State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

SIC Code:	**4952**	NAICS Code:	**221320**	SPDES Number:	**NY0026638**
Discharge Class (CL):	**05**			DEC Number:	**7-5007-00012/00001**
Toxic Class (TX):	**T**			Effective Date (EDP):	**EDP**
Major-Sub Drainage Basin:	**07 - 05**			Expiration Date (ExDP):	**ExDP**
Water Index Number:	**ONT-66-12-P296**	Item No.:	**898 - 228**	Modification Dates (EDPM):	
Compact Area:	**IJC**				

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

See Next Page

is authorized to discharge from the facility described below:

FACILITY NAME, ADDRESS, AND PRIMARY OUTFALL

Name:	**Ithaca Area Wastewater Treatment Facilities**															
Address / Location:	**525 Third Street**											County:		**Tompkins**		
City:	**Ithaca**						State:	**NY**				Zip Code:		**14850**		
Facility Location:		Latitude:	**42**	°	**27**	'	**8.9**	" N	& Longitude:	**76**	°	**27**	'	**58**	" W	
Primary Outfall No.:	**001**	Latitude:	**42**	°	**28**	'	**00**	" N	& Longitude:	**76**	°	**30**	'	**50**	" W	
Outfall Description:	**Treated Sanitary**	Receiving Water:	**Cayuga Lake**						Class:	**A**		Standard:		**A**		

and the additional outfalls listed in this permit, in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1 and 750-2. The co-permittees subject to one or more conditions of this permit are listed on page 2.

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

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

Permit Administrator:			
Address:	625 Broadway Albany, NY 12233-1750		
Signature:		Date:	/ /

CO-PERMITTEES

CO-PERMITTEE NAME AND ADDRESS					
Name:	**City of Ithaca**	Attention:	**Michael Thorne Superintendent of Public Works**		
Street:	**108 East Green Street**				
City:	**Ithaca**	State:	**NY**	Zip Code:	
Email:	**mthorne@cityofithaca.org**	Phone:	**607-274-6527**		

CO-PERMITTEE NAME AND ADDRESS					
Name:	**Town of Ithaca**	Attention:	**Town Supervisor**		
Street:	**126 East Seneca Street**				
City:	**Ithaca**	State:	**NY**	Zip Code:	**14850**
Email:	**RHowe@town.ithaca.ny.us**	Phone:	**607-273-1721**		

CO-PERMITTEE NAME AND ADDRESS					
Name:	**Town of Dryden**	Attention:	**Town Supervisor**		
Street:	**65 East Main Street**				
City:	**Dryden**	State:	**NY**	Zip Code:	**13053**
Email:	**-**	Phone:	**607-844-8888**		

The co-permittees are only responsible for the designated permit conditions specified herein and applicable portions of 6 NYCRRR Part 750-1 and 750-2.

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SUMMARY OF ADDITIONAL OUTFALLS

Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
007	**Treated Sanitary for Melting Ice Jams**	**42** ° **27** ' **17** " N	**76** ° **30** ' **02** " W
Receiving Water:	**Fall Creek**		Class: **B**
Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
008	**Treated Sanitary for Melting Ice Jams**	**42** ° **27** ' **14** " N	**76** ° **29** ' **52** " W
Receiving Water:	**Fall Creek**		Class: **B**
Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
009	**Treated Sanitary for Melting Ice Jams**	**42** ° **27** ' **12** " N	**76** ° **29** ' **42** " W
Receiving Water:	**Fall Creek**		Class: **B**
Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
010	**Treated Sanitary for Melting Ice Jams**	**42** ° **27** ' **02** " N	**76** ° **30** ' **15** " W
Receiving Water:	**Cascadilla Creek**		Class: **C**
Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
011	**Treated Sanitary for Melting Ice Jams**	**42** ° **26** ' **54** " N	**76** ° **30** ' **08** " W
Receiving Water:	**Cascadilla Creek**		Class: **C**
Outfall	Wastewater Description	Outfall Latitude	Outfall Longitude
012	**Treated Sanitary for Melting Ice Jams**	**42** ° **26** ' **42** " N	**76** ° **29** ' **58** " W
Receiving Water:	**Cascadilla Creek**		Class: **C**

