



Department of
Environmental
Conservation

State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

SIC Code:	4952	NAICS Code:	221320	SPDES Number:	NY0020141
Discharge Class (CL):	05	DEC Number:	4-4228-00043/00001		
Toxic Class (TX):	T	Effective Date (EDP):	EDP		
Major-Sub Drainage Basin:	12 - 01	Expiration Date (ExDP):	ExDP		
Water Index Number:	240	Item No.:	876 - 8	Modification Dates (EDPM):	-
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:	Town of Rotterdam			Attention:	Mollie Collins, Town Supervisor	
Street:	1100 Sunrise Blvd					
City:	Rotterdam			State:	NY	Zip Code: 12306
Email:	mcollins@rotterdamny.org operator@rotterdamny.org			Phone:	518-355-7575	

is authorized to discharge from the facility described below:

FACILITY NAME, ADDRESS, AND PRIMARY OUTFALL										
Name:	Rotterdam (T) Sewer District #2 WWTP									
Address / Location:	26 West Campbell Road						County:	Schenectady		
City:	Rotterdam					NY	Zip Code:	12306		
Facility Location:	Latitude:	42 °	48 '	08 " N	& Longitude:	73 °	59 '	17 " W		
Primary Outfall No.:	001	Latitude:	42 °	49 '	03 " N	& Longitude:	73 °	58 '	39 " W	
Outfall Description:	Treated Sanitary	Receiving Water:	Mohawk River				Class:	A	Standard:	A

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
(permit.coordinator@dec.ny.gov)
BWP – Permit Writer
RWE
RPA
EPA Region II
NYSEFC

Permit Administrator:	Kate Malcolm		
Address:	1130 North Westcott Rd. Schenectady NY 12306		
Signature:		Date:	/ /

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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: EXISTING FACILITY

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year	Mohawk River	EDP	ExDP or Construction Completion ¹

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	1.5	MGD			Continuous	Recorder		X	
	Daily Maximum	Monitor	MGD			Continuous	Recorder		X	
pH	Daily Minimum	6.0	SU			2/day	Grab		X	
	Daily Maximum	9.0	SU							
Temperature	Daily Maximum	Monitor	°F			2/day	Grab		X	
BOD ₅	Monthly Average	30	mg/L	380	lbs/d	Weekly	24-hr. Comp.	X	X	2
	7-Day Average	45	mg/L	560	lbs/d	Weekly	24-hr. Comp.		X	
Total Suspended Solids (TSS)	Monthly Average	30	mg/L	380	lbs/d	Weekly	24-hr. Comp.	X	X	2
	7-Day Average	45	mg/L	560	lbs/d	Weekly	24-hr. Comp.		X	
Settleable Solids	Daily Maximum	0.1	mL/L			2/day	Grab		X	
Ammonia (as N)	Monthly Average	Monitor	mg/L			Quarterly	24-hr. Comp.		X	3
Total Mercury	12 MRA	12	ng/L			Quarterly	Calculated	X	X	3,4
	Daily Maximum	50	ng/L			Quarterly	Grab	X	X	3
Biennial Pollutant Scan						1/Two Years	See footnote		X	5

EFFLUENT DISINFECTION		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Required All Year										
Coliform, Fecal	30-Day Geometric Mean	200	No./100 mL			Weekly	Grab		X	
	7-Day Geometric Mean	400	No./100 mL			Weekly	Grab		X	
Chlorine, Total Residual	Daily Maximum	2.0	mg/L			2/day	Grab		X	

WHOLE EFFLUENT TOXICITY (WET) TESTING		Limit	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
WET - Acute Invertebrate	See footnote			15	TUa	Quarterly	See footnote		X	3,6
WET - Acute Vertebrate	See footnote			15	TUa	Quarterly	See footnote		X	3,6
WET - Chronic Invertebrate	See footnote			100	TUc	Quarterly	See footnote		X	3,6
WET - Chronic Vertebrate	See footnote			100	TUc	Quarterly	See footnote		X	3,6

PERMIT LIMITS, LEVELS AND MONITORING: POST-CONSTRUCTION FACILITY

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year	Mohawk River	Construction Completion ¹	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	1.8	MGD			Continuous	Recorder		X	
	Daily Maximum	Monitor	MGD			Continuous	Recorder		X	
pH	Daily Minimum	6.0	SU			2/day	Grab		X	
	Daily Maximum	9.0	SU							
Temperature	Daily Maximum	Monitor	°F			2/day	Grab		X	
BOD ₅	Monthly Average	30	mg/L	450	lbs/d	Weekly	24-hr. Comp.	X	X	2
	7-Day Average	45	mg/L	680	lbs/d	Weekly	24-hr. Comp.		X	
Total Suspended Solids (TSS)	Monthly Average	30	mg/L	450	lbs/d	Weekly	24-hr. Comp.	X	X	2
	7-Day Average	45	mg/L	680	lbs/d	Weekly	24-hr. Comp.		X	
Settleable Solids	Daily Maximum	0.1	mL/L			2/day	Grab		X	
Ammonia (as N)	Monthly Average	Monitor	mg/L			Quarterly	24-hr. Comp.		X	3
Total Mercury	12 MRA	12	ng/L			Quarterly	Calculated	X	X	3,4
	Daily Maximum	50	ng/L			Quarterly	Grab	X	X	3
Biennial Pollutant Scan						1/Two Years	See footnote		X	5

EFFLUENT DISINFECTION		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Required All Year										
Coliform, Fecal	30-Day Geometric Mean	200	No./100 mL				Grab		X	
	7-Day Geometric Mean	400	No./100 mL				Grab		X	
Chlorine, Total Residual	Daily Maximum	0.054	mg/L			2/day	Grab		X	

WHOLE EFFLUENT TOXICITY (WET) TESTING		Limit	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
WET - Acute Invertebrate	See footnote			2.2	TUa	Quarterly	See footnote		X	3,7
WET - Acute Vertebrate	See footnote			2.2	TUa	Quarterly	See footnote		X	3,7
WET - Chronic Invertebrate	See footnote			11	TUc	Quarterly	See footnote		X	3,7
WET - Chronic Vertebrate	See footnote			11	TUc	Quarterly	See footnote		X	3,7

FOOTNOTES:

1. The Existing Facility limitations (page 4) will be effective until ExDP or DEC acceptance of the construction completion certification of the proposed project, whichever comes first. Upon DEC acceptance of the construction certification of the proposed project, the post-construction limitations identified on page 5 will become effective. Construction cannot commence until after DEC approval of plans/specifications in accordance 6 NYCRR Part 750-2.10.
2. Effluent shall not exceed 15% and 15% of influent concentration values for BOD₅ & TSS, respectively.
3. Quarterly samples shall be collected in calendar quarters (Q1 – January 1st to March 31st; Q2 – April 1st to June 30th; Q3 – July 1st to September 30th; Q4 – October 1st to December 31st).
4. The 12-month rolling average for mercury is defined as the sum of the current month's monthly average concentration or load added to the monthly averages from the eleven previous months, divided by the number of months for which samples were collected in the 12-month period.
5. Biennial Pollutant Scan: The permittee shall perform effluent sampling every two (2) years for all applicable pollutants identified in the NY-2A Application, Tables A - D. Sampling data shall be collected according to the guidance in the NY-2A application and maintained by the permittee. Monitoring results shall not be submitted on the DMR. Data shall be submitted with the next submission of the NY-2A form.
6. Whole Effluent Toxicity (WET) Testing: **Existing Facility**

Testing Requirements – Acute and if directed Chronic WET testing is required. 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 should be used to generate a definitive test endpoint, otherwise an immediate rerun of the test may be 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.

For the existing facility, the ratio of critical receiving water flow to discharge flow (i.e., dilution ratio) is 50:1 for acute, and 100:1 for chronic.

Monitoring Period - WET testing shall be performed quarterly (calendar quarters) during calendar years ending in 1 and 6.

Reporting - Toxicity Units shall be calculated and reported on the DMR as follows: $TU_a = (100)/(48\text{-hr LC50})$ [note that Acute data is generated by both Acute and Chronic testing] and $TU_c = (100)/(7\text{-day NOEC})$ or $(100)/(7\text{-day IC25})$ when Chronic testing has been performed or $TU_c = (TU_a) \times (10)$ when only Acute testing has been performed and is used to predict Chronic test results, where the 48-hr LC50, 7-day NOEC and/or IC25 are all expressed in % effluent. This must be done, including the Chronic prediction from the Acute data, for both species unless otherwise directed. For Chronic results, report the most sensitive endpoint (i.e. survival, growth and/or reproduction) corresponding to the lowest 7-day NOEC or IC25 and resulting highest TU_c. For Acute results, report a TU_a of 0.3 if there is no statistically significant mortality in 100% effluent as compared to the control. Report a TU_a of 1.0 if there is statistically significant mortality in 100% effluent as compared to the control, but insufficient mortality to generate a 48-hr LC50. Also, in the absence of a 48-hr LC50, use 1.0 TU_a for the Chronic prediction from the Acute data, and report a TU_c of 10.0.

The complete test report including all bench sheets, 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 with your WET DMR and to the WET@dec.ny.gov email address. A summary page of the test results for the invertebrate and vertebrate species indicating TU_a, 48-hr LC50 for Acute tests and/or TU_c, 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 Identification/Reduction Evaluation (TI/RE) in accordance with Department guidance. Enforceable WET limits may also apply. The permittee shall be notified in writing by their Regional DEC office of additional requirements. The written notification shall include the reason(s) why such testing, TI/RE and/or limits are required.

7. Whole Effluent Toxicity (WET) Testing: **Post-Construction Facility**

Testing Requirements – Chronic WET testing is required, but report both the acute and chronic results. 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 should be used to generate a definitive test endpoint, otherwise an immediate rerun of the test may be 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.

For the post-construction facility, the ratio of critical receiving water flow to discharge flow (i.e., dilution ratio) is 7.4:1 for acute, and 11:1 for chronic.

Monitoring Period - WET testing shall be performed quarterly (calendar quarters) during calendar years ending in 1 and 6.

Reporting - Toxicity Units shall be calculated and reported on the DMR as follows: $TU_a = (100)/(48\text{-hr LC50})$ [note that Acute data is generated by both Acute and Chronic testing] and $TU_c = (100)/(7\text{-day NOEC})$ or $(100)/(7\text{-day IC25})$ when Chronic testing has been performed or $TU_c = (TU_a) \times (10)$ when only Acute testing has been performed and is used to predict Chronic test results, where the 48-hr LC50, 7-day NOEC and/or IC25 are all expressed in % effluent. This must be done, including the Chronic prediction from the Acute data, for both species unless otherwise directed. For Chronic results, report the most sensitive endpoint (i.e. survival, growth and/or reproduction) corresponding to the lowest 7-day NOEC or IC25 and resulting highest TU_c . For Acute results, report a TU_a of 0.3 if there is no statistically significant mortality in 100% effluent as compared to the control. Report a TU_a of 1.0 if there is statistically significant mortality in 100% effluent as compared to the control, but insufficient mortality to generate a 48-hr LC50. Also, in the absence of a 48-hr LC50, use 1.0 TU_a for the Chronic prediction from the Acute data, and report a TU_c of 10.0.

The complete test report including all bench sheets, 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 with your WET DMR and to the WET@dec.ny.gov email address. A summary page of the test results for the invertebrate and vertebrate species indicating TU_a , 48-hr LC50 for Acute tests and/or TU_c , 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 Identification/Reduction Evaluation (TI/RE) in accordance with Department guidance. Enforceable WET limits may also apply. The permittee shall be notified in writing by their Regional DEC office of additional requirements. The written notification shall include the reason(s) why such testing, TI/RE and/or limits are required.

SPECIAL CONDITIONS

A. The disposal of septage and landfill leachate at the Rotterdam (T) Sewer District #2 Wastewater Treatment Facility shall be limited as follows:

Septage – Daily Maximum – 7,000 GPD

Combined Municipal Solid Waste (MSW) and Rotterdam C&D Landfill Leachate – 20,000 GPD.

B. Septage and/or leachate shall not be discharged in amounts that will cause the daily maximum allowable headworks loading for any substance to be exceeded or in amounts that will adversely affect operation of wastewater treatment units or solids processing.

C. A daily record of sources of amounts of septage and leachate accepted for disposal and the amounts introduced into the treatment facilities shall be maintained at the treatment facility.

D. Leachate sources shall be sampled annually for BOD, TSS, TKN, ammonia, pH, total phenolics, phosphorus, chlorides, cyanide, and all priority pollutants except 2,3,7,8-TCDD, and asbestos. The results shall be submitted with the annual Mini Pretreatment Program Report (MPPR)/Fast Report of Significant Industries (FROSI) Report.

E. All septage accepted for disposal shall be visually examined for appearance and sampled for pH. Any pH values outside of the pretreatment program pH range, or any anomalous appearance observations shall be noted in the annual MPPR/FROSI Report.

F. Thickener overflow and underflow shall be analyzed for BOD, TSS, TKN, ammonia, pH, total phenolics, phosphorus, cyanide and priority pollutant metals on an annual basis. The results shall be submitted with the annual MPPR/FROSI Report.

STORMWATER POLLUTION PREVENTION REQUIREMENTS

NO EXPOSURE CERTIFICATION

The permittee submitted a Conditional Exclusion for No Exposure Form on 10/2/2019, certifying that all industrial activities and materials are completely sheltered from exposure to rain, snow, snowmelt, and/or stormwater runoff. The permittee must maintain a condition of no exposure for the exclusion to remain applicable. If conditions change resulting in the exposure of materials and activities to stormwater, the permittee must notify the Regional Water Engineer. The permittee must recertify a condition of no exposure every five years by completing the "No Exposure Certification Form" found on the NYSDEC website.

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 shall be performed using either USEPA Method 1631 or another sufficiently sensitive method, as approved under 40 CFR Part 136¹. 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 ("Decreased Monitoring Requirements") 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.
 - ii. Monitoring and Inventory/Inspections

¹ Outfall monitoring must be conducted using the methods specified in Table 8 of *DOW 1.3.10*.

²A 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.

- 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. 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.
 - iv. 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
 - 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 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

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.

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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 new discharge location.
- (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:

<p>N.Y.S. PERMITTED DISCHARGE POINT</p> <p>SPDES PERMIT No.: NY_____</p> <p>OUTFALL No. : _____</p> <p>For information about this permitted discharge contact:</p> <p>Permittee Name: _____</p> <p>Permittee Contact: _____</p> <p>Permittee Phone: () - ### - ####</p> <p>OR:</p> <p>NYSDEC Division of Water Regional Office Address:</p> <p>NYSDEC Division of Water Regional Phone: () - ### - ####</p>
--

- (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.

