided is roughly 23 minutes, which more than satisfies the Ten States Standards (2014 edition) minimum required contact time of 15 minutes at peak flow.

Sodium hypochlorite is stored in two 9,700 gallon storage tanks and there are two 1 hp and one 0.75 hp feed pumps to convey sodium hypochlorite to the head of the CCT. Typically only one 1-hp feed pump operates at a time. The sodium bisulfite system consists of one 11,400 gallon storage tanks and there are two 0.75 hp feed pumps; only one pump typically operates to supply sodium bisulfite to the end of the CCT, near the Parshall flume for dechlorination. The storage facilities also supply chemicals to the HRD tank during wet weather flow events.

Several sluice gates and the aeration diffusers and air piping have been replaced as part of Construction Contract 8A project in 2021/2022. As part of Construction Contract C7, the sodium hypochlorite and sodium bisulfite storage tanks were replaced, new chemical feed pumps dedicated to the HRD system were installed, and an expansion was made on the building to facilitate new equipment for the HRD system. The remaining chemical disinfection equipment is beginning to show its age and will need replacement over the next few years.

1.4 Definition of the Problem

The WPCP currently utilizes sodium hypochlorite and sodium bisulfite for seasonal disinfection (chlorination/ dechlorination) to comply with the current SPDES permit effluent TRC interim limit of 0.1 mg/L (daily maximum). The interim TRC limit is effective until completion of the ongoing WPCP upgrades and expansion. Starting January 1, 2024, the WPCP will be required to comply with the final limit for TRC of 0.03 mg/L (daily maximum). This final limit corresponds to the method limit ("limit of detection") of the most sensitive analytical method, indicating that the WPCP will need to achieve an effluent TRC equal to or less than the analytical method limit.

While chlorination/dechlorination is a disinfection common at wastewater treatment plants, it may be challenging to reliably meet the final permit limit for effluent TRC, especially considering that the limit is set at the analytical method detection limit. This may result in higher doses of sodium bisulfite to ensure complete neutralization of the chlorine residual. Adding more chemical will increase operating costs at a time when chemical costs are already rising. The WPCP spent nearly $200,000 on disinfection chemicals in 2021 alone. Furthermore, as noted in Section 1.3.2, the WQBEL for TRC was determined to be 0.02 mg/L, which is below the method limit of the current, most sensitive analysis method for residual chlorine, hence the SPDES limit was set as the current method limit of 0.3 mg/L. However, should a more sensitive analytical method be developed, this could result in the TRC effluent limit being lowered even further in a future SPDES permit.

An alternative to chemical disinfection is the use of UV disinfection. UV disinfection alleviates the above concerns as it does not rely on dosing chemicals in the plant effluent for neutralizing pathogens. Instead, UV disinfection uses ultraviolet-spectrum electromagnetic radiation that damages DNA, preventing microorganisms from being able to reproduce. A UV disinfection system would also eliminate the need to reliably meet the low effluent TRC SPDES permit limit. This report evaluates installing a UV disinfection system at the WPCP as an alternative to the current chlorination/dechlorination system to address the above concerns.

1.5 Financial Status

Annual revenues for the OCSD are derived from sewer billing charges based on metered or unmetered water consumption. In addition to funding the operation of the wastewater system, these charges also go toward the construction of Consent Order related system upgrades. The 2023 OCSD sewer billing charges include $6.90 per 1,000 gallons of water usage. Additionally, customers in the Sauquoit Creek tributary basin, except the Village of Whitesboro are assessed an additional surcharge rate of $1.05 per 1,000 gallons of water usage to pay for capital expenditures and system repairs associated with the Consent Order. Customers residing in the Village of Whitesboro are assessed an additional surcharge rate of $2.30 per 1,000 gallons of water usage for the same expenditures and repairs. In addition to the OCSD sewer charges, each tributary community establishes their own sewer rates since the communities own and operated their own sewer collection systems.

According to the 2023 adopted budget for the Oneida County Department of Water Quality and Water Pollution Control (WQ&WPC), the total budget is $11,999,179, which includes administrative, interceptor sewer and groundskeeping maintenance, sewage treatment and industrial program appropriations. The County has a number of bonds to fund capital projects, and the annual debt service for the 2023 budget is $14,706,095. Recent capital projects include several construction contracts for upgrades at the WPCP, Sauquoit Creek Pump Station/forcemain, and sanitary sewer collection system improvements that are either completed or near completion, which were part of the Consent Order compliance program.

2. Alternatives Analysis

The Oneida County WPCP must be able to reliably meet the final permit limits for TRC and fecal coliform as a condition of their SPDES permit. While the WPCP currently uses sodium hypochlorite and sodium bisulfite for chlorination/dechlorination at Outfall 001, this analysis evaluated UV disinfection as an alternative for providing

disinfection of secondary effluent discharged through Outfall 001. Note that no changes are planned to the disinfection of Outfall 003, the discharge from the HRD tank during wet weather flow events; however, the secondary effluent disinfection and HRD systems currently share chemical storage and feed equipment.

Three alternatives were evaluated for disinfection of secondary effluent at the Oneida County WPCP (Outfall 001):

1. Alternative 1 – No Action (Continued Chlorination/Dechlorination)
2. Alternative 2 – UV Disinfection
3. Alternative 3 – UV Disinfection with Photovoltaic Solar Power

This evaluation relied on manufacturer provided designs for the UV technology, as well as applicable design guidance documents, where appropriate, including the *Recommended Standards for Wastewater Facilities*, 2014 Edition (also known as "Ten-States Standards").

A description and evaluation of each alternative with respect to design criteria, layout, advantages and disadvantages of the alternative, estimated probable project cost and operation and maintenance (O&M) costs, as well as other non-monetary factors are provided in this section.

2.1 Alternative 1 – No Action (Continued Chlorination/ Dechlorination)

2.1.1 Description

Alternative 1, No Action, would consist of the Oneida County WPCP continuing to operate the existing chlorination/ dechlorination chemical disinfection system on a seasonal basis for the secondary effluent outfall to the Mohawk River, Outfall 001. There are no capital improvements required under this alternative. At the conclusion of WPCP upgrade and expansion projects, the final TRC effluent limit will go into effect, reducing the effluent residual chlorine limit to the method limit of detection concentration, 0.03 mg/L.

The existing CCTs provide adequate chlorine contact time at the peak flow of 65 mgd, roughly 23 minutes, which is greater than the Ten States Standards (2014 edition) minimum required contact time of 15 minutes at peak flow. With respect to storage volumes, the existing storage tanks provide sodium hypochlorite and sodium bisulfite for disinfecting both secondary effluent (Outfall 001) and combined sewer wet weather flows in the HRD (Outfall 003). The WPCP staff have noted that there are times when the HRD is operating that results in the sodium hypochlorite and sodium bisulfite storage being depleted faster than expected, which requires more frequent chemical deliveries to meet the demands for disinfecting both secondary effluent and HRD flows.

Meeting this more stringent permit limit will require the WPCP to achieve effluent TRC concentrations equal to or less than the method limit of detection. While this is technically feasible, adequate process control will be required to properly dose sodium hypochlorite and sodium bisulfite, which may be labor-intensive and could potentially result in excessive use of sodium bisulfite. Overdosing with sodium bisulfite can result in reduced dissolved oxygen (DO) concentration in the effluent discharge to the receiving water body, the Mohawk River.

In addition, the WPCP is aware that the current permit limit is set to the method of detection limit. It is possible that as chlorine detection technology improves, the permit could be amended in the future to be even lower as the WQBEL was determined to be 0.02 mg/L. As long as chemical disinfection is the primary technology for the main plant outfall and subject to an ever-tightening TRC limit, plant operations staff will be required to invest more and more capital and O&M expenses to reliably meet the effluent TRC limit. There is also added risk for potential TRC permit violations due to the excessively low TRC limit contained in the SPDES permit.

2.1.2 Alternative 1 Opinion of Probable Cost

The No Action alternative does not require additional capital improvements; therefore, there are no project costs for this alternative.

2.1.3 Alternative 1 Estimated O&M Costs

Annual operating and maintenance costs for the existing chlorination/ dechlorination chemical disinfection system are presented in Table 2.1. The WPCP staff provided annual chemical usage volumes and unit chemical and electric costs. Where applicable, the costs represent the average annual condition. The O&M costs represent seasonal disinfection from May 1 to October 31. The 20-year net present worth is also presented in Table 2.1.

Table 2.1 Alternative 1 Estimated Operation and Maintenance Costs

Annual Cost Component	Unit Cost	Annual Cost
Sodium hypochlorite	$2.40/gal	$275,000
Sodium bisulfite	$1.64/gal	$90,500
Operator Labor, May – October	$46.00/hr	$10,000
Electrical Power, May – October	$0.06/kW-hr	$500
Tank and Piping Replacement (annualized over 10 years)	--	$28,000
Annual O&M Cost (rounded)		**$404,000**
20-year O&M Present Worth (rounded)		**$5,500,000**

2.1.4 Non-Monetary Factors

Some of the advantages and disadvantages of Alternative 1 (No Action) are presented below.

Advantages of Chemical Disinfection

– Plant staff is familiar with the technology, no additional training is required.
– Currently addresses compliance with the interim SPDES permit limits for TRC and fecal coliform and should be able to meet the final limit with adequate process control.
– Disinfection with sodium hypochlorite and dechlorination with sodium bisulfite are proven technologies and common among wastewater treatment plants.

Disadvantages of Chemical Disinfection

– Increased process control required to ensure sufficient sodium bisulfite is dosed to achieve the more stringent final TRC effluent limit of 0.03 mg/L.
– Requires long-term purchase and storage of sodium hypochlorite and sodium bisulfite chemical on an ongoing basis (seasonally); exacerbated by the rising chemical costs.
– Potential for overdosing sodium bisulfite to reliably meet the effluent TRC limit, which could result in reduced DO concentration in effluent discharge from Outfall 001.
– Potential health and safety concerns for personnel with respect to storage and handling of hypochlorite and bisulfite.
– Sodium hypochlorite degrades over time, requiring additional monitoring and dose feed rate adjustments due to lower chemical strength.
– Plant staff have noted that on occasion when the HRD is in operation, sodium hypochlorite and sodium bisulfite storage can be depleted more quickly, requiring more frequent chemical deliveries to meet the demands for disinfecting both secondary effluent and HRD flows. The No Action alternative would not alleviate this condition.
– Sodium hypochlorite has the potential to produce disinfection byproducts.
– Potential for TRC permit violations due to the excessively low TRC limit imposed by the SPDES permit.

2.2 Alternative 2 – UV Disinfection

2.2.1 Description

Due to concerns with reliably meeting the more stringent effluent TRC limit using chemical disinfection, UV was identified as a potentially viable technology that could address the long-term disinfection needs of the WPCP. UV disinfection is a process in which ultraviolet energy from UV lamp radiation is absorbed in the DNA of microorganisms. Ultraviolet energy does not directly kill microorganisms, but rather prevents them from being able to reproduce. With modern UV systems, the intensity of the lamps can be varied based on the quality of the water being treated to ensure consistent disinfection performance. A primary benefit of UV systems is the lack of chlorine residual, which would alleviate the concerns with reliably meeting the low final effluent TRC limit established in the WPCP SPDES permit.

Modern UV systems are available for both in-line (closed vessel) and open channel configurations. There are several manufacturers offering a wide array of configurations. In recent years, leading UV disinfection system manufacturers have indicated that closed vessel systems are more suitable for drinking water applications than wastewater applications based on industry experience. If the TSS concentration is greater than 5 mg/L through the UV vessel, closed vessel systems are not effective at emitting the proper UV dose necessary to meet typical fecal coliform effluent limits. This is primarily due to the relatively short detention time through a closed vessel configuration as compared to typical open channel layouts. As the WPCP has existing CCTs that provide open channel space for a UV system, open channel configurations were evaluated for this report.

To determine if UV disinfection would be a feasible technology for the Oneida County WPCP, secondary effluent samples (upstream of sodium hypochlorite addition) were collected by a vendor that represents and sells UV equipment and analyzed for UV transmittance (UVT), as well as a collimated beam test. The results showed that the TSS in the secondary effluent was approximately 2.7 mg/L and the measured UVT transmittance at 254 nm was approximately 73 percent. Optimal conditions for UV disinfection of wastewater are a TSS concentration of less than 5 mg/L and a UVT transmittance of 60 percent or higher. The results demonstrate that UV disinfection is applicable for the Oneida County WPCP.

2.2.2 Basis of Design

Proposals were requested and received from two established UV manufacturers: Trojan (UVSigna system) and Wedeco (Duron system). Each manufacturer proposed similar open channel systems with inclined UV modules, electrical supply, distribution, and control equipment. For this evaluation, the probable costs and layout descriptions that follow are be based on one of the proposed systems. The vendor proposals are in included in Appendix E along with the probable cost estimates.

A summary of the proposed UV disinfection system basis of design criteria is presented in Table 2.2.

Table 2.2 Alternative 2 UV Disinfection System Proposed Design Criteria

Parameter	Value
Peak Flow	65 mgd
Effluent TSS, maximum month	10 mg/L
UV Transmittance	65% (minimum)
Design Dose	30 mJ/cm^2
No. of Channels	4
No. of Banks per Channel	3 (2 duty, 1 standby)
No. of Lamps per Bank	tbd
Maximum Power Draw	202 kW
Average Power Draw	57.7 kW
Cleaning Method	Automatic wiping system, chemical

2.2.3 System Components

The primary components of the proposed UV disinfection system (Alternative 2) include:

– Two channels (manufacturer dependent), cast-in-place concrete UV disinfection channels constructed within each of the existing chlorine contact tanks, for a total of four channels.
– Aluminum grating, framing, and handrail to be provided for access around the channels.
– UV system components including the UV lamp banks, cleaning system, sensors and controls, level control (finger or serpentine weir), spare lamps and parts.
– Slide gates for channel isolation.
– A small building would be constructed overtop the existing tank to provide housing and weather protection for the electrical and control equipment, spare parts, tools, and accessories associated with the UV system. A pre-engineered FRP building, or similar, would be considered.

In addition, the existing chemical disinfection equipment would remain in-service for use with the HRD tank for disinfecting wet weather flows. This alternative would alleviate the plant concerns with depleting the chemical storage volume too quickly during wet weather flow events.

A preliminary electrical capacity check was conducted to confirm that both the primary and backup (generator) electrical systems are able to support the additional electrical load required to operate the UV disinfection system, which determined the systems to be adequate.

2.2.4 Hydraulic Impact and Layout

The available WPCP record drawings indicate a peak flow water elevation in the CCT of 407.80, and the top of wall that divides the CCTs is at elevation 409.50. This indicates approximately 1.7 feet of available freeboard under peak hour flow conditions. However, currently there is very limited available head between the final settling tank effluent weirs and the CCT. Plant staff indicated that with one CCT out of service, the final settling tank weirs become submerged at flows around 55 mgd. Therefore, additional hydraulic considerations must be considered during detailed design to minimize the headloss through the UV system. The vendors provided options to reduce headloss including increasing the number of channels and modifying the bulb design, as well as increasing the effluent weir length. This resulted in installing a pair of UV channels in each CCT to minimize headloss. The total estimated head loss due to the proposed UV system is approximately 4 inches (0.33 feet) based on the requested manufacturer proposal. The proposed UV systems include downstream level control (finger or serpentine weirs) to help limit hydraulic impact. Figure 2.1 presents the proposed layout of a two-channel UV disinfection system constructed inside each existing CCT.

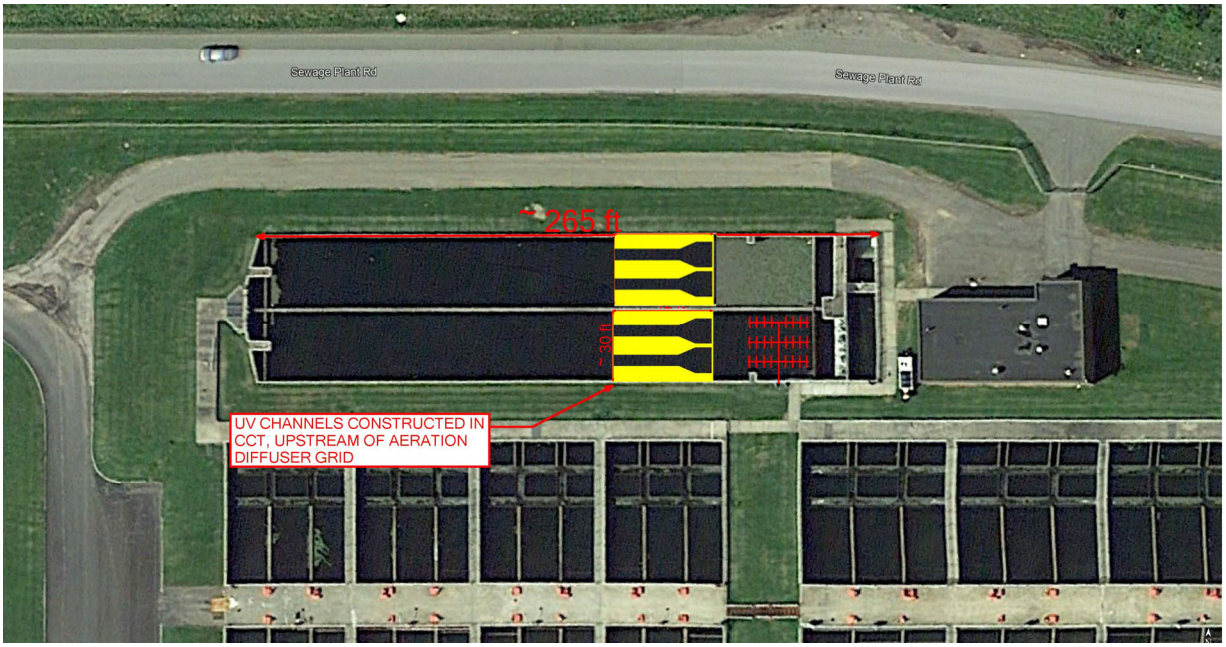

Figure 2.1 Alternative 2 Proposed UV Layout

2.2.5 Alternative 2 Opinion of Probable Cost

The opinion of probable project cost for Alternative 2 is shown in Table 2.3. The probable project cost is based on vendor quotes for equipment and allowances, recent project bids for similar construction costs, labor and installation estimates, and other related items, and includes construction mobilization and general conditions, contractor profit and overhead, as well as contingency and engineering, administrative and legal costs. Cost backup information and vendor proposals are in included in Appendix E.

Table 2.3 Alternative 2 Opinion of Probable Project Cost

Description	Probable Cost
Concrete	$360,000
UV System Equipment	$2,500,000
Gates, Valves and Piping	$360,000
Equipment Building	$163,000
Misc. Materials	$129,000
Electrical/I&C Allowance	$258,000
Contractor general conditions, mobilization/demobilization	$230,000
Subtotal	**$4,000,000**
Contractor Overhead and Profit (15%)	$600,000
Subtotal	**$4,600,000**
Construction Contingency (15%)	$700,000
Construction Subtotal	**$5,300,000**
Engineering, Legal and Administration (15%)	$700,000
Project Total	**$6,000,000**

2.2.6 Alternative 2 Estimated O&M Costs

The estimated annual O&M cost for the UV alternative is presented in Table 2.4. Major components of the O&M cost include electrical cost for the UV lamp operation and equipment replacement, as well as labor for system operation. Annual O&M costs were based on the average flow of 30 mgd and seasonal operation (184 days per year) from May 1 through October 31 in accordance with the WPCP SPDES permit. The 20-year net present worth is also presented inTable 2.4.

Table 2.4 Alternative 2 Estimated O&M Costs

Component	Annual Cost[1]
Operator Labor, May – October	$10,000
Electrical Power, May – October	$16,000
Equipment Replacement Costs[2]	$10,000
Annual O&M Cost (rounded)	**$36,000**
20-year O&M Present Worth (rounded)[3]	**$480,000**

Notes: 1. 2023 dollars.
2. Includes UV lamp, ballast, and wiping ring replacement.
3. Based on 20 years, interest rate of 4 percent.

2.2.7 Non-Monetary Factors

Some of the advantages and disadvantages of Alternative 2 are presented below.

Advantages of UV Disinfection

- Addresses compliance with the SPDES permit final limits for fecal coliform; TRC monitoring of Outfall 001 would no longer be required for UV disinfection.
- Produces no disinfection byproducts, including residual chlorine.
- Relatively simple to operate.
- Relatively low maintenance requirements.
- Because UV systems do not use daily chemicals, there are no associated health and safety concerns for personnel with respect to storage and handling of chemicals
- Reduces chemical purchase cost and demand, which will help alleviate the concerns with chemical storage depletion during HRD operation. Allows existing chemical storage and feed equipment to be used exclusively for the HRD system.

Disadvantages of UV Disinfection

- Typically have greater electrical power requirements than chemical disinfection systems.
- Unfamiliar technology for staff; requires additional operator training for a new technology.
- Sodium hypochlorite and sodium bisulfite feed facilities do not need to be decommissioned or demolished, as they would still be utilized for HRD.

2.3 Alternative 3 – UV Disinfection with Photovoltaic Solar Power

2.3.1 Description

To offset the relatively high energy cost associated with operating a UV system, the use of solar photovoltaic (PV) cells to power the UV system was investigated. The selected UV alternative is anticipated to consume approximately 58 kW of electricity at average conditions (based on Trojan's proposed UVSigna system), and 202 kW at peak conditions. Alternative 3 consists of constructing the same two or three-channel UV disinfection system inside one of the existing chlorine contact tanks; however, a solar PV array would also be constructed to convert solar energy to electrical energy to operate the UV system.

Accounting for the relatively poor efficiency of solar radiation energy to electricity conversion in PV cells (approximately 16 percent) and losses in direct current to alternating power inverters, a photovoltaic array sized to power the UV disinfection system would need to be sized to generate an average output of 280,000 kW•hr from May through October, when the system will be operated. At times, the PV array will likely not be able to match the electrical demands of the UV system, and at other times the array would produce excess electricity which could be consumed elsewhere in the WPCP. Electrical net metering could be provided.

The National Renewable Energy Laboratory (NREL), a national laboratory of the U.S. Department of Energy, provides a website to estimate the PV system specifications based on the annual power required, and the physical location of the installation. For the Oneida County WPCP site, the NREL estimated PV system specifications are provided in Appendix F. NREL estimates the system would need to receive approximately 413 kW incident solar energy to account for efficiency losses and the varied solar radiation over the course of a typical disinfection operating season at the Oneida County WPCP site.

Commercially available solar panels are offered in nominal 225 W (output) sizes. A 225 W panel is approximately 6-ft. long by approximately 4-ft. wide. Sizing the system to meet the peak hour power demand of 202 kW, approximately 900 panels would be required. Allowing for space between the modules, the required site area for the PV array was estimated to be approximately 1.25 acres. Space between modules is recommended both for maintenance access and to ensure that one group or row of modules does not cast shade upon another group/row.

Figure 1.1Figure 2.2 shows potential PV layout locations on the far west side of the Oneida County WPCP site (currently occupied by engineer and contractor trailers).

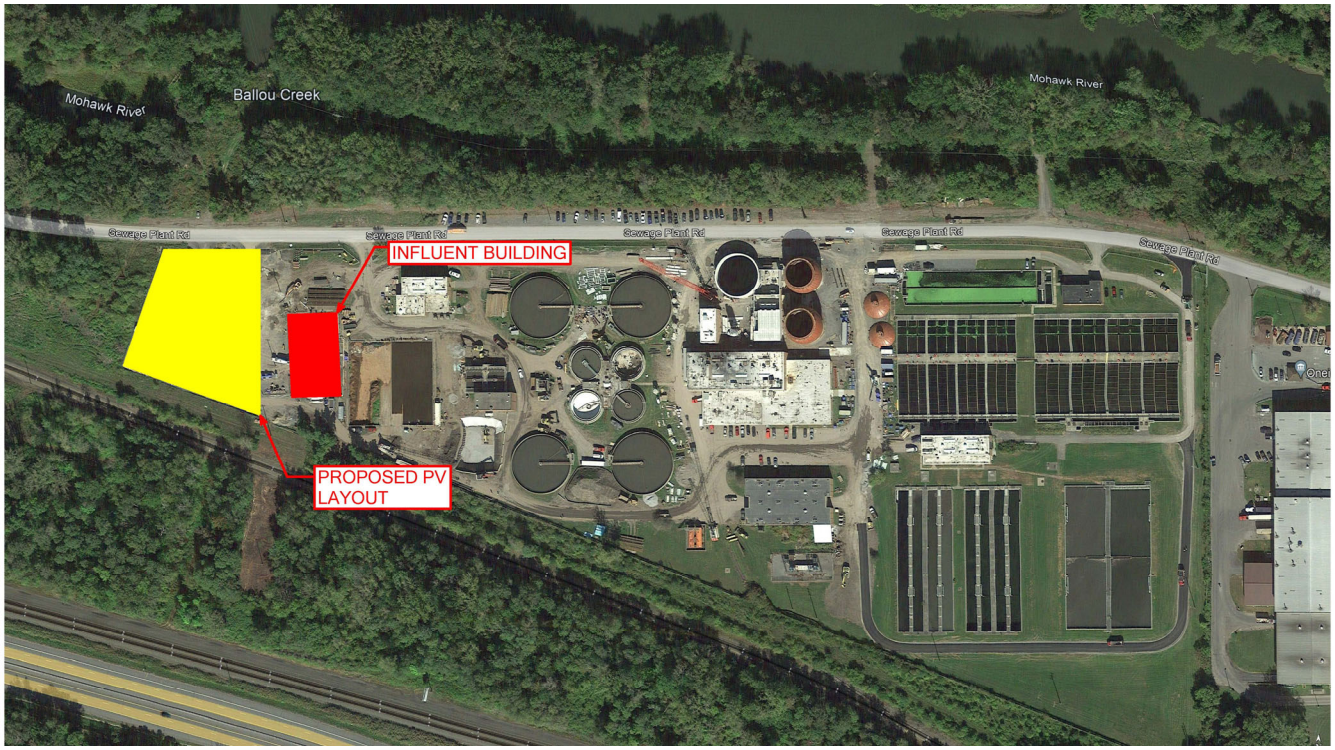

Figure 2.2 Alternative 3 Proposed Solar PV Layout

2.3.2 System Components

In addition to the system components described in Alternative 2, Alternative 3 components include:

- Fixed rack, ground mounted photovoltaic solar panels.
- Direct current to alternating current inverters
- Voltage regulators.
- Power monitoring equipment.
- Electrical conduit and conductors.

2.3.3 Alternative 3 Opinion of Probable Cost

Based on recent projects and current market costs, an assumed installed cost of $3.50 per watt was used for a solar PV array. For the Oneida County WPCP, the installed cost would be approximately $800,000 dollars, not including contingency and engineering/legal/administrative costs. Table 2.5 presents the opinion of probable project costs of a installing a UV system and solar PV cells.

Table 2.5 Alternative 3 Opinion of Probable Project Cost

Description	Probable Cost
Fixed Solar PV Array	$800,000
Subtotal	**$800,000**
Construction Contingency (30%)	$300,000
Construction Subtotal	**$1,100,000**
Engineering, Legal and Administration (20%)	$300,000
UV System (Alternative 2 probable cost)	$6,000,000
Project Total	**$7,400,000**

2.3.4 Alternative 3 Estimated O&M Costs

The estimated annual O&M cost for the UV alternative with solar PV array is presented in Table 2.6. The annual O&M cost assumes that the UV power cost (approximately $16,000; refer to Alternative 2) is offset partially by the power produced by the solar PV system such that the actual electrical cost is approximately 50 percent of the power cost for Alternative 2. The major components of the O&M cost include reduced power costs, equipment replacement and operator labor/maintenance for system operation and landscape maintenance around the solar PV panels. Annual O&M costs were based on the design flow of 30 mgd and seasonal operation (184 days per year) from May 1 through October 31 in accordance with the WPCP SPDES permit. The 20-year net present worth is also presented in Table 2.6.

Table 2.6 Alternative 3 Estimated O&M Costs

Description	Annual Cost[1]
Operator Labor, May – October	$20,000
Electrical Power, May – October	$8,000
Equipment Replacement Costs[2]	$10,000
Annual O&M Cost (rounded)	**$38,000**
20-year O&M Present Worth (rounded)[3]	**$520,000**

Notes: 1. 2023 dollars.
2. Includes UV lamp, ballast, and wiping ring replacement.
3. Based on 20 years, interest rate of 4 percent.

2.3.5 Non-Monetary Factors

The advantages and disadvantages for Alternative 2 (UV disinfection) would also apply to Alternative 3. Additional advantages and disadvantages resulting from the solar PV installation are discussed below.

2.3.5.1 Advantages of UV Disinfection with Solar PV

– Could significantly reduce or eliminate the electrical usage of operating the UV disinfection system.
– Could reduce net utility costs across the plant when the UV disinfection system is not in operation from November through April.

2.3.5.2 Disadvantages of UV Disinfection with Solar PV

– Additional labor associated with equipment maintenance and vegetation management around the ground-mounted PV panels.
– Occupies significant site area that cannot be used for other purposes.

2.3.6 Energy Efficiency Measures

The New York State Energy Research and Development Authority (NYSERDA) has studied energy usage at WRRFs and has developed a guideline identifying certain processes and technologies that reduce energy usage. The only alternatives presented that requires capital improvements are Alternatives 2 and 3; Alternative 1 is the no action alternative. While the energy associated with the UV alternatives is not significant, particularly since only seasonal operation is required, energy efficiency best practices were considered during this evaluation. Table 2.7 presents a summary of the energy efficiency improvements based on the NYSERDA guidelines. While the primary objective of this project is not energy efficiency, but rather regulatory compliance, and all alternatives contain similar equipment, a payback period was not estimated.

Table 2.7 Energy Efficiency Feasibility Summary

Operation Process	Standard Practice	Typical Energy Efficiency Measures	Alternative
UV Disinfection	Medium pressure UV lamps	Low pressure high output lamp technology	Low pressure, high output/ high efficiency amalgam lamps

3. Summary and Comparison of Alternatives

A summary of the feasible alternatives for disinfection facilities at the Oneida County WPCP is presented in Table 3.1, including opinions of probable project cost, annual O&M costs, and the 20-year net present worth for each alternative.

Table 3.1 Cost Summary of Alternatives

Cost Component[1]	Alternative 1 – No Action/ Continued Chemical Disinfection	Alternative 2 – UV Disinfection	Alternative 3 – UV Disinfection with Photovoltaic Solar Power
Probable Project Cost	$0	$6,000,000	$7,400,000
Annual O&M Cost (rounded)	$404,000	$36,000	$38,000
20-Year Net Present Worth (rounded)[2]	$5,500,000	$6,500,000	$8,000,000

Notes: 1. All costs in 2023 dollars.
2. Based on 20 years, interest rate of 4 percent.

Table 3.2 presents a comparison of the advantages and disadvantages of each alternative. While each alternative addresses compliance with the SPDES permit for disinfection, the UV alternatives offer a reliable solution that does not require chemicals and would eliminate the TRC effluent limit all together.

Table 3.2 Advantages and Disadvantages of Alternatives

Alternative	Advantages	Disadvantages
Alternative 1	• Addresses current regulatory compliance • Staff familiar with operation • Proven technologies	• Increased process control to ensure sufficient sodium bisulfite is dosed to achieve stringent TRC effluent limit of 0.03 mg/L • Potential for frequent permit violations due to stringent TRC effluent limit • Requires long-term purchase of sodium hypochlorite and sodium bisulfite chemicals; rising chemical costs • Potential health and safety concerns with respect to storage and handling of chemicals • Potential to produce disinfection byproducts • Sodium hypochlorite degrades over time • Use of HRD depletes chemical storage
Alternative 2	• Addresses regulatory compliance • No disinfection byproducts (Outfall 001) • Simple, low maintenance requirements • Reduces chemical purchase cost and demand • Alleviates depleted chemical storage condition caused by operation of the HRD	• High capital cost • Increased electrical power cost • Unfamiliar technology; operator training required for new technology
Alternative 3	• All advantages of Alternative 2 • Reduced or eliminated electrical cost of operating UV disinfection • Reduced net utility costs through November – April	• All disadvantages of Alternative 2 • Additional labor costs for PV maintenance • Occupies significant site area

4. Recommended Alternative

Based on the alternatives evaluated in Section 2, the recommended alternative for disinfection at the Oneida County WPCP is Alternative 2, UV disinfection. While Alternative 1, continued chlorination/dechlorination has a lower 20-year net present worth cost compared to Alternative 2, mainly due to no additional capital costs, Alternative 2 eliminates the concerns with reliably meeting the effluent TRC final SPDES permit limit as TRC monitoring would no longer be required with UV disinfection. Under Alternative 2, the existing sodium hypochlorite and sodium bisulfite feed facilities would remain in operation and be utilized solely for the HRD system, but with reduced chemical demand and costs; this would also help alleviate the concerns with chemical storage depletion during HRD operation. Alternative 3, which includes a solar PV array to help offset power costs, has a higher net present worth cost due to increased capital costs and slightly higher O&M costs due to additional labor to maintain the lawn around the solar PV panels.