DEFINITIONS

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

PERMIT LIMITS, LEVELS AND MONITORING – Outfall 001

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Year-Round (except as noted below)	Cayuga Lake	EDP	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location Inf.	Location Eff.	
Flow	Monthly Average	13	MGD			Continuous	Recorder		X	
pH	Daily Minimum	6.0	SU			3/Day	Grab	X	X	
	Daily Maximum	9.0	SU							
Temperature	Daily Minimum	Monitor	ºF			Continuous	Grab	X	X	1
Temperature	Daily Maximum	90	ºF							
BOD_5	Monthly Average	30	mg/L	2500	lbs/d	2/Week	24-hr. Comp.	X	X	2
BOD_5	7-Day Average	45	mg/L	3800	lbs/d	2/Week	24-hr. Comp.		X	
Total Suspended Solids	Monthly Average	30	mg/L	2500	lbs/d	2/Week	24-hr. Comp.	X	X	2
Total Suspended Solids	7-Day Average	45	mg/L	3800	lbs/d	2/Week	24-hr. Comp.		X	
Settleable Solids	Daily Maximum	0.3	mL/L			3/Day	Grab		X	
Ammonia (as N) June 1st – October 31st	Monthly Average	21	mg/L			1/Month	24-hr. Comp.		X	3
Ammonia (as N) November 1st – May 31st	Monthly Average	Monitor	mg/L			1/Month	24-hr. Comp.		X	
Nitrite	Daily Maximum	Monitor	mg/L			1/Quarter	24-hr. Comp.		X	4
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	2/Week	24-hr. Comp.		X	5
Total Phosphorus (as P)	12 MRA			40	lbs/d	2/Week	24-hr. Comp.		X	5,6
Total Mercury	Daily Maximum	50	ng/L			1/Month	Grab		X	
Biennial Pollutant Scan						1/Two Years	-		X	7
ACTION LEVELS										
Bis(2-ethylhexyl) phthalate	Daily Maximum	Monitor	ug/L	1.8	lb/d	Quarterly	Grab		X	4, 8

EFFLUENT DISINFECTION - Required All Year		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Coliform, Fecal	30-Day Geo Mean	200	No./100 mL			2/Week	Grab		X	1
Coliform, Fecal	7-Day Geo Mean	400	No./100 mL			2/Week	Grab		X	1
Chlorine, Total Residual	Daily Maximum	0.1	mg/L			3/Day	Grab		X	1,9

WHOLE EFFLUENT TOXICITY (WET) TESTING		Limit	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
WET - Acute Invertebrate	See footnote			3.0	TUa	Quarterly	See footnote		X	10
WET - Acute Vertebrate	See footnote			3.0	TUa	Quarterly	See footnote		X	10
WET - Chronic Invertebrate	See footnote			16.0	TUc	Quarterly	See footnote		X	10
WET - Chronic Vertebrate	See footnote			16.0	TUc	Quarterly	See footnote		X	10

Footnotes on Next Page

FOOTNOTES FOR OUTFALL 001:

1. Sampling for effluent temperature, fecal coliform, and total residual chlorine shall be performed at the dechlorination building, as specified in the Monitoring Locations page of this permit.
2. Effluent shall not exceed 15% of influent concentration values for BOD_5 & TSS.
3. This is a final effluent limitation for summer ammonia. See Schedule of Compliance for any applicable interim effluent limitations.
4. 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).
5. The phosphorus monthly average load calculation (and 12 MRA) must use the full flow from the facility including Outfall 001 and Outfalls 007-012.
6. The 12-month rolling average for phosphorus is defined as the sum of the current month's monthly average load added to the monthly averages from the eleven previous months, divided by 12.
7. 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.
8. Action Levels: If the action level is exceeded, the additional monitoring requirement is triggered, and the permittee shall undertake a short-term, high-intensity, monitoring program for Bis(2-ethylhexyl) phthalate. Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive days and analyzed. Results shall be expressed in both mass and concentration. If levels higher than the action levels are confirmed, the permittee shall evaluate the treatment system operation and identify and employ actions to reduce concentrations present in the discharge. The permit may also be reopened by the Department for consideration of revised action levels or effluent limits. Action level monitoring results and the effectiveness of the actions taken shall be summarized and submitted with the monthly DMR data.
9. Sampling and reporting for total residual chlorine is only necessary if chlorine is used for disinfection, elsewhere in the treatment process, or the facility otherwise has reasonable potential to discharge chlorine. Otherwise, the permittee shall report NODI-9 on the DMR.
10. **Whole Effluent Toxicity (WET) Testing:**
    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. The ratio of critical receiving water flow to discharge flow (i.e. dilution ratio) is 10:1 for acute, and 16:1 for chronic. Discharges which are disinfected using chlorine should be dechlorinated prior to WET testing or samples shall be taken immediately prior to the chlorination system.

    Monitoring Period - WET testing shall be performed during calendar quarters, during years ending in 5 and 0.

    Reporting - Toxicity Units shall be calculated and reported on the DMR as follows: TUa = (100)/(48-hr LC50) [note that Acute data is generated by both Acute and Chronic testing] and TUc = (100)/(7-day NOEC) or (100)/(7-day IC25) when Chronic testing has been performed or TUc = (TUa) x (10) when only Acute testing has been performed and is used to predict Chronic test results, where the 48-hr LC50, 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 TUc. For Acute results, report a TUa of 0.3 if there is no statistically significant mortality in 100% effluent as compared to the control. Report a TUa 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 TUa for the Chronic prediction from the Acute data, and report a TUc of 10.0.

Footnotes Continued on Next Page

FOOTNOTES FOR OUTFALL 001 (continued):

9. Whole Effluent Toxicity (WET) Testing (continued):

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 TUa, 48-hr LC50 for Acute tests and/or TUc, NOEC, IC25, and most sensitive endpoints for Chronic tests, should also be included at the beginning of the test report.

WET Testing Action Level Exceedances - If an action level is exceeded then the Department may require the permittee to conduct additional WET testing including Acute and/or Chronic tests. Additionally, the permittee may be required to perform a Toxicity 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.

PERMIT LIMITS, LEVELS AND MONITORING – Outfalls 007 – 012

OUTFALL	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
007, 008, 009, 010, 011, 012	December – March[1]	Fall Creek & Cascadilla Creek	EDP	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location Inf.	Location Eff.	
Flow – Fall Creek (Outfalls 007, 008, 009)	Daily Maximum	1.2	MGD			Continuous	Calculated		X	2
Flow – Cascadilla Creek (Outfalls 010, 011, 012)	Daily Maximum	1.4	MGD			Continuous	Calculated		X	2
Ammonia (as N)	Monthly Average	21	mg/L			1/Event	Grab		X	3, 4

EFFLUENT DISINFECTION Required For All Discharges		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Coliform, Fecal	7-Day Geometric Mean	400	No./ 100 mL			1/Event	Grab		X	3
Chlorine, Total Residual	Daily Maximum	0.05	mg/L			1/Event	Grab		X	3

Footnotes

1. Discharge through Outfalls 007-012 is only permitted during the months of December – March on an as-needed basis for the purpose of melting ice jams. Permittee must notify NYSDEC whenever discharge through any of the six outfalls takes place.

2. Flow shall be reported as the daily maximum combined total flow for all three (3) outfalls to Fall Creek (007, 008, 009) and all (3) outfalls to Cascadilla Creek (010, 011, 012). This value may be obtained from a calculation of pump run times or other similar methodology.

3. One representative sample shall be collected for each discharge event from each discharging outfall. If multiple discharge events occur in one day, a single effluent sample may be collected for each day.