MINI INDUSTRIAL PRETREATMENT PROGRAM

The permittee previously performed the actions described in items 1 through 4 below in order to develop a mini pretreatment program:

1. Industrial Survey
The permittee submitted the results of an industrial survey.
2. Develop Procedures
The permittee submitted documentation of procedures for obtaining and ensuring compliance with applicable standards. Such procedures include requirements and schedules for discharge permits, industrial self-monitoring, compliance monitoring of industries by the permittee, on-going POTW monitoring, and an enforcement program. Such procedures are equivalent to procedures described or referenced in the document entitled Introduction to the National Pretreatment Program, USEPA, June, 2011, (https://www3.epa.gov/npdes/pubs/pretreatment_program_intro_2011.pdf).
3. Treatment Plant/Industry Monitoring
The permittee submitted the results of industrial and POTW monitoring and a completed Fast Report On Significant Industries forms (FROSIs) for all significant industrial users (SIUs).
4. Local Sewer Use Law
The permittee submitted a draft local sewer use law equivalent to the DEC Model Sewer Use Law, NYSDEC, 1994. Local limits for substance capable of causing SPDES permit violations, endangering municipal employees or limiting sludge disposal options were included in the local law. Such limits were developed in accordance with document entitled Local Limits Development Guidance, US EPA, July 2004, EPA 833-R-04-002A (<https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=300062Q1.txt>https://www.epa.gov/npdes/pubs/pretreatment_local_limits.pdf). After approval by the Department, dated January 1, 2013, the permittee submitted a copy of the enacted Law accompanied by proof of enactment.

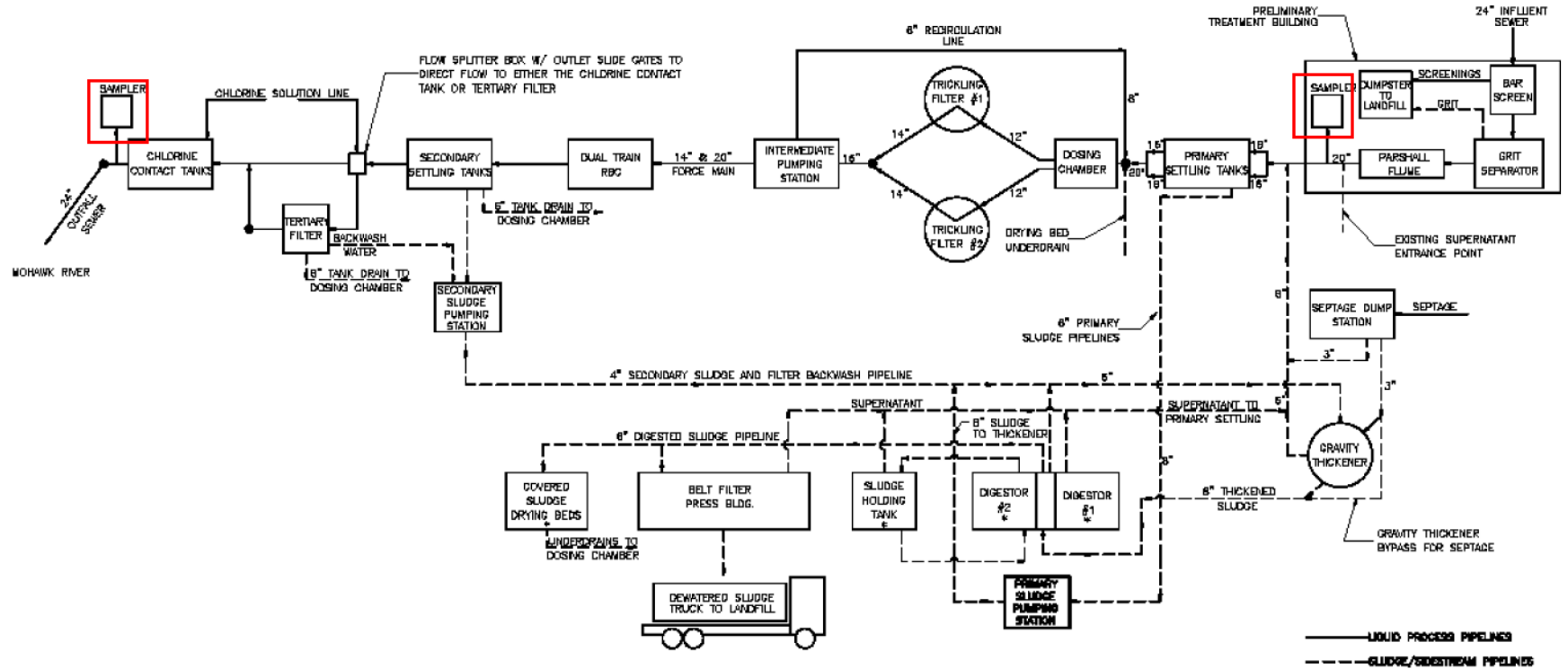
Therefore, the permittee shall continue to implement the procedures developed in accordance with 2. above and approved by the Department. At a minimum, the following activities shall continue to be undertaken by the permittee:

1. Issue permits including limitations, monitoring requirements, and reporting requirements to its significant industrial users.
2. Enforce the local limits set forth in the POTW local sewer use law.
3. Carry out inspections and monitoring of significant industrial users to determine compliance with categorical standards and local limits.
4. Undertake enforcement actions in accordance with Department approved procedures.

In accordance with the Schedule of Additional Submittals, the permittee shall submit yearly Fast Report On Significant Industries forms (FROSIs) for each SIU to the Department. Every third year, on the same date, the permittee shall submit Industrial Chemical Survey forms completed by all SIUs to the Department. At the same time the permittee shall notify the Department of any proposed significant changes to its implementing procedures or local sewer use law.

MONITORING LOCATIONS: Existing Facility

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



NOTE: 1. ITEMS WITH * ARE NO LONGER IN SERVICE

MONITORING LOCATIONS: Post-Construction Facility

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified in the process flow diagram included in the engineering report, plans, and specifications required by 6 NYCRR Part 750-2.10.

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

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/8461.html>. **Hardcopy paper DMRs will only be accepted 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 Regional Wwater Engineer 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 4
1130 North Westcott Road, Schenectady, New York, 12306-2014 Phone: (518) 357-2045

- 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.

SCHEDULE OF ADDITIONAL SUBMITTALS		
Outfall	Required Action	Due Date
001	<u>MERCURY MINIMIZATION PLAN (MMP)</u> The permittee must complete and maintain onsite an annual mercury minimization status report in accordance with the requirements of this permit.	Maintained Onsite EDP + 12 months, annually thereafter
001	<u>MINI PRETREATMENT PROGRAM - FROSI</u> Submit completed Fast Report On Significant Industries forms (FROSI) for each SIU to the Department, or notification letter that no new significant industrial users have been added.	January 28 th of each year
001	<u>MINI PRETREATMENT PROGRAM – Industrial Chemical Survey (ICS) Forms</u> Submit Industrial Chemical Survey forms completed by all SIUs to the Department. Notify the Department of any proposed significant changes to its implementing procedures or local sewer use law.	January 28, 2024, and every three years thereafter
001	<u>DESIGN DOCUMENTS</u> The permittee shall submit approvable ⁵ Design Documents including a Basis of Design Report (BODR), Plans, Specifications, and Construction Schedule for the proposed construction at the facility. Design Documents ⁶ shall be submitted to the Regional Water Engineer, the SPDES Permit Coordinator (Permit.Coordinator@dec.ny.gov), and the Section Chief of the Bureau of Water Permits (spdesapp@dec.ny.gov).	Before construction begins
001	<u>NOTIFICATION OF POST-CONSTRUCTION FACILITY START-UP</u> Following completion of construction, the permittee shall provide the Department with the proposed start date for the post-construction treatment system. This date will be used to establish the start of compliance reporting under the Post-Construction effluent limitations described in this permit. Notice can be provided via email to NetDMR@dec.ny.gov .	Prior to start-up

Unless noted otherwise, the above actions are one-time requirements.

- F. 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.
- G. 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.
- H. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- I. 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.

⁵ 6 NYCRR 750-1.2 (a)(8)

⁶ 6 NYCRR 750-2.10

- J. 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.

DRAFT

Permittee: Town of Rotterdam
Facility: Rotterdam Sewer District #2 WWTP
SPDES Number: NY0020141
USEPA Major/Class 05 Municipal

Date: October 30, 2023 v.1.17
Permit Writer: Samantha McCart
Water Quality Reviewer: Samantha McCart
Full Technical Review

SPDES Permit Fact Sheet

Town of Rotterdam

Rotterdam Sewer District #2

WWTP

NY0020141



**Department of
Environmental
Conservation**

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Summary of Permit Changes

A State Pollutant Discharge Elimination System (SPDES) permittee-initiated permit modification has been drafted for the Rotterdam Sewer District #2 WWTP. The changes to the permit are summarized below:

- Added
 - Quarterly Ammonia (as N) monitoring pursuant to TOGS 1.3.3 and 6 NYCRR 750-1.13.
 - 12-Month Rolling Average (MRA) limit for Mercury of 12 ng/L.
 - Biennial Pollutant Scan requirements pursuant to 40 CFR 122.21(j)(4), also referenced in the Schedule of Additional Submittals
 - Emerging Contaminant Short-Term Monitoring Program to the Schedule of Additional Submittals
 - Annual Flow Certification to the Schedule of Additional Submittals
 - Design Documents to the Schedule of Additional Submittals
 - Notification of Post-Construction Facility Start-up to the Schedule of Additional Submittals
 - Post-Construction Facility effluent limits:
 - Flow limit of 1.8 MGD
 - BOD₅ mass limits of 450 lbs/d monthly average and 680 lbs/day 7-day average
 - TSS mass limits of 450 lbs/d monthly average and 680 lbs/day 7-day average
 - Total Residual Chlorine (TRC) of 0.054 mg/L
 - Acute WET Action Level of 2.2 TUa
 - Chronic WET Action Level of 11 TUc
- Removed
 - Bimonthly monitoring requirements imposed under the 2-year Nutrient Monitoring Program for the Mohawk River TMDL development, including Total Phosphorous (as P), Soluble Reactive Phosphorous, Total Kjeldahl Nitrogen, Nitrate, Nitrite, Total Nitrogen, and Ammonia. The monitoring program expired on 06/01/2022. Quarterly Ammonia (as N) monitoring will be added back to the permit pursuant to TOGS 1.3.3 and 6 NYCRR 750-1.13.
- Updated
 - Permittee contact information
 - Mercury Minimization Plan (MMP) requirements from a “High-Priority POTW” plan to an “MMP Type I” plan due to changes in NYSDEC policy (TOGS 1.3.10).
 - Dilutions for post-construction facility, based on results of CORMIX modeling
 - 1Q10 and 30Q10 low flows adjusted for post-construction analysis to better reflect available gage data, instead of estimating these based on the 7Q10.
- Corrected
 - Longitudes of facility and Outfall 001

This fact sheet summarizes the information used to determine the effluent limitations (limits) and other conditions contained in the permit. General background information including the regulatory basis for the effluent limitations and other conditions are in the [Appendix](#) linked throughout this fact sheet.

Administrative History

- 6/1/2020 The last full technical review was performed and the SPDES permit became effective with a new five-year term and expiration date of 5/31/2025. The 2020 permit has formed the basis of this permit.
- 12/30/2022 Town of Rotterdam submitted a NY-2A permit application, requesting a modification to increase design flow from 1.5 MGD to 1.8 MGD. The application listed three scheduled facility modifications or improvements: (1) construction of sequencing batch reactor (SBR) to replace trickling filter and rotating biological contactor (RBC) treatment; (2) rehabilitation of existing tanks for equalization; and (3) rehabilitation of belt filter press and primary settling tanks.
- 01/09/2023 First Notice of Incomplete Application (NOIA) sent to permittee by the Division of Environmental Permits.
- 03/01/2023 Permittee responded to first NOIA.
- 07/17/2023 Division of Environmental Permits sent second Notice of Incomplete Application (NOIA) permittee.
- 09/18/2023 Permittee responded to second NOIA.

The Notice of Complete Application, published in the [Environmental Notice Bulletin](#) and newspapers, contains information on the public notice process.

Facility Information

This facility is a publicly owned treatment works that receives flow from domestic and industrial users, including waste from categorical industrial users. Wastewater consists of sanitary waste from the municipality, treated leachate from an offsite landfill (Town of Rotterdam Municipal Solid Waste Landfill, which has been closed for over ten years), and septage from local haulers. In addition, the facility accepts sanitary waste and non-contact cooling water from VonRoll USA, Inc, a significant industrial user (SIU).

The current 1.5 MGD treatment plant consists of:

- Preliminary Treatment: mechanical bar screening, vortex grit removal system
- Primary Treatment: two primary clarifiers
- Secondary Treatment: two rock media trickling filters, dual-train rotating biological contactors (RBCs), two secondary clarifiers
- Tertiary Treatment: sand filtration
- Disinfection: chlorination

Sludge is processed through a gravity thickener, pressed, and hauled to City of Schenectady wastewater treatment plant for drying. The two anaerobic digestors and the sludge equalization tank are inoperable.

The primary outfall (Outfall 001) consists of a 24-inch gravity sewer with three 14-inch diffuser openings. It is located at the Mohawk River, a Class A waterbody.

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Full Technical Review

The facility is planning the following upgrades/improvements¹:

- Increase design flow from 1.5 MGD to 1.8 MGD
- Construction of a SBR to replace trickling filters and RBC treatment
- Rehabilitation of existing tanks for equalization
- Rehabilitation of belt filter press
- Rehabilitation of primary settling tanks.

The facility accepts wastewater from the following municipalities:

Municipality	POSS # or SPDES #	Collection System
Town of Rotterdam	NY0020141	Separate

The facility accepts wastewater from the following significant industrial users (SIUs):

Significant Industrial User (SIU)	SIC Code	Categorical Reference (if applicable to 40 CFR)
Von Roll USA	2821	N/A

¹ Construction has not yet been approved by DEC and permittee must comply with 6 NYCRR Part 750-2.10.