Alternative 2 would include the following key modifications:

– UV system components including the UV lamp banks, cleaning system, sensors and controls, level control (finger or serpentine weir), spare lamps and parts.
– Two channels (manufacturer dependent), cast-in-place concrete UV disinfection channels constructed within each of the existing chlorine contact tanks, for a total of four channels.
– Aluminum grating, framing, and handrail to be provided for access around the channels.
– Slide gates for channel isolation.

– A small building would be constructed overtop the existing tank to provide housing and weather protection for the electrical and control equipment, spare parts, tools, and accessories associated with the UV system. A pre-engineered FRP building, or similar, would be considered.

The opinion of probable cost for constructing the recommended alternative is $6.0 million (2023 dollars).

4.1 Proposed Project Schedule

Table 4.1 presents the proposed project schedule and milestones for implementing Alternative 2. These dates are estimated based on the assumption that financing for the project is approved by April 1, 2024, and design commences in May 2024. As the WPCP will need to continue seasonal disinfection, the schedule assumes construction will take place from November 1 through April 30 to avoid the disinfection season.

Table 4.1 Proposed Project Schedule

Task/Milestone	Target Date
Basis of Design Report	September 1, 2024
Detailed Design Documents (plans, specifications to EFC)	February 1, 2025
Bid/Advertise	April 1, 2025
Construction Start/Notice to Proceed	May 5, 2025
Construction Completion	May 29, 2026

4.2 Next Steps

4.2.1 Descriptions of Community Engagement

Since 2013, the County has made a significant effort toward community outreach initiatives. The goal of the outreach has been public education on the importance of the SSO mitigation program and the benefit of the capital upgrades in the collection system, at the SCPS, and at the WPCP. Community Engagement has included:

– Development of the “Operation Ripple Effect” initiative to educate the community on the overall program, and benefits of disconnecting stormwater sources from the collection system. http://rippleeffectocsd.org
– Radio and television advertisements
– Interviews of key personnel (County Executive, Commissioner, etc.) by local print and radio media
– Rain barrel construction community events
– Educational events in local elementary schools
– Regular Steering Committee meetings with DPW supervisors, highway superintendents, etc. in the communities that operate collection systems tributary to the OCSD interceptor network.

The community engagement program will continue through the construction of the upgrades described in this Engineering Report.

4.2.2 SEQR Review

Prior to commencing the construction phase of the improvements to the WPCP and SCPS, the County performed a coordinated review under the State Environmental Quality Review Act (SEQRA). The NYSEFC requested completion of a Full Environmental Assessment Form (EAF) in conjunction with the SEQRA process. In 2015, the County prepared Part 1 of the Full EAF and coordinated review with other involved agencies, who concurred with the County acting as Lead Agency. Parts 2 and 3 of the Full EAF were completed to review potential environmental and socio-economic impacts. The SEQRA review confirmed the upgrades at the WPCP and SCPS will have no significant

adverse impacts on the environment, and the County issued a Negative Declaration with regard to proposed improvements and modifications to County owned and operated wastewater management facilities.

As the proposed upgrades described in this Engineering Report are of similar nature and scope as the original upgrades, the 2015 Negative Declaration would still apply. The Negative Declaration resolution, passed by the Oneida County Board of Legislators in July 2015, is provided in Appendix C.

4.2.3 Procurement Method

These upgrades will be procured by a traditional design-bid-build process. Once the final design is completed, and plans approved by the NYSEFC and NYSDEC, the Contract Documents will be issued for public bidding. The Contractor(s) will be chosen on the basis of the lowest responsible base bid.

4.2.4 Smart Growth Assessment

As required by the NYSEFC, the County has prepared the Smart Growth Assessment Form for this project. The completed form can be found in Appendix G.

4.2.5 Engineering Report Certification

As required by the NYSEFC, the County has prepared the Engineering Report Certification for this project. The completed form can be found in Appendix H.

Appendices

Appendix A

Consent Order

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Office of General Counsel, Region 6
Dulles State Office Building, 317 Washington Street, Watertown, NY 13601-3787
P: (315) 785-2238 | F: (315) 785-2242
www.dec.ny.gov

November 30, 2021

VIA EMAIL: ce@ocgov.net

Anthony J. Picente, Jr.
Oneida County Executive
Oneida County Office Building, 10th Floor
800 Park Avenue
Utica, NY 13501

Re: Consent Order No.: R6-20060823-67-M2

Dear Anthony Picente:

Enclosed is a conformed copy of Oneida County's Second Modification Consent Order.

Thank you for your cooperation.

Sincerely,

April L. Sears

April L. Sears
Program Aide
Region 6

Enclosure

ec: Karl Schrantz, Commissioner - WPCP (w/enc.)
Matthew Duffany (w/enc.)
Jennifer Dougherty (w/enc.)
Barbara McGinn (w/enc.)
Melissa Evans (w/enc.)

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of Violations of Article 17 of the Environmental Conservation Law and of Part 750 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York occurring in the Town of Whitestown by:

Oneida County,

Respondent.

ORDER ON CONSENT
SECOND MODIFICATION

Case Number:
R6-20060823-67-M2

WHEREAS:

1. On July 11, 2007, the New York State Department of Environmental Conservation ("Department") and the County of Oneida ("Respondent") entered into an administrative Order on Consent (R6-20060823-67) ("2007 Order") to address violations of their State Pollutant Discharge Elimination System ("SPDES") Permit Number NY-0025780 ("Permit"), Environmental Conservation Law ("ECL") Section 17-0803 and Section 17-0509, and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York ("6 NYCRR") Section 750-2.1 and Section 750-2.9 at the Oneida County Water Pollution Control Plant ("WPCP" or "Facility'). Specifically, the 2007 Order required Respondent to upgrade the Sauquoit Creek Pump Station and the WPCP to eliminate sewage overflows into the Mohawk River. The 2007 Order required Respondent to complete the upgrades by October 31, 2014.

2. On December 12, 2011, the parties entered into a Consent Order (R6-20060823-67) ("2011 Order") which superseded and replaced, in its entirety, the 2007 Order except for the following documents, reports and their respective applicable correspondence which were developed pursuant to the 2007 Order:

    a. Flow Management Plan and Wet Weather Operating Plan - Received December 10, 2007;

    b. Oneida County Sewer District ("OCSD") Sewer Overflow Response Plan – Received October 30, 2007, implemented April1, 2008 - The measures set forth

in this Plan will continue to be implemented until the discharges from the Sauquoit Creek Pump Station are brought into compliance;

c. OCSD Inflow/Infiltration Offset Plan dated January 4, 2008, as revised September 23, 2008;

d. Supplemental Report – Re-evaluation of Temporary Treatment Alternatives for the Sauquoit Creek Pumping Station Bypass – Received December 24, 2010;

e. OCSD Sauquoit Creek Pumping Station Sanitary Sewer Overflow Mitigation Plan – Received July 7, 2010; and

f. OCSD December 23, 2010 response to the Department's October 27, 2010 comments on the Sauquoit Creek Pumping Station Sewer Overflow Mitigation Plan.

3. The practices, schedules, and other requirements set forth in these reports and submittals listed in Paragraph 2, above, as may be amended from time to time with the approval of the Department shall remain in full force and effect, unless they are inconsistent with the requirements of Schedule A attached hereto, and in such case, Schedule A shall control.

4. Should any future reports or facility repairs and upgrades necessitate changes to the documents listed in Paragraph 2, above, any modifications to said documents may be initiated by the Department or Respondent. Any modification approved by both parties will become an enforceable component of this Order.

5. The 2011 Order extended the completion date of the required upgrades to December 31, 2021, based on an engineering study claiming the upgrades could not be completed earlier.

6. On June 28, 2018, the parties entered into a Consent Order (R6-20060823-67-M1) ("2018 Consent Order First Modification") which, *inter alia*, approved Respondent's request for interim effluent limits for Influent Flow, Biological Oxygen Demand ("BOD_5"), Total Suspended Solids ("TSS") and Nitrogen during Respondent's construction of the Facility's upgrades which was to be completed by December 31, 2021.

7. On April 1, 2019, the Department issued the most recent SPDES Permit for the Facility with an Effective Date of April 1, 2019 and an Expiration Date of March 31, 2024.

8. By letter dated June 16, 2021, Respondent requested an extension of the compliance date for completion of the Facility's upgrades to December 31, 2022 citing four (4) flooding events resulting from project delays in conjunction with logistical difficulties and material delays associated with the COVID-19 pandemic.

Based upon Respondent's correspondence, the Department, after due consideration having been had thereon, believes that this Consent Order Second Modification will be advantageous to the State.

NOW, THEREFORE, having considered this matter, and being duly advised, **IT IS ORDERED THAT:**

I. MODIFICATIONS TO THE 2018 CONSENT ORDER FIRST MODIFICATION

Pursuant to Paragraphs XII and XIV of the 2011 Order, Respondent is bound by and agrees to follow and comply with the terms, provisions, and requirements set forth in this 2021 Consent Order Second Modification. Upon the effective date of this 2021 Consent Order Second Modification, it is hereby incorporated into and made an enforceable part of the 2011 Order and 2018 Consent Order First Modification. Except as stated herein, all terms and conditions of the 2011 Order and the 2018 Consent Order First Modification remain in effect.

II. COMPLIANCE

Respondent shall comply with the provisions, terms, and conditions set forth in this 2021 Consent Order Second Modification as modified by the attached Appendix A, the Schedule for Compliance, which is incorporated into and made a part of this 2021 Consent Order Second Modification. Respondent's failure to comply with any provision of the 2021 Consent Order Second Modification or the 2018 Consent Order First Modification or the

2011 Order shall constitute a default and a violation of said order(s), and upon such default and violation, the Department's right to pursue all claims and remedies administratively, at law, or in equity shall not be affected by anything contained in said order(s).

GENERAL PROVISIONS

III. FORCE MAJEURE

If Respondent cannot comply with a deadline or requirement of this Order because of natural disaster, Federal or State declared national or state emergency based on an epidemic or pandemic, act of God, war, terrorist attack, strike, riot, judicial injunction, or other, similar unforeseeable event which was not caused by the negligence or willful misconduct of Respondent and which could not have been avoided by Respondent through the exercise of due care, Respondent shall apply in writing to the Department within a reasonable time after obtaining knowledge of such fact and request an extension or modification of the deadline or requirement. Respondent shall include in such application the measures taken by Respondent to prevent and/or minimize any delays. Failure to give such notice constitutes a waiver of any claim that a delay is not subject to penalties.

IV. MODIFICATION

No change in this Order shall be made or become effective except as specifically set forth by written order of the Commissioner, being made either upon written application of Respondent, or upon the Commissioner's own findings after notice and opportunity to be heard have been given to Respondent. Respondent shall have the burden of proving entitlement to any modification requested pursuant to this Standard Provision or the "Force

Majeure" provision, supra. Respondent's request for modification shall not be unreasonably denied by the Department, which may impose such additional conditions upon Respondent as the Department deems appropriate.

V. EFFECTIVE DATE

The Effective Date of this 2021 Consent Order Second Modification is the date it is signed and "so ordered" by the Commissioner of the Department or his designee. The parties hereto consent to entry of the second modification without further notice.

Dated: Watertown, New York

November 24, 2021

BASIL SEGGOS, COMMISSIONER
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

By: Randall Young
Randall C. Young
Regional Director
Region 6

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by the provisions, terms, and conditions contained in this Order.

By: _____
Anthony J. Picente, Jr.
Oneida County Executive

Date: 10-19-21

STATE OF NEW YORK)
) ss.:
COUNTY OF ONEIDA)

On the 19 day of October, in the year 2021, before me, the undersigned, personally appeared Anthony J. Picente, Jr., personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public
Notary Public, State of New York
No. 01MA4792150
Qualified in New York County
Commission Expires September 06, 2022

APPENDIX A – SCHEDULE FOR COMPLIANCE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Respondent: Oneida County WPCP- SPDES No. NY0025780

Case No. R6-20060823-67-M2

1. Respondent must complete the upgrades to the Facility in substantial conformance with the approved engineering report and the approved plans and specifications by December 31, 2022.

2. Respondent shall comply with the following Interim Limits from the Effective Date of this 2021 Consent Order Second Modification until the completion date of December 31, 2022.

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EXPIRATION DATE
001	Year Round (unless specified)	Mohawk River	12/31/2022

INTERIM EFFLUENT LIMITS

PARAMETER	Effluent Limit					Monitoring Requirements				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
FLOW	Daily Max.	Monitor	MGD			Continuous	Meter	X		3
BOD_5	30-Day Avg.	40	mg/L			Daily	24-hr. Comp.	X	X	1, 2a
BOD_5	7-Day Avg.	60	mg/L			Daily	24-hr. Comp.	X	X	2a
Solids, suspended (TSS)	30-Day Avg.	40	mg/L			Daily	24-hr. Comp.	X	X	1, 2a
Solids, suspended (TSS)	7-Day Avg.	60	mg/L			Daily	24-hr. Comp.	X	X	2a

Nitrogen, total Kjeldahl (as N) June 1- October 31	Daily Max.	Monitor	mg/L	Monitor	lbs/d	Daily	24-hr. Comp.	X	X	2a

FOOTNOTES:

1. **Removal Rates** – Effluent shall not exceed 35% and 35% of influent concentration values for BOD_5 and TSS, respectively.

2. **Composite Sampling:**

   a. Composite samples shall be composed of a minimum of 6 grab samples collected over the specified collection period, either at a constant sample volume for a constant flow interval or at a flow-proportional sample volume for a constant time interval.

3. **Wet Weather Flows** – During the effective period of these interim limits, the minimum flow through the secondary treatment works during wet weather shall be 48 MGD.

4. **Interim Limits** – The limits set forth herein supersede ONLY the following limits in SPDES Permit No. NY0025780. All other effluent limitations remain in full effect.

   a. Minimum wet weather flow through secondary treatment of 53 MGD;

   b. 30-Day Average BOD_5 and TSS of 30 mg/L;

   c. 7-Day Average BOD_5 and TSS of 45 mg/L;

   d. Daily Maximum TKN (June 1 – October 31) of 1120 lbs/d.

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENT CONSERVATION

----------X

In the Matter of Alleged Violations of Article 17 of the Environmental Conservation Law (ECL) and Part 750 of Title 6 of the Codes, Rules and Regulations of the State of New York (6 NYCRR) occurring in the Town of Whitestown by:

CONSENT ORDER

Case # R620060823-67

ONEIDA COUNTY,

Respondent.

----------X

WHEREAS:

1. Article 17 of the Environmental Conservation Law of the State of New York (ECL) provides the New York State Department of Environmental Conservation (Department) responsibility and authority to prevent and abate pollution of the waters of the state.

2. Respondent, Oneida County, is a municipal corporation organized and existing pursuant to the laws of the state of New York with main offices located at 800 Park Avenue, city of Utica, County of Oneida, New York 13501. Respondent owns and/or operates the Oneida County Water Pollution Control Plant (the WPCP) located at 51 Leland Avenue, Utica, New York. Respondent also owns and/or operates the Sauquoit Creek Pump Station ("Pump Station"), which discharges into the WPCP. The Pump Station is located in the village of Yorkville, town of Whitestown, County of Oneida, New York.

3. Pursuant to the authority granted to the Department by Article 17 of the ECL, the Department issued State Pollutant Discharge Elimination System (SPDES) Permit Number NY-0025780 (permit) to the Respondent. The permit governs the discharge of sewage to

the waters of the state. Current permit limits, levels, and monitoring requirements became effective June 1, 2008, and expire May 31, 2013.

4. The permit has been effective at all times relevant hereto. The permit authorizes the Respondent to discharge treated WPCP effluent from Outfall 001 into the Mohawk River, a Class C water body of the state, and a combined sewer overflow (CSO) discharge from Outfall 002 at the Pump Station into the Mohawk River. A CSO results when a wastewater collection system, by design, conveys combined sewage for discharge, via an overflow, to the waters of the state when the system becomes hydraulically overloaded.

5. Wastewater is discharged to the Pump Station from several Oneida County municipalities including the villages of Clayville, New York Mills, Yorkville, Whitesboro, New Hartford, Oriskany; portions of the town of New Hartford; and the towns of Paris and Whitestown. This Order relates only to wastewater discharges from these municipalities to Outfall 002 at the Pump Station.

6. During an inspection performed on February 6, 2006, the United States Environmental Protection Agency (USEPA) observed that the service area going into Outfall 002 appeared to be comprised of separate sanitary sewer systems.

7. On February 24, 2006, in a letter sent from Shayne Mitchell, P.E. of the Department to Steven Devan, P.E. of the Respondent (the February 24, 2006, letter), the Department informed Respondent, among other things, of its determination that the sewers connected to Outfall 002 are not discharging from combined sewer overflows and that Outfall 002 is a sanitary sewer overflow (SSO). A SSO results when a wastewater collection system that by

design includes sewage, but incidentally includes stormwater-related inflow and infiltration discharges to the waters of the state.

8. Among other things, the February 24, 2006, letter indicated that the submission of a flow management plan would be required, and it further indicated that 6 NYCRR 750-2.9(c)(1) specifies that the flow management plan for managing flows at the POTW was due within one hundred twenty (120) days.

9. On June 28, 2006, the Department noticed a modification to the SPDES permit so that it classified Outfall 002 as an SSO with conditions prohibiting discharge from Outfall 002 except during an emergency or when there is no feasible alternative to bypass.

10. The Pump Station overflows discharge directly upstream of section 12 of the Mohawk River (Water Index No. H-240, portion 12), which is listed as an impaired water on New York State's Clean Water Act Section 303(d) impaired waters list for floatables, pathogens, and dissolved oxygen/oxygen demand standards.

11. The Department has determined that the discharge of partially treated sewage from the Pump Station during wet weather contributes to the impairment of section 12 of the Mohawk River.

12. ECL §17-0803 provides:

> Except as provided by subdivision five of section 17-0701 of this article [not applicable], it shall be unlawful to discharge pollutants to the waters of the state from any outlet or point source without a SPDES permit issued pursuant hereto or in a manner other than prescribed by such permit . . . ; and
>
> 6 NYCRR Part 750-1.2 provides:
>
> 1. (a) Whenever used in this Part, unless a different meaning is stated in a definition

applicable to only a portion of this Part, the following terms will have the meanings set forth below:

(87) Stormwater means that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flow or will flow off the land by surface runoff to the waters of the state.

(95) Wastewater means water that is not stormwater, is contaminated with pollutants and is or will be discarded.

13. The permit authorizes Respondent to operate Outfall 002 as a CSO. Because there were direct sanitary sewage discharges to the Pump Station via a separate sanitary sewage line, Respondent historically operated Outfall 002 as an SSO.

14. ECL §17-0509 requires Respondent to provide effective secondary treatment as a minimum degree of treatment prior to the discharge of sanitary sewage into the surface waters of the state.

15. Therefore, Respondent violated the provisions of ECL §17-0803, ECL §17-0509, the permit, and 6 NYCRR Part 750-2.1(I). Pursuant to ECL §71-1929, Respondent is liable for a penalty of up to Thirty-Seven Thousand Five Hundred Dollars ($37,500) per violation per day and injunctive relief.

16. On or about February 26, 2007, the Department commenced an administrative enforcement action by serving on Respondent a Notice of Hearing and Complaint. The Complaint contained four causes of action alleging that Respondent had violated the permit and ECL §17-0803 by operating Outfall 002 as an SSO, had violated 6 NYCRR Part 750-2.9 by failing to properly enact a local sewer law, had violated ECL §17-0509 by failing to secondarily treat sanitary sewage prior to discharge, and had violated ECL §17-0803, the

permit, and 6 NYCRR Part 750-2.1 by failing to timely submit a flow management plan. Respondent submitted an Answer and an Amended Answer thereto.

17. On July 11, 2007, the Department and Respondent executed an administrative Order on Consent (#R620060823-67) ("2007 Order") to address the violations set forth in the Complaint. Among other things, the 2007 Order required Respondent to:

- Upgrade the Pump Station to eliminate the SSO by October 31, 2014;
- Take interim measures to reduce flow to the Pump Station;
- Enter into Inter-Municipal Agreements (IMAs) and/or other enforceable legal instruments to ensure the County's authority to implement an offset program with the upstream tributary communities;
- Pay a $120,000 penalty, and fund a $30,000 EBP;
- Create an offset program, so that any new connections to the system served by the Pump Station would have to be offset by the removal of 5 gallons for each 1 gallon added; and
- Be subject to stipulated penalties for any schedule violations.

18. Since the effective date of the 2007 Order, the County has been in compliance with its terms. The County has: implemented some interim measures to try and reduce flow to the Pump Station; required any new connections to the Pump Station to offset discharges at a 5:1 offset gallonage ratio; paid the $120,000 penalty; performed the EBP; revised its Sewer Use Rules and Regulations; and entered into 9 IMAs for purposes of access.

19. On August 12, 2010, Respondent timely requested that the end date of the Order be extended six (6) years to December 31, 2020, based on an engineering study claiming the upgrade could not be completed earlier. In July 2011, Respondent requested that the end date of the Order be extended to December 31, 2021.

20. In settlement of Respondent's civil liability for the aforesaid violations, Respondent admits the violations set forth herein, and has waived its right to a hearing herein as provided by law and has consented to the issuing and entering of this Order on Consent pursuant to the

provisions of Articles 17 and 71 of the ECL, and has agreed to be bound by the provisions, terms, and conditions herein. Notwithstanding the foregoing, the existence of this Order or Respondent's compliance with it, shall not give rise to any presumption of law or finding of fact, or create any rights, or grant any cause of action, which shall inure to the benefit of any third party.

NOW, THEREFORE, having considered this matter and being duly advised, it is ordered that:

I. EFFECT ON PREVIOUS ORDERS

A. Respondents are bound by, and agree to follow and comply with the terms, provisions, and requirements set forth in this Order, including Schedule A, which is incorporated herein. Except as set forth in subparagraph I.B below, this Order supersedes and replaces, in its entirety, the 2007 Order. Except as set forth in subparagraph I.B below, upon the effective date of this Order, the 2007 Order is considered null and void. The requirements set forth in this Order are additional to, and do not affect any requirements set forth in any Orders on Consent between DEC and Respondent other than the 2007 Order.

B. 1. The following documents, reports, and their respective applicable correspondence which were developed pursuant to the 2007 Order, are hereby incorporated into and made an enforceable part of this Order:

a. Flow Management Plan and Wet Weather Operating Plan - Received 12/10/2007;

b. OCSD Sewer Overflow Response Plan - Received 10/30/2007, implemented 4/1/08 – The measures set forth in this Plan will continue to be implemented until the discharges from the Sauquoit Creek Pump Station are brought into compliance;

c. OCSD Inflow/Infiltration (I/I) Offset Plan dated January 4, 2008, as revised September 23, 2008;

d. Supplemental Report - Re-evaluation of Temporary Treatment Alternatives for the Sauquoit Creek Pumping Station Bypass - Received 12/24/2010;

e. OCSD Sauquoit Creek Pumping Station Sanitary Sewer Overflow Mitigation Plan – Received 7/7/2010;

f. OCSD 12/23/10 response to the Department's 10/27/10 comments on the Sauquoit Creek Pumping Station Sanitary Sewer Overflow Mitigation Plan.

2. The practices, schedules, and other requirements set forth in these reports and submittals, as may be amended from time to time with the approval of the Department shall remain in full force and effect, unless they are inconsistent with the requirements of Schedule A attached hereto, and in such cases, Schedule A shall control.

3. Should any future reports or facility repair and upgrades necessitate changes to the documents listed in Section I.B.1 above, any modifications to said documents may be initiated by the Department or Respondent. Any modification approved by both parties will become an enforceable component of this Order.

II. COMPLIANCE WITH ORDER

A. 1. Respondent shall comply, in a timely manner, with the terms of the attached Schedule A. Schedule A is hereby incorporated into and made an enforceable part of this Order. Respondent's failure to comply fully and in a timely fashion with any provision, term, or condition of this Order shall constitute a default and a failure to perform an obligation under this Order and the ECL, subject to the dispute resolution provisions set forth at Paragraph VI below. Schedule A, Item C.3, sets forth a final completion date for the work described therein. Respondent may request in writing the Department's consent to an

extension of any interim completion date set forth in Schedule A provided Respondent has diligently performed the work described in Schedule A, and further provided that Respondent provides to the Department in writing a technical/engineering justification in support of the extension request, prepared and certified by a professional engineer currently licensed to practice in the state of New York. The Department shall not unreasonably withhold, deny or delay its consent for an extension of any interim completion date set forth in Schedule A.

2. A list of definitions for use in this Order is set forth in Schedule B, which is incorporated into and made an enforceable part of this Order.

B. Respondent shall continue to implement the terms of the Department approved "Oneida County Sewer District, Inflow/Infiltration Offset Plan" dated April 2, 2008, including revisions thereto.

C. Once the Department completes its review of the below referenced programs and its comments are received by the Respondent, as required by Schedule A of this Order, the following documents will be incorporated into and made enforceable under this Order to the extent these programs affect wastewater discharges to Outfall 002 at the Pump Station from the Satellite Municipalities, until such time as they are made part of Respondent's SPDES Permit:

1. CMOM Program;

2. Asset Management Program; and

3. Private Property I/I Reduction Program.

III. COMPLIANCE SCHEDULE

A. The goal of this Order shall be to eliminate all SSO discharges from the Pump

Station. Respondent submitted a mitigation plan entitled, "Sauquoit Creek Pumping Station, Sanitary Sewer Overflow Mitigation Plan, Oneida County Sewer District," dated July 7, 2010 ("Mitigation Plan"), describing projects and programs to bring Outfall 002 into compliance with Respondent's SPDES Permit by December 31, 2021. The Mitigation Plan proposed to eliminate the SSO at Outfall 002 by a combination of sanitary sewer system rehabilitation upgrades to the Pump Station and WPCP. In performing the projects and programs set forth in the Mitigation Plan, Respondent shall comply with the compliance schedule in attached Schedule A, which is incorporated into and made an enforceable part hereof.

B. In the event Respondent must obtain a permit from the Department to perform work required under this Order, and the Department (i) fails to act on the review and processing of a permit application submitted by Respondent, or (ii) fails to issue a permit within the time frames set forth in the regulations implementing Article 70 of the ECL, Uniform Procedures Act, which regulations are set forth at 6 NYCRR Part 621, Respondent's time for completing work dependent on permit issuance shall be extended by the number of days the Department fails to act within the regulatory time frames. To avail itself of the relief set forth in this paragraph, Respondent must make all best efforts and exercise all due diligence in submitting timely, accurate, and complete applications for any applicable permit. The parties acknowledge that the construction season for exterior work to be performed under this Order runs from April 1 to November 30. If any extension of time pursuant to this paragraph pushes Respondent's exterior work outside of the construction season for any calendar year, Respondent's extension shall carry forth to the next

construction season. Respondent shall begin the work at the start of the next construction season.

IV. SETTLEMENT AND RESERVATION OF RIGHTS

A. Upon completion of all obligations created in this Order, all the Department's claims for civil or administrative penalties arising from the allegations set forth in this Order, as well as all bypasses from Outfall 002 of which the Department has knowledge up to the date of this Order, shall be deemed resolved, satisfied, and discharged against Respondent.

B. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting:

1. Any legal or equitable rights or claims, actions, proceedings, suits, causes of action(s) or demands whatsoever that the Department may have with respect to investigatory, remedial, or corrective action or with respect to claims for natural resources damages as a result of the release or threatened release of hazardous substances, petroleum, or other pollutants at or from Respondent's Pump Station and WPCP, or areas in the vicinity of Respondent's Pump Station and WPCP;

2. Any legal or equitable rights or claims, actions, proceedings, suits, causes of action or demands whatsoever that the Department may have against anyone other than Respondent;

3. The Department's right, to the extent provided by law, to require that Respondent undertake additional measures required to protect public health or the environment, including interim remedial measures, at the Pump Station during all overflow periods;

4. The Department's right, to the extent provided by law, to enforce any provision of

the ECL, except as to those alleged violations, actions, or omissions which are addressed in this Order; and

5. Any legal or equitable rights or claims, actions, proceedings, suits, causes of action or demands that Respondent may have against third parties for remedial or corrective action.

C. Respondent shall comply with, and be bound by, the schedules, timetables, and requirements set forth in Schedule A, and any approved reports submitted thereunder, irrespective of the availability of financial assistance from federal, state, or other sources.

D. In the event that a discharge occurs from Outfall 002 after the effective date of this Order, the Department reserves all legal or equitable rights or claims, actions, proceedings, suits, causes of action or demands whatsoever that the Department may have against Respondent regarding said discharge.

V. STIPULATED PENALTIES

In the event Respondent fails to meet Schedule A deadlines, Respondent shall, within fifteen (15) days following a written notice of a demand for payment from the Department, pay to the Department a stipulated penalty as follows:

Failure to meet Schedule A deadlines

Days Overdue	Penalty Amount/Days overdue
1 - 30	$ 1000/day
31 - 40	$ 1500/day
41 - 50	$ 2000/day
51 - 60	$ 2500/day
more than 60	$ 5000/day

The total stipulated penalty is calculated by multiplying the days in violation or overdue by

the corresponding penalty amount. The Department shall not be precluded from taking any action authorized by law, and the Department may seek the sanctions provided in the ECL in addition to assessing stipulated penalties as set forth in this Order. Should the Department seek penalties and/or sanctions beyond those stipulated in this Order, the Respondent shall be provided all rights mandated by applicable law and regulation.

VI. DISPUTE RESOLUTION

A. The parties recognize that in the course of the design, construction, and modification of this Order, and projects/tasks required by this Order, disputes may arise between the parties regarding the appropriateness of any disapproval by the Department of a required submittal by the Respondent, conditions attached to the Department's approval of a required submittal, whether DEC has appropriately rejected a modification requested by Respondent pursuant to Paragraph XII, whether a force majeure event has in fact occurred, any other determination by the Department under this Order, or the Respondent's compliance with the terms of this Order. In the event such a dispute arises, it shall be resolved as follows.

B. If the Department disapproves a submittal required by Respondent under this Order, approves a required submittal with conditions that Respondent deems unacceptable, makes any other determination that Respondent has violated this Order, or declines to agree to an Order modification requested by Respondent pursuant to Paragraph XII, then the Department's Region 6 Regional Engineer shall issue a written determination ("DEC Determination") to Respondent setting forth the basis for disapproval of the submittal, conditional approval of the submittal, other basis for determining that Respondent has

violated this Order, or basis for not agreeing to a requested Order modification. If Respondent disputes the DEC Determination, Respondent may seek to resolve the dispute by requesting informal negotiations with the Department. Upon such a written request by the Respondent, the Department and Respondent shall make reasonable efforts to resolve the dispute through informal negotiations. The Department shall make all good faith efforts to meet with and/or discuss the dispute in question with Respondent, as soon as practicable, and the parties shall make reasonable efforts to resolve the dispute through informal negotiations. Unless both parties agree in writing otherwise, the time to conclude informal negotiations shall terminate thirty (30) days from the day Respondent receives the DEC Determination. If the dispute is resolved through informal negotiations, then the agreed upon resolution shall be incorporated into this Order. If the dispute is not resolved through informal negotiations, the disputed DEC Determination shall be binding upon Respondent, unless Respondent invokes the remedies set forth in paragraphs VI.C or VI.D below.

C. Respondent may, within seven (7) days after the termination of the informal negotiation period set forth above, submit a written request to the Department to the individual set forth in Paragraph XVIII below, seeking review of the dispute by the Assistant or Deputy Commissioner for Water Resources (Decision-Maker). The parties shall have twenty (20) days after Respondent's request is delivered to the Decision-Maker to present their arguments to the Decision-Maker, who shall have ten (10) more days to issue a decision. Any decision issued by the Decision-Maker shall be final and binding upon the parties, unless Respondent invokes the remedy set forth in paragraph VI.D below.

D. Respondent shall also have the right to challenge a DEC Determination or a

decision by the Decision-Maker in an Article 78 proceeding in New York State Supreme Court for Oneida County. To do so, Respondent must commence the Article 78 proceeding within thirty (30) days of the termination of the informal dispute resolution period or twenty (20) days after receiving a written decision from the Decision-Maker . If such a proceeding is commenced, any DEC Determination or written decision by the Decision-Maker hereunder shall be deemed to be final agency action. If Respondent does not commence an Article 78 proceeding within thirty (30) days of receiving the DEC Determination, then Respondent shall waive the right to challenge the DEC Determination and the assessment of any penalties, if applicable and appropriate, associated with the DEC Determination. The parties may agree, in writing, and on a case-by-case basis, to extend the time period within which Respondent must commence an Article 78 proceeding to challenge a particular DEC Determination. Respondent shall have no right to any formal administrative review of a DEC Determination.

E. In any Article 78 proceedings, challenging a DEC Determination, service of the petition and accompanying papers commencing the proceeding, and all subsequent papers, shall be made by Respondent on the state in accordance with Paragraph XVIII below or to such other individuals as the Department shall designate pursuant thereto. Service on those individuals shall be deemed valid service on the Department.

F. If, in the case of a challenge by Respondent to a DEC Determination disapproving a submittal required under this Order or approving a required submittal with conditions that Respondent considers unacceptable, the submittal is found to have been approvable as submitted, then no penalties or interest may be assessed and subsequent

milestone dates shall be extended appropriately, as agreed upon by Respondent and the Department or as otherwise determined by the court. If the submittal is found to have been properly disapproved, then penalties and interest, if applicable and appropriate, shall be assessed from the date of the DEC Determination, subject to the minimum notice requirements of this Order, and the subsequent milestone dates shall not be extended, unless otherwise agreed upon by the state and Respondent, or ordered by the court, for good cause shown by Respondent.