4. Sampling for ammonia may be collected at either the discharging outfall or at the monitoring location for Outfall 001.

5. All data collected will be attached to the monthly DMRs for the facility for the month of discharge.

STORMWATER POLLUTION PREVENTION REQUIREMENTS

NO EXPOSURE CERTIFICATION
The permittee submitted a Conditional Exclusion for No Exposure Form on 10/26/2020, 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 at influent and other locations tributary to compliance points shall be performed using either USEPA Method 1631 or another sufficiently sensitive method, as approved under 40 CFR Part 136[1]. Monitoring of raw materials, equipment, treatment residuals, and other non-wastewater/non-stormwater substances may be performed using other methods as appropriate. Monitoring must be coordinated so that the results can be effectively compared between locations.

      Minimum required monitoring is as follows:

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

      ii. *Key Locations* and *Potential Mercury Sources* – The permittee must sample *key locations*, chosen to identify *potential mercury sources*, at least semi-annually. Sampling of discharges from dental facilities in compliance with 6 NYCRR 374.4 is not required.

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

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

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

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

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

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

ii. Monitoring and Inventory/Inspections

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

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

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

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

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

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

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

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

DEFINITIONS:

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

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

DISCHARGE NOTIFICATION REQUIREMENTS

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

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

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

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

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

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

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

OR:

NYSDEC Division of Water Regional Office Address:

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

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

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

INDUSTRIAL PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS

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

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

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

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

4. Program Submission(s): requests for approval or modification of the POTW Pretreatment Program submitted in accordance with 40 CFR 403.11 or 403.18 and approved by USEPA on **September 10, 1984**.

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

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

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

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

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

INDUSTRIAL PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS (continued)

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

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

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

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

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

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

INDUSTRIAL PRETREATMENT PROGRAM IMPLEMENTATION REQUIREMENTS (continued)

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

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

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

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

E. ADDITIONAL PRETREATMENT CONDITIONS:
1. Notification of Material Change: Facility shall notify the NYSDEC prior to the addition of any SIUs or CIUs which may materially change the nature of the discharge from the POTW or increase the discharge of one or more substances authorized in this permit or discharge a substance not currently authorized in this permit (6 NYCRR Part 750-2.9(a)(1)). The noticed act is prohibited until the Department determines whether a permit modification is necessary pursuant to 750-2.9(a)(2).

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule:

Outfall(s)	Compliance Action	Compliance Date[5]
001	**INTERIM PROGRESS REPORT**[6] The permittee shall provide a status update on the *Preliminary Engineering Report*.	EDP + 12 Months
001	**PRELIMINARY ENGINEERING REPORT** The permittee shall submit an approvable[7] Preliminary Engineering Report (PER) that meets the requirements of the EFC/DEC Engineering Report Outline (https://www.dec.ny.gov/permits/6054.html). The report shall describe treatment alternatives or facility modifications that may be used to comply with the final effluent limitation(s) for ammonia.	EDP + 18 Months
001	**DESIGN DOCUMENTS** The permittee shall submit approvable[7] Design Documents including a Basis of Design Report (BODR), Plans, Specifications, and Construction Schedule for the selected alternative that will ensure compliance with final effluent limitation(s) for ammonia.	EDP + 24 Months
001	**INTERIM PROGRESS REPORT** The permittee shall provide a status update for *Complete Construction*.	EDP + 36 Months
001	**COMPLETE CONSTRUCTION** The permittee shall provide a Construction Completion Certification[8] to the Department that the disposal system has been fully completed in accordance with the approved Design Documents.	EDP + 48 Months
001	**COMMENCE OPERATION** Following receipt of Department acceptance of the Construction Completion Certification, the permittee shall comply with the final effluent limitation(s) described in this permit for ammonia.	Upon Department Acceptance
Unless noted otherwise, the above actions are one-time requirements.		