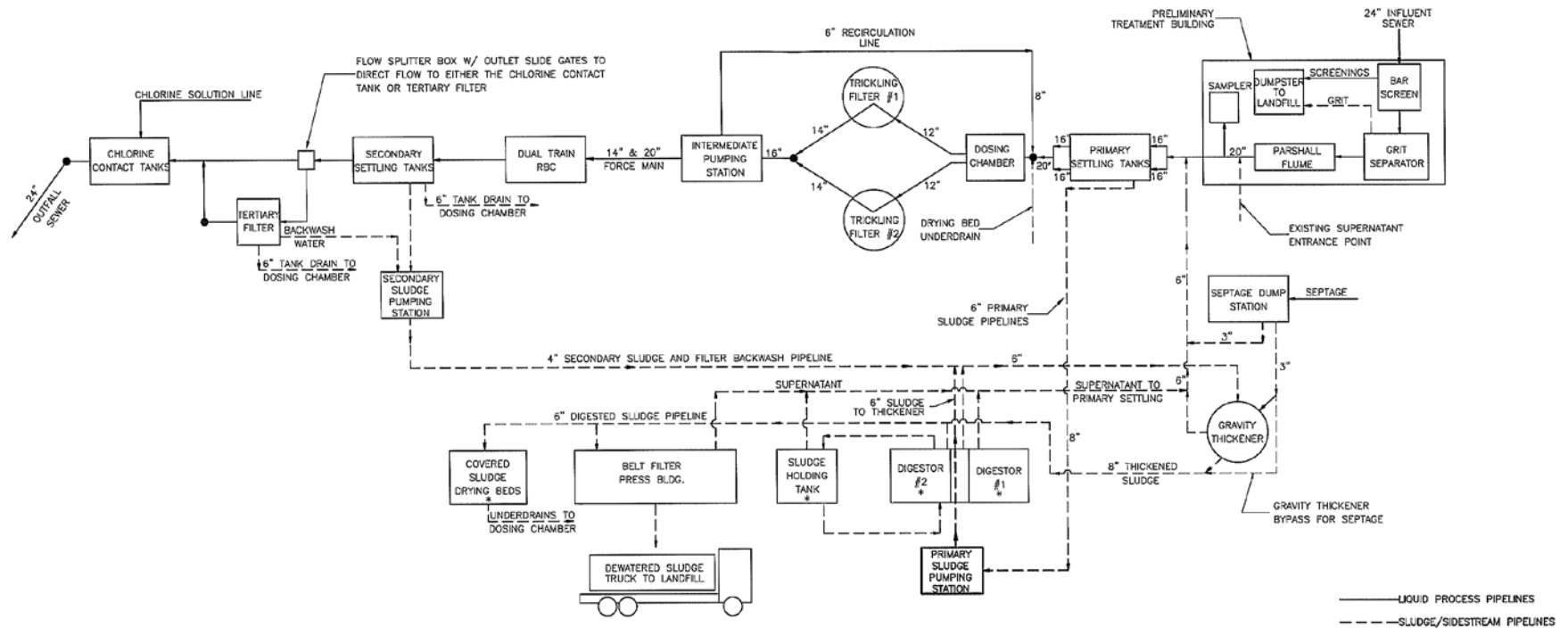
Site Overview



Figure 1: WWTP, Outfall 001, and intermediate area



Figure 2: WWTP



NOTE: 1. ITEMS WITH * ARE NO LONGER IN SERVICE

Figure 3: Schematic of treatment facility

Enforcement History

Compliance and enforcement information can be found on the EPA's [Enforcement and Compliance History Online \(ECHO\)](#) website.

Existing Effluent Quality

Both the Existing Facility and Post-Construction [Pollutant Summary Tables](#) present the existing effluent quality (EEQ). The existing effluent quality was determined from Discharge Monitoring Reports and the application submitted by the permittee for the period 6/1/2020 to 5/31/2023. The limits in the [Existing Facility Pollutant Summary Table](#) are based on the EEQ and, where relevant, on the dilution ratios (100:1 for Chronic and HEW and 50:1 for Acute) from the previous permit. The limits in the [Post-Construction Pollutant Summary Table](#) are based on the EEQ and, where relevant, on the updated dilution ratios (11:1 for Chronic and HEW and 7.4:1 for Acute) obtained from Cornell Mixing Zone Expert System (CORMIX) modeling. [Appendix Link](#)

Additional Site-Specific Concerns

The facility is located in a sole source aquifer. As required by ECL 17-0828, the permittee submitted a completed *Application Supplement B: Discharges within Sole Source Aquifers* form identifying the following water purveyors within a three-mile radius of the facility: City of Schenectady, Town of Rotterdam, Town of Princetown, Village of Scotia, and Town of Glenville.

Receiving Water Information

The facility discharges via the following outfalls:

Outfall No.	SIC Code	Wastewater Type	Receiving Water
001	4952	sanitary waste from the municipality, treated leachate from an offsite closed landfill (Rynex Corners Road), septage from local haulers, and non-contact cooling water from VonRoll USA, Inc.	Mohawk River, Class A

Reach Description:

The segment of the Mohawk River at the point of discharge is classified as A (6 NYCRR 876.4 – Table I - Item 8). All upstream and downstream reaches, gages, and RIBS stations are also in segments classified as A.

USGS Gage 01354500, located 2.9 miles downstream from the outfall, is the closest USGS Gage with low flow data. Low flow data from 2012-2023 from this gage were used for post-construction low flow analysis. The data were analyzed and adjusted to account for differences in the locations between the outfall and the gage location using the method outlined in USEPA's "Low Flow Statistics Tools: A How-To-Handbook for NPDES Permit Writers Second Edition." The 7Q10 calculated using this method confirmed the historical 7Q10 used in the previous permit.



Figure 4: USGS Gage, approximately 2.9 miles downstream, used to estimate low flow for permit development

Rotating Integrated Basin Studies (RIBS) data monitoring site 12-MOHK-24.0, located approximately one mile upstream from Outfall 001, was used to determine ambient upstream pollutant concentrations and ambient pH. Data from this RIBS station were only used if there were at least eight specific data samples available for a given parameter. For parameters with fewer than eight specific data points, an ambient concentration of zero was assumed in calculating reasonable potential. The next two closest upstream RIBS stations, 12-MOHK-26.4 and 12-MOHK-36.4, were not used for ambient background conditions due to limited available data.



Figure 5: Rotating Integrated Basin Studies (RIBS) Data Monitoring Site

See the [Outfall and Receiving Water Summary Table](#) and [Appendix](#) for additional information.

Impaired Waterbody Information

The Mohawk River segment (PWL No. 1201-0006) is not listed on the final 2018 [New York State Section 303\(d\) List of Impaired/TMDL Waters](#) and there are no applicable wasteload allocations (WLAs) for this discharge at this time.

Mohawk River TMDL Development

The Mohawk River watershed was identified as a high priority waterbody for development of a TMDL based on the NY's Vision Approach to implement the Clean Water Act 303(d) Program, which focused on nutrient and bacteria (pathogen) impacts that affect public health.

Pursuant to 6 NYCRR 750-2.1(i), the previous permit included monitoring and reporting requirements for Total Nitrogen, Total Kjeldahl Nitrogen, Nitrate, Nitrite, Ammonia (as N), Total Phosphorus, and Soluble Reactive Phosphorus. These monitoring and reporting requirements were intended to inform the TMDL development. The two-year monitoring program took effect on 06/01/2020 and expired on 06/01/2022. Although the monitoring program has expired, quarterly monitoring for Ammonia (as N) has been added back to the permit pursuant to TOGS 1.3.3 and 6 NYCRR 750-1.13. Monitoring for the other parameters that were part of the two-year program has been discontinued.

DEC is in the process of developing a Total Maximum Daily Load (TMDL) for Total Phosphorus for the Mohawk River watershed. Town of Rotterdam Sewer District #2 WWTP was selected for inclusion in the draft Mohawk River Watershed TMDL modeling because it is a Class 05 facility and has a design flow that is equal to or greater than 100,000 gallons per day. Future wasteload allocations and permit limits for facilities included in the modeling will be based on a public noticed DEC developed TMDL. Phosphorus wasteload allocation and permit limits will be incorporated into facility permits after DEC and EPA adoption of an approved TMDL. It is recommended that the permittee consider phosphorous treatment in any facility upgrades.

Critical Receiving Water Data & Mixing Zone: Existing Facility

Critical flow data were obtained from the hydrologic profile included in the report, *Water Quality Management Plan for Mohawk River Planning Areas 12-01 and 12-03* (NYSDEC, 1976, p126-134).

The 7Q10 flow for the outfall is 459 MGD (710 CFS) and was used to calculate the chronic A(C) dilution ratio. The 30Q10 flow of 551 MGD (852 CFS) was estimated by applying a multiplier of 1.2 to the 7Q10 flow and used to calculate the Human, Aesthetic, Wildlife (HEW) dilution ratio. A 1Q10 flow of 230 MGD (355 CFS) was estimated as half the 7Q10 and used to calculate the acute A(A) dilution ratio.

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	50:1	100:1	100:1	TOGS 1.3.1

Critical receiving water data are listed in the [Pollutant Summary Table](#) at the end of this fact sheet. [Appendix Link](#)

Critical Receiving Water Data & Mixing Zone: **Post-Construction Facility**

Critical flow data were obtained from USGS gage station 01354500, Mohawk River at Freeman's Bridge, located at Schenectady, NY. This gage is located approximately 2.9 miles downstream of Outfall 001. The 1Q10, 7Q10 and 30Q10 flows at the gage were calculated using the USGS Hydrologic Toolbox software to conduct an analysis of 11 data points from 2012 to 2023. The drainage basin ratio was then used to adjust the low flow value to account for differences in the locations between the outfall and the gage location. The final 7Q10 value determined using this method is 710 CFS, confirming the historical 7Q10 value used for the previous permit. The 1Q10 and 30Q10 flows were updated to reflect the data at Gage 01354500 and the drainage basin ratio adjustment, rather than using a multiplier to estimate these flows as was done in the previous permit.

Consistent with TOGS 1.3.1, the outfall information submitted in the application and mixing zone form was used to develop a mixing zone model to establish dilution ratios for the water quality analysis. The model showed the effluent experiences rapid buoyant spreading before becoming fully mixed with the ambient flow about 2,300 feet downstream of the outfall.

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	7.4:1	11:1	11:1	CORMIX

Critical receiving water data are listed in the [Pollutant Summary Table](#) at the end of this fact sheet. [Appendix Link](#)

Permit Requirements

The technology based effluent limitations ([TBELs](#)), water quality-based effluent limitations ([WQBELs](#)), [Existing Effluent Quality](#) and a discussion of the selected effluent limitation for each pollutant present in the discharge are provided in the [Pollutant Summary Table](#).

Whole Effluent Toxicity (WET) Testing: **Existing Facility**

An evaluation of the discharge indicates the potential for toxicity based on the following criterion: [Appendix Link](#)

- Treatment plants which equal or exceed a discharge of 1MGD. (#7)

Consistent with TOGS 1.3.2, a reasonable potential analysis was performed using the existing WET data for this facility (see data below). It was determined that while the analysis indicated no potential for toxicity in the effluent, WET testing is required based on the criteria listed above and WET action levels are being continued in the permit. Given the dilution available and location outside of the Great Lakes basin, the permit requires acute and if necessary chronic WET testing. Samples will be collected quarterly (calendar quarters) during calendar years ending in 1 and 6.

WET testing action levels of 15 TU_a and 100 TU_c have been included in the permit for each species. The acute action level for each species represents the acute dilution ratio (50:1) times a factor of 0.3. The chronic action level for each species represents the chronic dilution ratio (100:1) times a factor of 1.

Test Date	¹ MSS 48H LC50 (%Effluent)	² MSS TUa	³ TUa Action Level	⁴ MSS Survival 100% Effluent	⁵ Acute Test Result	⁶ MSS RPD TUa	⁷ Acute WET Limit Required	⁸ MSS 7D NOEC/IC25 (%Effluent)	⁹ MSS NOEC/IC25 TUc	¹⁰ TUc Action Level	¹¹ Chronic Test Result NOEC/IC25	¹² MSS RPD IC25 TUc	¹³ Chronic WET Limit Required
03/21	>100% (FI)	<0.3 (FI)	15.0	100% (FI)	Pass	<0.8	No	>100% (FI)/>100% (FI)	<1.0 (FI)/<1.0 (FI)	100.0	Pass/Pass	<2.6	No
05/21	>100% (FI)	<0.3 (FI)	15.0	97.5% (F)	Pass	<0.8	No	>100% (FI)/>100% (FI)	<1.0 (FI)/<1.0 (FI)	100.0	Pass/Pass	<2.6	No
07/21	>100% (FI)	<0.3 (FI)	15.0	100% (FI)	Pass	<0.8	No	>100% (FI)/>100% (FI)	<1.0 (FI)/<1.0 (FI)	100.0	Pass/Pass	<2.6	No
10/21	>100% (FI)	<0.3 (FI)	15.0	100% (FI)	Pass	<0.8	No	>100% (FI)/>100% (FI)	<1.0 (FI)/<1.0 (FI)	100.0	Pass/Pass	<2.6	No

¹Most Sensitive Species 48-hour Lethal Concentration: (F=Fish; I=Invertebrate) is the concentration or percentage of effluent that is lethal to 50% of the exposed organisms over a 48-hour period, and often indicates one species is more sensitive than the other during effluent testing.

²Most Sensitive Species Toxic Units Acute: is calculated as (100 / MSS 48H LC50). However, because ≤ 0.3 TUa is defined as the acceptable amount of acute toxicity at the edge of the acute mixing zone, and mathematically $100 / 100 = 1.0$ (i.e. a "failing result"), non-toxic acute test results are indicated as < 0.3 .

³Toxic Unit Acute Action Level/Limit: is calculated as [Acute Dilution Factor x 0.3 TUa] representing the maximum allowable effluent TUa at the edge of the acute mixing zone using the seven-day once-in-ten year low flow (7Q10) ensuring acute protection of the receiving water. When the Acute Dilution Factor is < 3.3 , the default Acute Action Level of 0.3 TUa is used representing the maximum allowable effluent TUa at the end of pipe.

⁴Most Sensitive Species Survival in 100% Effluent: is the lowest percentage of surviving organisms in 100% effluent, providing additional evidence of unacceptable acute toxicity when the necessary 50% or greater mortality required to generate an LC50 has not been attained. *Denotes statistically significant mortality in 100% effluent as compared to the control.

⁵Acute Test Result: MSS TUa \leq TUa Action Level/Limit for passing effluent test result and MSS TUa $>$ TUa Action Level/Limit for a failing effluent test result. If unacceptable mortality (i.e. statistically significant as compared to the control) is noted in 100% effluent, this may also be considered a failing test result.

⁶Most Sensitive Species Reasonable Potential Determination Toxic Units Acute: is calculated as (MSS TUa x 2.6), the Reasonable Potential Multiplier when four quarterly tests have been completed, taking into account the statistical potential for effluent variability to occur causing an exceedance of the toxicity-based action level.