G. If, in the case of a challenge by Respondent to a DEC Determination rejecting an Order modification requested by Respondent pursuant to Paragraph XII, the DEC Determination is found to be arbitrary and capricious, then no penalties or interest may be assessed and subsequent milestone dates shall be extended appropriately, as agreed upon by Respondent and state, or as otherwise determined by the court. If the DEC Determination rejecting the modification is found to have been properly disapproved, then penalties and interest, if applicable and appropriate, shall be assessed from the date of the DEC Determination, subject to the minimum notice requirements of this Order, and the subsequent milestone dates shall not be extended, except unless otherwise agreed upon by the state and Respondent, or ordered by the court, for good cause shown by Respondent.

H. If, in the case of a challenge by Respondent to a DEC Determination predicated on a claim of force majeure by Respondent, the DEC Determination is found to be arbitrary and capricious, then no penalties or interest may be assessed, and subsequent milestone dates shall be extended appropriately, as agreed upon by Respondent and DEC, or as otherwise determined by the court. If Respondent's claim of force majeure is rejected, then penalties

and interest, if applicable and appropriate, shall be assessed from the date of the DEC Determination, subject to the minimum notice requirements of this Order, and subsequent milestones shall not be extended.

I. In the case of any other challenge by Respondent to a determination by the Department issued hereunder (including, but not limited to, a challenge to a DEC Determination that Respondent has failed to timely submit a Quarterly Progress Report as defined below, failed to submit any other report required hereunder on time, etc.), if the DEC Determination is upheld then penalties and interest, if applicable and appropriate, shall be deemed due and payable when originally assessed by the Department, subject to the minimum notice requirements of this Order. Regardless of whether or not the DEC Determination is upheld, the bringing of such a challenge by Respondent, pursuant to this Paragraph VI.I, shall in no way result in an extension of any milestone dates under this Order.

J. The state shall have the right to enforce any decision by the Decision-Maker or an Order of the New York State Supreme Court for Oneida County, and any other obligation of Respondent hereunder, in New York State Supreme Court for Oneida County. Respondent consents that the state may commence an action in that court to enforce any obligation, and that service of the papers commencing the action shall be deemed valid and complete service on Respondent.

VII. FORCE MAJEURE

Respondent shall not be liable for any penalty under this Order or be subject to any proceedings or actions for any remedy or relief, if it cannot comply with any requirements of

this Order, because of an act of God, war, strike, a court ruling, riot, or other such condition as to which willful misconduct, negligence or other action or failure to act on the part of Respondent was not a proximate cause; provided however, that Respondent shall immediately notify the Department in writing when it obtains knowledge of any such condition and shall request an appropriate extension or modification of the provisions hereof.

VIII. ACCESS

To ensure compliance with this Order, the ECL, and rules and regulations thereunder, authorized representatives of the Department shall be permitted access to those premises over which Respondent has control at all reasonable times in order to make inspections to see that Respondent is in compliance.

IX. FAILURE, DEFAULT AND VIOLATION OF ORDER

Respondent's failure to comply with any provision of this Order shall constitute a default and a failure to perform an obligation under this Order and shall be deemed to be a violation of both this Order and the ECL.

X. INDEMNIFICATION

Respondent shall indemnify and hold harmless the Department, the state of New York, and their representatives and employees for all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Respondent and its successors (including successors in title) and assigns.

XI. BINDING EFFECT

This Order is binding upon Respondent, its agents, employees, successors, assigns,

and all persons, firms, and corporations acting subordinate thereto. Respondent's employees, servants, and agents shall be instructed to comply with the relevant provisions of this Order in the performance of their designated duties on behalf of Respondent.

XII. MODIFICATION

No change or modification to this Order shall become effective except as specifically set forth in writing and approved by the Commissioner or a duly authorized representative.

XIII. REPORTING REQUIREMENTS

Starting March 31, 2012, and lasting until termination of this Order, Respondent shall submit to the Department for review and comment a quarterly progress report ("Quarterly Progress Report") summarizing the status and progress for all engineering investigations and evaluations, management programs, approved schedules, completed milestones, completed sanitary sewer rehabilitation, an assessment of the effectiveness of the completed rehabilitation, and completed capital improvement projects and facilities upgrades required by this Order. The Quarterly Progress Report shall also include any changes in key personnel, a summary of any new flows added to the Oneida County Sewer District within the Satellite Municipalities, and corresponding I/I removed from the Satellite Municipalities within the Oneida County Sewer District to conform to the 5:1 offset, as well as the locations of the removals/additions. The Quarterly Progress Report shall be due thirty (30) days after the corresponding calendar quarter.

XIV. ENTIRE ORDER

The provisions of this Order constitute the complete and entire Order issued to the Respondent concerning resolution of the violations identified in Paragraphs 2 through 19 this

Order. No term, condition, understanding, or agreement purporting to modify or vary any term hereof shall be binding unless made in writing and subscribed by the party to be bound, pursuant to Paragraph XII of this Order. No informal oral or written advice, guidance, suggestion, or comment by the Department regarding any report, proposal, plan, specification, schedule, comment, or statement made or submitted by Respondent shall be construed as relieving Respondent of its obligations to obtain such formal approvals as may be required by this Order.

XV. AUTHORITY TO SIGN

The persons signing this Consent Order represent that they have full authority to bind the respective parties which they represent.

XVI. EFFECTIVE DATE

The effective date of this Order is the date on which the Commissioner or his representative signs this Order.

XVII. TERMINATION

This Order shall be deemed completely satisfied and shall terminate upon: (1) Respondent's payment of any due civil penalties; (2) Respondent's written certification, and DEC's written verification, of timely completion of the compliance requirements set forth in paragraph I.B.1, paragraph III.A, and Schedule A of this Order; and (3) the inclusion of the documents set forth in paragraph II.C into Respondent's SPDES permits.

XVIII. SUBMISSIONS

All penalties required under this Order will be sent to:

Department of Environmental Conservation
317 Washington Street

Watertown, New York, 13601-3787
Attention: Regional Attorney

All submissions required under this Order, other than penalties, will be sent to:

Regional Engineer
Department of Environmental Conservation
317 Washington Street
Watertown, New York, 13601-3787

- and -

Director, Bureau of Water Permits
Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, NY 12233

-and-

Project Manager
North/Western Projects Section
New York State Environmental
Facilities Corporation
634 Broadway
Albany, NY 12207-2997

All submissions of a legal nature under this Order shall be sent to:

Chief, Water Bureau
Department of Environmental Conservation
Office of General Counsel
625 Broadway, 14th Floor
Albany, NY 12233

XIX. PLAN APPROVAL

"Approvable" within the context of this Order shall mean approved by the Department with only minimal revision. Minimal revision will mean revised and resubmitted to the Department within thirty (30) days of notification by the Department of revisions that are

necessary.

Dated: Albany, New York
December 12, 2011

JOSEPH J. MARTENS, COMMISSIONER
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

By: Judy Drabicki
JUDY DRABICKI, Director, DEC Region 6

EDMS#395667

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives its right to a hearing herein as provided by law, and agrees to be bound by the provisions, terms, and conditions contained in this Order.

ONEIDA COUNTY

By: _____
Anthony J. Picente, Jr.
Oneida County Executive

Title: County Executive

Date: 12-7-11

MUNICIPAL ACKNOWLEDGEMENT

STATE OF NEW YORK)
) SS.
COUNTY OF ONEIDA)

On this 7th day of December, 2011, before me personally appeared Anthony J. Picente, to me known, who being by me duly sworn, did depose and say that he resides in New York, that he is the County Executive of the County of Oneida , the municipal corporation described and which executed the foregoing instrument; that he knows the seal of said municipal corporation; that the seal affixed to said instrument is such seal; that it was so affixed by Order and authority of the Board of Legislators of said municipal corporation, and that he signed his name thereby by like Order and authority.

_____
State of New York Notary Public
Commission expires

JUDI A. SMITH
Notary Public in the State of New York
Qualified in Oneida County 04SM4950669
My Commission Expires May 8-15

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SCHEDULE A- COMPIANCE SCHEDULE

Within 14 days of the effective date of this Order, Respondent shall provide all Oneida County Sewer District tributary municipalities with a copy of this Order and submit proof of service to the Department.

To settle violations of the New York State Environmental Conservation Law, the above referenced Respondent shall, on or before the dates indicated, comply with the following:

A. Engineering Investigations and Evaluations

1. By June 30, 2012, Respondent shall submit to the Department for review and approval an engineering report ("Dye Testing and Storm Sewer Evaluation Report") to verify suspected indirect or direct stormwater connections entering the sanitary sewer system. The extent of the dye testing and storm sewer inspections shall be at the discretion of the Respondent based on previous evaluations and general knowledge of the sanitary sewer system. The evaluations and Dye Testing and Storm Sewer Evaluation Report shall be performed in accordance with sound engineering practices.

2. By June 30, 2012, Respondent shall complete inspections of identified and accessible sanitary manholes and submit to the Department for review and approval an engineering report ("Manhole Evaluation Report - Phase II") identifying sources and estimated quantities of I/I entering the sanitary sewer system through defective sanitary manholes. Manhole Evaluation Report - Phase II shall include the remaining manholes that were identified, accessible, and that were not inspected during initial evaluations summarized in "Sauquoit Creek Pumping Station Basin, Sanitary Sewer Manhole Inspection, Data Summary, Oneida County Sewer District," dated July 2010. The manhole evaluations and Manhole Evaluation Report - Phase II shall be performed in accordance with sound engineering practices.

3. By April 30, 2013, Respondent shall perform closed circuit television (CCTV) evaluations and submit to the Department for review and approval an engineering report ("Sewer Television Inspection Report - Phase II") identifying sources and estimated quantities of I/I entering the sanitary sewer system. The CCTV evaluations and Sewer Television Inspection Report - Phase II shall include approximately fifty (50) percent of the remaining sanitary sewer segments that were not televised during the initial evaluations summarized in "Sauquoit Creek Pumping Station Basin, Sanitary Sewer Television Inspection, Data Summary, Oneida County Sewer District," dated July 2010. CCTV inspections and Sewer Television Inspection Report - Phase II shall be performed in accordance with sound engineering practices.

4. By August 31, 2012, Respondent shall develop and submit to the Department for review and approval an engineering report ("Sauquoit Creek Pump Station" or "SCPS Evaluation Report") for expanding the pumping capacity of the Pump Station. The SCPS Evaluation Report shall include at a minimum: a) brief history of the Pump Station including past upgrades; b) current effective capacity of the Pump Station and force main; c) assessment of equipment condition; d) assessment of operational redundancy; e) make recommendations for upgrades; f) description of proposed upgrades within preliminary basis of design; g) details necessary to develop engineering plans and specifications; h) preliminary cost estimates for proposed upgrades; and i) implementation schedule of deadlines for key milestones, including submission of required engineering plans and specifications, and construction start and completion dates for all proposed upgrades. The SCPS evaluations and SCPS Evaluation Report shall be performed in accordance with sound engineering practice, Department standards, and generally accepted industry guidance.

5. By August 31, 2012, Respondent shall develop and submit to the Department for review and approval an engineering report ("Water Pollution Control Plant" or "WPCP Evaluation Report") for expanding the treatment capacity of the WPCP. The WPCP Evaluation Report shall consider future growth and compliance with applicable state and federal regulations. The WPCP evaluations and WPCP Evaluation Report shall be performed in accordance with sound engineering practice, Department standards, and generally accepted industry guidance. Respondent shall have the option to submit to the Department a single report or two separate reports that address the requirements of subsections A.4 and A.5 of this Compliance Schedule.

6. Respondent shall submit a "Treatment System Supplement" to the SSO Mitigation Plan for Department review and approval within 60 days after approval by the Department of the SCPS Evaluation Report and the WPCP Evaluation Report that incorporates the data and remedial strategy developed subsequent to the SCPS and WPCP evaluations. Once approved, the "Treatment System Supplement" is thereby incorporated into and made an enforceable part of this Order.

7. By May 31, 2014, Respondent shall submit a "Collection System Supplement" to the SSO Mitigation Plan for Department review and approval that incorporates the data and remedial strategy developed subsequent to the cumulative completion of the Dye Testing and Storm Sewer Evaluation Report, Manhole Evaluation Report - Phase II, Sewer Television Inspection Report - Phase II, and Sewer Television Inspection Report - Phase III. Once approved, the "Collection System Supplement" is thereby incorporated into and made an enforceable part of this Order.

8. By April 30, 2014, Respondent shall perform closed circuit television (CCTV) evaluations and submit to the Department for review and approval an engineering report ("Sewer Television Inspection Report - Phase III") identifying sources and quantities of I/I

entering the sanitary sewer system. The CCTV evaluations and Sewer Television Inspection Report - Phase III shall include the remaining sanitary sewer segments that were not televised during the initial evaluations summarized in "Sauquoit Creek Pumping Station Basin, Sanitary Sewer Television Inspection, Data Summary, Oneida County Sewer District" dated July 2010, and CCTV inspections performed pursuant to Subsection A.3 of this Compliance Schedule. CCTV evaluations and Sewer Television Inspection Report - Phase III shall conform to the requirements pursuant to Subsection A.3 of this Compliance Schedule.

B. Management Programs

1. By March 31, 2012, Respondent shall develop and submit to the Department for review and comment a proposed flow monitoring program ("Flow Monitoring Program") with an implementation and annual reporting schedule to assess the effectiveness of completed sanitary sewer rehabilitation projects and to predict the anticipated I/I reduction for future rehabilitation projects. Flow monitoring shall be conducted in strategic locations and at appropriate intervals to make such assessments. Flow monitoring results and assessments shall be documented annually in the first Quarterly Progress Report to be submitted in 2013 pursuant to Paragraph XIII of this Order.

2. By June 30, 2012, Respondent shall develop and submit to the Department for review and comment a proposed program outline with an implementation schedule that includes coordination with the Satellite Municipalities ("Private Property I/I (PPI/I) Reduction Program") to reduce I/I sources from private property within the Satellite Municipalities. Implementation of the Private Property I/I (PPI/I) Reduction Program must commence by May 31, 2013.

3. By June 30, 2012, Respondent shall develop and submit to the Department for review and comment a proposed capacity, management, operations and maintenance program outline with an implementation schedule that includes coordination with the Satellite Municipalities ("CMOM Program") to control sanitary flows from Satellite Municipalities through efficient performance and proper operation and maintenance of the sanitary sewer system. The Respondent shall be responsible for CMOM Program oversight of Satellite Municipalities, including implementation and enforcement. The CMOM Program shall be developed in accordance with EPA's "Guide for Evaluating Capacity, Management, Operation, and Maintenance ("CMOM") Programs at Sanitary Sewer Collection Systems," EPA 305-B-05-002 (January 2005) and generally accepted industry guidance. Implementation of the approved CMOM program must commence by May 31, 2013.

4. By December 31, 2021, Respondent shall develop and submit to the Department for review and comment a proposed asset management program ("Asset Management Plan") for the long-term sustainability of County owned equipment related to the WPCP, pumping

stations, and sanitary sewer system. The Asset Management Plan shall be limited to equipment valued at more than $50,000.

C. **Remedial Measures**

1. Upon the effective date of this Order, Respondent shall be obligated to ensure that sources of I/I entering the sanitary sewer system recommended for rehabilitation through engineering evaluations performed pursuant to Subsections A.1, A.2, A.3, A.7, and A.8 of this Compliance Schedule shall be remediated in accordance with the recommendations until compliance with this Order is achieved. Sanitary sewer rehabilitation shall be phased annually based on the compliance due date of December 31, 2021, and annual rehabilitation shall be scheduled pursuant to Subsection D of this Compliance Schedule. Each calendar year, Respondent shall mitigate identified sources of inflow/infiltration in locations that are part of or that collectively comprise a minimum of ten (10) miles of sanitary sewers. Mitigation may include a combination of pipe rehabilitation, pipe replacement, manhole rehabilitation, stormwater cross connection repairs, private property inflow/infiltration source removal, stormwater facilities to accommodate inflow/infiltration source removal, and removal of other inflow/infiltration sources. This mitigation work will continue until the "Collection System Supplement" described in subsection A.7 of this Compliance Schedule has been approved by the Department. If Respondent mitigates more than the annual minimum during any calendar year, Respondent may "bank" the excess and apply bank credits to an upcoming calendar year to demonstrate compliance with this Subsection. Upon completion, sanitary sewer rehabilitation work performed pursuant to this Subsection shall be eligible for credit to offset new sanitary sewer connection(s) and/or extension(s) in accordance with "Oneida County Sewer District, Inflow/Infiltration Offset Plan," dated April 2, 2008, as revised September 23, 2008. Offset credits obtained pursuant hereto may only be applied within the Satellite Municipalities tributary to SSO Outfall 002 that are subject to the *Oneida County Sewer District Inflow/Infiltration Offset Plan,* dated April 2, 2008, as revised September 23, 2008.

2. By December 31, 2016, Respondent shall complete the construction of the "Semi-Permanent Alternative" as described and recommended in "Supplemental Report, Re-Evaluation of Temporary Treatment Alternatives for the Sauquoit Creek Pumping Station Bypass," dated December 2010. Construction of a new force main shall be eligible for bank credits as described in Subsection C.1 of this Compliance Schedule. Respondent shall be responsible to obtain all required regulatory reviews, permits, and approvals, including an approved engineering report and engineering plans and specifications. In the event that Respondent determines the Semi-Permanent Alternative is not technically feasible based on engineering evaluations performed pursuant to Subsections A.4, A.5, and A.6 of this Compliance Schedule, or it is determined that the Semi-Permanent Alternative will not be required to eliminate the SSO at Outfall 002, Respondent shall submit such a determination with supporting engineering documentation to the Department for review and approval.

3. Upon Department approval of the SCPS Evaluation Report performed pursuant to Subsection A.4 of this Compliance Schedule, Respondent shall be obligated to construct the proposed upgrades in substantial conformance with recommendations made. Respondent shall be responsible to obtain all required regulatory reviews, permits, and approvals, including approved engineering plans and specifications. Construction of the upgrades shall be based on a compliance due date of December 31, 2021. In the event that Respondent determines that SCPS upgrades are not technically feasible based on engineering evaluations performed pursuant to Subsection A.4 and A.5 of this Compliance Schedule or SCPS upgrades are not required to successfully eliminate the SSO at Outfall 002, Respondent shall submit such a determination with supporting engineering documentation to the Department for review and approval.

4. Upon Department approval of the WPCP Evaluation Report performed pursuant to Subsection A.5 of this Compliance Schedule, Respondent shall construct the proposed upgrades in substantial conformance with recommendations made. Respondent shall be responsible to obtain all required regulatory reviews, permits, and approvals, including approved engineering plans and specifications. Construction shall be based on a compliance due date of December 31, 2021. In the event that Respondent determines that WPCP upgrades are not technically feasible based on engineering evaluations performed pursuant to Subsection A.5 of this Compliance Schedule or is not required to successfully eliminate the SSO at Outfall 002, Respondent shall submit such a determination with supporting engineering documentation to the Department for review and approval.

D. Annual Work Plan

Starting on the last day of the month that shall be the month that is 90 days after the effective date of this Order, Respondent shall submit to the Department for review and approval the first annual plan ("Annual Work Plan") of sanitary sewer rehabilitation and facility upgrades for the upcoming calendar year. Each year thereafter until the termination of this Order, Respondent shall submit a revised Annual Work Plan. The subsequent Annual Work Plans shall be due by January 31 of each year. Annual Work Plans shall indicate Respondent's progress in completing work identified in prior Annual Work Plans in summary format and Respondent's intended future efforts to mitigate the SSO at Outfall 002 pursuant to Subsection C. of this Compliance Schedule. Annual Work Plans shall include Department approved construction schedules submitted in accordance with this Compliance Schedule. Significant deviations from an approved Annual Work Plan must be applied for in writing and approved by the Department, which approval shall not be unreasonably withheld, denied, or delayed. The Annual Work Plan shall include proposed mitigation measures which, at a minimum, satisfy the milestone set forth in Subsection C.1 of this Compliance Schedule. Upon approval by the Department, the schedules contained in the Annual Work Plans will be affixed to and become an enforceable part of this Order.

SCHEDULE B- DEFINITIONS

Terms used in this Order which are defined in Article 17 of the Environmental Conservation Law of the State of New York (ECL) or in regulations promulgated under Article 17 of the ECL shall have the meaning ascribed to them in Article 17 of the ECL or in the regulations promulgated thereunder. Whenever the terms listed below are used in this Order, the following definitions shall apply:

1. "CCTV" shall mean an inspection technique that uses a closed-circuit television camera to observe the interior condition of a sanitary sewer segment.

2. "CMOM" shall mean capacity, management, operations, and maintenance program of accepted industry practices to properly manage, operate, and maintain sanitary wastewater collection, transmission, and treatment systems.

3. "Consent Order" or "Order" shall mean Consent Order R620060823-67 and all appendices hereto, including any amendments thereto.

4. "Oneida County" or "County" shall mean Oneida County, New York, and any of its successor departments or agencies, as well as any contractors, consultants, or agents representing the County.

5. "Department" shall mean the New York State Department of Environmental Conservation and any of its successor departments or agencies.

6. "Department standards" shall mean the 2004 edition of Recommended Standards for Wastewater Facilities by the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers.

7. "EPA" shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.

8. "Force main" means any pipe that receives and conveys wastewater under pressure from the discharge side of a pump installed in a pump station.

9. "Infiltration" shall mean water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes, as provided in 6 NYCRR Part 750-1.2(a)(45).

10. "Inflow" shall mean water other than wastewater that enters a sewer system (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross-connections between storm sewers and sanitary sewers, catch

basins, cooling towers, stormwater, surface runoff, street wash waters, or drainage, as provided in 6 NYCRR Part 750-1.2(a)(46).

11. "I/I" shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

12. "Outfall 002" shall mean the terminus of the overflow sewer at the SCPS at the point of emergence with the Mohawk River, as defined in SPDES permit NY-0025780.

13. "Permit" or "SPDES Permit" shall mean State Pollutant Discharge Elimination System (SPDES) permit number NY-0025780 issued to the County pursuant to Title 8 of Article 17 of the Environmental Conservation Law of New York State for the WPCP and any future extended, modified, or reissued permit therefore.

14. "Sanitary Sewer Overflow" or "SSO" shall mean any spill, release, or bypass of wastewater from the sanitary sewer system to the waters of the state, as well as any release of wastewater from the sanitary sewer system to public or private property that are not caused by blockages, flow conditions, or malfunctions in a private lateral or conveyance system that is not owned or operationally controlled by the County or Satellite Municipality.

15. "Sanitary sewer segment" shall mean that part of a sewer line that is between one manhole and the next closest manhole on the sewer line in question.

16. "Sanitary sewer system" means the wastewater collection and conveyance system tributary to the SCPS that is owned or operated by the County or Satellite Municipally (including all pipes, force mains, gravity sewers, pump stations, manholes, and appurtenances thereto, but does not in any way include private laterals) that is designed to collect and convey municipal sewage (domestic, commercial, or industrial).

17. "Satellite Municipality" or "Satellite Municipalities" shall mean an incorporated political subdivision within or partly within the Oneida County Sewer District that conveys sanitary sewage to the SCPS which includes the town of New Hartford, town of Paris, town of Whitestown, village of Clayville, village of New Hartford, village of New York Mills, village of Oriskany, village of Yorkville, and the village of Whitesboro.

18. "SCPS" or "Pump Station" shall mean the Sauquoit Creek Pump Station which is owned and operated by the County and is located in the village of Yorkville, town of Whitestown, New York.
19. "WPCP" shall mean the Oneida County Water Pollution Control Plant, including all of its components, located at 51 Leland Avenue, Utica, New York.

Appendix B

Environmental Assessment Form

ONEIDA COUNTY DEPARTMENT OF WATER QUALITY & WATER POLLUTION CONTROL

51 Leland Ave, PO Box 442, Utica, NY 13503-0442
(315) 798-5656 wpc@ocgov.net FAX 724-9812

Anthony J. Picente, Jr.
County Executive

Steven P. Devan, P.E.
Commissioner

June 19, 2015

Ms. Terry Tyoe, Deputy Regional Permit Administrator - NYSDEC
Ms. Beth Watts, PE – NYSDOT
Ms. Deborah Day, Senior Engineer – City of Utica Engineering Department
Mr. Carl Ferrentino, Esq. – NYSEFC
Mr. Phil Husted, Codes Enforcement Officer – Town of Whitestown
Ms. Toni Anne Gardiner, Village Clerk/Treasurer – Village of Yorkville

Re: Oneida County
Sauquoit Creek Pump Station, Force Main and Oneida County Water Pollution Control Plant Expansion and Upgrades.
Oneida County, New York

To Whom It May Concern:

Oneida County is undertaking a non-discretionary project in support of compliance with a consent order (No. R620060823-67) executed between the New York State Department of Environmental Conservation (NYSDEC) and Oneida County as a result of sanitary sewer overflows (SSO) at the Sauquoit Creek Pump Station (SCPS). The County is proposing to expand and upgrade the SCPS and the water pollution control plant (WPCP) located in the Village of Yorkville, New York, and in Utica, New York respectively (See Figure 1 a-b). A new force main from the SCPS to the WPCP will also be constructed to support the increase in capacity. Below is a brief list of the proposed site modifications:

- SCPS
  - New Screening Facility
  - Upgrades to the existing Pump Station
  - New Emergency generator with enclosure structure
  - New 48-inch Force Main
  - Incidental site work
- WPCP
  - Upgrades to the existing Pump Station
  - New Sanitary Pump Station
  - Two New Grit Facilities
  - Two New Primary Settling Tanks
  - New Lime Stabilization Building
  - New Digester Complex
  - New High Rate Disinfection Tanks
  - New Outfall to the Mohawk River
  - New Electrical Substation
  - Upgrades at the existing facilities: structural, architectural and HVAC/Electric
  - Upgrades at the existing Final Settling Tanks, and Aeration Tanks
  - Incidental site work/piping

In accordance with the requirements of the State Environmental Quality Review Act (SEQRA), Oneida County is declaring its intent to act as the SEQRA "Lead Agency" and provide for a coordinated review of the project through the SEQRA process, including an assessment of potential environmental impacts. Part 1 (Project Information) of a Full Environmental Assessment Form that describes the project has been completed and is enclosed for your review (Attachment 1). Also enclosed are a SEQRA Coordination Request Form (Attachment 2), used to facilitate the Lead Agency coordination process, and a distribution list of involved agencies with potential project-related jurisdiction (Attachment 3).

As an Involved Agency, this notice is directed to you in accordance with provisions of Article 8 of the Environmental Conservation Law and 6 NYCRR Part 617 of the SEQRA implementing regulations to evaluate the following:

- your agency's potential jurisdiction in the proposed action;
- your agency's concurrence that Oneida County assume the responsibilities of Lead Agency; and
- issues that your agency believes should be addressed in the SEQRA process.

Please submit your response within thirty days of the date of this notice with regard to the above items. Responses (see Attachment 2) must be submitted to my attention:

Mr. Steven P. Devan, P.E.
Commissioner
Department of Water Quality & Water Pollution Control
51 Leland Ave
P.O. Box 442
Utica, NY 13503-0442

Should you have any questions, please contact me at 315-798-5656 or sdevan@ocgov.net.

Sincerely,

THE ONEIDA COUNTY DEPARTMENT OF
WATER QUALITY & WATER POLLUTION CONTROL

Steven P. Devan, P.E.
Commissioner

Enclosures:

Figure 1 a-b – Site Location
Attachment 1 – Full EAF (Part 1)
Attachment 2 – SEQRA Lead Agency Coordination Request Form
Attachment 3 – List of Involved and Interested Agencies

cc: Peter Rayhill, Esq. – Oneida County Attorney
Karl Schrantz, PE – O'Brien & Gere Engineers

FIGURE 1 a

N

LEGEND

Oneida SCPS Boundary

New 48-inch Force Main

Oneida County SCPS
Boundary

06-19-15

O'BRIEN & GERE

This document was developed in color. Reproduction in B/W may not represent the data as intended.

PLOTDATE: never never makey

FIGURE 1 b

N

Legend

- Oneida WPCP Boundary
- Gas Main
- Railroad Property

Oneida County WPCP
Plant Boundary and Expansion Constraints

03-10-15

O'BRIEN & GERE

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PLOTDATE: never never maloey

ATTACHMENT 1

EAF

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Sauquoit Creek Pump Station, Force Main and Oneida County Water Pollution Control Plant Expansion and Upgrades		
Project Location (describe, and attach a general location map): Sauquoit Creek Pump Station Village of Yorkville, NY, 13417 and the Water Pollution Control Plant at 51 Leland Ave, Utica, NY 13502		
Brief Description of Proposed Action (include purpose or need): This is a nondiscretionary project being undertaken in support of compliance with a consent order (No. R620060823-67) executed between the New York State Department of Environmental Conservation (NYSDEC) and Oneida County (County) as a result of sanitary sewer overflows (SSO) at the Sauquoit Creek Pump Station (SCPS). The project includes upgrades to the SCPS, construction of a new force main between the SCPS and the County's Water Pollution Control Plant (WPCP), as well as upgrades at the WPCP. The purpose of the project is to expand and upgrade both the SCPS and the facilities at the WPCP to accept additional flows and loads resulting from SSO mitigation at the SCPS. In addition to expanding the facilities at the WPCP, aging equipment and infrastructure will be upgraded to ensure long term reliability of the WPCP. Expansion and upgrades at the WPCP are also consistent with combined sewer overflow (CSO) mitigation, which is part of the County's Long Term Control Plan (LTCP)		
Name of Applicant/Sponsor: County of Oneida	Telephone: 315 798 5656 E-Mail:	
Address: PO Box 442		
City/PO: Utica	State: NY	Zip Code: 13503
Project Contact (if not same as sponsor; give name and title/role): Steven P Devan, Commissioner, Department of Water Quality & Water Pollution Control	Telephone: 315 798 5656 E-Mail: sdevan@ocgov.net	
Address: P.O. Box 442, 51 Leland Ave		
City/PO: Utica	State: NY	Zip Code: 13503
Property Owner (if not same as sponsor): County of Oneida	Telephone: E-Mail:	
Address: P.O. Box 442, 51 Leland Ave		
City/PO: Utica	State: NY	Zip Code: 13503

B. Government Approvals See Attached List

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☐Yes ☐No		
b. City, Town or Village Planning Board or Commission ☐Yes ☐No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes ☐No		
d. Other local agencies ☐Yes ☐No		
e. County agencies ☐Yes ☐No		
f. Regional agencies ☐Yes ☐No		
g. State agencies ☐Yes ☐No		
h. Federal agencies ☐Yes ☐No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes ☑No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

NYS Heritage Areas:Mohawk Valley Heritage Corridor, Remediaton Sites:633030, Remediaton Sites:633021

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

GOVERNMENT APPROVALS

NYSDEC

- Approval of Plans
- SPDES Permit (or modification of existing SPDES permit) for new outfall
- Freshwater Wetlands (Article 24 of ECL) – for work within State-regulated freshwater wetlands and/or buffer
- Protection of Waters (Article 15 of the ECL) –for work within the Mohawk River
- 401 Water Quality Certification
- SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002) (includes SWPPP)
- Air permit (or modification) – for modifications to sludge incinerator

USACE

- Section 404 of the Clean Water Act (for work within the Mohawk River and potential federal wetlands)
- Section 10 of the Rivers & Harbors Act of 1899 (for work within the Mohawk River)

NYSDOT, County DOT and/or Local DOTs

- Highway Work Permits – for work within rights-of-way

NYSEFC

Project Funding

NYSOPRHP - Field Services Bureau (State Historic Preservation Office or SHPO)

- Consultation with SHPO

Municipalities

- Floodplain Development Permit – for development within the 100-year floodplain

CSX

- Work within the RR right-of-way

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?

The project site falls under land conservation in Utica. The force main that extends from the Utica site to the Village of Yorkville site covers light industrial and planned development areas as well as land conservation areas. The fore main will be located predominantly adjacent to a CSX rail bed.

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? New York Mills Union Free School District, Utica City School District

b. What police or other public protection forces serve the project site?

Utica Police Department - City of Utica, NY, Yorkville Police Department - Village of Yorkville, NY, Whitestown Police Department - Town of Whitestown

c. Which fire protection and emergency medical services serve the project site?

City of Utica Fire Department, Yorkville NY Fire Department

d. What parks serve the project site?

No Parks are impacted by the project site.

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Municipal Sewer System Improvements.

b. a. Total acreage of the site of the proposed action? ~28 acres
b. Total acreage to be physically disturbed? ~13 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? ~25 acres

~25 acres for the SCPS, Barnes Ave Pump Station, and WPCP and 45 miles of interceptor sewers.

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? ☑ Yes ☐ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) Oct month 2015 year
- Anticipated completion date of final phase Dec month 2021 year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

The project will be constructed in phases, schedule to be completed by the Consent Order date of 2021. The project must proceed in stages/phases to provide an uninterrupted minimum level of sewage collection and treatment services to be determined with the NYSDEC.

f. Does the project include new residential uses? ☐Yes ☑No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No

If Yes,

i. Total number of structures 12

ii. Dimensions (in feet) of largest proposed structure: ~9 height; 135 width; and 274.3 length

iii. Approximate extent of building space to be heated or cooled: 120,000 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑Yes ☐No

If Yes,

i. Purpose of the impoundment: New Screenings Building and pump station wet wells, clarifiers to enhance treatment. The wastewater is impounded within channels, tanks and wet wells inside new structures.

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑Other specify: Raw sewage from the City of Utica and surrounding service area.

iii. If other than water, identify the type of impounded/contained liquids and their source.

New Screenings Building and Pump Station wet wells require impoundment of sewage to enhance treatment.

iv. Approximate size of the proposed impoundment. Volume: ~8 million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

Concrete channels and tanks.

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☑Yes ☐No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

i .What is the purpose of the excavation or dredging? Installation of pipelines, new buildings, new tankage, and new outfall per Consent Order.

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): Installed pipe volume.
- Over what duration of time? phased construction over six years

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

Native soils will be excavated, acceptable materials will be sued as backfill. Any excavated soil not used as backfill will be disposed off site in accordance with applicable regulations.

i*v.* Will there be onsite dewatering or processing of excavated materials? ☑Yes ☐No

If yes, describe. Potential to encounter groundwater during construction, which will be managed in accordance with typical construction standards.

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐Yes ☐No

ix. Summarize site reclamation goals and plan:

Areas along pipeline alignment will be restored to pre-existing grades.

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑Yes ☐No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Mohawk River (installation of outfall)

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

A second outfall will be added to the Mohawk River to accommodate the required increase in treatment capacity at the WPCP. This is a necessary upgrade to handle more sewage flow in an effort to mitigate the impacts of SSOs and CSOs, ultimately protecting the water quality of the Mohawk River.

iii. Will proposed action cause or result in disturbance to bottom sediments? ☑ Yes ☐ No

If Yes, describe: Temporary impact during installation of outfall.

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☑ Yes ☐ No

If Yes:

- acres of aquatic vegetation proposed to be removed: <0.1 acre (Temporary impact during installation of outfall.)
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: excavation
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

Proper erosion and sediment control will be provided at the outfall to minimize impacts.

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No

If Yes:

i. Total anticipated water usage/demand per day: <10,000 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No

If Yes:

- Name of district or service area: MVWA
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☑ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑ No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☑ No

If Yes: The project is located at the Oneida County WPCP. The project goal is to increase the plants capacity to treat liquid wastes, thereby reducing SSOs and CSOs, and improving the water quality of the Mohawk River.

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No

If Yes:

- Name of wastewater treatment plant to be used: The project is located at the Oneida County WPCP.
- Name of district: Oneida County Sewer District
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will line extension within an existing district be necessary to serve the project? ☑ Yes ☐ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

The project invovles adding a second forcemain from the SCPS to the WPCP to provide additional flows to the WPCP and reduce SSOs.

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☑ No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

Plans for the plant upgrades include upgrading and expanding the plants effluent water system to use treated and disinfected effluent from the plant (non-potable) for various plant operations including cleaning of equipment and tanks.

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑ Yes ☐ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or <0.1 acres (impervious surface)

_____ Square feet or <0.1 acres (parcel size)

ii. Describe types of new point sources. none

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Water will be directed to on-site water management facilities per SWPPP that will be prepared for this project.

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☑ No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐ Yes ☑ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑ Yes ☐ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

waste delivery vehicles

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

Biosolids incinerators on-site will be upgraded to meet EPA and DEC standards, but will be phased out over time and replaced by anaerobic digestion.

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☑ Yes ☐ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☑ No

ii. In addition to emissions as calculated in the application, the project will generate:

- TBD Tons/year (short tons) of Carbon Dioxide (CO_2)
- TBD Tons/year (short tons) of Nitrous Oxide (N_2O)
- TBD Tons/year (short tons) of Perfluorocarbons (PFCs)
- TBD Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- TBD Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- TBD Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☑ Yes ☐ No

If Yes:

i. Estimate methane generation in tons/year (metric): 1,187

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): Biogas produced by the anaerobic digesters will be collected and used as fuel for microturbine generators. Electrical power produced by the microturbines will be utilized onsite.

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐ Yes ☑ No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐ Yes ☑ No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐ Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐ Yes ☐ No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☑ Yes ☐ No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐ Yes ☑ No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐ Yes ☑ No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑ Yes ☐ No

If Yes: At the WPCP.

i. Estimate annual electricity demand during operation of the proposed action: Increase in demand at the SCPS is minimal; at the WPCP the demand will increase by 1,200 KW totaling 3,600 KW which requires a new substation.

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): National Grid gas and electric, to be offset by the digester CHP system.

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☑ Yes ☐ No

A new substation will be constructed at the WPCP.

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7am -7pm
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: 24/7
- Saturday: 24/7
- Sunday: 24/7
- Holidays: 24/7

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Operation of heavy equipment during the construction hours (7am - 7 pm) Monday through Friday. No anticipated increase in ambient noise after construction.

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n.. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Existing outdoor lighting will be updated/upgraded to provide visibility for any new and existing facilities.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☑ Yes ☐ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

During construction certain facilities will be drained in order to provide access to equipment and allow upgrades. Draining of sewage tanks and wet wells can produce odors. Frequency and duration will depend on construction sequence. Cleaning after draining can reduce/eliminate odor issues.

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities: _____

Any work with chemical storage on site is to replace tanks in kind as part of upgrades to ensure long term reliability and serviceability at the SCPS/WPCP.

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: construction wastes tons per _____ (unit of time)
- Operation : sludge/ash tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: Contractors will be required to manage C&D debris in accordance with applicable regulations.
- Operation: Same as current facilities.

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☑ Industrial ☑ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☑ Forest ☐ Agriculture ☐ Aquatic ☑ Other (specify): Flood Plain

ii. If mix of uses, generally describe:

The two project sites at the SCPS and the Oneida County WPCP are located in remote areas adjacent to undeveloped/unmaintained land. The proposed force main that connects the two sites however runs through some urban, industrial, and commercial areas, within the railroad easement.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	~17	19	2
• Forested	0	0	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0	0	0
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0	0
• Wetlands (freshwater or tidal)	0	0	0
• Non-vegetated (bare rock, earth or fill)	8	6	-2
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☑ No

If Yes,

i. Identify Facilities:

The SCPS and WPCP are located in relatively remote areas, however temporary work on the force main may be within 1500 feet of some facilities listed above.

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☑ Yes ☐ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☑ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

The WPCP is located next to the Oneida-Herkimer Solid Waste Authority Transfer Station

iii. Describe any development constraints due to the prior solid waste activities: _____

None.

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑ Yes ☐ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑ Yes ☐ No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____

☑ Yes – Environmental Site Remediation database — Provide DEC ID number(s): 633030, 633021

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): E633056, E633070, E633052, 633009, 633047, B001...

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

Unknown.

_____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? >15 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

Wakeville Silt Loam	7.0 %
Wayland Soils Copmlex 0-3% slopes	31.2 %
Udorthents, smoothed	61.8 %

Alton-Urban Land Complex 0.3% of site, Slopes 3.1%.

d. What is the average depth to the water table on the project site? Average: 3 feet

e. Drainage status of project site soils:
☐ Well Drained: 3.1 % of site
☐ Moderately Well Drained: 61.8 % of site
☐ Poorly Drained 35.1 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: _____% of site
☐ 15% or greater: _____% of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No
The project includes upgrades and expansion to sites, which have been previously disturbed and are within the wetlands check zones. Wetland delineations have been completed and preparations for a Joint Application for permit are being made.

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 876-430, 875-1, 876-434 Classification B, C(T)
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters,... Approximate Size NYS Wetland (in a...
- Wetland No. (if regulated by DEC) UE-7, UW-2

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑ Yes ☐ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____
Name - Pollutants - Uses:Sauquoit Creek, Lower, and minor tribs – Priority Organics – Fish Consumption

i. Is the project site in a designated Floodway? ☑ Yes ☐ No

j. Is the project site in the 100 year Floodplain? ☑ Yes ☐ No

k. Is the project site in the 500 year Floodplain? ☑ Yes ☐ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:
i. Name of aquifer: Principal Aquifer

m. Identify the predominant wildlife species that occupy or use the project site:
Transient common species such as: deer, groundhogs, squirrels, birds, garter snakes

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐ No

Northern Long-Eared Bat, Indiana Bat, Bog Turtle (Listed for Oneida County)

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☑ Yes ☐ No
If yes, give a brief description of how the proposed action may affect that use: _____
Project site is along the Mohawk River.

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: Lower Genesee Street Historic District, Union Station, Utica Daily Press Building, Hieber, John C. & Co., Building

iii. Brief description of attributes on which listing is based:

The project will not impact those sites.

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

See Attachment 4.

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Oneida County Date June 19, 2015

Signature  Title Commissioner

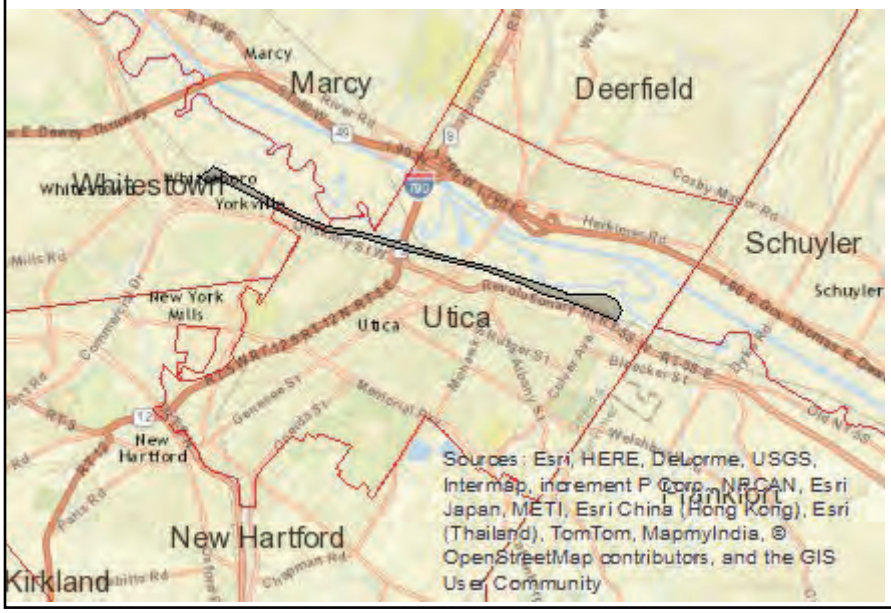
Steven P. Devan, PE

Department of Water Quality and Water Pollution Control

PRINT FORM

EAF Mapper Summary Report

Tuesday, June 16, 2015 4:47 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Heritage Areas:Mohawk Valley Heritage Corridor, Remediaton Sites:633030, Remediaton Sites:633021
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	633030, 633021
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	E633056, E633070, E633052, 633009, 633047, B00192, V00642, 633045, 633030, 633015, 633080, B00061, B00063, E633074, 633021, 633032, 633031, V00574
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	876-430, 875-1, 876-434
E.2.h.iv [Surface Water Features - Stream Classification]	B, C(T)

E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):18.1, NYS Wetland (in acres):154.0
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	UE-7, UW-2
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:Sauquoit Creek, Lower, and minor tribs – Priority Organics – Fish Consumption
E.2.i. [Floodway]	Yes
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National Register of Historic Places - Name]	Lower Genesee Street Historic District, Union Station, Utica Daily Press Building, Hieber, John C. & Co., Building
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

ATTACHMENT 2

SEQRA LEAD AGENCY FORM

ONEIDA COUNTY DEPARTMENT OF WATER QUALITY & WATER POLLUTION CONTROL

51 Leland Ave, PO Box 442, Utica, NY 13503-0442
(315) 798-5656 wpc@ocgov.net FAX 724-9812

Anthony J. Picente, Jr.
County Executive

Steven P. Devan, P.E.
Commissioner

June 19, 2015

Ms. Terry Tyoe, Deputy Regional Permit Administrator - NYSDEC
Ms. Beth Watts, P.E. – NYSDOT
Ms. Deborah Day, Senior Engineer – City of Utica Engineering Department
Mr. Carl Ferrentino, Esq. – NYSEFC
Mr. Phil Husted, Codes Enforcement Officer – Town of Whitestown
Ms. Toni Anne Gardiner, Village Clerk/Treasurer – Village of Yorkville

Re: Oneida County
Lead Agency Coordination Request – Notice of Project Proposal
Oneida County, New York

Project Name: Sauquoit Creek Pump Station, Force Main and Oneida County Water Pollution Control Plant Expansion and Upgrades

Project Description: Oneida County is undertaking a non-discretionary project in support of compliance with a consent order (No. R620060823-67) executed between the New York State Department of Environmental Conservation (NYSDEC) and Oneida County as a result of sanitary sewer overflows (SSO) at the Sauquoit Creek Pump Station (SCPS). The County is proposing to expand and upgrade the SCPS and the water pollution control plant (WPCP) located in the Village of Yorkville, New York, and in Utica, New York respectively (See Figure 1 a-b). A new force main from the SCPS to the WPCP will also be constructed to support the increase in capacity. Below is a brief list of the proposed site modifications:

SCPS

- New Screening Facility
- Upgrades to the existing Pump Station
- New Emergency Generator with enclosure structure
- New 48-inch Force Main
- Incidental site work

WPCP

- Upgrades to the existing Pump Station
- New Sanitary Pump Station
- Two New Grit Facilities
- Two New Primary Settling Tanks
- New Lime Stabilization Building
- New Digester Complex
- New High Rate Disinfection Tanks
- New Outfall to Mohawk River
- New Electrical Substation
- Upgrades at the existing facilities: structural, architectural and HVAC/Electric
- Upgrades at the existing Final Settling Tanks, and Aeration Tanks
- Incidental site work/piping

Location: a) SCPS - Whitesboro St. Village of Yorkville, New York 13417 and

b) WPCP - 51 Leland Ave Utica, NY, 13502

Status:

- ν Permit applications have not yet been submitted.
- o Permit applications have been submitted.
- ν Oneida County will assume SEQRA lead agency status.

Contact Person:

Mr. Steven P. Devan, P.E.
Commissioner
Department of Water Quality & Water Pollution Control
51 Leland Ave
P.O. Box 442
Utica, NY 13503-0442

sdevan@ocgov.net

CONSENT FORM

ONEIDA COUNTY
SAUQUOIT CREEK PUMP STATION, FORCE MAIN, AND ONEIDA COUNTY WATER POLLUTION CONTROL PLANT EXPANSION AND UPGRADES
ONEIDA COUNTY, NEW YORK

This notice is directed to you in accordance with SEQRA procedures. Please complete and submit the attached form within thirty-days of the date of this notice to:

Steven P. Devan, P.E.
Commissioner
Department of Water Quality & Water Pollution Control
51 Leland Ave
PO Box 442
Utica, New York 13503
Tel (315) 798-5656
Fax (315) 724-9812
sdevan@ocgov.net

Additional sheets may be attached if necessary.

---

1. Your agency's potential jurisdiction in the proposed action.

   _____

   _____

2. Your agency's concurrence that Oneida County assume the responsibility of SEQRA lead agency.
   ( ) Yes ( ) No

   If no, reasons supporting your response.

   _____

   _____

3. Issues that your agency believes should be addressed in the SEQRA review.

   _____

   _____

Name of Involved Agency _____

Name & Title of Responsible Official _____

Signature of Responsible Official _____

_____ Date

ONEIDA COUNTY DEPARTMENT OF
WATER QUALITY & WATER POLLUTION CONTROL

51 Leland Ave, PO Box 442, Utica, NY 13503-0442
(315) 798-5656 wpc@ocgov.net FAX 724-9812

Anthony J. Picente, Jr.
County Executive

Steven P. Devan, P.E.
Commissioner

June 19, 2015

Ms. Terry Tyoe, Deputy Regional Permit Administrator - NYSDEC
Ms. Beth Watts, PE – NYSDOT
Ms. Deborah Day, Senior Engineer – City of Utica Engineering Department
Mr. Carl Ferrentino, Esq. – NYSEFC
Mr. Phil Husted, Codes Enforcement Officer – Town of Whitestown
Ms. Toni Anne Gardiner, Village Clerk/Treasurer – Village of Yorkville

Re: Oneida County
Sauquoit Creek Pump Station, Force Main and Oneida County Water Pollution Control Plant Expansion and Upgrades.
Oneida County, New York

To Whom It May Concern:

The following is a list of all involved agencies and their contact information:

Ms. Terry Tyoe
Deputy Regional Permit Administrator
NYSDEC – Region 6
207 Genesee Street
Utica, NY 13501-2885

Mr. Carl Ferrentino, Esq.
New York State Environmental Facilities Corporation
625 Broadway
Albany, NY 12207-2997

Ms. Beth Watts, PE
New York State Department of Transportation
Region 2 Planning Unit
207 Genesee Street
Utica, NY 13501

Mr. Phil Husted
Codes Enforcement Officer
Town of Whitestown
8539 Clark Mills Road
Whitesboro, NY 13492

Ms. Deborah Day – Senior Engineer
City of Utica Engineering Department
1 Kennedy Plaza
Utica, NY 13502

Ms. Toni Anne Gardiner
Village Clerk/Treasurer
Village of Yorkville
30 Sixth Street
PO Box 222
Yorkville, NY 13495

Should you have any questions, please contact me at 315-798-5656 or sdevan@ocgov.net.

Sincerely,

THE ONEIDA COUNTY DEPARTMENT OF
WATER QUALITY & WATER POLLUTION CONTROL

Steven P. Devan, P.E.
Commissioner

ATTACHMENT 3

SHPO CORRESPONDENCE

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

March 5, 2015

Mr. Karl Schrantz
O'Brien & Gere
101 First Street
4th Floor
Utica, NY 13501

Re: NYSEFC
Sauquoit Creek Pumping Station Upgrades and New Forcemain
City of Utica, Oneida County, NY
15PR00896
CWSRF Project No. C6-6070-08-02

Dear Mr. Schrantz:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the *Phase IA Cultural Resources Investigation Report*, prepared by Ann Morton and dated March 4, 2015, in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources.

The State Historic Preservation Office (SHPO) understands that there are temporal and financial concerns regarding this project that require a letter from SHPO so that funds may be committed. The SHPO does not oppose the obligation of funds as long as there is a commitment from Oneida County to conduct any SHPO recommended cultural resource investigations prior to construction, with New York State Environmental Facility Corporation concurrence.

Before the SHPO provides comments on the recommendations of the Phase IA Report, we would like to consult with Mr. Jesse Bergevin of the Oneida Indian Nation, since the Nation may have additional information and knowledge about the project area.

If you have any questions, I can be reached at (518) 268-2179.

Sincerely,

Nancy Herter

Nancy Herter
Archaeology Unit Program Coordinator
e-mail: nancy.herter@parks.ny.gov

via e-mail only

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189
518-237-8643

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

January 31, 2013

Karl Schrantz
Shumaker Consulting Engineers
430 Court Street
Utica, New York 13502

Re: NYSEFC
Oneida Pollution Control
Plan Upgrades - Phase 6B
UTICA, Oneida County
13PR00447

Dear Mr. Schrantz:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, it is the SHPO's opinion that your project will have No Effect upon cultural resources in or eligible for inclusion in the National Registers of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Deputy Commissioner for Historic Preservation

Appendix C

SEQR Negative Declaration Resolution

INTRODUCTORY NO. 233

F.N. 2015-257

ONEIDA COUNTY BOARD OF LEGISLATORS

RESOLUTION NO.

INTRODUCED BY: Messrs. Miller, Porter
2ND BY: Mr. Joseph

RE: APPROVAL OF THE CLEAN WATER STATE REVOLVING FUND, PROJECT NO. C6-6070-08-04, STATE ENVIRONMENTAL QUALITY REVIEW DETERMINATION OF SIGNIFICANCE, JULY 8, 2015

WHEREAS, Oneida County is implementing requirements stipulated in a NYSDEC-issued Consent Order (R620060823-67); and;

WHEREAS, the Consent Order requires improvements and modifications to County owned and operated wastewater management facilities including the Oneida County Water Pollution Control Plant (WPCP) located in the City of Utica, NY, the Sauquoit Creek Pump Station located in the Village of Yorkville; the Sauquoit Creek Pumping Station Force Main located in the Village of Yorkville, Town of Whitestown, and City of Utica, and;

WHEREAS, these required improvements and modifications are to be funded, in part, through the State Revolving Fund, which is administered by the Environmental Facilities Corporation (EFC); and;

WHEREAS, discretionary actions approved or undertaken by local and State agencies require review under the State Environmental Quality Review Act (SEQRA); and;

WHEREAS, SEQRA implementing regulations (6 NYCRR § 617.5(c)(29)) exempt from further review actions, which consist of "civil or criminal enforcement proceedings, whether administrative or judicial, including a particular course of action specifically required to be undertaken pursuant to a judgment or order, or the exercise of prosecutorial discretion;" and;

WHEREAS, EFC requested completion of a Full Environmental Assessment Form (EAF) in conjunction with a coordinated SEQRA process; and;

WHEREAS, the County prepared and disseminated Part 1 of a Full EAF with the objective of initiating a coordinated review with other Involved Agencies; and;

WHEREAS, other Involved Agencies concurred with the County acting as SEQRA Lead Agency; and;

WHEREAS, the County, as SEQRA Lead Agency, prepared Parts 2 and 3 of a Full EAF; and;

WHEREAS, the County, as SEQRA Lead Agency, has considered the information contained in the Full EAF, which included an assessment of potential environmental and socio-economic impacts, as well as mitigation to reduce or eliminate those impacts, now therefore;

BE IT RESOLVED THAT, Oneida County, in its capacity as SEQRA Lead Agency, as determined in a Coordinated Review process, has concluded that the project will result in no significant adverse impacts on the environment and, therefore, an environmental impact statement need not be prepared. Accordingly, the County

of Oneida hereby issues a Negative Declaration with regard to proposed improvements and modifications to County owned and operated waste water management facilities.

APPROVED:	Public Works	(July 6, 2015)
	Ways & Means Committee	(July 8, 2015)
DATED:	July 8, 2015	

Adopted by the following vote:
AYES 23 NAYS 0 ABSENT 0

OFFICE, CLERK BOARD OF COUNTY LEGISLATORS)
COUNTY OF ONEIDA) SS:

I, hereby certify that I have compared the foregoing extract from the minutes of meeting of the Board of County Legislators of Oneida County held on the 8th day of July, 2015 with the original record thereof on File in this office and that the same is a true and correct transcript therefrom, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto affixed the seal of said Board this 8th day of July, 2015

ONEIDA COUNTY • NEW YORK 1798 BOARD OF LEGISLATORS

Clerk
MIKALE BILLARD

Appendix D

SPDES Permit

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

SIC Code:	**4952**	NAICS Code:	**221320**	SPDES Number:	**NY0025780**
Discharge Class (CL):	**05**			DEC Number:	**6-3016-00048/00001**
Toxic Class (TX):	**T**			Effective Date (EDP):	**04/01/2019**
Major-Sub Drainage Basin:	**12 - 01**			Expiration Date (ExDP):	**03/31/2024**
Water Index Number:	**H-240**	Item No.:	**876 - 015**	Modification Dates (EDPM):	**04/01/2019** **06/01/2022**
Compact Area:	**-**				

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. '1251 et.seq.)

PERMITTEE NAME AND ADDRESS					
Name:	**Oneida County**	Attention:	**County Executive**		
Street:	**P.O. Box 442**				
City:	**Utica**	State:	**NY**	Zip Code:	**13503-0442**
Email:	**wpc@ocgov.net**	Phone:	**315-798-5656**		

is authorized to discharge from the facility described below:

FACILITY NAME, ADDRESS, AND PRIMARY OUTFALL																
Name:	**Oneida County Water Pollution Control Plant**															
Address / Location:	**51 Leland Avenue**											County:	**Oneida**			
City:	**Utica**						State:	**NY**				Zip Code:	**13503**			
Facility Location:		Latitude:	**43**	°	**05**	’	**54**	” N	& Longitude:	**75**	°	**10**	’	**2.9**	” W	
Primary Outfall No.:	**001**	Latitude:	**43**	°	**06**	’	**03**	” N	& Longitude:	**75**	°	**11**	’	**22**	” W	
Outfall Description:	**Treated Sanitary**	Receiving Water:	**Mohawk River**						Class:	**C**		Standard:	**C**			

and the additional outfalls listed in this permit, in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1 and 750-2.

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:
CO BWP - Permit Coordinator
BWP – Permit Writer
CO BWC - SCIS
RWE
RPA
EPA Region II
NYSEFC

Permit Administrator:	Terry Tyoe		
Address:	USOB Rm 1404 207 Genesee St Utica NY 13501		
Signature:		Date:	05 /27 /2022

Contents

SUMMARY OF ADDITIONAL OUTFALLS

Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
01S	**Separate Sewer System Primary Treatment Train**	- ° - ' - " N	- ° - ' - " W
Receiving Water:	**Mohawk River (Internal to Outfall 001)**	Class:	**C**

Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
01C	**Combined Sewer Primary Treatment Train**	- ° - ' - " N	- ° - ' - " W
Receiving Water:	**Mohawk River (Internal to Outfall 001)**	Class:	**C**

Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
003	**During High Rate Disinfection (HRD) Discharges**	**43** ° **06** ' **03** " N	**75** ° **11** ' **22** " W
Receiving Water:	**Mohawk River**	Class:	**C**

DEFINITIONS

TERM	DEFINITION
7-Day Geo Mean	The highest allowable geometric mean of daily discharges over a calendar week.
7-Day Average	The average of all daily discharges for each 7-days in the monitoring period. The sample measurement is the highest of the 7-day averages calculated for the monitoring period.
12-Month Rolling Average (12 MRA)	The current monthly value of a parameter, plus the sum of the monthly values over the previous 11 months for that parameter, divided by the number of months for which samples were collected in the 12-month period.
30-Day Geometric Mean	The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
Action Level	Action level means a monitoring requirement characterized by a numerical value that, when exceeded, triggers additional permittee actions and department review to determine if numerical effluent limitations should be imposed.
Compliance Level / Minimum Level	A compliance level is an effluent limitation. A compliance level is given when the water quality evaluation specifies a Water Quality Based Effluent Limit (WQBEL) below the Minimum Level. The compliance level shall be set at the Minimum Level (ML) for the most sensitive analytical method as given in 40 CFR Part 136, or otherwise accepted by the Department.
Daily Discharge	The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.
Daily Maximum	The highest allowable Daily Discharge.
Daily Minimum	The lowest allowable Daily Discharge.
Effective Date of Permit (EDP or EDPM)	The date this permit is in effect.
Effluent Limitations	Effluent limitation means any restriction on quantities, quality, rates and concentrations of chemical, physical, biological, and other constituents of effluents that are discharged into waters of the state.
Expiration Date of Permit (ExDP)	The date this permit is no longer in effect.
Instantaneous Maximum	The maximum level that may not be exceeded at any instant in time.
Instantaneous Minimum	The minimum level that must be maintained at all instants in time.
Monthly Average	The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
Outfall	The terminus of a sewer system, or the point of emergence of any waterborne sewage, industrial waste or other wastes or the effluent therefrom, into the waters of the State.
Range	The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.
Receiving Water	The classified waters of the state to which the listed outfall discharges.
Sample Frequency / Sample Type / Units	See NYSDEC's "DMR Manual for Completing the Discharge Monitoring Report for the SPDES" for information on sample frequency, type and units.

PERMIT LIMITS, LEVELS AND MONITORING – Outfall 001

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year (unless otherwise specified)	Mohawk River	04/01/2019	03/31/2024

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Flow	12-Month Rolling Average	54	MGD			Continuous	Meter	X		3d
Flow	Daily Maximum	Monitor	MGD			Continuous	Meter	X		3d, 7
pH	Range	6.0 – 9.0	SU			6/day	Grab		X	
Temperature	Daily Maximum	Monitor	° C			6/day	Grab		X	
Dissolved Oxygen (June 1 – October 31)	Daily Minimum	4.0	mg/L			Daily	Grab		X	
Dissolved Oxygen (November 1 – May 31)	Daily Minimum	Monitor	mg/L			Daily	Grab		X	
Solids, Settleable	Daily Maximum	0.1	mL/L			6/day	Grab	X	X	4
$CBOD_5$	30-day Average	25	mg/L	11,000	lbs/d	Daily	24-hour Comp.	X	X	1, 4, 7
$CBOD_5$	7-Day Average	40	mg/L	18,000	lbs/d	Daily	24-hour Comp.	X	X	4, 7
UOD (June 1 – October 31)	Daily Maximum	26	mg/L	12,000	lbs/d	Weekly	Calculated		X	2, 8
UOD (November 1 – May 31)	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	Calculated		X	2, 8
Solids, Suspended	30-day Average	30	mg/L	14,000	lbs/d	Daily	24-hour Comp.	X	X	1, 4, 7
Solids, Suspended	7-Day Average	45	mg/L	20,000	lbs/d	Daily	24-hour Comp.	X	X	4, 7
Total Kjeldahl Nitrogen (TKN)	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X	X	4
TKN	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X	X	4
Ammonia (as N)	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X	X	4
Nitrate	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.		X	
Nitrate	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.		X	
Nitrite	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.		X	
Nitrite	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.		X	
Total Nitrogen	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	Calculated		X	12
Total Nitrogen	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	Calculated		X	12
Phosphorus (as P)	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	Grab		X	
Phosphorus (as P)	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	Grab		X	
Soluble Reactive Phosphorus (as P)	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	Grab		X	
Soluble Reactive Phosphorus (as P)	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	Grab		X	

Footnotes listed on Pages 10 and 11 of this permit

PERMIT LIMITS, LEVELS AND MONITORING – Outfall 001 (continued)

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
001 (continued)	All Year (unless otherwise specified)	Mohawk River	04/01/2019	03/31/2024

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Mercury, Total	12-Month Rolling Average	12	ng/L			Quarterly	Grab		X	
Mercury, Total	Daily Maximum	50	ng/L			Quarterly	Grab		X	
Effluent Disinfection required: [ ] All Year [X] Seasonal from May 1 to October 31										
Coliform, Fecal	30-Day Geometric Mean	200	No./ 100 ml			Daily	Grab		X	
Coliform, Fecal	7 Day Geometric Mean	400	No./ 100 ml			Daily	Grab		X	
Coliform, Fecal	Daily Maximum	Monitor	No./ 100 ml			Daily	Grab		X	
Chlorine, Total Residual	30-day Average	Monitor	mg/L			6/day	Grab		X	
Chlorine, Total Residual	Daily Maximum	0.030	mg/L			6/day	Grab		X	8, 11
ACTION LEVEL PARAMETERS	Type	Action Level	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Ammonia (as N)	30-Day Average	6.0	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X	X	4
Chloroform	Daily Maximum	Monitor	mg/L	5.5	lbs/d	Quarterly	24-hour Comp.		X	5
Chromium, Total	Daily Maximum	Monitor	mg/L	2.8	lbs/d	Monthly	24-hour Comp.		X	5
Copper, Total	Daily Maximum	Monitor	mg/L	6.3	lbs/d	Monthly	24-hour Comp.		X	5
Lead, Total	Daily Maximum	Monitor	mg/L	3.2	lbs/d	Monthly	24-hour Comp.		X	5
Zinc, Total	Daily Maximum	Monitor	mg/L	14	lbs/d	Monthly	24-hour Comp.		X	5
WHOLE EFFLUENT TOXICITY (WET) TESTING		Limit	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
WET - Acute Invertebrate	See footnote	0.3	TUa			Quarterly	See footnote		X	6
WET - Acute Vertebrate	See footnote	0.3	TUa			Quarterly	See footnote		X	6
WET - Chronic Invertebrate	See footnote			3.9	TUc	Quarterly	See footnote		X	6
WET - Chronic Vertebrate	See footnote			3.9	TUc	Quarterly	See footnote		X	6

Footnotes listed on Pages 10 and 11 of this permit

PERMIT LIMITS, LEVELS AND MONITORING – Outfall 01S

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
01S	All Year	Mohawk River (Internal to Outfall 001) Separate Sewer System Primary Treatment Train	04/01/2019	03/31/2024

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Flow	12-Month Rolling Average	Monitor	MGD			Continuous	Meter	X		3a
Flow	Daily Maximum	Monitor	MGD			Continuous	Meter	X		3a
Temperature	Daily Maximum	Monitor	° C			6/day	Grab	X		
Solids, Settleable	Daily Maximum	Monitor	mL/L			6/day	Grab	X		
$CBOD_5$	30-day Average	Monitor	mg/L	Monitor	lbs/d	Daily	24-hour Comp.	X		
$CBOD_5$	7-Day Average	Monitor	mg/L	Monitor	lbs/d	Daily	24-hour Comp.	X		
Solids, Suspended	30-day Average	Monitor	mg/L	Monitor	lbs/d	Daily	24-hour Comp.	X		
Solids, Suspended	7-Day Average	Monitor	mg/L	Monitor	lbs/d	Daily	24-hour Comp.	X		
TKN	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X		
TKN	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X		
Ammonia (as N)	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X		
Ammonia (as N)	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X		

Footnotes listed on Pages 10 and 11 of this permit

PERMIT LIMITS, LEVELS AND MONITORING – Outfall 01C

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
01C	All Year	Mohawk River (Internal to Outfall 001) Combined Sewer Primary Treatment Train	04/01/2019	03/31/2024

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Flow	12-Month Rolling Average	Monitor	MGD			Continuous	Calculated	X	X	3b, 3c
Flow	Daily Maximum	Monitor	MGD			Continuous	Calculated	X	X	3b, 3c
Solids, Settleable	Daily Maximum	Monitor	mL/L			6/day	Grab	X		
$CBOD_5$	30-day Average	Monitor	mg/L	Monitor	lbs/d	Daily	24-hour Comp.	X		
$CBOD_5$	7-Day Average	Monitor	mg/L	Monitor	lbs/d	Daily	24-hour Comp.	X		
Solids, Suspended	30-day Average	Monitor	mg/L	Monitor	lbs/d	Daily	24-hour Comp.	X		
Solids, Suspended	7-Day Average	Monitor	mg/L	Monitor	lbs/d	Daily	24-hour Comp.	X		
TKN	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X		
TKN	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X		
Ammonia (as N)	30-day Average	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X		
Ammonia (as N)	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Weekly	24-hour Comp.	X		

Footnotes listed on Pages 10 and 11 of this permit

PERMIT LIMITS, LEVELS AND MONITORING – Outfall 003

OUTFALL	LIMITATIONS APPLY:	RECEIVING WATER	EFFECTIVE	EXPIRING
003	During HRD Discharges	Mohawk River	January 1, 2022	03/31/2024

PARAMETER	EFFLUENT LIMIT					MONITORING REQUIREMENTS				
								Location		
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Flow (volume)	Monthly Total	Monitor	MG			Continuous	Totalizer		X	3e
Flow	Daily Maximum	Monitor	MGD			Continuous	Meter		X	3e
Number of Discharge Events	Monthly Total	Monitor				Continuous	Calculated		X	
pH	Range	6.0 – 9.0	SU			1/event	Grab		X	9d
Temperature	Daily Maximum	Monitor	° C			1/event	Grab		X	9a, 9d
Solids, Settleable	Daily Maximum	0.8	mL/L			1/event	Grab		X	9a, 9d
Floatable Materials	Daily Maximum	None				1/event	Visual Observation		X	9a, 9d
$CBOD_5$	Monthly Total			Monitor	lbs/d	1/event	Composite		X	9c
$CBOD_5$	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	1/event	Composite		X	9a, 9c
Solids, Suspended	Monthly Total			Monitor	lbs/d	1/event	Composite		X	9c
Solids, Suspended	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	1/event	Composite		X	9a, 9c
TKN	Monthly Total			Monitor	lbs/d	1/event	Composite		X	9c
TKN	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	1/event	Composite		X	9a, 9c
Ammonia (as N)	Monthly Total			Monitor	lbs/d	1/event	Composite		X	9c
Ammonia (as N)	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	1/event	Composite		X	9a, 9c
Total Nitrogen	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Monthly	Calculated		X	9a, 9c,12
Phosphorus (as P)	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Monthly	Grab		X	
Chloroform	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Quarterly	Grab		X	
Chromium, Total	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Monthly	Grab		X	
Copper, Total	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Monthly	Grab		X	
Lead, Total	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Monthly	Grab		X	
Zinc, Total	Daily Maximum	Monitor	mg/L	Monitor	lbs/d	Monthly	Grab		X	
Effluent Disinfection required: [ ] All Year [X] Seasonal from May 1 to October 31										
Coliform, Fecal	90-day Geometric Mean	200	No./ 100 ml			1/event	Grab		X	9b, 9d, 10
Coliform, Fecal	Daily Maximum	Monitor	No./ 100 ml			1/event	Grab		X	9a, 9b, 9d
Chlorine, Total Residual	Daily Maximum	0.10	mg/L			1/event	Grab		X	9a, 9d

Footnotes listed on Pages 10 and 11 of this permit

FOOTNOTES

1. **Removal Rates** – Effluent shall not exceed 15 % of influent concentration values for $CBOD_5$ & TSS.