⁷Acute Whole Effluent Toxicity Limit Required: MSS RPD TUa \leq TUa Action Level, then no toxicity-based limit is required, and the action level remains in place. If MSS RPD TUa $>$ TUa Action Level, then a toxicity-based limit is required, and the action level becomes the limit. **In low dilution situations, the application of the RPD to the acute results often mathematically suggests the need for acute WET limits even when there is no toxicity evident in 100% effluent (a non-detect). Therefore, this data cannot be used to implement a WET limit.

⁸Most Sensitive Species 7-day No Observed Effect Concentration or 25% Inhibition Concentration: is the highest concentration or percentage of effluent tested that causes no statistically significant effect to the exposed test organisms as compared to the control over a 7-day period, or the concentration or percentage of effluent that causes a 25% reduction in reproduction or growth for the test population.

⁹Most Sensitive Species Toxic Units Chronic: is calculated as (100 / MSS 7D NOEC) or (100 / MSS 7D IC25).

¹⁰Toxic Unit Chronic Action Level/Limit: is calculated as [Chronic Dilution Factor x 1.0 TUc] representing the maximum allowable effluent TUc at the edge of the chronic mixing zone using the seven-day once-in-ten year low flow (7Q10) ensuring chronic protection of the receiving water.

¹¹Chronic Test Result: MSS NOEC/IC25 TUc \leq TUc Action Level/Limit for passing effluent test result and MSS NOEC/IC25 TUc $>$ TUc Action Level/Limit for a failing effluent test result.

¹²Most Sensitive Species Reasonable Potential Determination Toxic Units Chronic: is calculated as (MSS IC25 TUc x 2.6), the Reasonable Potential Multiplier when four quarterly tests have been completed, taking into account the statistical potential for effluent variability to occur causing an exceedance of the toxicity-based action level.

¹³Chronic Whole Effluent Toxicity Limit Required: MSS RPD IC25 TUc \leq TUc Action Level, then no toxicity-based limit is required, and the action level remains in place. If MSS RPD IC25 TUc $>$ TUc Action Level, then a toxicity-based limit is required, and the action level becomes the limit. ***In low dilution situations, the application of the RPD to the chronic results often mathematically suggests the need for chronic WET limits even when there is no toxicity evident in 100% effluent (a non-detect). Therefore, this data cannot be used to implement a WET limit.

Whole Effluent Toxicity (WET) Testing: **Post-Construction Facility**

An evaluation of the discharge indicates the potential for toxicity based on the following criterion:
[Appendix Link](#)

- Treatment plants which equal or exceed a discharge of 1MGD. (#7)

Consistent with TOGS 1.3.2, a reasonable potential analysis was performed using the existing WET data for this facility (see [Whole Effluent Toxicity \(WET\) Testing: Pre-Construction](#)). It was determined that there is the potential for toxicity in the effluent and WET action levels are being continued in the permit. Given the dilution available and location outside of the Great Lakes basin outside of the Great Lakes basin, the permit requires acute and if necessary chronic WET testing. Samples will be collected quarterly (calendar quarters) during calendar years ending in 1 and 6.

An acute WET testing action level of 2.2 TU_a has been included in the permit for each species. The acute WET testing action level for each species represents the acute dilution ratio (7.4:1) times a factor of 0.3.

A chronic WET testing action level 11 TU_c has been included in the permit for each species. The chronic action level for each species represents the chronic dilution ratio (11:1) times a factor of 1.

Since the chronic dilution is low (11:1), a Tier II chronic test will be required to measure chronic toxicity; the acute toxicity test cannot be used to measure the potential for chronic toxicity with the use of a multiplication factor.

Anti-backsliding

The limitations contained in the permit are at least as stringent as the previous permit limits and there are no instances of backsliding. [Appendix Link](#)

Antidegradation

The permit contains effluent limitations which ensure that the best usages of the receiving waters will be maintained. The Notice of Complete Application published in the Environmental Notice Bulletin contains information on the State Environmental Quality Review (SEQR)² determination. [Appendix Link](#)

Discharge Notification Act Requirements

In accordance with the Discharge Notification Act (ECL 17-0815-a), the permittee is required to post a sign at each point of wastewater discharge to surface waters, unless a waiver is obtained. This requirement is being continued from the previous permit.

Additionally, the permit contains a requirement to make the Discharge Monitoring Reports (DMR) sampling data available to the public upon request. This requirement is being continued from the previous permit.

Stormwater Pollution Prevention Requirements

The facility is a publicly owned treatment works ≥ 1 MGD that requires SPDES permit coverage under 40 CFR 122.26 (b)(14)(ix).

On 10/2/2019, the permittee submitted a Conditional Exclusion for No Exposure Form, certifying that all industrial activities and materials are completely sheltered from exposure. This condition must be maintained for the exclusion to remain applicable. The schedule of

² As prescribed by 6 NYCRR Part 617

submittals also includes a due date for re-certification every five years as required by 40 CFR 122.26(g)(iii). This requirement is being continued from the previous permit.

Mercury³

The multiple discharge variance (MDV) for mercury provides the framework for NYSDEC to require mercury monitoring and mercury minimization programs (MMPs), through SPDES permitting. [Appendix Link](#)

The facility is not located in the Great Lakes Basin. The facility has a mercury source, is a municipal facility (Class 05), and has a design flow of ≥ 1 MGD. Therefore, a Type I MMP is required. The permittee has an existing effluent quality (EEQ) at or below 12 ng/L and is currently eligible for decreased monitoring requirements, as described in the MMP.

The permit includes a daily maximum total mercury effluent limitation of 50 ng/L, sampled quarterly. This limitation will be continued from the previous permit.

DMRs for the reporting periods 06/01/2020 to 05/31/2023 included ≥ 10 effluent mercury data points. An EEQ of 5.7 ng/L was calculated from the actual maximum effluent concentration collected during this date range. The facility is located outside the Great Lakes Basin and the EEQ ≤ 12 ng/L; therefore, the permit also includes a 12-month rolling average (12 MRA) total mercury effluent limitation equal to 12 ng/L.

Biennial Pollutant Scan

Three effluent samples for applicable parameters must be submitted with an NY-2A Application⁴. The permit includes a requirement to perform biennial sampling (once every two years) of the WWTP effluent for the parameters in the NY-2A Application, Tables A – D. This requirement ensures the data is representative of effluent conditions over the permit term and will be available for the next application submittal and permit review. This requirement is new.

Mini Industrial Pretreatment Program

The permittee is required to continue implementation of a Mini-Pretreatment Program because it serves Significant Industrial Users (SIUs). The program requires implementation of an industrial user compliance program, submission of user information, modification of local sewer use law (if necessary), and periodic reporting. [Appendix Link](#)

Emerging Contaminant Monitoring

Emerging Contaminants, such as Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), and 1,4-Dioxane (1,4-D), have been used in a wide variety of consumer and industrial product as well as in manufacturing processes for decades. These contaminants do not break down easily, therefore their presence in wastewater can remain a concern for years following their discontinued use. As the science surrounding these contaminants is still evolving, additional monitoring is needed to better understand potential sources and background levels. For more information on emerging contaminants, please see the NYSDEC Division of Water web page: <https://www.dec.ny.gov/chemical/127939.html>.

Pursuant to 6 NYCRR Part 750-1.13(b), the permit includes a short-term monitoring program listed in the Schedule of Additional Submittals to evaluate the influent and effluent discharge levels of Per- and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane. This monitoring program

³ In accordance with DOW 1.3.10 Mercury – SPDES Permitting & Multiple Discharge Variance (MDV), December 30, 2020.

⁴ Pursuant to 40 CFR 122.21(j)(4)(vi).

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is consistent with PFAS guidance released in EPA guidance memos dated April 28, 2022, and December 5, 2022.

The Department will review the monitoring results and pursuant to 6 NYCRR 750-2.1(i) may notify the permittee of the need for further monitoring to identify potential sources as specified in the Emerging Contaminants Investigation Checklist for POTWs to determine whether cause exists to modify the permit to incorporate a pollutant minimization program per 6 NYCRR 750-1.14(f).

The Department will consider this information and progress made to track down and reduce or eliminate the source of the identified pollutants in determining if a permit modification is needed.

Schedule(s) of Additional Submittals

A schedule of additional submittals has been included for the following ([Appendix Link](#)):

- Emerging Contaminant Short-term Monitoring Program for Per-and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane (1,4-D)
- Water Treatment Chemical (WTC) Annual Report Form
- Annual Flow Certification
- Biennial Pollutant Scan
- Whole Effluent Toxicity (WET) Testing
- Stormwater No Exposure Certification
- Mercury Minimization Plan (MMP)
- Mini Pretreatment Program – Fast Report on Significant Industries (FROSI) forms
- Mini Pretreatment Program – Industrial Chemical Survey (ICS) forms

Special Conditions

In its response to the second Notice of Incomplete Application (NOIA), the permittee indicated that the facility still receives septage from local haulers and landfill leachate. Therefore, special conditions A through F will remain in the permit.

OUTFALL AND RECEIVING WATER SUMMARY TABLE: Existing Facility

Outfall	Latitude	Longitude	Receiving Water Name	Water Class	Water Index No. / Priority Waterbody Listing (PWL) No.	Major / Sub Basin	Hardness (mg/L)	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)	Critical Effluent Flow (MGD)	Dilution Ratio		
												A(A)	A(C)	HEW
001	42° 49' 03" N	73° 58' 39" W	Mohawk River	A	240/ 1201-0006	12 / 01	106 ⁵	230	459	551	1.5	50:1	100:1	100:1

POLLUTANT SUMMARY TABLE: Existing Facility

Outfall 001

Outfall #	Description of Wastewater: Sanitary waste, septage, and industrial cooling water															
	Type of Treatment: bar screening, grit removal, primary clarifiers, trickling filters, RBCs, secondary clarifiers, sand filtration, chlorination															
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality ⁶	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL			
General Notes: Existing discharge data from 6/1/2020 to 5/31/2023 was obtained from Discharge Monitoring Reports (DMRs) and the application provided by the permittee. Technology-based effluent limitations (TBELs) are consistent with NYS DEC Policy, TOGS 1.3.3. All applicable water quality standards (WQS) were reviewed for development of the water quality based effluent limitations (WQBELs). The standard and WQBEL shown below represent the most stringent. The Existing Facility limits are based on a design flow of 1.5 MGD and the dilution ratios of 50:1 (acute) and 100:1 (chronic/HEW) that were used to develop the previous permit.																
Flow Rate	MGD	Monthly Avg	1.5	0.89 (actual average)	36/0	1.5	Design Flow	Narrative: No alterations that will impair the waters for their best usages.						703.2	-	TBEL
	MGD	Daily Max	Monitor	1.2 (actual max)	36/0	Monitor	-								-	Monitor
Consistent with TOGS 1.3.3, a monthly average flow limitation equal to the average daily design capacity of the treatment plant is specified.																

⁵ Ambient hardness data obtained from the average of two data points from General Electric (used for hardness data in the previous permit).

⁶ Existing Effluent Quality (EEQ): Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects); in cases where the actual average, minimum, or maximum value is used instead of the lognormal or delta lognormal, this is noted in parentheses under the EEQ

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pH	SU	Minimum	6.0	6.7 (actual min)	36/0	6.0	TOGS 1.3.3	8.0 ⁷	-	6.5 – 8.5	Range	No Reasonable Potential	703.3	-	TBEL
	SU	Maximum	9.0	8.0 (actual max)	36/0	9.0									
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. Given the available dilution an effluent limitation equal to the TBEL is protective of the WQS.															
Temperature	°F	Daily Max	Monitor	75 (actual max)	36/0	-	750-1.13 Monitor	Narrative (Non-Trout): The water temperature at the surface of a stream shall not be raised to more than 90F at any point and... shall not be raised or lowered to more than 5F over the temperature that existed before the addition				704.2	-	Monitor	
	Consistent with 6 NYCRR 750-1.13(a), monitoring is required and may be used to inform future permitting decisions. This requirement is continued from the previous permit.														
Dissolved Oxygen (DO) SUMMER 6/1 – 10/31	mg/L	Daily Min	-	-	-	-	-	-	5.3 Critical Point	(Non-Trout) 4.0 mg/L	Narrative	No Reasonable Potential	703.3	-	No Limitation
	<p>The downstream DO concentration was modeled using the Streeter-Phelps equations and the following assumptions: Effluent DO = 2.0 mg/L (assumed value consistent with TOGS 1.3.1D), Effluent BOD₅ = 45 mg/L (7-day average BOD₅ limit), Effluent NOD = 20 mg/L (calculated from 99th percentile lognormal of summer TKN data).</p> <p>Reach Description: The model included the following reaches: (1) from SI Group, located approximately 4.25 miles upstream from Rotterdam to the Schenectady wellfield; (2) from the Schenectady wellfield, located 0.25 miles upstream to the Rotterdam outfall; (3) from the Rotterdam outfall approx. 1.8 miles downstream to General Electric (GE), and (4) from GE to the Schenectady STP, approximately 3.6 miles downstream of Rotterdam.</p> <p>The model showed that DO standards are maintained and consequently WQBELs for dissolved oxygen are unnecessary.</p>														
Dissolved Oxygen (DO) WINTER 11/1 – 5/31	mg/L	Daily Min	-	-	-	-	-	-	8.4 Critical Point	(Non-Trout) 4.0 mg/L	Narrative	No Reasonable Potential	703.3	-	No Limitation
	<p>The downstream DO concentration was modeled using the Streeter-Phelps equations and the following assumptions: Effluent DO = 2.0 mg/L (assumed value consistent with TOGS 1.3.1D), Effluent BOD₅ = 45 mg/L (7-day average BOD₅ limit), Effluent NOD = 26 mg/L (calculated from 99th percentile lognormal of Winter TKN data).</p> <p>Reach Description: The model included the following reaches: (1) from SI Group, located approximately 4.25 miles upstream from Rotterdam to the Schenectady wellfield; (2) from the Schenectady wellfield, located 0.25 miles upstream to the Rotterdam outfall; (3) from the Rotterdam outfall approx. 1.8 miles downstream to General Electric (GE), and (4) from GE to the Schenectady STP, approximately 3.6 miles downstream of Rotterdam.</p> <p>The model showed that DO standards are maintained and consequently WQBELs for dissolved oxygen are unnecessary.</p>														

⁷ Average pH using 34 data points collected from 2019-2021 at the closest upstream RIBS site, 12-MOHK-24.0.