2. **Ultimate Oxygen Demand** – UOD shall be computed as follows: UOD = 1.5 x CBOD5 (7DA) + 4.5 x TKN.

3. **Flow** –
   a. Outfall 01S influent flow shall consist of separate sanitary sewage and shall be monitored prior to primary treatment. [Location 2 on Flow Schematic]
   b. Outfall 01C influent shall consist of combined sewage prior to the primary treatment [Location 1 on Flow Schematic]
   c. Outfall 01C effluent flow shall consist of the portion of combined sewage, following primary settling, that is directed to secondary treatment. The flow shall be calculated by subtracting the sanitary influent flow from the aeration tank flow. [Location 01C on Flow Schematic]
   d. Outfall 001 influent flow is the calculated sum of flows from Outfall 01S and Outfall 01C effluent.
   e. Outfall 003 effluent flow is all flow discharged from the HRD tank. [Location 6 on Flow Schematic]

4. **Concentration Computation** – Following completion of the new separate sewer headworks, concentrations shall be calculated using the formula below for reporting of Outfall 001 influent requirements:

$$Flow\ Weighted\ Average\ Influent\ Conc. = \frac{(C_{01S} \times F_{01S}) + (C_{01C} \times F_{01C})}{F_{01S} + F_{01C}}$$

   Where (see also Page 25 "Monitoring Locations"):
   C_{01S} is the influent concentration for Outfall 01S (the separate sewer system train) [mg/L or mL/L]
   C_{01C} is the influent concentration for Outfall 01C (the combined sewer system train) [mg/L or mL/L]
   F_{01S} is the influent flow for Outfall 01S (the separate sewer system train) [MGD]
   F_{01C} is the effluent flow for Outfall 01C (Primary Effluent Distribution Structure to Secondary Treatment) [MGD]

   For the interim period, from 4/1/19 until construction of the new separate sewer headworks is complete:
   Outfalls 01S and 01C shall be reported as "NODI9" on the DMR; and
   Outfall 001 influent sampling shall be performed after screening and prior to grit removal.

5. **Sample Timing** – Samples shall be collected when plant flows represent typical industrial loadings.

6. **Whole Effluent Toxicity (WET) Testing:**
   Testing Requirements - WET testing shall consist of **Chronic and report Acute results**. WET testing shall be performed in accordance with 40 CFR Part 136 and TOGS 1.3.2 unless prior written approval has been obtained from the Department. The test species shall be Ceriodaphnia dubia (water flea - invertebrate) and Pimephales promelas (fathead minnow - vertebrate). Receiving water collected upstream from the discharge should be used for dilution. All tests conducted should be static-renewal (two 24 hr composite samples with one renewal for Acute tests and three 24 hr composite samples with two renewals for Chronic tests). The appropriate dilution series bracketing the IWC and including one exposure group of 100% effluent should be used to generate a definitive test endpoint, otherwise an immediate rerun of the test is required. WET testing shall be coordinated with the monitoring of chemical and physical parameters limited by this permit so that the resulting analyses are also representative of the sample used for WET testing. The ratio of critical receiving water flow to discharge flow (i.e. dilution ratio) is 2.4:1 for acute, and 3.9:1 for chronic. Discharges which are disinfected using chlorine should be dechlorinated prior to WET testing or samples shall be taken immediately prior to the chlorination system.

   Monitoring Period - WET testing shall be performed at the specified sample frequency for the duration of the permit. Quarters shall be calendar quarters of January – March, April – June, July – September, October – December.

   Reporting - Toxicity Units shall be calculated and reported on the DMR as follows: TUa = (100)/(48 hr LC50) or (100)/(48 hr EC50) (note that Acute data is generated by both Acute and Chronic testing) and TUc = (100)/(NOEC) when Chronic testing has been performed or TUc = (TUa) x (10) when only Acute testing has been performed and is used to predict Chronic test results, where the 48 hr LC50 or 48 hr EC50 and NOEC are expressed in % effluent. This must be done for both species and using the Most Sensitive Endpoint (MSE) or the lowest NOEC and corresponding highest TUc. Report a TUa of 0.3 if there is no statistically significant toxicity in 100% effluent as compared to control.

FOOTNOTES (continued)

Footnote 6 – WET Testing (continued)
The complete test report including all corresponding results, statistical analyses, reference toxicity data, daily average flow at the time of sampling and other appropriate supporting documentation, shall be submitted within 60 days following the end of each test period to the Toxicity Testing Unit, Bureau of Watershed Assessment and Management, 625 Broadway, Fourth Floor, Albany, NY 12233-3502. A summary page of the test results for the invertebrate and vertebrate species indicating TUa, 48 hr LC50 or 48 hr EC50 for Acute tests and/or TUc, NOEC, IC25, and most sensitive endpoints for Chronic tests, should also be included at the beginning of the test report.

WET Testing Action Level Exceedances - If an action level is exceeded then the Department may require the permittee to conduct additional WET testing including Acute and/or Chronic tests. Additionally, the permittee may be required to perform a Toxicity Reduction Evaluation (TRE) in accordance with Department guidance. If such additional testing or performance of a TRE is necessary, the permittee shall be notified in writing by the Regional Water Engineer. The written notification shall include the reason(s) why such testing or a TRE is required.

7. **Final Effluent Limits** – These are final effluent limitations effective January 1, 2023, following completion of WPCP upgrades and expansion. Interim limits are specified in Order on Consent #R6-20060823-67-M2.

8. **Final Effluent Limits** – These are final effluent limitations, effective January 1, 2024, following completion of WPCP upgrades and expansion. Interim limits are in accordance with the Schedule of Compliance on Page 22 of this permit.

9. **Outfall 003 Monitoring Frequency Requirements:**
   a. Daily min/max shall be calculated based on the arithmetic mean of samples taken during each event.
   b. No./100 ml calculated as the geometric mean of the grab samples taken during each event.
   c. Representative composite samples shall be a composite of grab samples, one taken every FOUR hours for the duration of an event. Sampling shall begin within 2 hours of the start of discharge from the HRD system.
   d. Grab samples shall be collected a minimum of once every FOUR hours during each event, except Bacteria which shall be collected/tested at a rate of one per 24-hour period. Sampling shall begin within 2 hours of the start of the discharge from the HRD System.

10. This limit shall be a 90-day geometric mean, applied over the periods of: May 1 – July 31 and August 1 – October 31. The 90 Day GM is defined as the highest allowable geometric mean of daily discharges over the reporting period, calculated as the antilog of the sum of the log of each of the daily discharges measured during the reporting period, divided by the number of daily discharges measured during that period. Compliance with the effluent limitation shall only occur as a 90-day GM, as defined above. A summary table of each month's individual sample results shall be attached to each monthly DMR.

11. The WQBEL is 0.020 mg/L. Since the WQBEL is below the ML of the most sensitive analysis method, compliance with the ML shall be considered as compliant with the WQBEL.

12. Total Nitrogen (as N) = [Total Kjeldahl Nitrogen (TKN), as N] + [Nitrite (NO2), as N] + [Nitrate (NO3), as N].

ADDITIONAL REQUIREMENTS

1. If the HRD System Fecal Coliform quarterly geometric mean is not met, the permittee shall submit to the Department, a revised plant-wide Wet Weather Operating Plan, which includes the HRD system and recommended procedures for evaluating and modifying the HRD system.

BEST MANAGEMENT PRACTICES FOR POTW SERVICING PUBLICALLY OWNED SEWER SYSTEM(S) WITH COMBINED SEWAGE

The permittee shall implement the following Best Management Practices (BMPs). These BMPs are designed to implement operation & maintenance procedures, utilize the existing treatment facility and collection system to the maximum extent practicable, and implement sewer design, replacement and drainage planning, to maximize pollutant capture and minimize water quality impacts from combined sewer overflows. The BMPs are equivalent to the "Nine Minimum Control Measures" required under the USEPA National Combined Sewer Overflow policy. The EPA's policy is available at https://www.epa.gov/npdes/combined-sewer-overflows-csos

1. CSO Maintenance/Inspection - Not Applicable.

2. Maximum Use of Collection System for Storage - The permittee shall optimize the collection system by operating and maintaining it to minimize the discharge of pollutants from CSOs. It is intended that the maximum amount of in-system storage capacity be used (without causing service backups) to minimize CSOs and convey the maximum amount of combined sewage to the treatment plant in accordance with Item 4 below. This shall be accomplished by an evaluation of the hydraulic capacity of the system but should also include a continuous program of flushing or cleaning to prevent deposition of solids and the adjustment of regulators and weirs to maximize storage.

3. Industrial Pretreatment - The approved Industrial Pretreatment Program shall consider CSOs in the calculation of local limits for indirect discharges. Discharge of persistent toxics upstream of CSOs will be in accordance with guidance under **(NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.3.8 New Discharges to POTWs**. (http://www.dec.ny.gov/docs/water_pdf/togs138.pdf). For industrial operations characterized by use of batch discharge, consideration shall be given to the feasibility of a schedule of discharge during conditions of no CSO. For industrial discharges characterized by continuous discharge, consideration must be given to the collection system capacity to maximize delivery of waste to the treatment plant. Non-contact cooling water should be excluded from the combined system to the maximum extent practicable. Direct discharges of cooling water must apply for a SPDES permit.

   To the maximum extent practicable, consideration shall be given to maximize the capture of nondomestic waste containing toxic pollutants and this wastewater should be given priority over residential/commercial service areas for capture and treatment by the POTW.

4. Maximize Flow to POTW - Factors cited in Item 2. above shall also be considered in maximizing flow to the POTW. Maximum delivery to the POTW is particularly critical in treatment of "first-flush" flows. Effective January 1, 2024 the treatment plant shall be capable of receiving and treating the peak design hydraulic loading rates, or a minimum of 65 MGD through secondary treatment works during wet weather. The headworks must be capable of delivering these flows during wet weather. Up to January 1, 2024 the minimum flow through secondary treatment during wet weather is 48 MGD.

5. Wet Weather Operating Plan (WWOP) - The permittee shall maximize treatment during wet weather events. This shall be accomplished by having a WWOP containing procedures so as to operate unit processes to treat maximum flows while not appreciably diminishing effluent quality or destabilizing treatment upon return to dry weather operation. The WWOP shall be developed in accordance with the DEC guidance, Wet Weather Operating Practices for POTWs With Combined Sewers, (http://www.dec.ny.gov/docs/water_pdf/wwtechtran.pdf) .

   The submission of a WWOP is a one-time requirement that shall be done to the Department's satisfaction once. However, a revised wet weather operating plan must be submitted whenever the POTW and/or sewer collection system is replaced or modified. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT", the permittee is not required to repeat the submission. The above due dates are independent from the effective date of the permit stated in the letter of "SPDES NOTICE/RENEWAL APPLICATION/PERMIT".

BEST MANAGEMENT PRACTICES FOR POTW SERVICING PUBLICALLY OWNED SEWER SYSTEM(S) WITH COMBINED SEWAGE (continued)

6. Prohibition of Dry Weather Overflow – Discharge from Outfall 003 shall only be during wet weather events. At no time shall discharge from Outfall 003 occur unless the total facility peak influent flow (sum of 01S and 01C influent flows) is greater than the flow specified in CSO BMP #4. The occurrence of any dry weather overflow shall be promptly abated and reported to the NYSDEC Region 6 Office in accordance with 6 NYCRR Part 750-2.7.

7. Control of Floatable and Settleable Solids - The discharge of floating solids, oil and grease, or solids of sewage origin which cause deposition in the receiving waters, is a violation of the NYS Narrative Water Quality Standards contained in Part 703. As such, the permittee shall implement best management practices in order to eliminate or minimize the discharge of these substances. All of the measures cited in Items 1, 2, 4 & 5 above shall constitute approvable "BMPs" for mitigation of this problem.

8. Combined Sewer System Replacement – Not Applicable.

9. Combined Sewer/Extension - Not Applicable.

10. Sewage Backups – Not Applicable.

11. Septage and Hauled Waste – All releases of septage of hauled waste into the treatment plant shall be directed to the separate sewer treatment train. Any discharge of untreated or partially treated septage or hauled waste from Outfall 003 is prohibited.

12. Control of Runoff – Not Applicable.

13. Public Notification – Not Applicable.

14. Characterization and Monitoring – Not Applicable.

15. Annual Report - The permittee shall submit an annual BMP checklist summarizing implementation of the above BMPs. The report shall list existing documentation of implementation of the BMPs and shall be submitted by January 31st of each year to the Region Water Engineer at the address listed on the Recording, Reporting, and Additional Monitoring page of this permit and to the Bureau of Water Permits, 625 Broadway, Albany, NY 12233-3505. Examples of recommended documentation of the BMPs are found in Combined Sewer Overflows, Guidance for Nine Minimum Controls (NMC), EPA, 1995. The permittee may obtain an electronic copy of the NMC guidance at http://www.epa.gov/npdes/pubs/owm0030.pdf. The BMP checklist is available from DEC at http://www.dec.ny.gov/docs/water_pdf/csobmp.pdf. The permittee must, as a minimum, submit a completed copy of this BMP checklist as the annual report. The actual documentation shall be stored at a central location and be made available to DEC upon request.

CSO LONG TERM CONTROL PLAN PARTICIPATION

The permittee shall complete upgrades as required by Order on Consent R6-20060823-67-M2 and operate in accordance with the requirements contained within this permit. The LTCP implementation schedule and post-construction compliance monitoring is regulated under the City of Utica CSO SPDES Permit (NY0031429).

MERCURY MINIMIZATION PROGRAM (MMP) - Type I

1. General - The permittee must develop, implement, and maintain a mercury minimization program (MMP), containing the elements set forth below, to reduce mercury effluent levels with the goal of achieving the WQBEL of 0.7 ng/L.

2. MMP Elements - The MMP must be a written document and must include any necessary drawings or maps of the facility and/or collection system. Other related documents already prepared for the facility may be used as part of the MMP and may be incorporated by reference. At a minimum, the MMP must include the following elements as described in detail below:

   a. Monitoring - Monitoring at Outfall influent and other locations tributary to compliance points shall be performed using either USEPA Method 1631 or another sufficiently sensitive method, as approved under 40 CFR Part 136[1]. Monitoring of raw materials, equipment, treatment residuals, and other non-wastewater/non-stormwater substances may be performed using other methods as appropriate. Monitoring must be coordinated so that the results can be effectively compared between locations.

      Minimum required monitoring is as follows:

      i. Sewage Treatment Plant Influent and/or Effluent – The permittee must collect samples at the location(s) and frequency as specified in the SPDES permit limitations table.

      ii. *Key Locations* and *Potential Mercury Sources* – The permit includes reduced monitoring requirements and does not require key location sampling. See section 2.a.iv below.

      iii. Hauled Wastes – The permittee must establish procedures for the acceptance of hauled waste to ensure the hauled waste is not a potential mercury source. Loads which may exceed 500 ng/L,[2] must receive approval from the Department prior to acceptance.

      iv. Decreased Monitoring Requirements – The permittee has an EEQ at or below 12 ng/L and the permit includes the following requirements:

         1) Reduced requirements
            a) Conduct influent monitoring, sampling quarterly, in lieu of monitoring within the collection system, such as at *key locations*; and
            b) Conduct effluent compliance sampling quarterly.
         2) If a facility with reduced requirements reports discharges above 12 ng/L for two of four consecutive effluent samples, the Department may undertake a Department-initiated modification to remove the allowance of reduced requirements.
         3) Under the decreased permit requirements, the facility must continue to conduct a status report, as applicable in accordance with 2.c of this MMP, to determine if any waste streams have changed.

      v. Additional monitoring must be completed as required elsewhere in this permit (e.g., locations tributary to compliance points).

   b. Control Strategy - The control strategy must contain the following minimum elements:

      i. Pretreatment/Sewer Use Law - The permittee must review pretreatment program requirements and the Sewer Use Law (SUL) to ensure it is up-to-date and enforceable with applicable permit requirements and will support efforts to achieve a dissolved mercury concentration of 0.70 ng/L in the effluent.

[1] Outfall monitoring must be conducted using the methods specified in Table 8 of *DOW 1.3.10.*
[2] A level of 0.2 mg/L (200,000 ng/L) or more is considered hazardous per 40 CFR Part 261.11. 500 ng/L is used here to alert the permittee that there is an unusual concentration of mercury and that it will need to be managed appropriately.

MERCURY MINIMIZATION PROGRAM (MMP) - Type I (Continued)

ii. Monitoring and Inventory/Inspections
   1) Monitoring shall be performed as described in 2.a above. As mercury sources are found, the permittee must enforce its sewer use law to track down and minimize these sources.
   2) The permittee must inventory and/or inspect users of its system as necessary to support the MMP.
      a) Dental Facilities
         1. The permittee must maintain an inventory of each dental facility.
         2. The permittee must inspect each dental facility at least once every five years to verify compliance with the wastewater treatment operation, maintenance, and notification elements of 6 NYCRR 374.4. Alternatively, the permittee may develop and implement an outreach program,[3] which informs users of their responsibilities, and collect the "Amalgam Waste Compliance Report for Dental Dischargers"[4] form, as needed, to satisfy the inspection requirements. The permittee must conduct the outreach program at least once every five years and ensure the "Amalgam Waste Compliance Report for Dental Dischargers" are submitted by new users, as necessary. The outreach program could be supported by a subset of site inspections.
         3. A file shall be maintained containing documentation demonstrating compliance with 2.b.ii.2)a) above. This file shall be available for review by the Department representatives and copies shall be provided upon request.
      b) Other *potential mercury sources*
         1. The permittee must maintain an inventory of other *potential mercury sources.*
         2. The permittee must inspect other *potential mercury sources* once every five years. Alternatively, the permittee may develop and implement an outreach program which informs users of their responsibilities as *potential mercury sources.* The permittee must conduct the outreach program at least once every five years. The outreach program should be supported by a subset of site inspections.
         3. A file shall be maintained containing documentation demonstrating compliance with 2.b.ii.2)b) above. This file shall be available for review by the Department representatives and copies shall be provided upon request.

iii. Systems with CSO & Type II SSO Outfalls – Permittees must prioritize *potential mercury sources* upstream of CSOs and Type II SSOs for mercury reduction activities and/or controlled-release discharge.

iv. Equipment and Materials – Equipment and materials (e.g., thermometers, thermostats) used by the permittee, which may contain mercury, must be evaluated by the permittee. As equipment and materials containing mercury are updated/replaced, the permittee must use mercury-free alternatives, if possible.

v. Bulk Chemical Evaluation – For chemicals, used at a rate which exceeds 1,000 gallons/year or 10,000 pounds/year, the permittee must obtain a manufacturer's certificate of analysis, a chemical analysis performed by a certified laboratory, and/or a notarized affidavit which describes the substances' mercury concentration and the detection limit achieved. If possible, the permittee must only use bulk chemicals utilized in the wastewater treatment process which contain <10 ppb mercury.

c. **Status Report - An annual** status report must be developed and maintained on site, in accordance with the Schedule of Additional Submittals, summarizing:
   i. All MMP monitoring results for the previous reporting period;
   ii. A list of known and *potential mercury sources*
      1) If the permittee meets the criteria for MMP Type IV, the permittee must notify the Department for a permittee-initiated modification;
   iii. All actions undertaken, pursuant to the control strategy, during the previous reporting period;
   iv. Actions planned, pursuant to the control strategy, for the upcoming reporting period; and

[3] For example, the outreach program could include education about sources of mercury and what to do if a mercury source is found.
[4] The form, "Amalgam Waste Compliance Report for Dental Dischargers," can be found here: https://www.dec.ny.gov/docs/water_pdf/dentalform.pdf

MERCURY MINIMIZATION PROGRAM (MMP) - Type I (Continued)

v. Progress towards achieving a dissolved mercury concentration of 0.70 ng/L in the effluent (e.g., summarizing reductions in effluent concentrations as a result of the control strategy implementation and/or installation/modification of a treatment system).

The permittee must maintain a file with all MMP documentation. The file must be available for review by Department representatives and copies must be provided upon request in accordance with 6 NYCRR 750-2.1(i) and 750-2.5(c)(4).

3. MMP Modification - The MMP must be modified whenever:
   a. Changes at the facility, or within the collection system, increase the potential for mercury discharges;
   b. Effluent discharges exceed the current permit limitation(s); or
   c. A letter from the Department identifies inadequacies in the MMP.

   The Department may use information in the status reports, as applicable in accordance with 2.c of this MMP, to determine if the permit limitations and MMP Type is appropriate for the facility.

DEFINITIONS:

Key location – a location within the collection/wastewater system (e.g. including but not limited to a specific manhole/access point, tributary sewer/wastewater connection, or user discharge point) identified by the permittee as a potential mercury source. The permittee may adjust key locations based upon sampling and/or best professional judgement.

Potential mercury source – a source identified by the permittee that may reasonably be expected to have total mercury contained in the discharge. Some potential mercury sources include switches, fluorescent lightbulbs, cleaners, degreasers, thermometers, batteries, hauled wastes, universities, hospitals, laboratories, landfills, Brownfield sites, or raw material storage.

DISCHARGE NOTIFICATION REQUIREMENTS

(a) The permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit unless the Permittee has obtained a waiver in accordance with the Discharge Notification Act (DNA). Such signs shall be installed before initiation of any discharge.

(b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above unless a new deadline is set explicitly by such permit modification or renewal.

(c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.

(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty-four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address:

NYSDEC Division of Water Regional Phone: ( ) - ### - ####

(e) Upon request, the permittee shall make available electronic or hard copies of the sampling data to the public. In accordance with the RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS page of your permit, each DMR shall be maintained (either electronically or as a hard copy) on record for a period of five years.

(f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

INDUSTRIAL PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS

A. DEFINITIONS: Generally, terms used in this Section shall be defined as in the General Pretreatment Regulations (40 CFR Part 403). Specifically, the following definitions apply to terms used in this Section:

1. Categorical Industrial User (CIU): an industrial user of the POTW that is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N;

2. Local Limits: General Prohibitions, specific prohibitions and specific limits as set forth in 40 CFR 403.5.

3. The Publicly Owned Treatment Works (POTW): as defined by 40 CFR 403.3(q) and that discharges in accordance with this permit.

4. Program Submission(s): requests for approval or modification of the POTW Pretreatment Program submitted in accordance with 40 CFR 403.11 or 403.18 and approved by letter dated September 27, 1985.

5. Significant Industrial User (SIU):
   a) CIUs;
   b) Except as provided in 40 CFR 403.3(v)(3), any other industrial user that discharges an average of 25,000 gallons per day or more of process wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater) to the POTW;
   c) Except as provided in 40 CFR 403.3(v)(3), any other industrial user that contributes a process waste stream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant;
   d) Any other industrial user that the permittee designates as having a reasonable potential for adversely affecting the POTW's operation or for violating a pretreatment standard or requirement.

6. Substances of Concern: Substances identified by the New York State Department of Environmental Conservation Industrial Chemical Survey as substances of concern.

B. IMPLEMENTATION: The permittee shall implement a POTW Pretreatment Program in accordance 40 CFR Part 403 and as set forth in the permittee's approved Program Submission(s). Modifications to this program shall be made in accordance with 40 CFR 403.18. Specific program requirements are as follows:

1. Industrial Survey: To maintain an updated inventory of industrial dischargers to the POTW the permittee shall:
   a) Identify, locate, and list all industrial users who might be subject to the industrial pretreatment program from the pretreatment program submission and any other necessary, appropriate, and available sources. This identification and location list will be updated, at a minimum, every five years. As part of this update the permittee shall collect a current and complete New York State Industrial Chemical Survey form (or equivalent) from each SIU.
   b) Identify the character and volume of pollutants contributed to the POTW by each industrial user identified in B.1.a above that is classified as a SIU.
   c) Identify, locate, and list, from the pretreatment program submission and any other necessary, appropriate, and available sources, all SIUs of the POTW.

2. Control Mechanisms: To provide adequate notice to and control of industrial users of the POTW the permittee shall:
   a) Inform by certified letter, hand delivery courier, overnight mail, or other means which will provide written acknowledgment of delivery, all industrial users identified in B.1.a. above of applicable pretreatment standards and requirements including the requirement to comply with the local sewer use law, regulation or ordinance and any applicable requirements under section 204(b) and 405 of the Federal Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act.

INDUSTRIAL PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS (continued)

b) Control through permit or similar means the contribution to the POTW by each SIU to ensure compliance with applicable pretreatment standards and requirements. Permits shall contain limitations, sampling frequency and type, reporting and self-monitoring requirements as described below, requirements that limitations and conditions be complied with by established deadlines, an expiration date not later than five years from the date of permit issuance, a statement of applicable civil and criminal penalties and the requirement to comply with Local Limits and any other requirements in accordance with 40 CFR 403.8(f)(1).

3. Monitoring and Inspection: To provide adequate, ongoing characterization of non-domestic users of the POTW, the permittee shall:
   a) Receive and analyze self-monitoring reports and other notices. The permittee shall require all SIUs to submit self-monitoring reports at least every six months unless the permittee collects all such information required for the report, including flow data.
   b) The permittee shall adequately inspect each SIU at a minimum frequency of once per year.
   c) The permittee shall collect and analyze samples from each SIU for all priority pollutants that can reasonably be expected to be detectable at levels greater than the levels found in domestic sewage at a minimum frequency of once per year.
   d) Require, through permits, each SIU to collect at least one 24-hour, flow proportioned composite (where feasible) effluent sample every six months and analyze each of those samples for all priority pollutants that can reasonably be expected to be detectable in that discharge at levels greater than the levels found in domestic sewage. The permittee may perform the aforementioned monitoring in lieu of the SIU except that the permittee must also perform the compliance monitoring described in 3.c.

4. Enforcement: To assure adequate, equitable enforcement of the industrial pretreatment program the permittee shall:
   a) Investigate instances of noncompliance with pretreatment standards and requirements, as indicated in self-monitoring reports and notices or indicated by analysis, inspection and surveillance activities. Sample taking and analysis and the collection of other information shall be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions. Enforcement activities shall be conducted in accordance with the permittee's Enforcement Response Plan developed and approved in accordance with 40 CFR Part 403.
   b) Enforce compliance with all national pretreatment standards and requirements in 40 CFR Parts 406 - 471.
   c) Provide public notification of significant non-compliance as required by 40 CFR 403.8(f)(2)(viii).
   d) Pursuant to 40 CFR 403.5(e), when either the Department or the USEPA determines any source contributes pollutants to the POTW in violation of Pretreatment Standards or Requirements the Department or the USEPA shall notify the permittee. Failure by the permittee to commence an appropriate investigation and subsequent enforcement action within 30 days of this notification may result in appropriate enforcement action against the source and permittee.

5. Recordkeeping: The permittee shall maintain and update, as necessary, records identifying the nature, character, and volume of pollutants contributed by SIUs. Records shall be maintained in accordance with 6 NYCRR 750-2.5(c).

6. Staffing: The permittee shall maintain minimum staffing positions committed to implementation of the Industrial Pretreatment Program in accordance with the approved pretreatment program.

C. SLUDGE DISPOSAL PLAN. The permittee shall notify NYSDEC, and USEPA as long as USEPA remains the approval authority, 60 days prior to any major proposed change in the sludge disposal plan. NYSDEC may require additional pretreatment measures or controls to prevent or abate an interference incident relating to sludge use or disposal.

INDUSTRIAL PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS (continued)

D. REPORTING: The permittee shall provide to the offices listed on the Monitoring, Reporting and Recording page of this permit and to the Chief-Water Compliance Branch, USEPA Region II, 290 Broadway, New York, NY 10007, a periodic report that briefly describes the permittee's program activities over the previous year. This report shall be submitted in accordance with the Schedule of Submittals to the above noted offices within 60 days of the end of the reporting period. The periodic report shall include:

1. Industrial Survey: Updated industrial survey information in accordance with 40 CFR 403.12(i)(1) (including any NYS Industrial Chemical Survey forms updated during the reporting period).

2. Implementation Status: Status of Program Implementation, to include:
   a) Any interference, upset or permit violations experienced at the POTW directly attributable to industrial users.
   b) Listing of SIUs issued permits.
   c) Listing of SIUs inspected and/or monitored during the previous reporting period and summary of results.
   d) Listing of SIUs notified of promulgated pretreatment standards or applicable local standards who are on compliance schedules. The listing should include for each facility the final date of compliance.
   e) Summary of POTW monitoring results not already submitted on Discharge Monitoring Reports and toxic loadings from SIU's organized by parameter.
   f) A summary of additions or deletions to the list of SIUs, with a brief explanation for each deletion.

3. Enforcement Status: Status of enforcement activities to include:
   a) Listing of SIUs in significant non-compliance (as defined by 40 CFR 403.8(f)(2)(viii) with federal or local pretreatment standards at end of the reporting period.
   b) Summary of enforcement activities taken against non-complying SIUs. The permittee shall provide a copy of the public notice of significant violators as specified in 40 CFR 403.8(f)(2)(viii).

E. ADDITIONAL PRETREATMENT CONDITIONS: The following pretreatment monitoring program shall be performed by the permittee. This monitoring may be performed in conjunction with monitoring for those parameters specified as Action Levels on Page 6 of this permit, where applicable.

1. *Influent and Effluent Monitoring* – The permittee shall start influent sampling prior to effluent sampling by a period of approximately equal to the treatment plant's hydraulic retention time during the sampling event. ***When possible, samples shall be collected during dry weather periods.***

   a. **Metals**

Parameter	Frequency/Type
Cadmium, Total	Monthly/24-hr Composite
Chromium, Total	Monthly/24-hr Composite
Copper, Total	Monthly/24-hr Composite
Lead, Total	Monthly/24-hr Composite
Nickel, Total	Monthly/24-hr Composite
Zinc, Total	Monthly/24-hr Composite

   b. **Volatile Organic Compounds**

Parameter	Frequency/Type
Methylene Chloride	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours
Chloroform	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours
Ethylbenzene	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours
Tetrachloroethene	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours
Toluene	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours
Trichloroethene	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours
Xylene	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours

INDUSTRIAL PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS (continued)

c. **Base – Neutrals**

Parameter	Frequency/Type
Bis (2-ethylhexyl) pthalate	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours

d. **Other (Effluent Only)**

Parameter	Frequency/Type
Phenols, Total	Quarterly/Composite – 3 Grab Samples, 1 every 8 hours

2. *Sludge Ash Monitoring* – Samples shall be collected of incinerated sludge ash as follows:

Parameter	Frequency/Type
TCLP	Annually/Grab

3. *Background Monitoring* – A sample shall be collected from a manhole serving only residential areas. The sample shall be collected during a dry weather period. Sampling shall be performed for the following parameters:

Parameter	Frequency/Type
Cadmium, Total	Quarterly/Grab
Chromium, Total	Quarterly/Grab
Copper, Total	Quarterly/Grab
Lead, Total	Quarterly/Grab
Nickel, Total	Quarterly/Grab
Zinc, Total	Quarterly/Grab

The results of this sampling program shall be submitted with the *Annual Pretreatment Report*.

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule:

Outfall(s)	Parameter(s) Affected	Interim Effluent Limit(s)	Compliance Action	Due Date
001	Ultimate Oxygen Demand (UOD)	Monitor (DM)	The permittee shall meet final effluent limitations for the listed parameters.	January 1, 2024
	Total Residual Chlorine (TRC)	0.1 mg/L (DM)		
The above compliance actions are one-time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT," the permittee is not required to repeat the submission(s) noted above. The above due dates are independent from the effective date of the permit stated in the "SPDES NOTICE/RENEWAL APPLICATION/PERMIT" letter.				

b) For any action where the compliance date is greater than 9 months past the previous compliance due date, the permittee shall submit interim progress reports to the Department every nine (9) months until the due date for these compliance items are met.

c) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. Any details which tend to explain or mitigate an instance of non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

d) The permittee shall submit copies of any document required by the above schedule of compliance to the NYSDEC Regional Water Engineer and to the Bureau of Water Permits.

SCHEDULE OF SUBMITTALS

a) The permittee shall submit the following information to the Regional Water Engineer at Department of Environmental Conservation, State Office Building, Watertown, NY 13601-3787 and to the Bureau of Water Permits, 625 Broadway, Albany NY 12233-3505.

Outfall(s)	Parameter(s) Affected or Type of Submittal	Required Action	Due Date
N/A	Total Mercury	The permittee shall submit the previous year's annual Mercury Minimization Program Status Report.	July 15th Annually
N/A	Wet Weather Operating Plan	The permittee shall submit to the Department an approvable Wet Weather Operating Plan for the expanded facility, in accordance with the "Best Management Practices for Combined Sewer Overflows" on Page 12 of this permit.	Submitted June 1, 2021
N/A	WET Testing	The permittee shall submit the complete test report, including all corresponding results, statistical analyses, reference toxicity data, daily average flow at the time of sampling and other appropriate supporting documentation to the Department. A summary page of the test results for the invertebrate and vertebrate species indicating TUa, 48 hr LC50 or 48 hr EC50 for Acute tests and/or TUc, NOEC, IC25, and most sensitive endpoints for Chronic tests, should also be included at the beginning of the test report. Results shall be submitted to the Toxicity Testing Unit, Bureau of Watershed Assessment and Management, 625 Broadway, Fourth Floor, Albany, NY 12233-3502.	End of Test Period + 60 Days
N/A	BMP Checklist	In accordance with the requirements on Pages 12 & 13 of this permit, the permittee shall submit to the Department, an annual BMP checklist summarizing implementation of the listed BMPs to maximize pollutant capture and minimize water quality impacts from combined sewer overflows	January 31st Annually
N/A	Pretreatment report	Pretreatment Report: The permittee shall provide to the Chief-Water Compliance Branch, USEPA Region II, 290 Broadway, New York, NY 10007, an *Annual Pretreatment Report* that briefly describes the permittee's program activities over the previous year. The reporting period shall be annual, with reporting period(s) ending on December 31 of each year. This annual report does not need to be submitted to NYSDEC.	March 1st of each year
001, 01S, 01C	Certification of Construction Completion	The permittee shall notify the Department, in writing, the date of construction completion for the new separate sewer headworks. This notification shall also identify the date that both the new and existing headworks will begin operating simultaneously. The date of operation will discontinue the allowance of "NODI9" reporting for Outfalls 01S and 01C.	Date of New Headworks Construction Complete + 7 Days

Schedule of Submittals Continued on Next Page

SCHEDULE OF SUBMITTALS (continued)

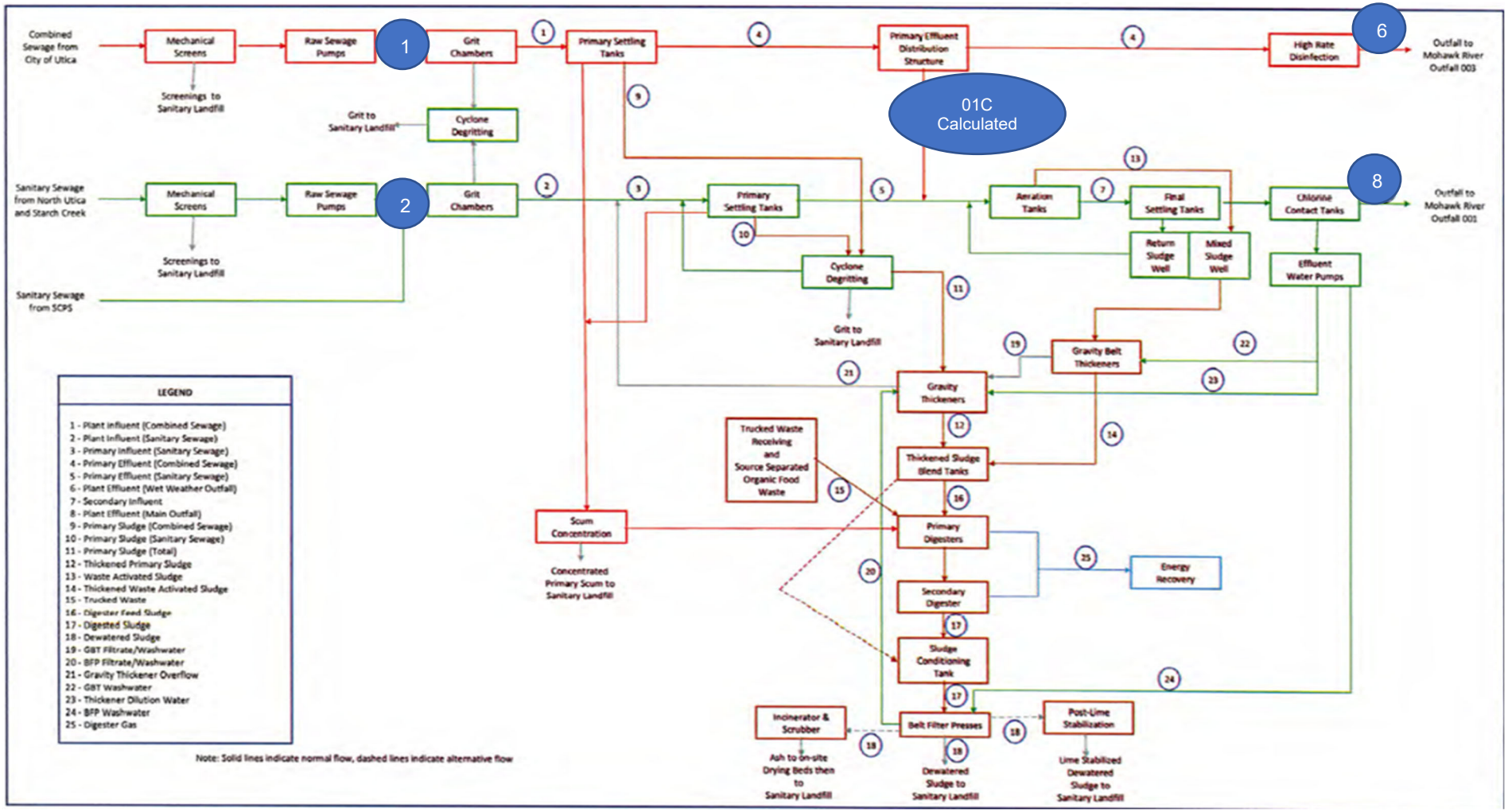
Outfall(s)	Parameter(s) Affected or Type of Submittal	Required Action	Due Date
003	HRD Study	The permittee shall develop a workplan for a high-rate disinfection performance study to identify effective disinfection (achieves the 200/100mL 90-day geometric mean and TRC limit of 0.1 mg/L at Outfall 003) through surrogate wet-weather indicators for real-time control throughout wet-weather events, including TRC dosing rate. The study should include sampling of HRD influent and effluent fecal coliform at a frequency of 1 sample per 8-hours during lab staffed hours for the first 12 events. The TRC dosing rate, TRC concentration prior to dichlorination, and effluent TRC concentration should be monitored at the same frequency. A summary of the study, number of events, duration of events, samples collected, log-reduction calculation during each event, sampling results and analysis of data results should be provided to the Department. The study will provide performance recommendations to meet TRC and fecal coliform limits for variable rates, durations, and variations in flow. All data used in the analysis should be provided in a spreadsheet format.	04/01/2020 10/01/2023

b) Unless noted otherwise, the above actions are one-time requirements. The permittee shall submit the results of the above actions to the satisfaction of the Department. When this permit is administratively renewed by NYSDEC letter entitled “SPDES NOTICE/RENEWAL APPLICATION/PERMIT”, the permittee is not required to repeat the above submittal(s), unless noted otherwise. The above due dates are independent from the effective date of the permit stated in the letter of “SPDES NOTICE/RENEWAL APPLICATION/PERMIT.”

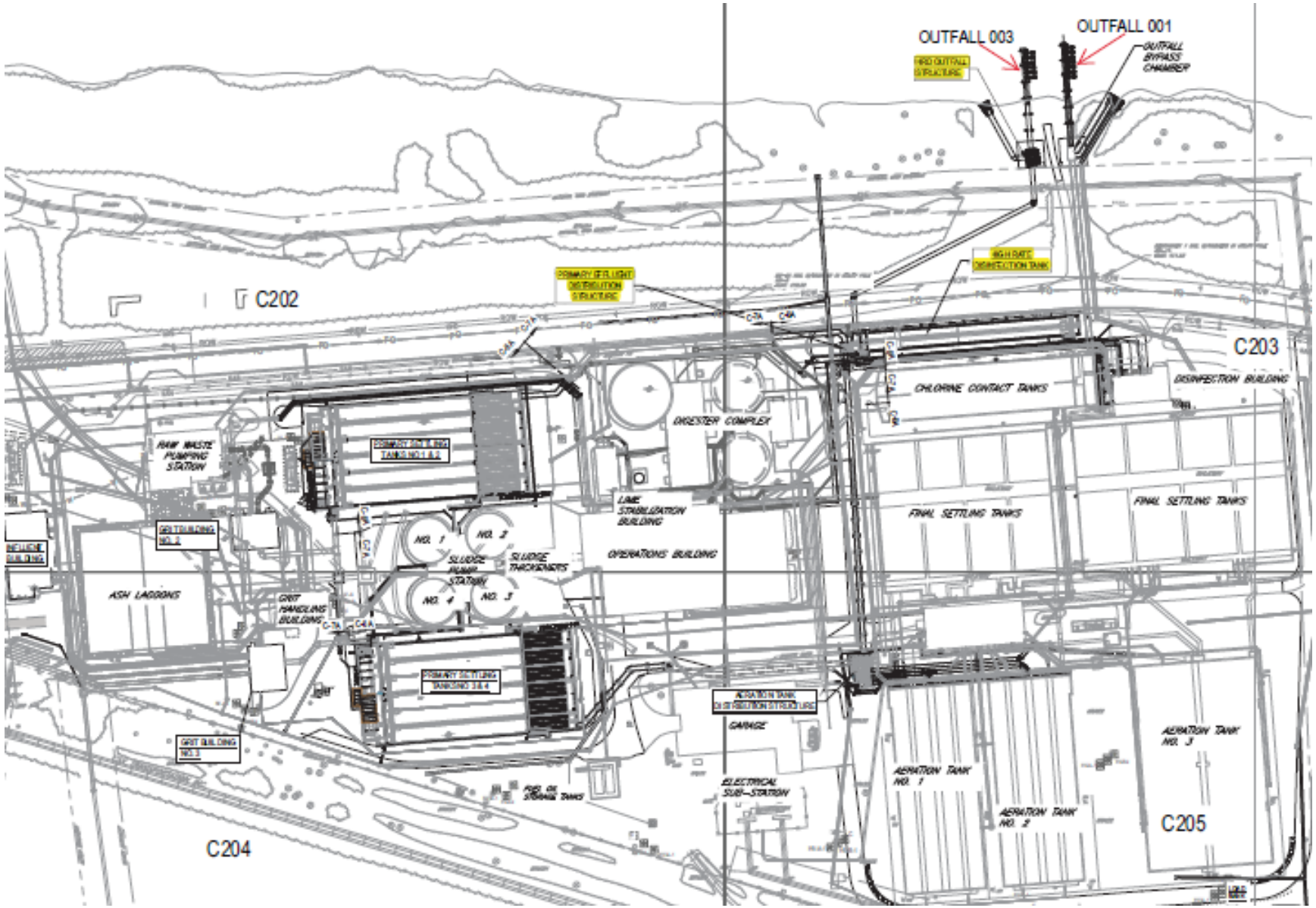
MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the locations(s) specified below:

Outfall Name – Description	Influent Monitoring Location	Effluent Monitoring Location
Outfall 01C – Combined Sewer System to Secondary	Location 1	Location 01C
Outfall 01S – Separate Sewer System to Secondary	Location 2	N/A
Outfall 001 – WPCP Secondary Treatment System	Calculated	Location 8
Outfall 003 – HRD System	N/A	Location 6



FACILITY LAYOUT SCHEMATIC



GENERAL REQUIREMENTS

A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through I as follows:

B. General Conditions

1.	Duty to comply	6 NYCRR 750-2.1(e) & 2.4
2.	Duty to reapply	6 NYCRR 750-1.16(a)
3.	Need to halt or reduce activity not a defense	6 NYCRR 750-2.1(g)
4.	Duty to mitigate	6 NYCRR 750-2.7(f)
5.	Permit actions	6 NYCRR 750-1.1(c), 1.18, 1.20 & 2.1(h)
6.	Property rights	6 NYCRR 750-2.2(b)
7.	Duty to provide information	6 NYCRR 750-2.1(i)
8.	Inspection and entry	6 NYCRR 750-2.1(a) & 2.3

C. Operation and Maintenance

1.	Proper Operation & Maintenance	6 NYCRR 750-2.8
2.	Bypass	6 NYCRR 750-1.2(a)(17), 2.8(b) & 2.7
3.	Upset	6 NYCRR 750-1.2(a)(94) & 2.8(c)

D. Monitoring and Records

1.	Monitoring and records	6 NYCRR 750-2.5(a)(2), 2.5(a)(6), 2.5(c)(1), 2.5(c)(2), & 2.5(d)
2.	Signatory requirements	6 NYCRR 750-1.8 & 2.5(b)

E. Reporting Requirements

1.	Reporting requirements	6 NYCRR 750-2.5, 2.7 & 1.17
2.	Anticipated noncompliance	6 NYCRR 750-2.7(a)
3.	Transfers	6 NYCRR 750-1.17
4.	Monitoring reports	6 NYCRR 750-2.5(e)
5.	Compliance schedules	6 NYCRR 750-1.14(d)
6.	24-hour reporting	6 NYCRR 750-2.7(c) & (d)
7.	Other noncompliance	6 NYCRR 750-2.7(e)
8.	Other information	6 NYCRR 750-2.1(f)
9.	Additional conditions applicable to a POTW	6 NYCRR 750-2.9

F. Planned Changes

1. The permittee shall give notice to the Department as soon as possible of planned physical alterations or additions to the permitted facility when:

    a. The alteration or addition to the permitted facility may meet any of the criteria for determining whether facility is a new source in 40 CFR §122.29(b); or
    b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject either to effluent limitations in the permit, or to notification requirements under 40 CFR §122.42(a)(1); or
    c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

In addition to the Department, the permittee shall submit a copy of this notice to the United States Environmental Protection Agency at the following address: U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866.

GENERAL REQUIREMENTS (continued)

2. Notification Requirement for POTWs
   All POTWs shall provide adequate notice to the Department and the USEPA of the following:

   a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; or
   b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
   c. For the purposes of this paragraph, adequate notice shall include information on:
      i. the quality and quantity of effluent introduced into the POTW, and
      ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

   POTWs shall submit a copy of this notice to the United States Environmental Protection Agency, at the following address:
   U.S. EPA Region 2, Clean Water Regulatory Branch, 290 Broadway, 24th Floor, New York, NY 10007-1866

G. Sludge Management
   The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

H. SPDES Permit Program Fee
   The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

I. Water Treatment Chemicals (WTCs)
   New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.
   1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized in writing by the Department.
   2. The permittee shall maintain a logbook of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used.
   3. The permittee shall submit a completed WTC Annual Report Form each year that they use and discharge WTCs. This form shall be submitted in electronic format and attached to either the December DMR or the annual monitoring report required below. The *WTC Notification Form and WTC Annual Report Form* are available from the Department's website at: http://www.dec.ny.gov/permits/93245.html

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

A. The monitoring information required by this permit shall be retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent.

B. Discharge Monitoring Reports (DMRs): Completed DMR forms shall be submitted for each 1 month reporting period in accordance with the DMR Manual available on Department's website.

DMRs must be submitted electronically using the electronic reporting tool (NetDMR) specified by NYSDEC. Instructions on the use of NetDMR can be found at https://www.dec.ny.gov/chemical/103774.html. **Hardcopy paper DMRs will only be received at the address listed below, directed to the Bureau of Water Compliance, if a waiver from the electronic submittal requirements has been granted by DEC to the facility.**

Attach the monthly "Wastewater Facility Operation Report" (form 92-15-7) and any required DMR attachments electronically to the DMR or with the hardcopy submittal.

The first monitoring period begins on the effective date of this permit, and, unless otherwise required, the reports are due no later than the 28th day of the month following the end of each monitoring period.

C. Additional information required to be submitted by this permit shall be summarized and reported to the RWE and Bureau of Water Permits at the following addresses:

Department of Environmental Conservation
Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233-3505 Phone: (518) 402-8111

Department of Environmental Conservation
Regional Water Engineer, Region 6
State Office Building, Watertown, New York, 13601-3787 Phone: (315) 785-2513

D. Bypass and Sewage Pollutant Right to Know Reporting: In accordance with the Sewage Pollutant Right to Know Act (ECL § 17-0826-a), Publicly Owned Treatment Works (POTWs) are required to notify DEC and Department of Health within two hours of discovery of an untreated or partially treated sewage discharge and to notify the public and adjoining municipalities within four hours of discovery. Information regarding reporting and other requirements of this program may be found on the Department's website. In addition, POTWs are required to provide a five-day incident report and supplemental information to the DEC in accordance with Part 750-2.7(d) by utilizing the Division of Water Report of Noncompliance Event form unless waived by DEC on a case-by-case basis.

E. Monitoring and analysis shall be conducted using sufficiently sensitive test procedures approved under 40 CFR Part 136 unless other test procedures have been specified in this permit.

F. More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.

G. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

H. Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.

I. Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

Appendix E

Cost Backup/Vendor Proposal

Project:	Oneida Co. WPCP UV Evaluation	Oneida Co. WPCP	6/10/2022	8616504
Location:	Utica, NY	Client	Date	Job No.
Owner:	Oneida Co. WPCP	Cost Summary	DJM	LJD
		Subject	Comp. By	Checked By

No.	Project	Estimated Probable Project Cost	Annual O&M	20-Year Present Worth - O&M	20-Year Net Present Worth	Rounded NPW
Alt 1	**No Action/Chemical Disinfection**	**$0**	**$261,000**	**$3,547,000**	**$3,547,000**	**$3,600,000**
Alt 2	**UV System - Trojan**	**$8,400,000**	**$36,000**	**$480,000**	**$8,880,000**	**$8,900,000**
Alt 3	**UV System (Trojan) + Solar PV power**	**$9,800,000**	**$38,000**	**$520,000**	**$10,320,000**	**$10,400,000**

ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COST

Project:	Oneida Co. WPCP UV Evaluation				**Computed By:**			DJM
Location:	Utica, NY				**Checked By:**			LJD
Owner:	Oneida Co. WPCP				**Design Status of Est.:**			Prelim.
Description:	**Alt 2 - Trojan UV Disinfection Alternative**				**Project No:**			8616504
	Quantity		Material		Labor			
	No. Units	Basis	Per Unit	Total		Scaling Factor	Total	Total Cost
Concrete								
Wall/Slab Concrete	273	CY	$1,100	$299,866				$300,000
Fill Concrete	646	CY	$350	$226,051				$230,000
Equipment								
Trojan UV System	1	LS	$ 1,880,000	$1,880,000		30%	$564,000	$2,500,000
- UV Banks (192 lamps)								
- Control & Power Panels								
- Ancillary Equipment: serpentine weirs								
UV channel actuated slide gates	4	EA	$35,000	$140,000		30%	$42,000	$190,000
UV channel 42" x 48" manual slide gates	4	EA	$20,000	$80,000		30%	$24,000	$110,000
UV channel drain valves and piping	4	EA	$10,000	$40,000		30%	$12,000	$60,000
Building								
~30'x20' building	600	SF	$400	$240,000				$240,000
Misc. Metals								
Handrails	376	LF	$150	$56,400			Included	$57,000
Checkerplate (UV channels)	976	SF	$90	$87,840			Included	$88,000
Aluminum Platform Framing	8	Ton	$5,000	$40,000			Included	$40,000
Electrical Installation								
Installation						20%	$376,000	$376,000
	General Conditions		8%					$340,000
	Subtotal							**$4,500,000**
	Contractor Overhead & Profit		20%					$900,000
	Subtotal							**$5,400,000**
	Contingency		30%					$1,600,000
	Subtotal			$0			$0	**$7,000,000**
Engineering, Legal, Administration			20%					$1,400,000
		TOTAL						**$8,400,000**

Alt 2 - UV Disinfection Alternative
O&M Costs

Oneida Co. WPCP	5/23/2022	8616504
Client	Date	Job No.
Oneida Co. WPCP UV Evaluation	DJM	LJD
Subject	Comp. By	Checked By

UV - O&M Costs

Costs based on Trojan UV Signa System

Labor:

Hours (Assume 1 Operator, 1 Day Per Week)	208	May 1- Oct 31 only
Hourly Labor rate (including benefits)	$46.00	See Assumptions tab
Annual Cost:	**$9,568**	

Power Consumption Costs

No. of Lamps in Operation at Avg. Flow	72	3 banks in service, 24 lamps per bank, distributed across 2 channels
Lamp Wattage at Avg. Flow (per lamp)	801	watts (calculated; lamps rated for 1000w)
Annual operating hours	4380	hours (disinfection limit is seasonal from May to October)
Total Power Consumption at Avg. Flow	57.7	kW (estimate provided by Trojan via email 5/22/2022)
Power Cost:	$0.06	per kW-hr (from Dale Lockwood via email, 5/5/2022)
Annual Cost:	**$15,164**	$0.06 per kW-hr * annual average flow; Refer to UV Alternatives

Lamp Replacement Costs

Avg. No. of Lamps Replaced per Yr.	11	Trojan estimated 21/year. Oneida operating 26 weeks/year.
Lamp Replacement Cost	$ 745.00	Cost given by Trojan
Annual Cost:	**$8,195**	

Ballast, Quartz Sleeve, and Wiper Replacement Costs

Ballast Replacement	
Number of Ballasts in operation for average flow rate	
Guaranteed Ballast Life, hrs	43,800
Ballast Replacement Cost, $	$726.00
Average No. of ballasts replaced per year, based upon 3% acceptable annual failure rate	0.10
Average Annual Total Ballast Replacement Cost,	**$72.40**
Quartz Sleeve Replacement	
Number of quartz sleeves in operation for average flow rate	16
Guaranteed Quartz Sleeve Life, hrs	175,200
Quartz Sleeve Replacement Cost, $	$171.00
Average no. quartz sleeves replaced per year	0.025
Average Annual Total Quartz Sleeve Replacement Cost, $/yr	**$4.26**
Wiping Ring Replacement	
Number of Wipers in Operation For Average Flow	72
Guaranteed Wiper Life, strokes	30,000
Wiper Replacement Cost, $	$22.00
Average no. wipers replaced per year	13
Average Annual Total Wiper Replacement Cost,	**$286.00**
Annual Cost:	**$363**

Operating Hours/year
4368

Total 2022 O&M Cost:	
Chemical Cost:	$0
Labor Cost:	$10,000
Power Cost:	$16,000
Lamp Replacement Costs:	$9,000
Ballast, Quartz Sleeve, and Wiper Replacement	$400
TOTAL Annual O&M:	**$35,400**
TOTAL Annual O&M (rounded):	**$36,000**

Present worth analysis term (years)	20
Annual interest rate	4%
Present Worth	**$481,098**
Present Worth (rounded)	**$480,000**

PROPOSAL FOR ONEIDA COUNTY WPCP, NEW YORK
QUOTE: 235051

05/19/2022

TrojanUVSigna™ incorporates revolutionary innovations, including TrojanUV Solo Lamp™ technology, to reduce the total cost of ownership and drastically simplify operation and maintenance. It is the ideal solution for facilities wanting to upgrade their disinfection system easily and cost-effectively.

We are pleased to provide the enclosed TrojanUVSigna proposal. Please do not hesitate to contact us if you have any questions regarding this proposal. We look forward to working with you.

With best regards,

Fiona Crawford

3020 Gore Road
London, Ontario N5V 4T7
(519) 457 – 3400 ext. 2194
fcrawford@trojantechnologies.com

Local Representative:

John Revette
Koester Associates, Inc.
(315) 697-3800
JRevette@koesterassociates.com

DESIGN CRITERIA

Peak Design Flow:	**65 MGD**
UV Transmittance:	**65%** (minimum)
Total Suspended Solids:	**5 mg/l (30 Day Average,** grab sample)
Disinfection Limit:	**200 Fecal Coliform per 100 ml**, 30 day Geometric Mean of consecutive daily grab samples

DESIGN SUMMARY

CHANNEL (Refer to Trojan layout drawing for complete details)	
Number of Channels:	**2**
Minimum Channel Length Required:	**36 ft (excluding level controller)**
Channel Width at UV Banks:	**5.4 ft**
Channel Depth Recommended:	**7.8 ft**
UV BANKS	
Number of Banks per Channel:	**4 (3 duty, 1 standby)**
Number of Lamps per Bank:	**24**
Total Number of UV Lamps:	**192 (Including 48 Redundant Lamps)**
Maximum Duty Power Draw:	**202.2 kW**
Head loss through the UV Banks:	**7.2 in**
UV PANELS	
Power Distribution Center Quantity:	**4 (1 double-wide Panel, 1 single-wide Panel per channel)**
Hydraulic System Center Quantity:	**2**
System Control Center Quantity:	**1 (AB Compact Logix)**
ANCILLARY EQUIPMENT	
Level Controller Quantity and Type:	**2 Serpentine Weirs (approximate overall length ~2352 in)**
Integral Bank Walls:	**Included**
ELECTRICAL REQUIREMENTS	
1. Each Power Distribution Center requires an electrical supply of one (1) 480/277V, 3 Phase, 4 Wire, + Ground, 60Hz, 82.1 kVA (Double-wide Panel) **2.** Each Power Distribution Center requires an electrical supply of one (1) 480/277V, 3 Phase, 4 Wire, + Ground, 60Hz, 27.4 kVA (Single-wide Panel) **3.** Electrical supply for Hydraulic System Center will be (1) 480V, 3 Phase, 4 Wire, + Ground, 60Hz, 2.5 kVA **4.** Electrical supply for System Control Center will be (1) 120V, 1 Phase, 2 Wire, + Ground, 60Hz, 1.8 kVA **5.** Electrical disconnects are not included in this proposal. Refer to local electrical codes	

COMMERCIAL INFORMATION

Total Capital Cost: $ ~~1 300 000 (USD)~~ See below

This price excludes any taxes or duties that may be applicable.
Standard equipment warrantees and start up by Trojan-certified technicians are included.

Easy and Cost-Effective Maintenance

- The 1000 watt TrojanUV Solo Lamp combines the benefits of both low pressure and medium pressure lamps
- Fewer lamps, long lamp life and easy change-outs save time and money
- Lamp change-outs and cleaning solution replacement are done while the UV system is in the channel – minimizing downtime and simplifying maintenance
- Routine maintenance can be performed while banks are in the channel, but an Automatic Raising Mechanism (ARM) makes other tasks, such as winterization, simple, safe and easy
- Lamp plugs with LED status indicators and integral safety interlock prevent an operator from accidentally removing an energized lamp
- ActiClean WW™ chemical/mechanical cleaning system to keep sleeves clean during operation

RE: Oneida County WPCP - Trojan UV proposal

Reply | Reply All | Forward

JR John Revette <JRevette@koesterassociates.com>
To Lisa Derrigan; Mike Ademovic; Doug Mayer
Cc Dan Jean; Gregg Palmer; John Story
Thu 6/16/2022 4:46 PM

You replied to this message on 6/16/2022 6:06 PM.

Lisa:

To get down to 4 inches of head loss total (bank HL + Weir HL).....we'd need 4 channels of equipment. We'd need to go into the other tank to accommodate the weirs with less head loss and also the cable troughing and panels. It doubles the cost of the equipment. We are basically almost at the same width of equipment, but one less bank per channel, in 4 channels. Weir gates don't really work well here because the downstream water level is high.

Budget cost for the 4 channel system would be about $1.88 million.