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5-day Biochemical Oxygen Demand (BOD ₅)	mg/L	Monthly Avg	30	4.9	36/0	30	TOGS 1.3.3	See Dissolved Oxygen	703.3	-	TBEL		
		7 Day Avg	45	10	36/0	45	TOGS 1.3.3						
	lbs/d	Monthly Avg	380	37	36/0	380	TOGS 1.3.3						
		7 Day Avg	560	69	36/0	560	TOGS 1.3.3						
	% Rem	Minimum	85	97	36/0	85	TOGS 1.3.3						
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. See justification for Dissolved Oxygen.													
Total Suspended Solids (TSS)	mg/L	Monthly Avg	30	12	36/0	30	TOGS 1.3.3	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.	703.2	-	TBEL		
		7 Day Avg	45	21	36/0	45	TOGS 1.3.3						
	lbs/d	Monthly Avg	380	89	36/0	380	TOGS 1.3.3						
		7 Day Avg	560	170	36/0	560	TOGS 1.3.3						
	% Rem	Minimum	85	97	36/0	85	TOGS 1.3.3						
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. Given the available dilution, an effluent limitation equal to the TBEL is protective of the WQS.													
Settleable Solids	mL/L	Daily Max	0.1	0.10 (actual max)	6/21	0.1	TOGS 1.3.3	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages	703.2	-	TBEL		
	Consistent with TOGS 1.3.3, the effluent limitation is equal to the TBEL of 0.1 mL/L for POTWs providing secondary treatment and filtration. Given the available dilution, an effluent limitation equal to the TBEL is protective of the WQS. All data points reported by the permittee indicate that the existing limit of 0.1 mg/L can be achieved with the existing treatment facility; therefore, the current limit is maintained.												
Total Dissolved Solids (TDS)	mg/L	Daily Max	-	570	1/0	-	-	-	35	Narrative: Shall be kept as low as practicable to maintain the best usage of waters but in no case shall it exceed 500 mg/L.	703.3	-	No Limitation
		Permittee reported one data point on the NY-2A application of 571 mg/L. The WQS for TDS was determined from 6 NYCRR 703.3. The projected instream concentration was calculated using the maximum reported effluent concentration of 571 mg/L and an assumed ambient upstream concentration of 0. A multiplier of 6.2, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples. Chronic dilution was applied. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.											

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Nitrogen, Ammonia (as N) June 1 st – Oct. 31 st	mg/L	Daily Max	Monitor	1.6	7/3	Monitor	750-1.13 Monitor	0.082 ⁸	0.098	0.44	A(C)	No Reasonable Potential	703.5	-	Monitor
	lb/d	Daily Max	-	9.9	8/2	-	-	-	1.2	5.5	A(C)		703.5	-	-
	<p>The WQS for Ammonia was determined from 6 NYCRR 703.5 and TOGS 1.1.1 using a pH of 8.1* and a summer temperature of 25°C (assumed value and consistent with TOGS 1.3.1E).</p> <p>The projected instream concentration was calculated using the maximum reported effluent concentration of 0.90 mg/L and an assumed ambient upstream concentration of 0.082 mg/L. A multiplier⁹ of 1.9 was applied to the maximum effluent concentration to account for the number of samples. In accordance with TOGS 1.3.1E, the HEW dilution ratio was applied to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified. Quarterly Ammonia (as N) monitoring is being added back to the permit pursuant to TOGS 1.3.3 and 6 NYCRR 750-1.13 to assist in future permit development; monitoring will be quarterly, as recommended by TOGS 1.3.1E for class A waters.</p> <p>* pH obtained from 75th-80th percentile of 34 pH data points collected from 2019-2021 at the closest upstream RIBS site, 12-MOHK-24.0. This method is consistent with TOGS 1.3.1E. The average pH using the same data points is 8.0.</p>														
Nitrogen, Ammonia (as N) Nov. 1 st – May 31 st	mg/L	Daily Max	Monitor	1.8	11/3	Monitor	750-1.13 Monitor	0.082 ¹⁰	0.096	0.64	A(C)	No Reasonable Potential	703.5	-	Monitor
	lb/d	Daily Max	-	12	13/1	-	-	-	1.2	8.0	A(C)		703.5	-	-
	<p>The WQS for Ammonia was determined from 6 NYCRR 703.5 and TOGS 1.1.1 using a pH of 8.1* and a winter temperature of 10°C (assumed value and consistent with TOGS 1.3.1E).</p> <p>The projected instream concentration was calculated using the maximum reported effluent concentration of 0.90 mg/L and an assumed ambient upstream concentration of 0.082 mg/L. A multiplier¹¹ of 1.6 was applied to the maximum effluent concentration to account for the number of samples. In accordance with TOGS 1.3.1E, the HEW dilution ratio was applied to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified. Quarterly Ammonia (as N) monitoring is being added back to the permit pursuant to TOGS 1.3.3 and 6 NYCRR 750-1.13 to assist in future permit development; monitoring will be quarterly, as recommended by TOGS 1.3.1E for class A waters.</p> <p>* pH obtained from 75th-80th percentile of 34 pH data points collected from 2019-2021 at the closest upstream RIBS site, 12-MOHK-24.0. This method is consistent with TOGS 1.3.1E. The average pH using the same data points is 8.0.</p>														
Total Kjeldahl Nitrogen (TKN) (as N)	mg/L	Daily Max	Monitor	5.1	23/1	-	-	-	-	-	-	-	-	-	Discontinued
	lb/d	Daily Max	-	36	24/0	-	-	-	-	-	-	-	-	-	-
	<p>Data for TKN were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development. There are no TBELs or WQS for TKN; therefore, no limitations are specified.</p>														

⁸ Consistent with TOGS 1.3.1D (p.11) a background ammonia concentration of 0.1 mg/L (as NH₃), which is equal to 0.082 mg/L (as N), is assumed since there is no site-specific data available.

⁹ As recommended from EPA's Technical Support Document, Chapter 3.3

¹⁰ Consistent with TOGS 1.3.1D (p.11) a background ammonia concentration of 0.1 mg/L (as NH₃), which is equal to 0.082 mg/L (as N), is assumed since there is no site-specific data available.

¹¹ As recommended from EPA's Technical Support Document, Chapter 3.3

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Nitrate (as N)	mg/L	Daily Max	Monitor	27	24/0	-	-	0.50	0.85	10.	H(WS)	No Reasonable Potential	703.5	-	Discontinued
	lb/d	Daily Max	-	220	24/0	-	-	-	-	-	-	-	-	-	-
	<p>Data for Nitrate were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Nitrate will be removed from the permit.</p> <p>The WQS for nitrate was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the maximum reported effluent concentration of 27.5 mg/L and an assumed ambient upstream concentration of 0.50 mg/L (taken from 8 data points collected at RIBS station 12-MOHK-24.0 in 2019). A multiplier of 1.30, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.</p>														
Nitrite (as N)	mg/L	Daily Max	Monitor	0.62	22/2	-	-	-	0.0046	1.0	H(WS)	No Reasonable Potential	703.5	-	Discontinued
	lb/d	Daily Max	-	4.4	22/2	-	-	-	-	-	-	-	-	-	-
	<p>Data for Nitrite were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Nitrite will be removed from the permit.</p> <p>The WQS for nitrite was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the maximum reported effluent concentration of 0.33 mg/L and an assumed ambient upstream concentration of 0. A multiplier of 1.40, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.</p>														
Nitrate and Nitrite (as N)	mg/L	Daily Max	-	28	22/2	-	-	0.50	0.86	10.	H(WS)	No Reasonable Potential	703.5		No Limitation
	lb/d	Daily Max	-	220	22/2	-	-	-	-	-	-	-	-	-	-
	<p>Data for Nitrate and Nitrite were each collected separately under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Nitrate and monitoring for Nitrite will be removed from the permit.</p> <p>The WQS for nitrate and nitrite was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the maximum reported effluent concentration for nitrate of 27.5 mg/L and the maximum reported effluent concentration for nitrite of 0.33 mg/L. An assumed ambient upstream concentration of 0.50 mg/L (taken from 8 data points for nitrate collected at RIBS station 12-MOHK-24.0 in 2019) was used. A multiplier of 1.40, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.</p>														

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Total Nitrogen (as N)	mg/L	Daily Max	Monitor	30	24/0	-	-	-	-	-	-	-	-	-	Discontinued	
	lb/d	Daily Max	-	240	24/0	-	-	-	-	-	-	-	-	-		
	Data for Total Nitrogen were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development; since the program is expired, monitoring for Total Nitrogen will be removed from the permit. There are no TBELs or WQS for Total Nitrogen, so no limitations are specified.															
Total Phosphorus [as P]	mg/L	Daily Max	Monitor	5.4	24/0	-	-	Narrative: None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.					703.2	-	Discontinued	
	lb/d	Daily Max	-	40.	24/0	-	-	-	-	-	-	-	-	-		
	Data for Total Phosphorous (as P) were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development; since the program is expired, monitoring for Total Phosphorous will be removed from the permit. There are currently no applicable TBELs or numeric WQS for total phosphorous at this time, so no limitations are specified; however, phosphorous wasteload allocation and permit limits will be incorporated into facility permits after DEC and EPA adoption of an approved TMDL. See Mohawk River TMDL Development section of this fact sheet .															
Soluble Reactive Phosphorous (as P)	mg/L	Daily Max	-	7.3	23/1	-	-	-	-	-	-	-	-	-	Discontinued	
	lb/d	Daily Max	-	53	23/1	-	-	-	-	-	-	-	-	-		
	Data for Soluble Reactive Phosphorous (SRP) were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development; since the program is expired, monitoring for Soluble Reactive Phosphorous will be removed from the permit. The permittee reported this data as Dissolved Reactive Phosphorous (DRP). As SRP is the preferred term and is used in the previous permit, it is the term used here. There are no applicable TBELs or WQS for soluble or DRP, so no limitations are specified.															
Total Mercury	ng/L	Daily Max	50	5.7 (actual max)	11/1	50	GLCA	-	0.091	0.7	H(FC)	-	-	-	TOGS 1.3.10	
	ng/L	12 MRA	-	-	-	12	EEQ	-	-	0.7	H(FC)	-	-	-		
	See Mercury section of this fact sheet .															
Coliform, Fecal	#/100 ml	30d Geo Mean	200	60	32/4	200	TOGS 1.3.3	-	Narrative: The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.					703.4	-	TBEL
		7d Geo Mean	400	370	34/2	400	TOGS 1.3.3	-								
	Consistent with TOGS 1.3.3, effluent disinfection is required year-round due to the class of the receiving waterbody. Fecal coliform effluent limitations equal to the TBEL are specified.															
Total Residual Chlorine (TRC)	mg/L	Daily Max	2.0	1.6	36/0	2.0	TOGS 1.3.3	-	0.020	0.005	A(C)	None	TOGS 1.3.1	-	TBEL	
	Effluent disinfection is currently required year-round and will remain a permit requirement. The projected instream concentration was calculated using the reported effluent concentration of 1.85 mg/L and an assumed ambient upstream concentration of 0. A multiplier of 1.1, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.															
	In accordance with TOGS 1.3.1E, for discharge situations with dilution greater than 80:1, water quality based effluent limits will not be specified. For the existing facility, the chronic dilution is 100:1; therefore, no WQBEL is specified. Due to the high dilution, an effluent limitation equal to the TBEL, and consistent with TOGS 1.3.3, is protective of water quality standards.															

Additional Pollutants Detected															
Arsenic, total recoverable	µg/L	Daily Max	-	4.9 (actual max)	1/0	-	-	-	0.31	50.	H(W/S)	No Reasonable Potential	703.5		No Limitation
	<p>One data point for arsenic from November 2021 reported on Table C of the NY-2A application.</p> <p>The WQS for arsenic was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the reported effluent concentration of 4.9 µg/L and an assumed ambient upstream concentration of 0. A multiplier of 6.2, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples. A metals translator of 1.0 was applied to convert between the total and dissolved form in accordance with the TriBasin RIBS calculation.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.</p>														
Bromodichloromethane	µg/L	Daily Max	-	2.3 (actual max)	1/0	-	-	-	0.14	50.	H(W/S)	No Reasonable Potential	703.5		No Limitation
	<p>One data point for dichlorobromomethane from November 2021 was reported on Table C of the NY-2A application; this is the same pollutant as bromodichloromethane. It is reported here as bromodichloromethane because that is how the water quality standard is listed in 6 NYCRR 703.5.</p> <p>The projected instream concentration was calculated using the maximum reported effluent concentration of 2.3 µg/L and an assumed ambient upstream concentration of 0. A multiplier of 6.2, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.</p>														
Calcium	mg/L	Daily Maximum	-	63 (actual max)	1/0	-	-	-	-	-	-	-	-	-	No Limitation
	<p>One data point for calcium from November 2021 was reported on the certificate of analysis attached to the NY-2A application. There are no TBELs or WQS for calcium, so no limitations are specified.</p>														
Chloroform	µg/L	Daily Max	-	7.5 (actual max)	1/0	-	-	-	0.47	7	H(W/S)	No Reasonable Potential	703.5	-	No Limitation
	<p>Chloroform data was taken from one data point from November 2021 reported on Table C of the NY-2A application.</p> <p>The WQS for chloroform was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the maximum value of 7.5 µg/L reported on the NY-2A application and an assumed ambient upstream concentration of 0 µg/L. A multiplier¹² of 6.2 was applied to the maximum effluent concentration to account for the number of samples. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.</p>														

¹² As recommended from EPA's Technical Support Document, Chapter 3.3

Copper, total recoverable	µg/L	Daily Max	-	28 (actual max)	1/0	-	-	-	1.9	14	A(A)	No Reasonable Potential	703.5	-	No Limitation
	<p>Copper data was taken from one data point from November 2021 reported on Table C of the NY-2A application.</p> <p>The WQS for Copper was determined from 6 NYCRR 703.5 using an ambient hardness of 106 mg/L. The projected instream concentration was calculated using the maximum value of 28 µg/L reported on the NY-2A application and an assumed ambient upstream concentration of 0 µg/L. A multiplier¹³ of 6.2 was applied to the maximum effluent concentration to account for the number of samples. A metals translator of 1.8 was applied to convert between the total and dissolved form in accordance with the TriBasin RIBS calculation. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.</p>														
Magnesium	mg/L	Daily Max	-	12 (actual max)	1/0	-	-	-	0.76	35	H(WS)	No Reasonable Potential	703.5	-	No Limitation
	<p>Magnesium data was taken from one data point reported on the certificate of analysis attached to the NY-2A application.</p> <p>The WQS for magnesium was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the reported value and an assumed ambient upstream concentration of 0 mg/L. A multiplier¹⁴ of 6.2 was applied to the maximum effluent concentration to account for the number of samples. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.</p>														
Zinc, total recoverable	µg/L	Daily Maximum	-	37.5 (actual max)	1/0	-	-	-	2.3	120	A(A)	No Reasonable Potential	703.5	-	No Limitation
	<p>Zinc data was taken from one data point from November 2021 reported on Table C of the NY-2A application.</p> <p>The WQS for Zinc was determined from 6 NYCRR 703.5 using an ambient hardness of 106 mg/L. The projected instream concentration was calculated using the reported value and an assumed ambient upstream concentration of 0 µg/L. A multiplier¹⁵ of 6.2 was applied to the maximum effluent concentration to account for the number of samples. A metals translator of 2.0 was applied to convert between the total and dissolved form in accordance with the TriBasin RIBS calculation.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.</p>														