Regards,

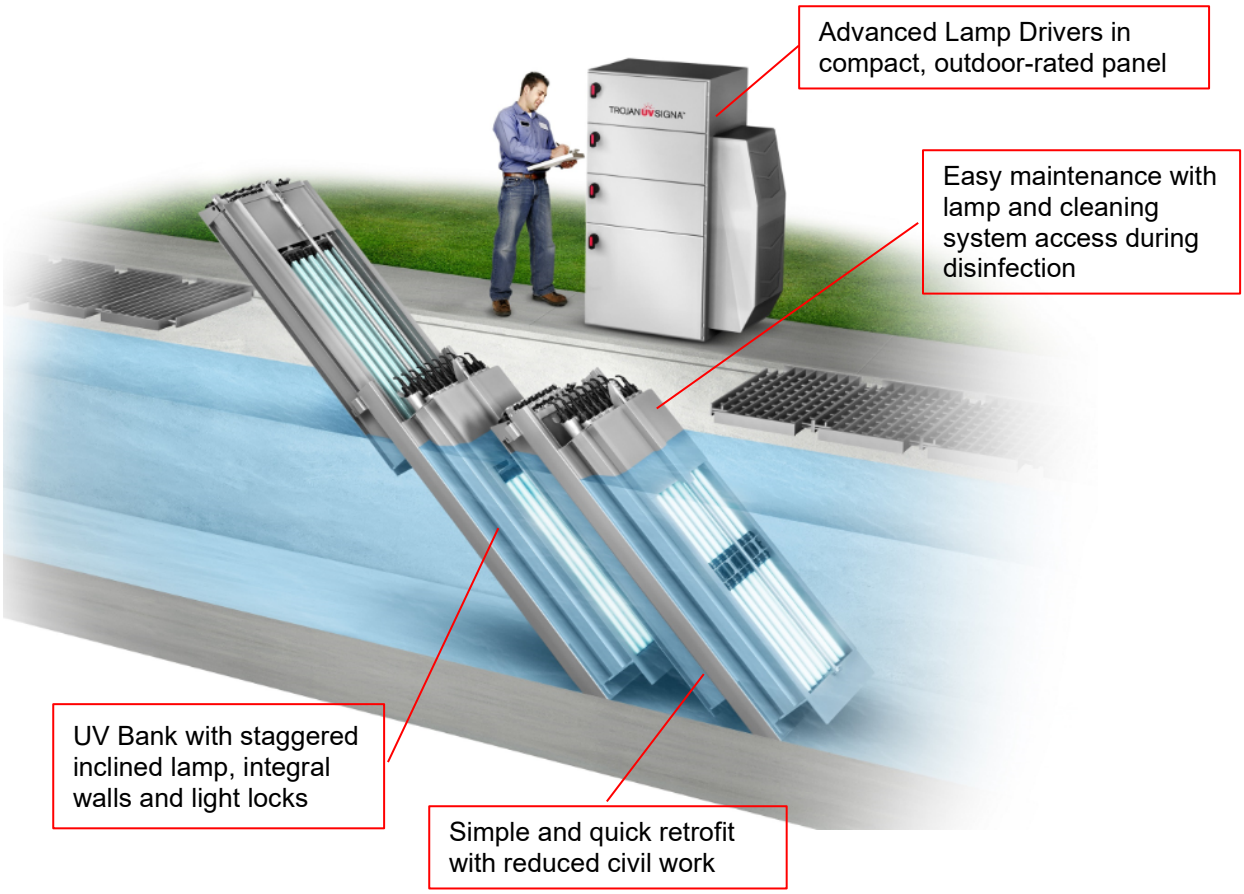
John

KOESTER

John Revette, P.E., BCEE
Inside Sales Engineer
Koester Associates, Inc.
3101 Seneca Turnpike
Canastota, NY 13032
Phone: 315-697-3800
Cell: 703-258-5030
jrevette@koesterassociates.com

SYSTEM OVERVIEW

SOLO LAMP TECHNOLOGY

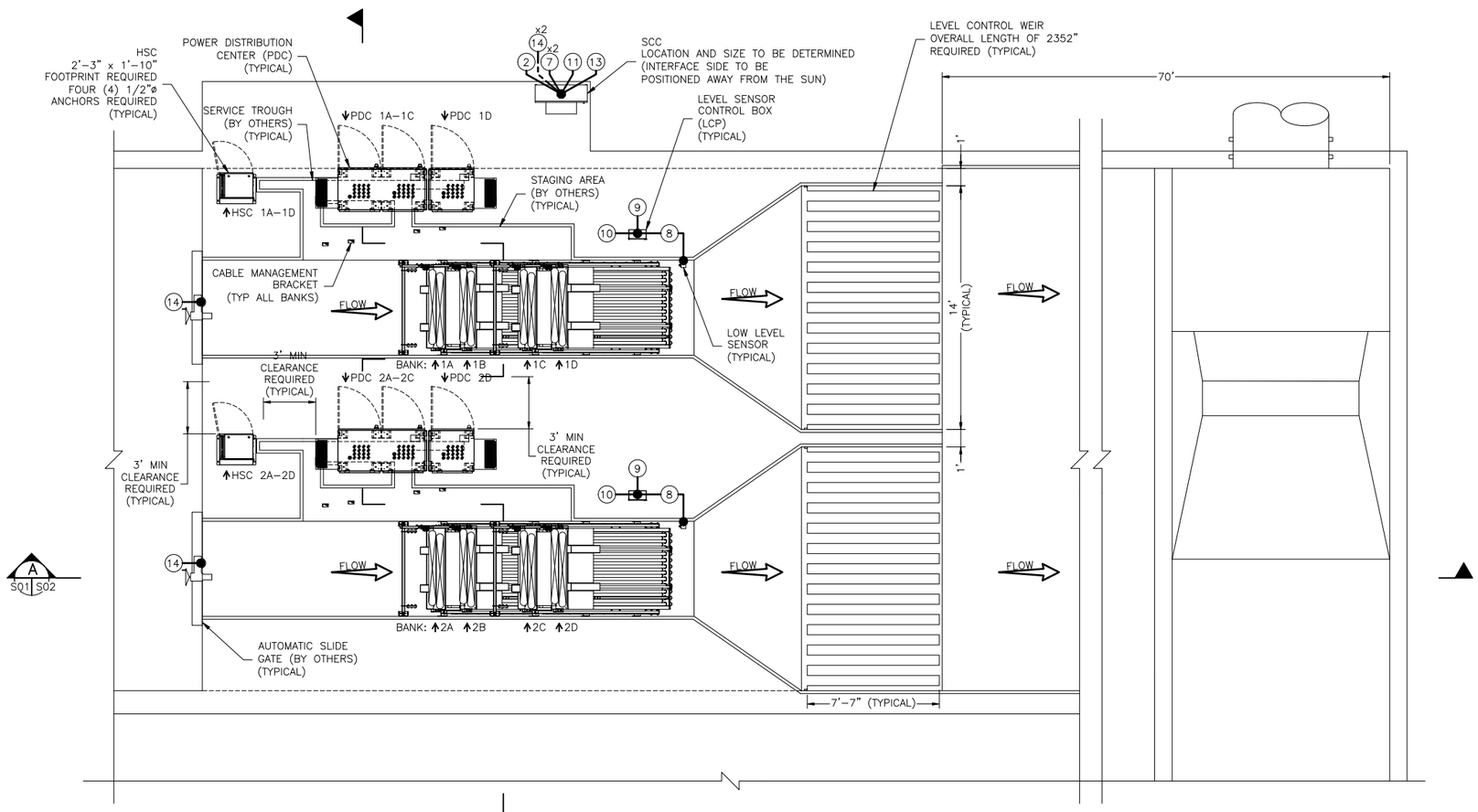


Simple to Design and Install

- Light locks on the UV banks control water level within the channel, reducing dependence on downstream weirs and preventing short-circuiting above the lamp arc
- UV Banks include integral reactor walls to make installation easy and prevent short circuiting at the channel walls
- Stringent tolerances on concrete channel walls are not required – making retrofits simple and cost-effective

Supported by Trojan Technologies

- Trojan Technologies warrants all components of the system (excluding UV lamps) against faulty workmanship and materials for a period of 12 months from date of start-up or 18 months after shipment, whichever comes first.
- UV lamps are warranted for 15,000 hours of operation or 3 years from shipment, whichever comes first. Lamp warranty is pro-rated after 9,000 hours of operation. This means that if a lamp fails prior to 9,000 hours of use, a new lamp is provided at no charge.
- Trojan offers an unparalleled Lifetime Performance Guarantee. The spirit of this guarantee is simple: the Trojan equipment, as sized for the project, will meet the disinfection requirements for the life of the system.



PLAN VIEW

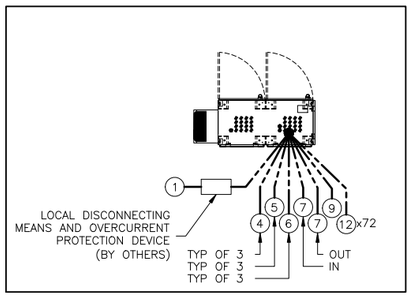
SCALE: AS SHOWN

TROJAN UVSIGNA™

EQUIPMENT INTERCONNECTIONS

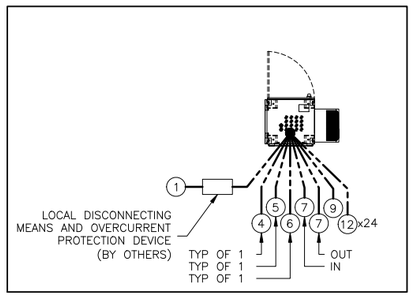
No.	DESCRIPTION	FROM	TO
1	POWER DISTRIBUTION CENTER (PDC)* POWER SUPPLY 480Y/277V, 3 PHASE, 4 WIRE + GROUND 99 AMPS MAXIMUM CURRENT/PHASE 82.1 kVA/PDC POWER DRAW	DISTRIBUTION PANEL (DP) (BY OTHERS) (NOT SHOWN)	PDC(s) #A-#C (TOP OF PANEL)
	480Y/277V, 3 PHASE, 4 WIRE + GROUND 34 AMPS MAXIMUM CURRENT/PHASE 27.4 kVA/PDC POWER DRAW		PDC(s) #D (TOP OF PANEL)
2	SYSTEM CONTROL CENTER (SCC)* POWER SUPPLY 120V, 1 PHASE, 2 WIRE + GROUND, 1.8 kVA	DP (BY OTHERS) (NOT SHOWN)	SCC
3	HYDRAULIC SYSTEM CENTER (HSC)* POWER SUPPLY 480V, 3 PHASE, 3 WIRE + GROUND, 2.5 kVA	DP (BY OTHERS) (NOT SHOWN)	HSC
4	BONDING CONDUCTOR 8 AWG TYPE TWH STRANDED	PDC(s) (UNDERSIDE OF PANEL)	UV BANK(s)
5	UV INTENSITY 4-20MA ANALOG INPUT (SUPPLIED)	UV BANK(s)	PDC(s) (UNDERSIDE OF PANEL)
6	BANK IN PLACE PROXIMITY SENSOR 3 CONDUCTOR CABLES (SUPPLIED)	PROXIMITY SENSOR(s)	PDC(s) (UNDERSIDE OF PANEL)
7	MODBUS BELDEN 3106A OR EQUIVALENT (ONE LINE PER CHANNEL)	SCC	HSC(s) & PDC(s) (UNDERSIDE OF PANEL) (DAISY CHAINED)
8	DISCRETE LOW LEVEL SIGNAL 12 VDC - 2 CONDUCTORS	LOW LEVEL SENSOR	LEVEL SENSOR CONTROL BOX (LCP)
9	DISCRETE WATER LEVEL SIGNAL 2 CONDUCTORS	LEVEL SENSOR CONTROL BOX (LCP)	PDC(s) (UNDERSIDE OF PANEL)
10	LEVEL SENSOR CONTROL BOX (LCP)* POWER SUPPLY 120V, 1 PHASE, 2 WIRE + GROUND, 0.12 kVA	DP (BY OTHERS) (NOT SHOWN)	LEVEL SENSOR CONTROL BOX (LCP)
11	FLOW METER 4-20 mA, DC ANALOG INPUT (BY OTHERS)	FLOW METER PANEL (NOT SHOWN) (BY OTHERS)	SCC
12	LAMP CABLES (SUPPLIED BY TROJAN) (ROUTED BY OTHERS)	UV BANK	PDC (UNDERSIDE OF PANEL)
13	ETHERNET/IP COMMUNICATION	SCC	PLANT SCADA (BY OTHERS) (NOT SHOWN)
14	DISCRETE GATE OPEN CONTROL INPUT 2 CONDUCTORS DISCRETE GATE CLOSED CONTROL INPUT 2 CONDUCTORS DISCRETE OPEN COMMAND OUTPUT 2 CONDUCTORS DISCRETE CLOSE COMMAND OUTPUT 2 CONDUCTORS DISCRETE GATE IN REMOTE MODE INPUT 2 CONDUCTORS	SLIDE GATE (BY OTHERS) SLIDE GATE (BY OTHERS) SCC SCC SLIDE GATE (BY OTHERS)	SCC SCC SLIDE GATE (BY OTHERS) SLIDE GATE (BY OTHERS) SCC

*** GROUND CONNECTION REQUIRED TO PLANT GRID (BY OTHERS).**



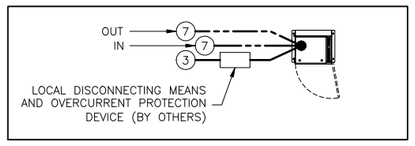
PDC #A-#C INTERCONNECT DETAIL

SCALE: NOT TO SCALE



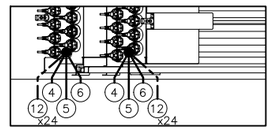
PDC #D INTERCONNECT DETAIL

SCALE: NOT TO SCALE



HSC INTERCONNECT DETAIL

SCALE: NOT TO SCALE



UV BANK INTERCONNECT DETAIL

SCALE: NOT TO SCALE
NOTE: TYPICAL FOR ALL UV BANKS.
TROUGH NOT SHOWN FOR CLARITY.

NOTES:

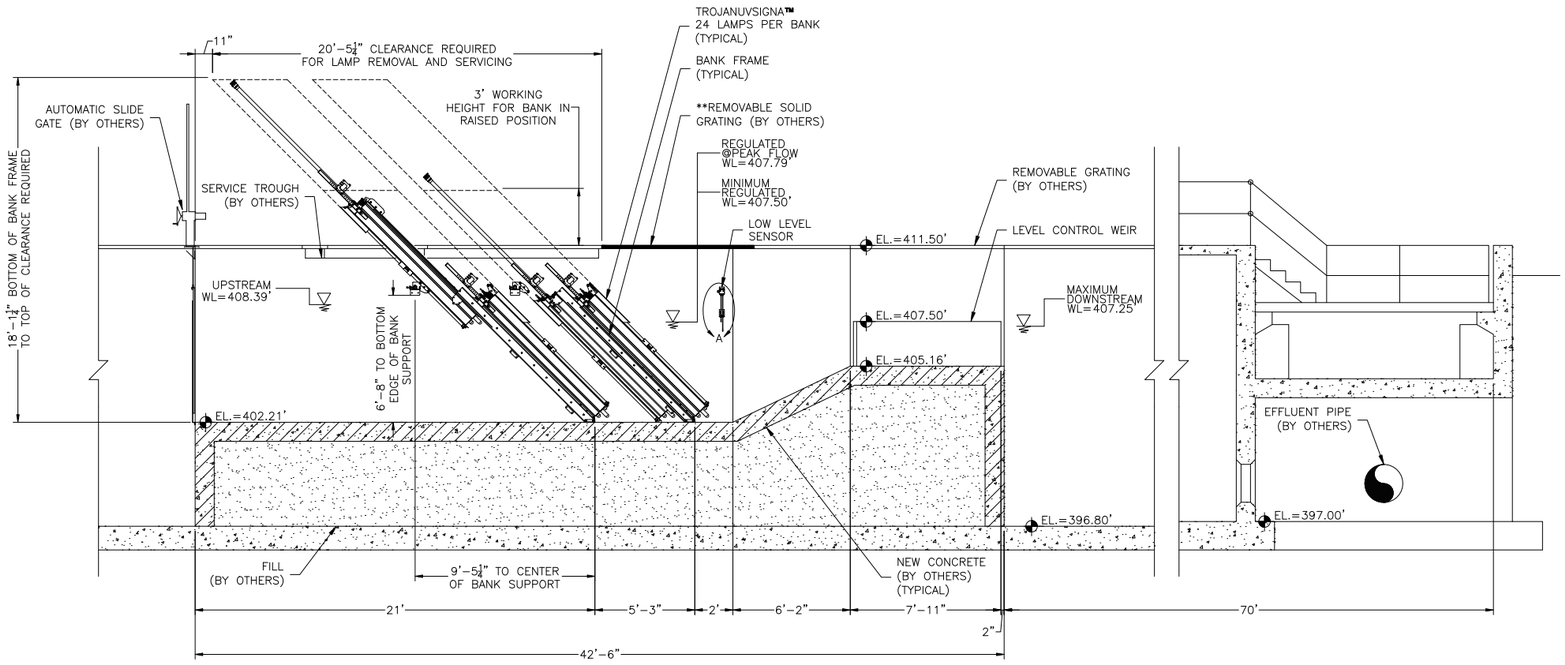
: DO NOT SLOPE CHANNEL FLOOR.
: CHANNEL WIDTH MUST BE KEPT WITHIN A TOLERANCE OF -/+1/2" AT UV BANK FRAME AND -/+1/4" FOR REST OF CHANNEL.
: ALL CHANNEL ELEVATIONS MUST BE KEPT WITHIN A TOLERANCE OF -/+1/4" AGAINST A COMMON DATUM ELEVATION.
: ANCHOR BOLTS ARE NOT SUPPLIED BY TROJAN TECHNOLOGIES,
: SYSTEM CONDUIT, WIRING, DISTRIBUTION PANELS & INTERCONNECTIONS BY OTHERS.
: ELECTRICAL REQUIREMENTS SHOWN ARE TO SUPPLY TROJAN UV EQUIPMENT ONLY.
: REMOVABLE GRATING SECTIONS SHALL BE EASILY REMOVED BY ONE PERSON. MAXIMUM WEIGHT OF THE SECTIONS SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE APPLICABLE JURISDICTION.
: CONTRACTOR TO REVIEW ALL TROJAN TECHNOLOGIES INSTALLATION INSTRUCTIONS PRIOR TO EQUIPMENT INSTALLATION.
: EFFLUENT LEVELS SHOWN REFLECT HYDRAULICS ASSOCIATED WITH TROJAN EQUIPMENT ONLY. EFFLUENT LEVELS MAY BE ALTERED DUE TO CHANNEL DEBRIS OR GEOMETRY.
: HYDRAULIC HOSE ELEVATIONS NOT TO EXCEED 12" ABOVE HSC MOUNTING ELEVATION.
: INCLUDED CABLE LENGTH ALLOWS FOR 25.5' ROUTING (RISE + RUN) BETWEEN CABLE/HOSE MANAGEMENT BRACKET AND UNDERSIDE OF PDC. (12.0' ROUTING ASSUMED BASED ON THIS LAYOUT.)
: INCLUDED HOSE LENGTH ALLOWS FOR 23.5' ROUTING (RISE + RUN) BETWEEN CABLE/HOSE MANAGEMENT BRACKET AND HOSE CONNECTION ON THE HSC. (15.5' ROUTING ASSUMED BASED ON THIS LAYOUT.)
: SITE TO PROVIDE APPROVED (ENGINEERED) ANCHOR POINTS FOR PERSONNEL TO USE AS PART OF THEIR FALL RESTRAINT SYSTEM AROUND OPEN CHANNELS. THE ANCHOR POINTS MUST BE POSITIONED SO THAT THE PREFERRED RETRACTABLE LIFELINE OF 8 FEET IS OF SUFFICIENT LENGTH TO ACCESS THE WORK AT THE CHANNEL.
**** SOLID GRATING REQUIRED TO BLOCK ULTRAVIOLET (UV) LIGHT.**

3 DUTY / 1 REDUNDANT BANKS PER CHANNEL

PRELIMINARY, NOT FOR CONSTRUCTION
VERIFY DIMENSIONS BEFORE COMMENCING CIVIL OR DESIGN WORK

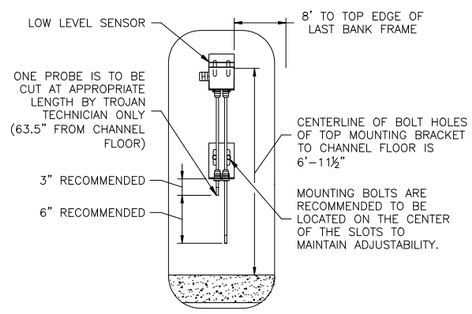
DESIGN CRITERIA		
PEAK FLOW	65 **MGD**	
U.V TRANSMITTANCE AT 253.7 nm	65%	
SUSPENDED SOLIDS	5 mg / L (30 DAY AVG.)	
DISINFECTION STANDARD	200 FC / 100mL (30 DAY GEO. MEAN)	

DESCRIPTION: LAYOUT, TROJANUVSIGNA ONEIDA COUNTY WPCP, NY		QUOTE NO.	235051
DRAWN BY : AB	DATE : 22MA30	PROJECT NO.	N/A
CHECKED BY : MU	DATE : 22JN01		
APPROVED BY : SO	DATE : 22JN01	DWG NO.	REV.
SCALE (11x17) : 1/8" = 1'-0"	LOG NUMBER : N/A	S01	A



A SECTION

S01 | S02 SCALE: AS SHOWN
NOTE: HSC, PDC, SCC, AND LEVEL SENSOR CONTROL BOX NOT SHOWN FOR CLARITY.



DETAIL A

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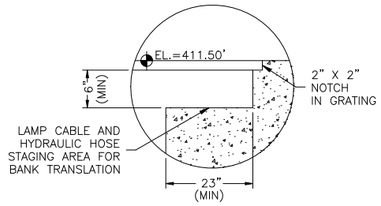

DETAIL B

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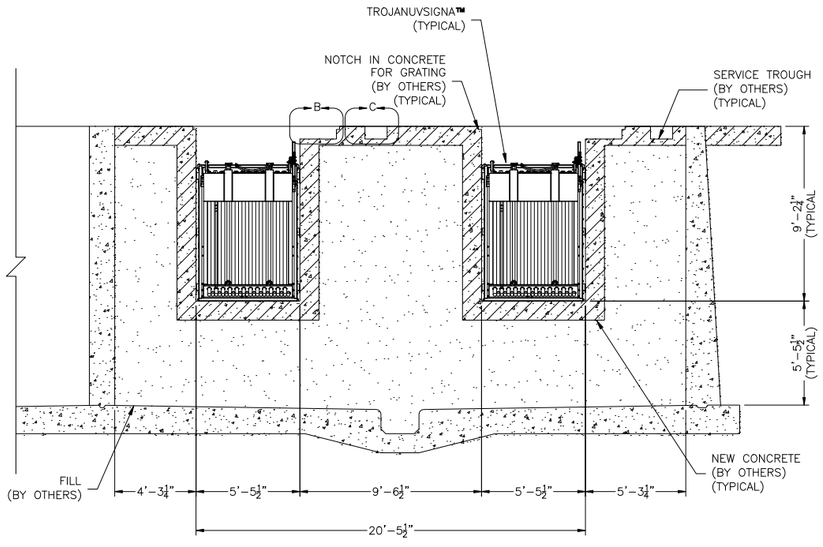
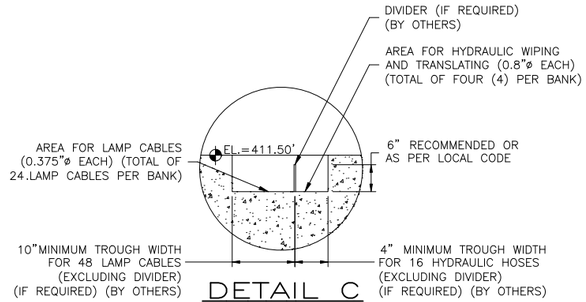


B SECTION

S01 | S02 SCALE: AS SHOWN
NOTE: PDC, HSC, AUTOMATIC SLIDE GATE (BY OTHERS), AND
REMOVABLE GRATING (BY OTHERS) NOT SHOWN FOR CLARITY.



DETAIL C

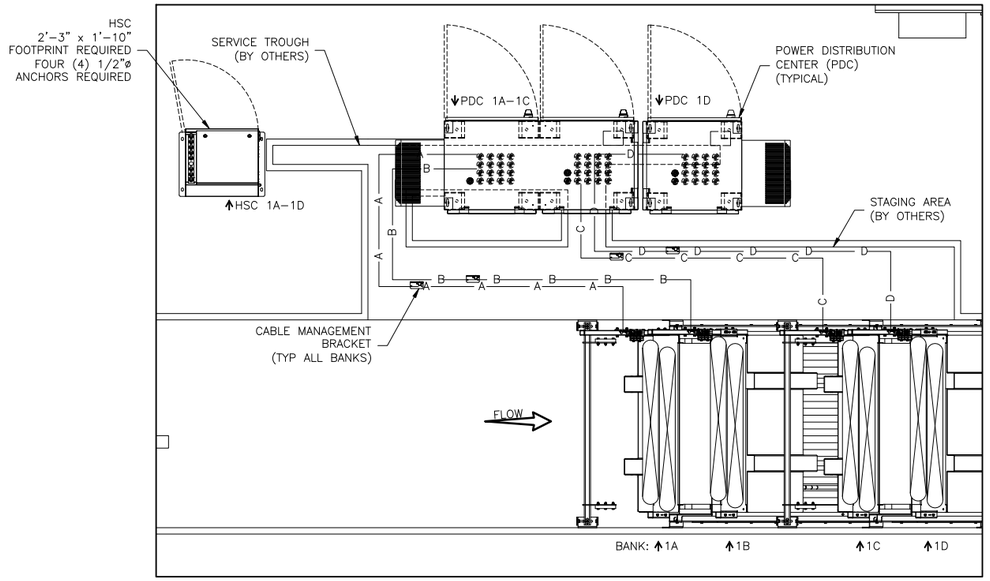
SCALE: NOT TO SCALE
NOTE: REFER TO TROJAN TROUGH
CABLE INSTALLATION GUIDELINE
DC000601-017 OR LOCAL CODE IF
MORE RESTRICTIVE. TROUGH WIDTHS
BASED ON SOLID STYLE GRATING.

NOTES:

: DO NOT SLOPE CHANNEL FLOOR.
: CHANNEL WIDTH MUST BE KEPT WITHIN A TOLERANCE OF −/+1½" AT UV BANK FRAME AND −/+¼" FOR REST OF CHANNEL.
: ALL CHANNEL ELEVATIONS MUST BE KEPT WITHIN A TOLERANCE OF −/+¼" AGAINST A COMMON DATUM ELEVATION.
: ANCHOR BOLTS ARE NOT SUPPLIED BY TROJAN TECHNOLOGIES,
: SYSTEM CONDUIT, WIRING, DISTRIBUTION PANELS & INTERCONNECTIONS BY OTHERS.
: ELECTRICAL REQUIREMENTS SHOWN ARE TO SUPPLY TROJAN UV EQUIPMENT ONLY.
: REMOVABLE GRATING SECTIONS SHALL BE EASILY REMOVED BY ONE PERSON. MAXIMUM WEIGHT OF THE SECTIONS SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE APPLICABLE JURISDICTION.
: CONTRACTOR TO REVIEW ALL TROJAN TECHNOLOGIES INSTALLATION INSTRUCTIONS PRIOR TO EQUIPMENT INSTALLATION.
: EFFLUENT LEVELS SHOWN REFLECT HYDRAULICS ASSOCIATED WITH TROJAN EQUIPMENT ONLY. EFFLUENT LEVELS MAY BE ALTERED DUE TO CHANNEL DEBRIS OR GEOMETRY.
: HYDRAULIC HOSE ELEVATIONS NOT TO EXCEED 12" ABOVE HSC MOUNTING ELEVATION.
: INCLUDED CABLE LENGTH ALLOWS FOR 25.5' ROUTING (RISE + RUN) BETWEEN CABLE/HOSE MANAGEMENT BRACKET AND UNDERSIDE OF PDC. (12.0' ROUTING ASSUMED BASED ON THIS LAYOUT.)
: INCLUDED HOSE LENGTH ALLOWS FOR 23.5' ROUTING (RISE + RUN) BETWEEN CABLE/HOSE MANAGEMENT BRACKET AND HOSE CONNECTION ON THE HSC. (15.5' ROUTING ASSUMED BASED ON THIS LAYOUT.)
: SITE TO PROVIDE APPROVED (ENGINEERED) ANCHOR POINTS FOR PERSONNEL TO USE AS PART OF THEIR FALL RESTRAINT SYSTEM AROUND OPEN CHANNELS. THE ANCHOR POINTS MUST BE POSITIONED SO THAT THE PREFERRED RETRACTABLE LIFELINE OF 8 FEET IS OF SUFFICIENT LENGTH TO ACCESS THE WORK AT THE CHANNEL.
** SOLID GRATING REQUIRED TO BLOCK ULTRAVIOLET (UV) LIGHT.**

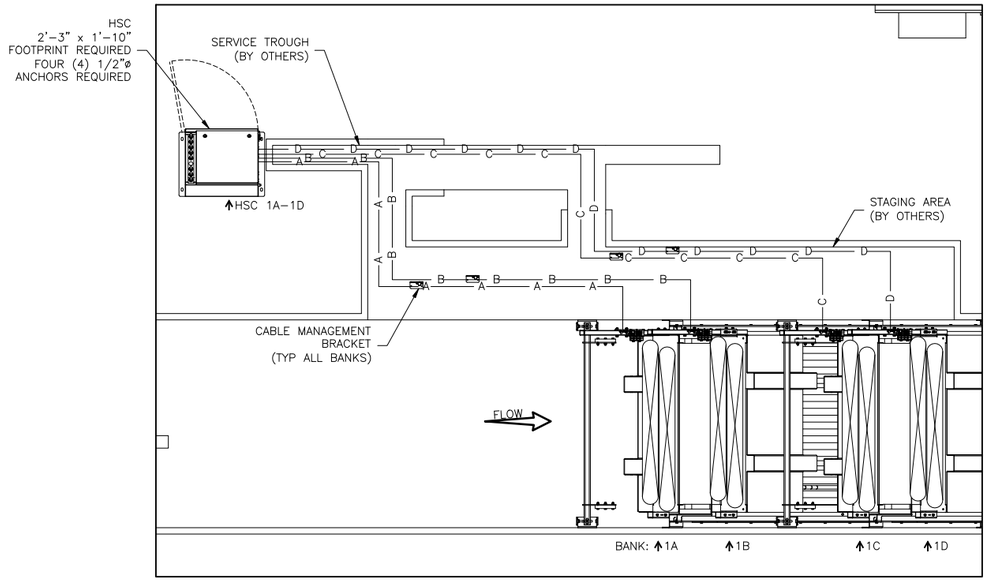
PRELIMINARY, NOT FOR CONSTRUCTION
VERIFY DIMENSIONS BEFORE COMMENCING CIVIL OR DESIGN WORK

DESCRIPTION: LAYOUT, TROJANUVSIGNA ONEIDA COUNTY WPCP, NY		QUOTE NO. 235051
DRAWN BY : AB	DATE : 22MA30	PROJECT NO. N/A
CHECKED BY : MU	DATE : 22JN01	
APPROVED BY : SO	DATE : 22JN01	DWG NO. S02 / REV. A
SCALE (11x17) : 1/8" = 1'-0"	LOG NUMBER : N/A	



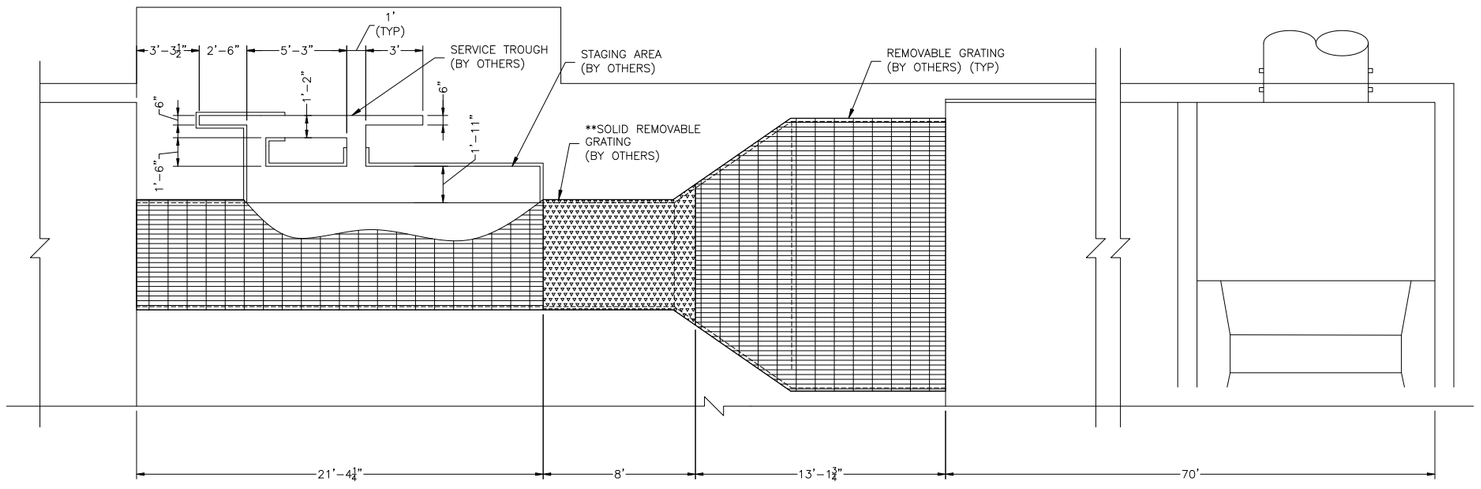
LAMP CABLE ROUTING PLAN

SCALE: NOT TO SCALE
NOTE: TYPICAL FOR ALL CHANNELS.



HYDRAULIC HOSE ROUTING PLAN

SCALE: NOT TO SCALE
NOTE: PDC NOT SHOWN FOR CLARITY. TYPICAL FOR ALL CHANNELS.



GRATING AND TROUGH PLAN VIEW

SCALE: AS SHOWN
NOTE: DESIGN OF GRATING SECTIONS SHOULD BE SIZED TO ALLOW FOR EASY REMOVAL BY SERVICE TECHNICIANS. SOLID GRATING MUST BE PROVIDED IN AREA INDICATED TO BLOCK UV LIGHT. TYPICAL FOR ALL CHANNELS.