¹³ As recommended from EPA's Technical Support Document, Chapter 3.3

¹⁴ As recommended from EPA's Technical Support Document, Chapter 3.3

¹⁵ As recommended from EPA's Technical Support Document, Chapter 3.3

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OUTFALL AND RECEIVING WATER SUMMARY TABLE: Post-Construction Facility

Outfall	Latitude	Longitude	Receiving Water Name	Water Class	Water Index No. / Priority Waterbody Listing (PWL) No.	Major / Sub Basin	Hardness (mg/L)	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)	Critical Effluent Flow (MGD)	Dilution Ratio		
												A(A)	A(C)	HEW
001	42° 49' 03" N	73° 58' 39" W	Mohawk River	A	240/ 1201-0006	12 / 01	108 ¹⁶	216	459	630	1.8	7.4:1	11:1	11:1

POLLUTANT SUMMARY TABLE: Post-Construction Facility

Outfall 001

Outfall #	001	Description of Wastewater: Sanitary waste, septage, and industrial cooling water													
		Type of Treatment: bar screening, grit removal, primary clarifiers, trickling filters, RBCs, secondary clarifiers, sand filtration, chlorination													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ¹⁷	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
General Notes: Existing discharge data from 6/1/2020 to 5/31/2023 was obtained from Discharge Monitoring Reports and the application provided by the permittee. Technology-based effluent limitations (TBELs) are consistent with NYS DEC Policy, TOGS 1.3.3. All applicable water quality standards were reviewed for development of the water quality based effluent limitations (WQBELs). The standard and WQBEL shown below represent the most stringent. The post-construction limits are based on a design flow of 1.8 MGD and the corrected dilution ratios of 7.4:1 (acute) and 11:1 (chronic/HEW).															
Flow Rate	MGD	Monthly Avg	1.5	0.89 (actual average)	36/0	1.8	Design Flow	Narrative: No alterations that will impair the waters for their best usages.				703.2	-	TBEL	
		Daily Max	Monitor	1.2 (actual max)	36/0	Monitor	-					-	-	TOGS 1.3.3	
Consistent with TOGS 1.3.3, a monthly average flow limitation equal to the average daily design capacity of the treatment plant is specified. According to the September 2020 preliminary engineering report, the design flow will increase from 1.5 MGD to 1.8 MGD.															

¹⁶ Ambient hardness data obtained from the average of 2 data points from RIBS 12-MOHK-44.5 (closest upstream site with hardness data) and two data points from GE (used for hardness data in the previous permit).

¹⁷ Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects). Where actual average, maximums, or minimums are used instead of lognormal or delta-lognormal values, that is indicated in parentheses next to the value.

pH	SU	Minimum	6.0	6.7 (actual min)	36/0	6.0	TOGS 1.3.3	8.0 ¹⁸	-	6.5 – 8.5	Range	No Reasonable Potential	703.3	-	TBEL
		Maximum	9.0	8.0 (actual max)	36/0	9.0									
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. Given the available dilution an effluent limitation equal to the TBEL is protective of the WQS.															
Temperature	°F	Daily Max	Monitor	75 (actual max)	36/0	-	750-1.13 Monitor	Narrative (Non-Trout): The water temperature at the surface of a stream shall not be raised to more than 90F at any point and... shall not be raised or lowered to more than 5F over the temperature that existed before the addition				704.2	-	Monitor	
	Consistent with 6 NYCRR 750-1.13(a), monitoring is required and may be used to inform future permitting decisions. This requirement is continued from the previous permit.														
Dissolved Oxygen (DO) SUMMER 6/1 – 10/31	mg/L	Daily Min	-	-	-	-	-	-	5.3 Critical Point	(Non-Trout) 4.0 mg/L	Narrative	No Reasonable Potential	703.3	-	No Limitation
	<p>The downstream DO concentration was modeled using the Streeter-Phelps equations and the following assumptions: Effluent DO = 2.0 mg/L (assumed value consistent with TOGS 1.3.1D), Effluent BOD₅ = 45 mg/L (7-day average BOD₅ limit), Effluent NOD = 20 mg/L (calculated from 99th percentile lognormal of Summer TKN data).</p> <p>Reach Description: The model included the following reaches: (1) from SI Group, located approximately 4.25 miles upstream from Rotterdam to the Schenectady wellfield; (2) from the Schenectady wellfield, located 0.25 miles upstream to the Rotterdam outfall; (3) from the Rotterdam outfall approx. 1.8 miles downstream to General Electric (GE), and (4) from GE to the Schenectady STP, approximately 3.6 miles downstream of Rotterdam.</p> <p>The model showed that DO standards are maintained and consequently QBELs for dissolved oxygen are unnecessary.</p>														
Dissolved Oxygen (DO) WINTER 11/1 – 5/31	mg/L	Daily Min	-	-	-	-	-	-	8.4 Critical Point	(Non-Trout) 4.0 mg/L	Narrative	No Reasonable Potential	703.3	-	No Limitation
	<p>The downstream DO concentration was modeled using the Streeter-Phelps equations and the following assumptions: Effluent DO = 2.0 mg/L (assumed value consistent with TOGS 1.3.1D), Effluent BOD₅ = 45 mg/L (7-day average BOD₅ limit), Effluent NOD = 26 mg/L (calculated from 99th percentile lognormal of Winter TKN data).</p> <p>Reach Description: The model included the following reaches: (1) from SI Group, located approximately 4.25 miles upstream from Rotterdam to the Schenectady wellfield; (2) from the Schenectady wellfield, located 0.25 miles upstream to the Rotterdam outfall; (3) from the Rotterdam outfall approx. 1.8 miles downstream to General Electric (GE), and (4) from GE to the Schenectady STP, approximately 3.6 miles downstream of Rotterdam.</p> <p>The model showed that DO standards are maintained and consequently QBELs for dissolved oxygen are unnecessary.</p>														

¹⁸ Average pH using 34 data points collected from 2019-2021 at the closest upstream RIBS site, 12-MOHK-24.0.

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5-day Biochemical Oxygen Demand (BOD ₅)	mg/L	Monthly Avg	30	4.9	36/0	30	TOGS 1.3.3	-	See Dissolved Oxygen	No Reasonable Potential	703.3	-	TBEL
		7 Day Avg	45	10	36/0	45	TOGS 1.3.3						
	lbs/d	Monthly Avg	380	37	36/0	450	TOGS 1.3.3						
		7 Day Avg	560	69	36/0	680	TOGS 1.3.3						
	% Rem	Minimum	85	97	36/0	85	TOGS 1.3.3						
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. See justification for Dissolved Oxygen. Post-construction, the mass limitation will change to 450 lbs/d Monthly Avg) and 680 lbs/d 7 Day Avg).													
Total Suspended Solids (TSS)	mg/L	Monthly Avg	30	12	36/0	30	TOGS 1.3.3	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.	703.2	-	TBEL		
		7 Day Avg	45	21	36/0	45	TOGS 1.3.3						
	lbs/d	Monthly Avg	380	89	36/0	450	TOGS 1.3.3						
		7 Day Avg	560	170	36/0	680	TOGS 1.3.3						
	% Rem	Minimum	85	97	36/0	85	TOGS 1.3.3						
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. Given the available dilution, an effluent limitation equal to the TBEL is protective of the WQS. Post-construction, the mass limitation will change to 450 lbs/d Monthly Avg and 680 lbs/d 7 Day Avg.													
Settleable Solids	mL/L	Daily Max	0.1	0.10 (actual average; actual max)	6/21	0.1	TOGS 1.3.3	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages	703.2	-	TBEL		
		Consistent with TOGS 1.3.3 the effluent limitation is equal to the TBEL of 0.1 mL/L for POTWs providing secondary treatment and filtration. Given the available dilution, an effluent limitation equal to the TBEL is protective of the WQS. All data points reported by the permittee indicate that the existing limit of 0.1 mg/L can be achieved with the existing treatment facility; therefore, the current limit is maintained.											

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	mg/L	Daily Max	-	570	1/0	-	-	-	330	Narrative: Shall be kept as low as practicable to maintain the best usage of waters but in no case shall it exceed 500 mg/L.			703.3	-	No Limitation
Total Dissolved Solids (TDS)	<p>Permittee reported one data point on the NY-2A application of 571 mg/L. The WQS for TDS was determined from 6 NYCRR 703.3. The projected instream concentration was calculated using the maximum reported effluent concentration of 571 mg/L and an assumed ambient upstream concentration of 0. A multiplier of 6.2, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples. Chronic dilution was applied.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.</p>														
	mg/L	Daily Max	Monitor	1.6	7/3	Monitor	750-1.13 Monitor	0.082 ¹⁹	0.23	0.44	A(C)	No Reasonable Potential	703.5	-	Monitor
	lb/d	Daily Max	-	9.9	8/2	-	-	-	3.5	6.6	A(C)	No Reasonable Potential	703.5	-	-
Nitrogen, Ammonia (as N) June 1 st – Oct. 31 st	<p>The WQS for Ammonia was determined from TOGS 1.1.1 from a pH of 8.1* and a summer temperature of 25°C (assumed value and consistent with TOGS 1.3.1E).</p> <p>The projected instream concentration was calculated using the maximum reported effluent concentration of 0.90 mg/L and an assumed ambient upstream concentration of 0.082 mg/L. A multiplier²⁰ of 1.9 was applied to the maximum effluent concentration to account for the number of samples. In accordance with TOGS 1.3.1E, the HEW dilution ratio was applied to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified. Quarterly Ammonia (as N) monitoring is being added back to the permit pursuant to TOGS 1.3.3 and 6 NYCRR 750-1.13 to assist in future permit development; monitoring will be quarterly, as recommended by TOGS 1.3.1E for class A waters.</p> <p>* pH obtained from 75th-80th percentile of 34 pH data points collected from 2019-2021 at the closest upstream RIBS site, 12-MOHK-24.0. This method is consistent with TOGS 1.3.1E. The average pH using the same data points is 8.0.</p>														

¹⁹ Consistent with TOGS 1.3.1D (p.11) a background ammonia concentration of 0.1 mg/L (as NH₃), which is equal to 0.082 mg/L (as N), is assumed since there is no site-specific data available.

²⁰ As recommended from EPA's Technical Support Document, Chapter 3.3

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Nitrogen, Ammonia (as N) Nov. 1st – May 31st	mg/L	Daily Max	Monitor	1.8	11/3	Monitor	750-1.13 Monitor	0.082 ²¹	0.21	0.64	A(C)	No Reasonable Potential	703.5	-	Monitor
	lb/d	Daily Max	-	12	13/1	-	-	-	3.2	9.6	A(C)	No Reasonable Potential	703.5	-	-
	<p>The WQS for Ammonia was determined from TOGS 1.1.1 from a pH of 8.1* and a winter temperature of 10°C (assumed value and consistent with TOGS 1.3.1E).</p> <p>The projected instream concentration was calculated using the maximum reported effluent concentration of 0.90 mg/L and an assumed ambient upstream concentration of 0.082 mg/L. A multiplier²² of 1.6 was applied to the maximum effluent concentration to account for the number of samples. In accordance with TOGS 1.3.1E, the HEW dilution ratio was applied to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified. Quarterly Ammonia (as N) monitoring is being added back to the permit pursuant to TOGS 1.3.3 and 6 NYCRR 750-1.13 to assist in future permit development; monitoring will be quarterly, as recommended by TOGS 1.3.1E for class A waters.</p> <p>* pH obtained from 75th-80th percentile of 34 pH data points collected from 2019-2021 at the closest upstream RIBS site, 12-MOHK-24.0. This method is consistent with TOGS 1.3.1E. The average pH using the same data points is 8.0.</p>														
Total Kjeldahl Nitrogen (TKN) (as N)	mg/L	Daily Max	Monitor	5.1	23/1	-	-	-	-	-	-	-	-	-	Discontinued
	lb/d	Daily Max	-	36	24/0	-	-	-	-	-	-	-	-	-	-
	<p>Data for TKN were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development. There are no TBELs or WQS for TKN, so no limitations are specified.</p>														
Nitrate (as N)	mg/L	Daily Max	Monitor	27	24/0	-	-	0.50	3.8	10	H(WS)	No Reasonable Potential	703.5	-	Discontinued
	lb/d	Daily Max	-	220	24/0	-	-	-	-	-	-	-	-	-	-
	<p>Data for Nitrate were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/202; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Nitrate will be removed from the permit.</p> <p>The WQS for nitrate was determined from 6 NYCRR 703.5 and TOGS 1.1.1. The projected instream concentration was calculated using the maximum reported effluent concentration of 27.5 mg/L and an assumed ambient upstream concentration of 0.50 mg/L (based on 8 data points from RIBS station 12-MOHK-24.0). A multiplier of 1.30, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.</p>														

²¹ Consistent with TOGS 1.3.1D (p.11) a background ammonia concentration of 0.1 mg/L (as NH₃), which is equal to 0.082 mg/L (as N), is assumed since there is no site-specific data available.

²² As recommended from EPA's Technical Support Document, Chapter 3.3

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Nitrite (as N)	mg/L	Daily Max	Monitor	0.62	22/2	-	-	-	0.043	1	H(WS)	No Reasonable Potential	703.5	-	Discontinued
	lb/d	Daily Max	-	4.4	22/2	-	-	-	-	-	-	-	-	-	
	<p>Data for Nitrite were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/2022; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Nitrite will be removed from the permit.</p> <p>The WQS for nitrite was determined from 6 NYCRR 703.5 and TOGS 1.1.1. The projected instream concentration was calculated using the maximum reported effluent concentration of 0.33 mg/L and an assumed ambient upstream concentration of 0. A multiplier of 1.40, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.</p>														
Nitrate and Nitrite (as N)	mg/L	Daily Max	-	28	22/2	-	-	0.50	0.86	10.	H(WS)	No Reasonable Potential	703.5	-	No Limitation
	lb/d	Daily Max	-	220	22/2	-	-	-	-	-	-	-	-	-	
	<p>Data for Nitrate and Nitrite were each collected separately under a 2-year Nutrient Monitoring Program (Effective 6/1/2022; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Nitrate and monitoring for Nitrite will be removed from the permit.</p> <p>The WQS for nitrate and nitrite was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the maximum reported effluent concentration for nitrate of 27.5 mg/L and the maximum reported effluent concentration for nitrite of 0.33 mg/L. An assumed ambient upstream concentration of 0.50 mg/L (taken from 8 data points for nitrate collected at RIBS station 12-MOHK-24.0 in 2019) was used. A multiplier of 1.40, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.</p>														
Total Nitrogen (as N)	mg/L	Daily Max	Monitor	30	24/0	-	-	-	-	-	-	-	-	-	Discontinued
	lb/d	Daily Max	-	240	24/0	-	-	-	-	-	-	-	-	-	
	<p>Data for Total Nitrogen were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/2022; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Total Nitrogen will be removed from the permit. There are no TBELs or WQS for Total Nitrogen, so no limitations are specified.</p>														
Total Phosphorus [as P]	mg/L	Daily Max	Monitor	5.4	24/0	-	-	Narrative: None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.				-	-	Discontinued	
	lb/d	Daily Max	-	40.	24/0	-	-	-	-	-	-	-	-		
	<p>Data for Total Phosphorous (as P) were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/2022; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Total Phosphorous will be removed from the permit. There are no applicable TBELs or WQS for Total Nitrogen, so no limitations are specified. However, phosphorous wasteload allocation and permit limits will be incorporated into facility permits after DEC and EPA adoption of an approved TMDL. See Mohawk River TMDL Development section of this fact sheet.</p>														

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Soluble Reactive Phosphorous [as P]	mg/L	Daily Max	-	7.3	23/1	-	-	-	-	-	-	-	-	-	Discontinued
	lb/d	Daily Max	-	53	23/1	-	-	-	-	-	-	-	-	-	-
	Data for Soluble Reactive Phosphorous (SRP) were collected under a 2-year Nutrient Monitoring Program (Effective 6/1/2022; Expired 6/1/2022) for TMDL Development. Since the program is expired, monitoring for Soluble Reactive Phosphorous will be removed from the permit. The permittee reported this data as Dissolved Reactive Phosphorous (DRP); SRP and DRP are different terms for the same parameter. As SRP is the preferred term and is used in the previous permit, it is the term used here. There are no applicable TBELs or WQS for SRP or DRP, so no limitations are specified.														
Total Mercury	ng/L	Daily Max	50	5.7 (actual max)	11/1	50	GLCA	-	0.84	0.7	H(FC)	-	-	-	TOGS 1.3.10
	ng/L	12 MRA	-	-	-	12	EEQ	-	-	0.7	H(FC)	-	-	-	TOGS 1.3.10
	See Mercury section of this fact sheet .														
Coliform, Fecal	#/100 ml	30d Geo Mean	200	60	32/4	200	TOGS 1.3.3	-	Narrative: The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.				703.4	-	TBEL
		7d Geo Mean	400	370	34/2	400	TOGS 1.3.3	-							
	Consistent with TOGS 1.3.3, effluent disinfection is required year-round due to the class of the receiving waterbody. Fecal coliform effluent limitations equal to the TBEL are specified.														
Total Residual Chlorine (TRC)	mg/L	Daily Max	2.0	1.6	36/0	2.0	TOGS 1.3.3	-	0.17	.005	A(C)	0.054	TOGS 1.3.1	30	WQBEL
	Effluent disinfection is currently required year-round and will remain a permit requirement.														
	The WQBEL was calculated by multiplying the WQS (.005 mg/L Aquatic (Chronic) for Class A waterbodies) by the chronic dilution ratio. Consistent with TOGS 1.3.1E, no decay factor was used because the dilution is below 30:1.														
	The projected instream concentration was calculated using the maximum effluent concentration of 1.85 mg/L divided by the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates a reasonable potential to cause or contribute to a WQS violation and therefore a WQBEL is specified.														
Due to the low dilution, the calculated WQBEL is less than the TBEL and an effluent limitation equal to the WQBEL is appropriate.															
Additional Pollutants Detected															
Arsenic, total recoverable	µg/L	Daily Max	-	4.9 (actual max)	1/0	-	-	-	2.8	50.	H(WS)	No Reasonable Potential	703.5	-	No Limitation
	One data point for arsenic from November 2021 reported on Table C of the NY-2A application.														
	The WQS for arsenic was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the reported effluent concentration of 4.9 µg/L and an assumed ambient upstream concentration of 0. A multiplier of 6.2, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples. A metals translator of 1.0 was applied to convert between the total and dissolved form in accordance with the TriBasin RIBS calculation.														
A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.															

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Bromodichloro methane	µg/L	Daily Max	-	2.3 (actual max)	1/0	-	-	-	1.3	50.	H(WS)	No Reasonable Potential	703.5	-	No Limitation
	One data point for dichlorobromomethane from November 2021 was reported on Table C of the NY-2A application; this is the same pollutant as bromodichloromethane. It is reported here as bromodichloromethane because that is how the water quality standard is listed in 6 NYCRR 703.5.														
	The projected instream concentration was calculated using the maximum reported effluent concentration of 2.3 µg/L and an assumed ambient upstream concentration of 0. A multiplier of 6.2, as recommended in EPA's Technical Support Document Chapter 3.3, was applied to the projected effluent to account for the number of samples.														
A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no WQBEL is specified.															
Calcium	mg/L	Daily Maximum	-	63 (actual max)	1/0	-	-	-	-	-	-	-	-	-	No Limitation
	One data point for calcium from November 2021 was reported on the certificate of analysis attached to the NY-2A application. There are no TBELs or WQS for calcium, so no limitations are specified.														
Chloroform	µg/L	Daily Maximum	-	7.5 (actual max)	1/0	-	-	-	4.3	7	H(WS)	No Reasonable Potential	703.5	-	No Limitation
	Chloroform data was taken from one data point from November 2021 reported on Table C of the NY-2A application.														
	The WQS for chloroform was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the maximum value of 7.5 µg/L reported on the 2A application and an assumed ambient upstream concentration of 0 µg/L. A multiplier ²³ of 6.2 was applied to the maximum effluent concentration to account for the number of samples. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.														
Copper, total recoverable	µg/L	Daily Max	-	28 (actual max)	1/0	-	-	-	9.0	9.6	A(C)	No Reasonable Potential	703.5	-	No Limitation
	Copper data was taken from one data point from November 2021 reported on Table C of the NY-2A application.														
The WQS for Copper was determined from 6 NYCRR 703.5 using an ambient hardness of 108 mg/L. The projected instream concentration was calculated using the maximum value of 28 µg/L reported on the NY-2A application and an assumed ambient upstream concentration of 0 µg/L. A multiplier ²⁴ of 6.2 was applied to the maximum effluent concentration to account for the number of samples. A metals translator of 1.8 was applied to convert between the total and dissolved form in accordance with the TriBasin RIBS calculation. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.															

²³ As recommended from EPA's Technical Support Document, Chapter 3.3

²⁴ As recommended from EPA's Technical Support Document, Chapter 3.3

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Magnesium	mg/L	Daily Max	-	12 (actual max)	1/0	-	-	-	7.1	35	H(W/S)	No Reasonable Potential	703.5		No Limitation
	<p>Magnesium data was taken from one data point reported on the certificate of analysis attached to the NY-2A application.</p> <p>The WQS for magnesium was determined from 6 NYCRR 703.5. The projected instream concentration was calculated using the reported value and an assumed ambient upstream concentration of 0mg/L. A multiplier²⁵ of 6.2 was applied to the maximum effluent concentration to account for the number of samples. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.</p>														
Zinc, total recoverable	µg/L	Daily Maximum	-	37.5 (actual max)	1/0	-	-	-	16	130	A(A)	No Reasonable Potential	703.5	-	No Limitation
	<p>Zinc data was taken from one data point from November 2021 reported on Table C of the NY-2A application.</p> <p>The WQS for Zinc was determined from 6 NYCRR 703.5 and an ambient hardness of 108 mg/L. The projected instream concentration was calculated using the reported value and an assumed ambient upstream concentration of 0 µg/L. A multiplier²⁶ of 6.2 was applied to the maximum effluent concentration to account for the number of samples. A metals translator of 2.0 was applied to convert between the total and dissolved form in accordance with the TriBasin RIBS calculation.</p> <p>A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.</p>														

²⁵ As recommended from EPA's Technical Support Document, Chapter 3.3

²⁶ As recommended from EPA's Technical Support Document, Chapter 3.3

Appendix: Regulatory and Technical Basis of Permit Authorizations

The Appendix is meant to supplement the fact sheet for multiple types of SPDES permits. Portions of this Appendix may not be applicable to this specific permit.

Regulatory References

The provisions of the permit are based largely upon 40 CFR 122 subpart C and 6 NYCRR Part 750 and include monitoring, recording, reporting, and compliance requirements, as well as general conditions applicable to all SPDES permits. Below are the most common citations for the requirements included in SPDES permits:

- Clean Water Act (CWA) 33 section USC 1251 to 1387
- Environmental Conservation Law (ECL) Articles 17 and 70
- Federal Regulations
 - 40 CFR, Chapter I, subchapters D, N, and O
- State environmental regulations
 - 6 NYCRR Part 621
 - 6 NYCRR Part 750
 - 6 NYCRR Parts 700 - 704 – Best use and other requirements applicable to water classes
 - 6 NYCRR Parts 800 – 941 - Classification of individual surface waters
- NYSDEC water program policy, referred to as Technical and Operational Guidance Series (TOGS)
- USEPA Office of Water Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E

The following is a quick guide to the references used within the fact sheet:

SPDES Permit Requirements	Regulatory Reference
Anti-backsliding	6 NYCRR 750-1.10(c)
Best Management Practices (BMPS) for CSOs	6 NYCRR 750-2.8(a)(2)
Environmental Benefits Permit Strategy (EBPS)	6 NYCRR 750-1.18, NYS ECL 17-0817(4), TOGS 1.2.2 (revised January 25,2012)
Exceptions for Type I SSO Outfalls (bypass)	6 NYCRR 750-2.8(b)(2), 40 CFR 122.41
Mercury Multiple Discharge Variance	Division of Water Program Policy 1.3.10 (DOW 1.3.10)
Mixing Zone and Critical Water Information	TOGS 1.3.1 & Amendments
PCB Minimization Program	40 CFR Part 132 Appendix F Procedure 8, 6 NYCRR 750-1.13(a) and 750-1.14(f), and TOGS 1.2.1
Pollutant Minimization Program (PMP)	6 NYCRR 750-1.13(a), 750-1.14(f), TOGS 1.2.1
Schedules of Compliance	6 NYCRR 750-1.14
Sewage Pollution Right to Know (SPRTK)	NYS ECL 17-0826-a, 6 NYCRR 750-2.7
State Administrative Procedure Act (SAPA)	State Administrative Procedure Act Section 401(2), 6 NYCRR 621.11(l)
State Environmental Quality Review (SEQR)	6 NYCRR Part 617
USEPA Effluent Limitation Guidelines (ELGs)	40 CFR Parts 405-471
USEPA National CSO Policy	33 USC Section 1342(q)
Whole Effluent Toxicity (WET) Testing	TOGS 1.3.2
General Provisions of a SPDES Permit Department Request for Additional Information	NYCRR 750-2.1(i)

Outfall and Receiving Water Information

Impaired Waters

The [NYS 303\(d\) List of Impaired/TMDL Waters](#) identifies waters where specific best usages are not fully supported. The state must consider the development of a Total Maximum Daily Load (TMDL) or other strategy to reduce the input of the specific pollutant(s) that restrict waterbody uses, in order to restore and protect such uses. SPDES permits must include effluent limitations necessary to implement a WLA of an EPA-approved TMDL (6 NYCRR 750-1.11(a)(5)(ii)), if applicable. In accordance with 6 NYCRR 750-1.13(a), permittees discharging to waters which are on the list but do not yet have a TMDL developed may be required to perform additional monitoring for the parameters causing the impairment. Accurate monitoring data is needed to

determine the existing capabilities of the wastewater treatment plants and to assure that wasteload allocations (WLAs) are allocated equitably.

Interstate Water Pollution Control Agencies

Some POTWs may be subject to regulations of interstate basin/compact agencies including: Interstate Sanitation Commission (ISC), International Joint Commission (IJC), Delaware River Basin Commission (DRBC), Ohio River Valley Water Sanitation Commission (ORSANCO), and the Susquehanna River Basin Commission (SRBC). Generally, basin commission requirements focus principally on water quality and not treatment technology. However, interstate/compact agency regulations for the ISC, IJC, DRBC and NYC Watershed contain explicit effluent limits which must be addressed during permit drafting. 6 NYCRR 750-2.1(d) requires SPDES permits for discharges that originate within the jurisdiction of an interstate water pollution control agency, to include any applicable effluent standards or water quality standards (WQS) promulgated by that interstate agency.

Existing Effluent Quality

The existing effluent quality is determined from a statistical evaluation of effluent data in accordance with TOGS 1.2.1 and the USEPA Office of Water, Technical Support Document for Water Quality-based Toxics Control, March 1991, Appendix E (TSD). The existing effluent quality is equal to the 95th (monthly average) and 99th (daily maximum) percentiles of the lognormal distribution of existing effluent data. When there are greater than three non-detects, a delta-lognormal distribution is assumed, and delta-lognormal calculations are used to determine the monthly average and daily maximum pollutant concentrations. Statistical calculations are not performed for parameters where there are less than ten data points. If additional data is needed, a monitoring requirement may be specified either through routine monitoring or a short-term high intensity monitoring program. The [Pollutant Summary Table](#) identifies the number of sample data points available.

Permit Requirements

Basis for Effluent Limitations

Sections 101, 301, 304, 308, 401, 402, and 405 of the CWA and Titles 5, 7, and 8 of Article 17 ECL, as well as their implementing federal and state regulations, and related guidance, provide the basis for the effluent limitations and other conditions in the permit.

When conducting a full technical review of an existing permit, the previous effluent limitations form the basis for the next permit. Existing effluent quality is evaluated against the existing effluent limitations to determine if these should be continued, revised, or deleted. Generally, existing limitations are continued unless there are changed conditions at the facility, the facility demonstrates an ability to meet more stringent limitations, and/or in response to updated regulatory requirements. Pollutant monitoring data is also reviewed to determine the presence of additional contaminants that should be included in the permit based on a reasonable potential analysis to cause or contribute to a water quality standards violation.