NOTES:

: DO NOT SLOPE CHANNEL FLOOR.
: CHANNEL WIDTH MUST BE KEPT WITHIN A TOLERANCE OF −/+1½" AT UV BANK FRAME AND −/+¼" FOR REST OF CHANNEL.
: ALL CHANNEL ELEVATIONS MUST BE KEPT WITHIN A TOLERANCE OF −/+¼" AGAINST A COMMON DATUM ELEVATION.
: ANCHOR BOLTS ARE NOT SUPPLIED BY TROJAN TECHNOLOGIES,
: SYSTEM CONDUIT, WIRING, DISTRIBUTION PANELS & INTERCONNECTIONS BY OTHERS.
: ELECTRICAL REQUIREMENTS SHOWN ARE TO SUPPLY TROJAN UV EQUIPMENT ONLY.
: REMOVABLE GRATING SECTIONS SHALL BE EASILY REMOVED BY ONE PERSON. MAXIMUM WEIGHT OF THE SECTIONS SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE APPLICABLE JURISDICTION.
: CONTRACTOR TO REVIEW ALL TROJAN TECHNOLOGIES INSTALLATION INSTRUCTIONS PRIOR TO EQUIPMENT INSTALLATION.
: EFFLUENT LEVELS SHOWN REFLECT HYDRAULICS ASSOCIATED WITH TROJAN EQUIPMENT ONLY. EFFLUENT LEVELS MAY BE ALTERED DUE TO CHANNEL DEBRIS OR GEOMETRY.
: HYDRAULIC HOSE ELEVATIONS NOT TO EXCEED 12" ABOVE HSC MOUNTING ELEVATION.
: INCLUDED CABLE LENGTH ALLOWS FOR 25.5' ROUTING (RISE + RUN) BETWEEN CABLE/HOSE MANAGEMENT BRACKET AND UNDERSIDE OF PDC. (12.0' ROUTING ASSUMED BASED ON THIS LAYOUT.)
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**** SOLID GRATING REQUIRED TO BLOCK ULTRAVIOLET (UV) LIGHT.**

PRELIMINARY, NOT FOR CONSTRUCTION
VERIFY DIMENSIONS BEFORE COMMENCING CIVIL OR DESIGN WORK

TROJANUV™
A TROJAN TECHNOLOGIES BUSINESS

DESCRIPTION:
LAYOUT, TROJANUVSIGNA
ONEIDA COUNTY WPCP, NY

DRAWN BY : AB	DATE : 22MA30	QUOTE NO. 235051
CHECKED BY : MU	DATE : 22JN01	PROJECT NO. N/A
APPROVED BY : SO	DATE : 22JN01	DWG NO. S03 / REV. A
SCALE (11x17) : 1/8" = 1'-0"	LOG NUMBER : N/A	

Budget Proposal

Oneida Co WPCP - Utica, NY

Prepared for:

GHD
Doug Mayer

May 26, 2022

Xylem Water Solutions USA, Inc.
4828 Parkway Plaza Blvd Suite 200
Charlotte, NC 28217

May 26, 2022

GHD
Doug Mayer

Project Name: Oneida Co WPCP - Utica, NY
Project Number: J22051062058
Revision Number: 0

Mr. Mayer:

We are pleased to submit the following proposal for the Oneida Co WPCP - Utica, NY UV opportunity based on the information provided within your inquiry.

The Duron system is a modular open channel UV system that offers owners best in class operational efficiency and an entirely operator-oriented design. We would like to highlight a few key items with our proposal provided:

- **45° Vertical Incline Design -** WEDECO has used our 30+ years of experience in the UV industry to develop this staggered lamp array design, combining the advantages of vertical and horizontal designs. This design results in better hydraulics and performance.
- **All electrical components are out of the effluent** - This eliminates underwater electrical seals and simplifies the overall system.
- **Integrated Electric Lifting System** - This integrated device raises each module out of the channel individually, providing easy access to the entire UV module for inspection and routine maintenance. It also means that no crane or separate maintenance area is needed for Duron equipment.
- **Simple maintenance** - With the Duron system, lamps and sleeves can be replaced right in the channel. The lifting system can bring the equipment to the operator, increasing safety. Additionally, no tools are needed for any maintenance procedure such as lamp changes, quartz removal, sensor replacement, or wiper ring replacement.
- **Latest lamp technology** - Our system includes our latest low-pressure, high-intensity Ecoray lamps which have a guaranteed life of 14,000 hours. At 600 watts per lamp, the Duron system also requires fewer lamps and associated replacement components.
- **True "intensity based" dose pacing control** - WEDECO is unique in the marketplace by taking into account real-time sensor readings of UV intensity, as a function of lamp output, aging and sleeve fouling. This is combined with real-time UV transmittance data to offer true dose pacing for all effluent conditions. Knowing that flows and water quality constantly vary, this system provides the end user with power savings and prevents over-dosing, allowing us to ensure that the UV system will meet permit at a wide variety of water qualities.
- **Electric motor driven automatic wiping system** – This prevents quartz sleeve fouling with very easy replacement of wipers. It also eliminates the need for a compressor or a hydraulics system.

- **Remote enclosures** - WEDECO's ballasts are located away from the channel which allows for easy accessibility for maintenance.
- **TotalCare** - WEDECO's established and proven TotalCare Program provides our customers with proactive services all designed to minimize the cost of ownership to operate and maintain a UV system. TotalCare services can provide our customers with system health checks, efficiency audits, training and preventative maintenance contracts.

Please refer to our local representative Dave Boshart of GP Jager, (973) 750-1180 or us if you have any questions. We look forward to working with you on this exciting project.

Sincerely,

Julia Beilsmith
Territory Manager
(954) 483-8563

Bill Mattfeld
Senior Application Engineer

Table of Content

1 Xylem Overview

Xylem is a leading global water technology provider, enabling customers to transport, treat, test and efficiently use water in public utility, residential and commercial building services, industrial and agricultural settings. The company does business in more than 150 countries through a number of market-leading product brands, and its people bring broad applications expertise with a strong focus on finding local solutions to the world's most challenging water and wastewater problems.

Xylem's treatment business offers a portfolio of products and systems designed to effectively meet the demands and challenges of treating water and wastewater. From smarter aeration to advanced filtration to chemical-free disinfection, Xylem leverages its well-known Treatment brands, Flygt, Leopold, Sanitaire, and Wedeco, to offer hundreds of solutions backed by a comprehensive, integrated portfolio of services designed to ensure we can meet our customers' needs in a number of different industries including municipal water and wastewater, aquaculture, biogas and agriculture, food and beverages, pharmaceuticals, and mining.

Our scientists and engineers utilize their deep applications expertise and continually listen and learn from our customers' situations to create solutions that not only use less energy and reduce life-cycle costs, but also promote the smarter use of water.

WEDECO
a xylem brand

Wedeco has accepted the challenge of the 21st century. With the Wedeco brand for UV Disinfection, ozone oxidation & AOP solutions, we own the advanced technologies for chemical-free and environmentally friendly treatment of drinking water, wastewater and process water as well as further industrial treatment processes. We constantly invest a large portion of our energy in the development of high-tech components, systems and equipment, as well as in the study of new areas of application for UV, ozone & AOP. In doing so, we have always given special attention to the increase in energy efficiency of our Products equipped with our unique UV lamps and ozone electrodes.

The special characteristics of the Wedeco Ecoray UV lamp are its special doping and the unique long-life coating. Because of these features, a constantly high UV light yield is achieved with a substantially extended lamp service life at the same time. In addition, by using this technology it is not necessary to apply liquid mercury inside the lamp. Wedeco UV lamps cannot be surpassed in economic efficiency.

In relation to expenditure of energy, the High-Intensity/Low-Pressure Technology provides a light yield three times higher than comparable UV lamps of widely used Medium Pressure Technology. A higher light yield also means a lower heat generation at the same time.

Thanks to this, Wedeco UV lamps become less susceptible to varying water temperatures. Even the formation of deposits on the quartz sleeves as well as lamp aging is considerably lower than with alternative UV lamp technologies in Herford and Essen.

WEDECO Ecoray UV lamp

Xylem's Wedeco ozone systems combine maximum flexibility and reliable operating characteristics for small to large ozone capacities. The ozone generator system and control unit can be combined and supplemented with option sets that allow for various application requirements.

Effizon evo 2G ozone electrodes are the core of our technology and achieve an unmatched level of reliability and energy efficiency. The electrodes are manufactured completely from inert materials, without the need for fuses or coatings, making them highly resistant to corrosion. This means that the Wedeco ozone generators are practically maintenance free with no need for regular cleaning or replacement of the electrodes.

We rely on consistently high-quality standards in all divisions of the company. Moreover, product quality and manufacturing operations are constantly monitored and optimized in continuous improvement processes. Established quality controls give Xylem and you the security of knowing that Wedeco UV, Ozone & AOP systems will always operate reliably.

For more information please visit us at
http://www.xylem.com/treatment/

WEDECO Effizon® evo 2G Ozone electrode

2 General Process Description

2.1 DESIGN

- Design Flow Rates
  - Peak Design Flow — 65 MGD
  - Max Monthly Average Flow — 48 MGD
  - Summer Average Flow — 30 MGD
- Total Suspended Solids (Maximum) — 15 mg/L
- Iron Content (Maximum) — 0.3 mg/L
- Manganese Content (Maximum) — 0.05 mg/L
- Hardness (Maximum) — 400 mg/L as $CaCO_3$
- Particle Size (Maximum) — 30 µm
- Allowable Effluent Temperature Range — 41-86°F
- UV Transmittance at 253.7 nm — 65%, minimum
- Effluent Disinfection Standard
  - Fecal Coliforms (30 day geometric mean) — 200 Fecal Coliforms/100 mL
  - Fecal Coliforms (7 day geometric mean) — 400 Fecal Coliforms/100 mL
- UV Dose
  - Minimum Design UV Dose (based on IUVA/UVDGM (MS2) bioassay) — 30 mJ/cm²

2.2 PROCESS DESCRIPTION

The proposed UV disinfection system is based upon a properly functioning activated sludge process producing a secondary effluent meeting the above conditions.

3 Technical Description

CONFIGURATION:	Duron 44 i 2 - 3 x 3 eW eL	
DESCRIPTION	**UNITS**	**VALUE**
Total Number of lamps		396
Number of lamps per channel		132
Number of channels		3 duty
Number of banks per channel		3 (2 duty / 1 standby)
Number of modules per bank		2
Number of lamps per module		22
CHANNEL DIMENSIONS:	Inches	
Width along UV banks		8'-5 ⅝"
Width along weir		8'-5 ⅝"
Design water depth @ influent		59 ¾"
Overall channel height		8'-10 ¼"
Approx. length		35'-2 ⅞"
HEADLOSS (at peak flow):	Inches	
Across UV system		3.2
Across level control		3.0
Allowable freefall		4.0
Total Headloss		10.2
POWER CONSUMPTION:	kW	
Peak Flow		246
Max Monthly Average Flow		201
Summer Average Flow		129
Total Connected System Power		374

4 Price & Scope of Supply

4.1 WEDECO SCOPE OF SUPPLY

- All required UV modules incl. lamps and support framework for installation of the UV modules
- 82 ft (25 m) power cabling from lamps to Ballast Enclosures
- Type 12, Fan-cooled, Painted Steel Ballast Enclosures
- Allen Bradley PLC with PanelView Plus HMI and SCADA communication
- Power supply requirements: 480 V, 3 phase, 4 wire + ground (WYE)
- Electric motor driven automatic wiping system
- Integrated electric module lifting system
- UV-intensity sensors [one per bank]
- Low level probe [one per channel]
- YSI UV transmittance monitor
- OptiDose Dose-Pacing and lamp dimming control system
- Fixed finger weir [one per channel]
- Remote Service Support
- Three (3) operating and maintenance manuals in English language
- Factory testing of all parts and equipment prior to shipment
- Packaging of UV equipment
- Manufacturer's field services on site (3 trip(s) / 9 days)

4.2 BUDGET PRICE

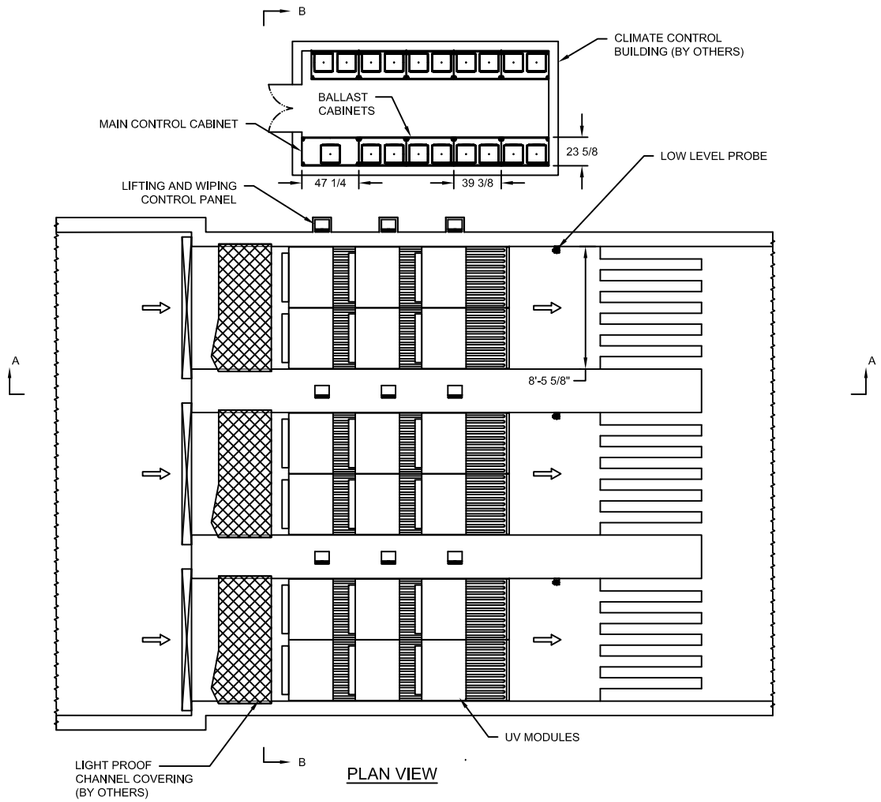
Duron Standard Equipment	
Total	***$1,480,000***

5 Commercial Terms & Conditions

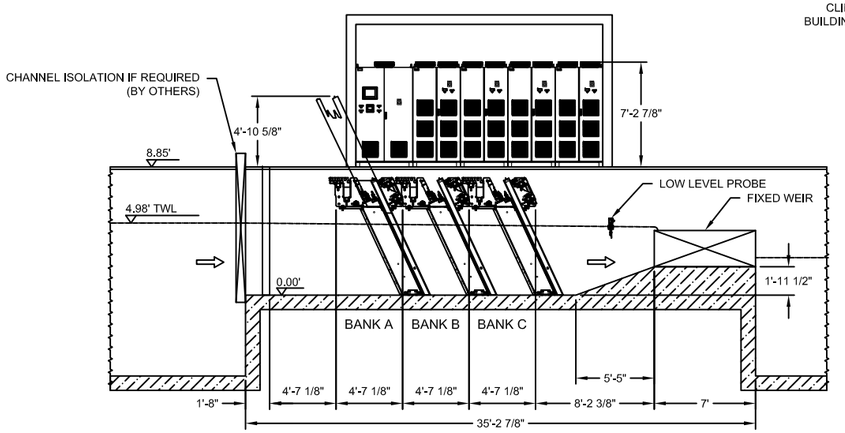
Commercial Details	
Submittal time:	8-10 weeks after approved purchase order
Delivery time:	18-22 weeks after approved submittals (assumes the Supply Chain Crisis of 2021 and 2022 has abated).
Terms of Delivery:	Incoterms 2020 DAP destination. Title and risk of loss will transfer to buyer upon delivery. Offloading and arrangement of the equipment is not included.
Terms of Payment:	This proposal is based upon WEDECO's General Terms of Business. Price is based upon the following payment terms (net 30 days): • 10% net 30 days upon initial submittal of mechanical/electrical drawings for approval • 80% net 30 days from the date of the respective shipments of the product • 5% installation of the Xylem equipment, NTE 150 days after shipment (whichever comes first) • 5% start-up / training on the Xylem equipment, NTE 180 days after shipment (whichever comes first)
Warranties:	Lamp Warranty: Guaranteed 14,000 hours of operation, prorated after 9,000 hours. System Warranty: 18 months from date of delivery or 12 months from date of substantial completion of UV equipment whichever comes first.
Pricing Validity:	The proposed budgetary price within this document is valid for Forty-Five (45) days from date of submission.

6 Attachments

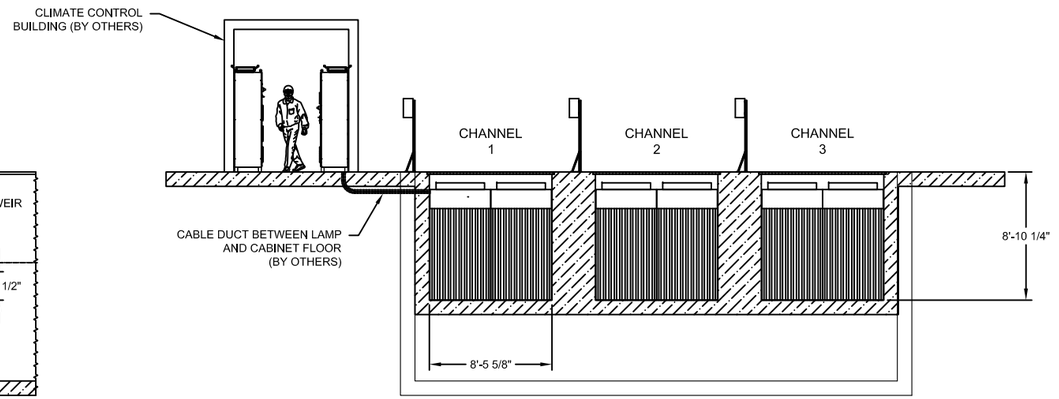
6.1 BROCHURES / DRAWINGS / OTHERS



PLAN VIEW



SECTION A-A



SECTION B-B

NOTES:

1. LAMP CABLES FROM LAMP TERMINATION AT THE MODULE TO CONTROL ENCLOSURE TERMINATION NOT TO EXCEED 65 FT. ALL CONDUITS AND CABLING SHALL BE IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRICAL CODES. REFER TO WEDECO STDS-360 FOR LAMP CABLE TERMINATION PROCEDURE
   MINIMUM LAMP CABLE LENGTH IS 10m OR 33'
   MAXIMUM NUMBER OF LAMP CABLES PER CONDUIT SHALL NOT EXCEED 12 CABLES.
2. ALL WIREWAY/CONDUIT TO HAVE LONG RADIUS BENDS. (CONTRACTOR TO SIZE AND SUPPLY).
3. SYSTEM CONTROL ENCLOSURES TO BE CLIMATE CONTROLLED BUILDING (BY OTHERS)
4. ALL CIVIL DIMENSION TOLERANCES TO BE ±3/16 UNLESS OTHERWISE STATED.
5. COVERING OF CHANNEL BY OTHERS.
6. ISOLATION GATE e.g. INLET GATE VALVE (SUPPLIED BY OTHERS) IF REQUIRED.
7. DISINFECTION CANNOT BE GUARANTEED IF MAXIMUM WATER LEVELS ARE EXCEEDED.
8. ANCHOR BOLTS FOR WEDECO SUPPLIED EQUIPMENT TO BE PROVIDED WITH EQUIPMENT.
10. ELECTRICAL EQUIPMENT TO BE LOCATED IN ACCORDANCE WITH LOCAL/NATIONAL ELECTRICAL CODES.
11. BOTTOM OF UV CHANNEL MUST BE FLAT WITHIN ±3/32". CHANNEL WALLS TO BE PERPENDICULAR TO BOTTOM OF CHANNEL WITHIN ±3/32".
12. GIVEN DIMENSIONS RELATE TO THE CORRECT INSTALLATION AND OPERATION OF WEDECO EQUIPMENT AND SHOULD BE ADHERED TO.
13. CONTROL ENCLOSURES PROVIDED BY WEDECO, TYPE 12

REV	REV # ECN #	SHEET (ZONE)	DESCRIPTION	DATE	APPROVAL

REVISIONS

FOR INFORMATION ONLY

PROJECT

LOCATION

CUSTOMER

CONSULTING ENGINEER

NAVISION NUMBER | JOB NUMBER

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
X/X = ±1/16 .X = ±.05 .XX = ± .02 .XXX = ± .005 ANG = ± 1°

THIRD ANGLE PROJECTION

DESIGNER | DATE

APPROVED BY | DATE

WEDECO
a xylem brand
www.xyleminc.com

TITLE
UV DISINFECTION SYSTEM GENERAL ARRANGEMENT

MODEL NO.
DURON-8 44i2-3x3

SIZE	DRAWING NO.	REV
B		

SCALE	WEIGHT	MATERIAL	FINISH	SHEET
				OF 1

Appendix F

Solar PV Array Estimate

NREL
NATIONAL RENEWABLE ENERGY LABORATORY

Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at https://sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

The energy output range is based on analysis of 30 years of historical weather data, and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

RESULTS

482,804 kWh/Year*

System output may range from 463,057 to 488,984 kWh per year near this location.

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)
January	2.29	25,720
February	3.03	29,677
March	4.44	45,192
April	5.14	48,318
May	5.85	54,883
June	5.66	51,509
July	6.02	55,540
August	5.46	50,649
September	4.93	45,396
October	3.28	32,622
November	2.43	24,316
December	1.76	18,981
Annual	4.19	482,803

Location and Station Identification

Requested Location	80 Leland Ave, Utica, NY
Weather Data Source	Lat, Lng: 43.09, -75.22 1.2 mi
Latitude	43.09° N
Longitude	75.22° W

PV System Specifications

DC System Size	413 kW
Module Type	Standard
Array Type	Fixed (open rack)
Array Tilt	20°
Array Azimuth	180°
System Losses	14.08%
Inverter Efficiency	96%
DC to AC Size Ratio	1.1

Performance Metrics

Capacity Factor	13.3%

Oneida Co. WPCP	6/10/2022	8616504
Client	Date	Job No.
PV Installation Sizing	DJM	
Subject	Comp. By	Checked By

Objective: Estimate solar photovoltaic (PV) array required to power UV system.
Method: Check

	Parameter	Trojan	Wedeco	Southtowns	Notes
PVWatts inputs	AC Power at Avg. Flow (kW)	58	129	65	Given by UV mfrs.
	DC Power at Avg. Flow (kW)	63	142	72	NREL PVWatts documentation
	Solar panel efficiency	16%			Southtowns report
	Inverter efficiency	96%			NREL PVWatts documentation
	DC Solar energy at Avg. Flow (kW)	**413**	**924**	**465**	Incident solar energy required when accounting for panel and inverter efficiency losses. This is the first input into PVWatts calculator.
kW*hr check	Hours running, annually	4368		8736	
	Average kW*hr required, seasonal	277,237	619,819	624,624	Average energy consumption per season.
	Check: enough kW*hrs from May to October?	OK	OK		

	Trojan	Solar Radiation (kWh/m2/day)	AC Energy (kW*hr)
PVWatts outputs	**May**	**5.85**	**54,883**
	June	**5.66**	**51,509**
	July	**6.02**	**55,540**
	August	**5.46**	**50,649**
	September	**4.93**	**45,396**
	October	**3.28**	**32,622**
		Total	290,599

Array cost and sizing	Installed cost per watt	**$3.50**			Upper end of Southtowns report (2014). Seems reasonable in 2022 based on web research.
	AC Power at Peak Flow (kW)	202	246		Given by UV mfrs.
	DC Power at Peak Flow (kW)	222			
	PV system cost (to meet peak power draw)	**$778,000**	**$861,000**		Installed cost estimate.
	No. of 225W panels req'd	900	1,100		Panels required to provide sufficient output watts to meet peak flow condition.
	225W panel width (ft)	6			Southtowns report
	225W panel length (ft)	4			Southtowns report
	225W panel unit area (ft2)	24			Calc.
	PV Area (ft2)	21,600	26,400		Calc.
	PV Area (acres)	0.50	0.61		Conversion
	Ground coverage ratio	0.4	0.4		Default value in PVWatts calculator. Ratio of array area to total installed footprint area.
	Installed PV Area (acres)	**1.24**	**1.52**		Estimate of additional space required for conduit, access.
	Installed PV Area (ft2)	***54,000***			

Alt 3 - UV + Solar PV
O&M Costs

Oneida Co. WPCP	6/10/2022	8616504
Client	Date	Job No.
Oneida Co. WPCP UV Evaluation	DJM	LJD
Subject	Comp. By	Checked By

UV + Solar PV O&M Costs

Costs based on Trojan UV Signa System

Labor:

UV hours	208	Assume 1 operator, 1 day per week, May 1 - October 31
PV hours (mowing)	208	Assume 1 operator, 1 day per week, May 1 - October 31
Hourly Labor rate (including benefits)	$46.00	See Assumptions tab
Annual Cost:	**$19,136**	

Power Consumption Costs

No. of Lamps in Operation at Avg. Flow	72	3 banks in service, 24 lamps per bank, distributed across 2 channels
Lamp Wattage at Avg. Flow (per lamp)	801	watts (calculated; lamps rated for 1000w)
Annual operating hours	4380	hours (disinfection limit is seasonal from May to October)
Total Power Consumption at Avg. Flow	57.7	kW (estimate provided by Trojan via email 5/22/2022)
Power Cost:	$0.06	Assumes solar provides 1/2 of power
Annual Cost:	**$7,582**	$0.06 per kW-hr * annual average flow; Refer to UV Alternatives (Table 5-5) sp

Lamp Replacement Costs

Avg. No. of Lamps Replaced per Yr.	11	Trojan estimated 21/year. Oneida operating 26 weeks/year.
Lamp Replacement Cost	$ 745.00	Cost given by Trojan
Annual Cost:	**$8,195**	

Ballast, Quartz Sleeve, and Wiper Replacement Costs

Ballast Replacement	
Number of Ballasts in operation for average flow rate	
Guaranteed Ballast Life, hrs	43,800
Ballast Replacement Cost, $	$726.00
Average No. of ballasts replaced per year, based upon 3% acceptable annual failure rate	0.10
Average Annual Total Ballast Replacement Cost,	**$72.40**
Quartz Sleeve Replacement	
Number of quartz sleeves in operation for average flow rate	16
Guaranteed Quartz Sleeve Life, hrs	175,200
Quartz Sleeve Replacement Cost, $	$171.00
Average no. quartz sleeves replaced per year	0.025
Average Annual Total Quartz Sleeve Replacement Cost, $/yr	**$4.26**
Wiping Ring Replacement	
Number of Wipers in Operation For Average Flow	72
Guaranteed Wiper Life, strokes	30,000
Wiper Replacement Cost, $	$22.00
Average no. wipers replaced per year	13
Average Annual Total Wiper Replacement Cost,	**$286.00**
Annual Cost:	**$363**

Operating Hours/year
4368

Total 2022 O&M Cost:	
Chemical Cost:	$0
Labor Cost:	$20,000
Power Cost:	$8,000
Lamp Replacement Costs:	$9,000
Ballast, Quartz Sleeve, and Wiper Replacement	$400
TOTAL Annual O&M:	**$38,000**

Present worth analysis term (years)	20
Annual interest rate	4%
Present Worth	**$516,432**
Present Worth (rounded)	**$520,000**

Appendix G

Smart Growth Assessment Form

NEW YORK STATE OF OPPORTUNITY. | Department of Health | Environmental Facilities Corporation

Smart Growth Assessment Form

This form should be completed by an authorized representative of the applicant, preferably the project engineer or other design professional.[1]

Section 1 – General Applicant and Project Information

Applicant: Oneida County Department of Water Quality & Water Pollution Control Project No.:

Project Name: Oneida County WPCP Ultraviolet Effluent Disinfection System

Is project construction complete? ☐ Yes, date: ☑ No

Please provide a brief project summary in plain language including the location of the area the project serves:

The Oneida County WPCP's current SPDES permit includes a seasonal (May 1 - October 31) total residual chlorine (TRC) effluent limit of 0.03 milligrams per liter (mg/L) daily maximum that will become effective upon completion of the ongoing WPCP upgrades and expansion. The 0.03 mg/L represents the lowest method limit and in practice represents essentially zero TRC in the WPCP effluent. While the WPCP currently utilizes sodium hypochlorite and sodium bisulfite for disinfection (chlorination/dechlorination), ultraviolet (UV) disinfection is being proposed as an alternative to chemical disinfection due to concerns with reliably meeting the stringent TRC SPDES permit effluent limit and rising costs of chemicals. In 2021, the WPCP spent approximately $200,000 on disinfection chemicals. The WPCP serves 15 municipalities throughout the County including the City of Utica.

Section 2 – Screening Questions

A. Prior Approvals

1. Has the project been previously approved for Environmental Facilities Corporation (EFC) financial assistance? ☐ Yes ☑ No
2. If yes to A(1), what is the project number(s) for the prior approval(s)? Project No.:
3. If yes to A(1), is the scope of the previously-approved project substantially the same as the current project? ☐ Yes ☐ No

If your responses to A(1) and A(3) are both yes, please proceed to Section 5, Signature.

B. New or Expanded Infrastructure

1. Does the project involve the construction or reconstruction of new or expanded infrastructure? ☐ Yes ☑ No

Examples of new or expanded infrastructure include, but are not limited to:

(i) The addition of new wastewater collection/new water mains or a new wastewater treatment system/water treatment plant where none existed previously;

(ii) An increase of the State Pollutant Discharge Elimination System (SPDES) permitted flow capacity for an existing wastewater treatment system; and OR

[1] If project construction is complete and the project was not previously financed through EFC, an authorized municipal representative may complete and sign this assessment.

(iii) An increase of the permitted water withdrawal or the permitted flow capacity for the water treatment system such that a Department of Environmental Conservation (DEC) water withdrawal permit will need to be obtained or modified, or result in the Department of Health (DOH) approving an increase in the capacity of the water treatment plant.

If your response to B(1) is no, please proceed to Section 5, Signature.

Section 3 –Smart Growth Criteria

Your project must be consistent will all relevant Smart Growth criteria. For each question below please provide a response and explanation.

1. Does the project use, maintain, or improve existing infrastructure?
   ☐ Yes ☐ No

   Explain your response:

2. Is the project located in a (1) municipal center, (2) area adjacent to a municipal center, or (3) area designated as a future municipal center, as such terms are defined herein (please select one response)?

   ☐ Yes, my project is located in a municipal center, which is an area of concentrated and mixed land uses that serves as a center for various activities, including but not limited to: central business districts, main streets, downtown areas, brownfield opportunity areas (see *www.dos.ny.gov* for more information), downtown areas of local waterfront revitalization program areas (see *www.dos.ny.gov* for more information), areas of transit-oriented development, environmental justice areas (see *www.dec.ny.gov/public/899.html* for more information), and hardship areas (projects that primarily serve census tracts or block numbering areas with a poverty rate of at least twenty percent according to the latest census data).

   ☐ Yes, my project is located in an area adjacent to a municipal center which has clearly defined borders, is designated for concentrated development in the future in a municipal or regional comprehensive plan, and exhibits strong land use, transportation, infrastructure, and economic connections to an existing municipal center.

   ☐ Yes, my project is located in an area designated as a future municipal center in a municipal or comprehensive plan and is appropriately zoned in a municipal zoning ordinance

   ☐ No, my project is not located in a (1) municipal center, (2) area adjacent to a municipal center, or (3) area designated as a future municipal center.

   Explain your response and reference any applicable plans:

3. Is the project located in a developed area or an area designated for concentrated infill development in a municipally-approved comprehensive land use plan, local waterfront revitalization plan, and/or brownfield opportunity area plan?

   ☐Yes ☐No

   Explain your response and reference any applicable plans:

4. Does the project protect, preserve, and enhance the State's resources, including surface and groundwater, agricultural land, forests, air quality, recreation and open space, scenic areas, and significant historic and archaeological resources?

   ☐Yes ☐No

   Explain your response:

5. Does the project foster mixed land uses and compact development, downtown revitalization, brownfield redevelopment, the enhancement of beauty in public spaces, the diversity and affordability of housing in proximity to places of employment, recreation and commercial development, and the integration of all income and age groups?

   ☐Yes ☐No

   Explain your response:

6. Does the project provide mobility through transportation choices including improved public transportation and reduced automobile dependency?

   ☐Yes ☐No ☐N/A

   Explain your response:

7. Does the project involve coordination between State and local government, intermunicipal planning, or regional planning?

   ☐Yes ☐No

   Explain your response and reference any applicable plans:

8. Does the project involve community-based planning and collaboration?

   ☐Yes ☐No

   Explain your response and reference any applicable plans:

9. Does the project support predictability in building and land use codes?

   ☐Yes ☐No ☐N/A

   Explain your response:

10. Does the project promote sustainability by adopting measures such as green infrastructure techniques, decentralized infrastructure techniques, or energy efficiency measures?

    ☐Yes ☐No

    Explain your response and reference any applicable plans:

11. Does the project mitigate future physical climate risk due to sea-level rise, storm surges, and/or flooding, based on available data predicting the likelihood of future extreme weather events, including hazard risk analysis data, if applicable?

    ☐Yes ☐No

    Explain your response and reference any applicable plans:

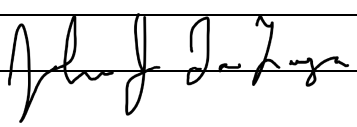
Section 4 – Miscellaneous

1. Is the project expressly required by a court or administrative consent order? ☐ Yes ☐ No

   If yes, and you have not previously provided the applicable order to EFC/DOH, please submit it with this form.

Section 5 – Signature

By signing below, you agree that you are authorized to act on behalf of the applicant and that the information contained in this Smart Growth Assessment is true, correct and complete to the best of your knowledge and belief.

Applicant: Oneida County Department of Water Quality & Water Pollution Control	Phone Number: (315) 802-0301
Name and Title of Signatory: GHD Consulting Services, Inc. - John LaGorga, PE, BCEE, Project Director	
Signature: 	Date: June 17, 2022

Appendix H

Engineering Report Certification

Engineering Report Certification

To Be Provided by the Professional Engineer Preparing the Report

During the preparation of this Engineering Report, I have studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is being sought from the New York State Clean Water State Revolving Fund. In my professional opinion, I have recommended for selection, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation, taking into account the cost of constructing the project or activity, the cost of operating and maintaining the project or activity over the life of the project or activity, and the cost of replacing the project and activity.

Title of Engineering Report: Oneida County WPCP UV Evaluation

Date of Report: June 16, 2022

Professional Engineer's Name: John J. LaGorga, PE, BCEE

Signature:

Date: June 16, 2022