Anti-backsliding

Anti-backsliding requirements are specified in the CWA sections 402(o) and 303(d)(4), ECL 17-0809, and regulations at 40 CFR 122.44(l) and 6 NYCRR 750-1.10(c) and (d). Generally, the relaxation of effluent limitations in permits is prohibited unless one of the specified exceptions applies, which will be cited on a case-by-case basis in this fact sheet. Consistent with current case law²⁷ and USEPA interpretation²⁸ anti-backsliding requirements do not apply should a revision to the final effluent limitation take effect before the scheduled date of compliance for that final effluent limitation.

²⁷ American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)

²⁸ U.S. EPA, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; 65 Fed. Reg. 31682, 31704 (May 18, 2000); Proposed Water Quality Guidance for the Great Lakes System, 58 Fed. Reg. 20802, 20837 & 20981 (April 16, 1993)

Antidegradation Policy

New York State implements the antidegradation portion of the CWA based upon two documents: (1) Organization and Delegation Memorandum #85-40, "Water Quality Antidegradation Policy" (September 9, 1985); and, (2) TOGS 1.3.9, "Implementation of the NYSDEC Antidegradation Policy – Great Lakes Basin (Supplement to Antidegradation Policy dated September 9, 1985) (undated)." The permit for the facility contains effluent limitations which ensure that the existing best usage of the receiving waters will be maintained. To further support the antidegradation policy, SPDES applications have been reviewed in accordance with the State Environmental Quality Review Act (SEQR) as prescribed by 6 NYCRR Part 617.

Effluent Limitations

In developing a permit, the Department determines the technology-based effluent limitations (TBELs) and then evaluates the water quality expected to result from technology controls to determine if any exceedances of water quality criteria in the receiving water might result. If there is a reasonable potential for exceedances of water quality criteria to occur, water quality-based effluent limitations (WQBELs) are developed. A WQBEL is designed to ensure that the water quality standards of receiving waters are met. In general, the CWA requires that the effluent limitations for a particular pollutant are the more stringent of either the TBEL or WQBEL.

Technology-based Effluent Limitations (TBELs)

CWA sections 301(b)(1)(B) and 304(d)(1), 40 CFR 133.102, ECL section 17-0509, and 6 NYCRR 750-1.11 require technology-based controls, known as secondary treatment. These and other requirements are summarized in TOGS 1.3.3. Where the TBEL is more stringent than the WQBEL, the TBEL is applied as a limit in accordance with TOGS 1.3.3. Equivalent secondary treatment, as defined in 40 CFR 133.105, allow for effluent limitations of the more stringent of the consistently achievable concentrations or monthly/weekly averages of 45/65 mg/l, and the minimum monthly average of at least 65% removal. Consistently achievable concentrations are defined in 40 CFR 133.101(f) as the 95th percentile value for the 30-day (monthly) average effluent quality achieved by the facility in a period of two years. The achievable 7-day (weekly) average value is equal to 1.5 times the 30-day average value calculated above. Equivalent secondary treatment applies to those facilities where the principal treatment process is either a trickling filter or a waste stabilization pond; the treatment works provides significant biological treatment of municipal wastewater; and, the effluent concentrations consistently achievable through proper operation and maintenance of the facility cannot meet traditional secondary treatment requirements. There are no federal technology-based standards for toxic pollutants from POTWs. A statistical analysis of existing effluent data, as described in TOGS 1.2.1, may be used to establish other performance-based TBELs.

Water Quality-Based Effluent Limitations (WQBELs)

In addition to the TBELs, permits must include additional or more stringent effluent limitations and conditions, including those necessary to protect water quality. CWA sections 101 and 301(b)(1)(C), 40 CFR 122.44(d)(1), and 6 NYCRR Parts 750-1.11 require that permits include limitations for all pollutants or parameters which are or may be discharged at a level which may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. Additionally, 6 NYCRR Part 701.1 prohibits the discharge of pollutants that will cause impairment of the best usages of the receiving water as specified by the water classifications at the location of discharge and at other locations that may be affected by such discharge. Water quality standards can be found under 6 NYCRR Parts 700-704. The limitations must be stringent enough to ensure that water quality standards are met at the point of discharge and in downstream waters and must be consistent with any applicable WLA which may be in effect through a TMDL for the receiving water. These and other requirements are summarized in TOGS 1.1.1, 1.3.1, 1.3.2, 1.3.5 and 1.3.6. The Department considers a mixing zone analysis, critical flows, and reasonable potential analysis when developing a WQBEL.

Mixing Zone Analyses

In accordance with TOGS 1.3.1., the Department may perform additional analysis of the mixing condition between the effluent and the receiving waterbody. Mixing zone analyses using plume dispersion modeling are conducted in accordance with the following:

“EPA Technical Support Document for Water Quality-Based Toxics Control” (March 1991); EPA Region VIII’s “Mixing Zones and Dilution Policy” (December 1994); NYSDEC TOGS 1.3.1, “Total Maximum Daily Loads and Water Quality-Based Effluent Limitations” (July 1996); “CORMIX v11.0” (2019).

Critical Flows

In accordance with TOGS 1.2.1 and 1.3.1, WQBELs are developed using dilution ratios that relate the critical low flow condition of the receiving waterbody to the critical effluent flow. The critical low flow condition used in the dilution ratio will be different depending on whether the limitations are for aquatic or human health protection. For chronic aquatic protection, the critical low flow condition of the waterbody is typically represented by the 7Q10 flow and is calculated as the lowest average flow over a 7-day consecutive period within 10 years. For acute aquatic protection, the critical low flow condition is typically represented by the 1Q10 and is calculated as the lowest 1-day flow within 10 years. However, NYSDEC considers using 50% of the 7Q10 to be equivalent to the 1Q10 flow. For the protection of human health, the critical low flow condition is typically represented by the 30Q10 flow and is calculated as the lowest average flow over a 30-day consecutive period within 10 years. However, NYSDEC considers using 1.2 x 7Q10 to be equivalent to the 30Q10. The 7Q10 or 30Q10 flow is used with the critical effluent flow to calculate the dilution ratio. The critical effluent flow can be the maximum daily flow reported on the permit application, the maximum of the monthly average flows from discharge monitoring reports for the past three years, or the facility design flow. When more than one applicable standard exists for aquatic or human health protection for a specific pollutant, a reasonable potential analysis is conducted for each applicable standard and corresponding critical flow to ensure effluent limitations are sufficiently stringent to ensure all applicable water quality standards are met as required by 40 CFR 122.44(d)(1)(i). For brevity, the pollutant summary table reports the results of the most conservative scenario.

Reasonable Potential Analysis (RPA)

The Reasonable Potential Analysis (RPA) is a statistical estimation process, outlined in the 1991 USEPA Technical Support Document for Water Quality-based Toxics Control (TSD), Appendix E. This process uses existing effluent quality data and statistical variation methodology to project the maximum amounts of pollutants that could be discharged by the facility. This projected instream concentration (PIC) is calculated using the appropriate ratio and compared to the water quality standard (WQS). When the RPA process determines the WQS may be exceeded, a WQBEL is required. The procedure for developing WQBELs includes the following steps:

- 1) identify the pollutants present in the discharge(s) based upon existing data, sampling data collected by the permittee as part of the permit application or a short-term high intensity monitoring program, or data gathered by the Department;
- 2) identify water quality criteria applicable to these pollutants;
- 3) determine if WQBELs are necessary (i.e. reasonable potential analysis (RPA)). The RPA will utilize the procedure outlined in Chapter 3.3.2 of EPA’s Technical Support Document (TSD). As outlined in the TSD, for parameters with limited effluent data the RPA may include multipliers to account for effluent variability; and,
- 4) calculate WQBELs (if necessary). Factors considered in calculating WQBELs include available dilution of effluent in the receiving water, receiving water chemistry, and other pollutant sources.

The Department uses modeling tools to estimate the expected concentrations of the pollutant in the receiving water and develop WQBELs. These tools were developed in part using the methodology referenced above. If the estimated concentration of the pollutant in the receiving water is expected to exceed the ambient water quality standard or guidance value (i.e. numeric interpretation of a narrative water quality standard), then there is a reasonable potential that the discharge may cause or contribute to an exceedance of any State water quality standard adopted

pursuant to NYS ECL 17-0301. If a TMDL is in place, the facility's WLA for that pollutant is applied as the WQBEL.

For carbonaceous and nitrogenous oxygen demanding pollutants, the Department uses a model which incorporates the Streeter-Phelps equation. The equation relates the decomposition of inorganic and organic materials along with oxygen reaeration rates to compute the downstream dissolved oxygen concentration for comparison to water quality standards.

The Division of Water has been using the TMDL approach in permit limit development for the control of toxic substances. Since the early 1980's, the loading capacity for specific pollutants has been determined for each drainage basin. Water quality-limiting segments and pollutants have been identified, TMDLs, wasteload allocations and load allocations have been developed, and permits with water quality-based effluent limits have been issued. In accordance with TOGS 1.3.1, the Division of Water implements a Toxics Reduction Strategy which is committed to the application of the TMDL process using numeric, pollutant-specific water quality standards through the Watershed Approach. The Watershed Approach accounts for the cumulative effect of multiple discharges of conservative toxic pollutants to ensure water quality standards are met in downstream segments.

A Watershed Maximum Daily Load (WMDL) may be developed by the Department to account for the cumulative effect of multiple discharges of conservative toxic pollutants to ensure water quality standards are met in downstream segments. The WMDL uses a simple dilution model, assuming full mix in the receiving stream, to calculate the maximum allowable pollutant load that can be discharged and still meet water quality standards during critical low flow in downstream segments such as those with sensitive receptors (e.g. public water supply) or higher water classification. WQBELs are established to ensure that the cumulative mass load from point source discharges does not exceed the maximum allowable load to ensure permit limits are protective of water quality.

Whole Effluent Toxicity (WET) Testing:

WET tests use small vertebrate and invertebrate species to measure the aggregate toxicity of an effluent. There are two different durations of toxicity tests: acute and chronic. Acute toxicity tests measure survival over a 96-hour test exposure period. Chronic toxicity tests measure reductions in survival, growth, and reproduction over a 7-day exposure. TOGS 1.3.1 includes guidance for determining when aquatic toxicity testing should be included in SPDES permits. The authority to require toxicity testing is in 6NYCRR 702.9. TOGS 1.3.2 describes the procedures which should be followed when determining whether to include toxicity testing in a SPDES permit and how to implement a toxicity testing program. Per TOGS 1.3.2, WET testing may be required when any one of the following seven criteria are applicable:

1. There is the presence of substances in the effluent for which ambient water quality criteria do not exist.
2. There are uncertainties in the development of TMDLs, WLAs, and WQBELs, caused by inadequate ambient and/or discharge data, high natural background concentrations of pollutants, available treatment technology, and other such factors.
3. There is the presence of substances for which WQBELs are below analytical detectability.
4. There is the possibility of complex synergistic or additive effects of chemicals, typically when the number of metals or organic compounds discharged by the permittee equals or exceeds five.
5. There are observed detrimental effects on the receiving water biota.
6. Previous WET testing indicated a problem.
7. POTWs which exceed a discharge of 1 MGD. Facilities of less than 1 MGD may be required to test, e.g., POTWs <1 MGD which are managing industrial pretreatment programs.

Minimum Level of Detection

Pursuant to 40 CFR 122.44(i)(1)(iv) and 6 NYCRR 750-2.5(d), SPDES permits must contain monitoring requirements using sufficiently sensitive test procedures approved under 40 CFR Part 136. A method is "sufficiently sensitive" when the method's minimum level (ML) is at or below the level of the effluent limitation

established in the permit for the measured pollutant parameter; or the lowest ML of the analytical methods approved under 40 CFR Part 136. The ML represents the lowest level that can be measured within specified limitations of precision and accuracy during routine laboratory operations on most effluent matrices. When establishing effluent limitations for a specific parameter (based on technology or water quality requirements), it is possible that the calculated limitation will fall below the ML established by the approved analytical method(s). In these instances, the calculated limitation is included in the permit with a compliance level set equal to the ML of the most sensitive method.

Monitoring Requirements

CWA section 308, 40 CFR 122.44(i), 6 NYCRR 750-1.13, and 750-2.5 require that monitoring be included in permits to determine compliance with effluent limitations. Additional effluent monitoring may also be required to gather data to determine if effluent limitations may be required. The permittee is responsible for conducting the monitoring and reporting results on Discharge Monitoring Reports (DMRs). The permit contains the monitoring requirements for the facility. Monitoring frequency is based on the minimum sampling necessary to adequately monitor the facility's performance and characterize the nature of the discharge of the monitored flow or pollutant. Variable effluent flows and pollutant levels may be required to be monitored at more frequent intervals than relatively constant effluent flow and pollutant levels (6 NYCRR 750-1.13). For industrial facilities, sampling frequency is based on guidance provided in TOGS 1.2.1. For municipal facilities, sampling frequency is based on guidance provided in TOGS 1.3.3.

Other Conditions

Mercury

The multiple discharge variance (MDV) for mercury was developed in accordance with 6 NYCRR 702.17(h) "to address widespread standard or guidance value attainment issues including the presence of a ubiquitous pollutant or naturally high levels of a pollutant in a watershed." The first MDV was issued in October 2010, and subsequently revised and reissued in 2015; each subsequent iteration of the MDV is designed to build off the previous version, to make reasonable progress towards the water quality standard (WQS) of 0.7 ng/L dissolved mercury. The MDV is necessary because human-caused conditions or sources of mercury prevent attainment of the WQS and cannot be remedied (i.e., mercury is ubiquitous in New York waters at levels above the WQS and compliance with a water quality based effluent limitation (WQBEL) for mercury cannot be achieved with demonstrated effluent treatment technologies). The Department has determined that the MDV is consistent with the protection of public health, safety, and welfare. During the effective period of this MDV, any increased risks to human health are mitigated by fish consumption advisories issued periodically by the NYSDOH.

All surface water SPDES permittees are eligible for authorization by the MDV provided they meet the requirements specified in DOW 1.3.10.

Schedules of Compliance

Schedules of compliance are included in accordance with 40 CFR Part 132 Attachment F, Procedure 9, 40 CFR 122.47 and 6 NYCRR 750-1.14. Schedules of compliance are intended to, in the shortest reasonable time, achieve compliance with applicable effluent standards and limitations, water quality standards, and other applicable requirements. Where the time for compliance is more than nine months, the schedule of compliance must include interim requirements and dates for their achievement. If the time necessary to complete the interim milestones is more than nine months, and not readily divisible into stages for completion, progress reports must be required.

Schedule(s) of Additional Submittals

Schedules of Additional Submittals are used to summarize the deliverables required by the permit not identified in a separate Schedule of Compliance.