Interim limits continued on next page

[5] 6 NYCRR 750-1.14 (a)
[6] 6 NYCRR 750-1.14 (b)
[7] 6 NYCRR 750 1.2 (a)(8)
[8] 6 NYCRR 750-2.10 (c)

SCHEDULE OF COMPLIANCE (continued)

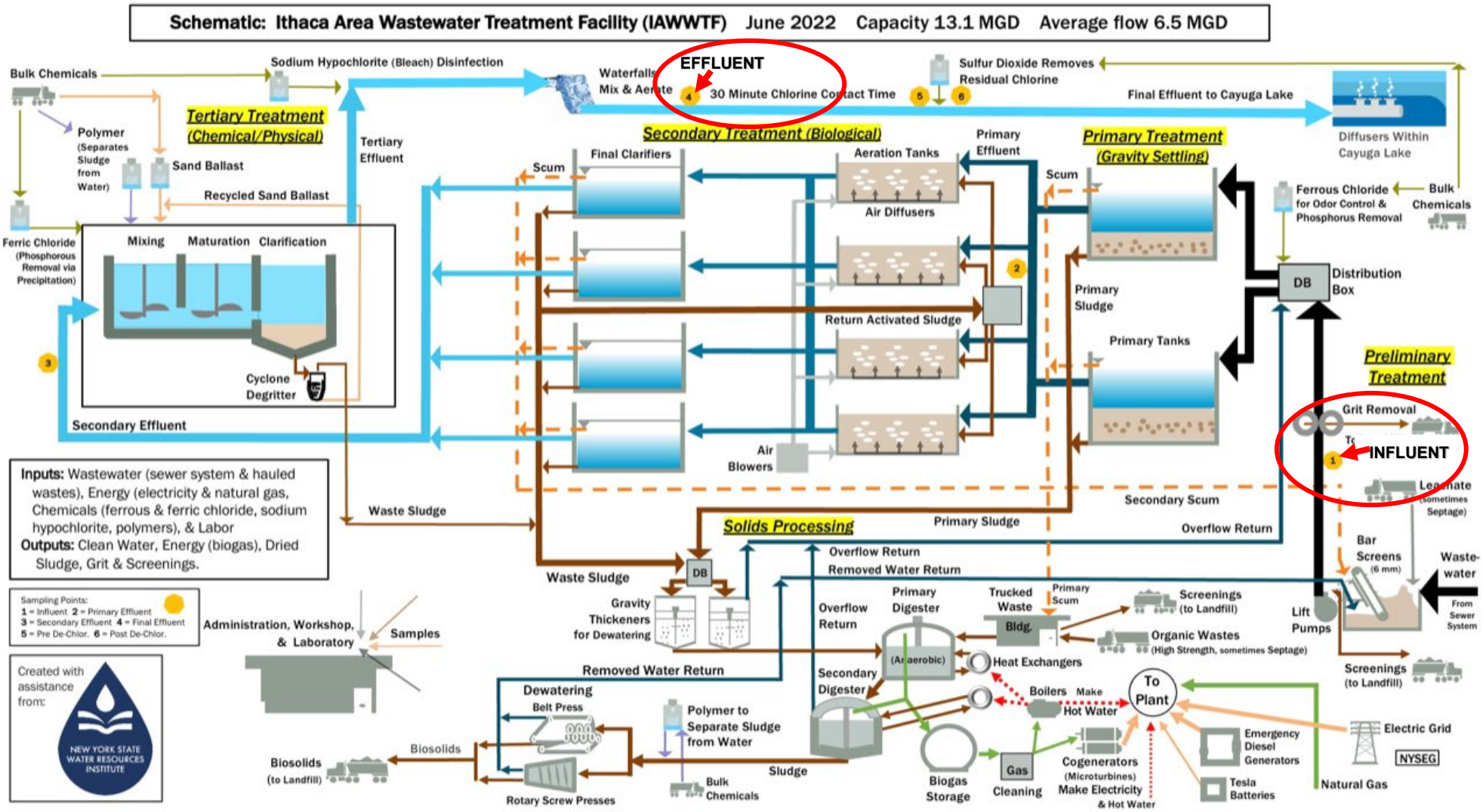
OUTFALL	PARAMETER	INTERIM EFFLUENT LIMIT					MONITORING REQUIREMENTS				Notes
		Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location Inf.	Location Eff.	
001	Ammonia 6/1-10/31	Monthly Average	Monitor	mg/L			1/Month	24-hr. Comp.	-	X	1
Notes:	1. Interim limits expire upon Department acceptance of the Construction Completion Certification.										

b) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:
   1. A short description of the non-compliance;
   2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
   3. Any details which tend to explain or mitigate an instance of non-compliance; and
   4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

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

MONITORING LOCATIONS – Outfall 001

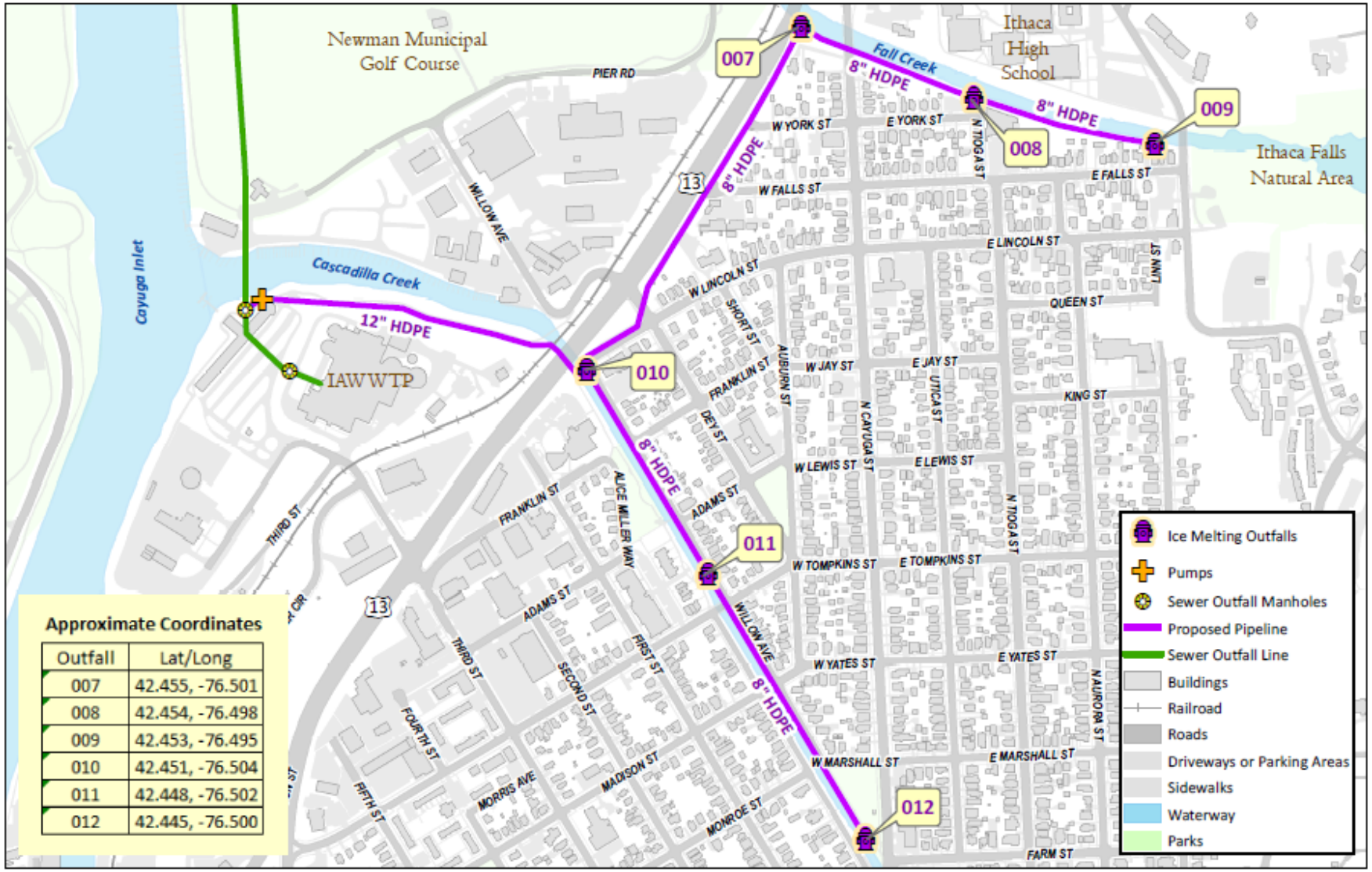
The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the locations(s) specified below:



MONITORING LOCATIONS – Outfalls 007-012

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

One representative sample shall be collected for each discharge event from each discharging outfall. If multiple discharge events occur in one day, a single effluent sample may be collected for each day. Data collected will be attached to the monthly DMRs for the facility.



GENERAL REQUIREMENTS

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

B. General Conditions

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

C. Operation and Maintenance

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

D. Monitoring and Records

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

E. Reporting Requirements

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

F. Planned Changes

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

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

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

GENERAL REQUIREMENTS (continued)

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

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

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

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

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

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

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

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

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

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

Attach the monthly "Wastewater Facility Operation Report" (form 92-15-7) and any required DMR attachments electronically to the DMR or with the hardcopy submittal.

The first monitoring period begins on the effective date of this permit, and, unless otherwise required, the reports are due no later than the 28th day of the month following the end of each monitoring period.

C. Additional information required to be submitted by this permit shall be summarized and reported to the RWE and Bureau of Water Permits at the following addresses:

Department of Environmental Conservation
Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233-3505 Phone: (518) 402-8111

Department of Environmental Conservation
Regional Water Engineer, Region 7
615 Erie Boulevard West, Syracuse, New York, 13204-2400 Phone: (315) 426-7500

D. Bypass and Sewage Pollutant Right to Know Reporting: In accordance with the Sewage Pollutant Right to Know Act (ECL § 17-0826-a), Publicly Owned Treatment Works (POTWs) are required to notify DEC and Department of Health within two hours of discovery of an untreated or partially treated sewage discharge and to notify the public and adjoining municipalities within four hours of discovery. Information regarding reporting and other requirements of this program may be found on the Department's website. In addition, POTWs are required to provide a five-day incident report and supplemental information to the DEC in accordance with Part 750-2.7(d) by utilizing the Division of Water Report of Noncompliance Event form unless waived by DEC on a case-by-case basis.

E. Schedule of Additional Submittals:

The permittee shall submit the following information to the Regional Water Engineer and to the Bureau of Water Permits, unless otherwise instructed:

Outfall(s)	SCHEDULE OF ADDITIONAL SUBMITTALS - Required Action	Due Date
001	**EMERGING CONTAMINANT SHORT-TERM MONITORING PROGRAM** The permittee shall collect grab samples of both the influent and effluent from the facility's treatment system(s) associated with the identified outfall for Per-and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane (1,4-D), unless permittee receives written notification from the Department during this time that sampling can be discontinued. Samples must be analyzed utilizing EPA draft analytical method 1633 and EPA Method 8270D SIM or 8270E SIM, respectively. The samples must represent normal discharge conditions and treatment operations and shall be obtained on a quarterly basis for at least 4 consecutive quarters, unless written notification from the Department indicates otherwise. The results shall be reported through the "Emerging Contaminants Survey for POTWs" found at: https://www.dec.ny.gov/chemical/127939.html. The permittee shall initiate track down of potential sources by completing the "Emerging Contaminants Investigation Checklist for POTWs" available at the above link. The Department may periodically request updates and/or additional monitoring to check progress on track down investigations. Elements of the checklist may be used as permit conditions in future permit modifications.	EDP+ 14 months Within 90 days of DEC written notification
001	WATER TREATMENT CHEMICAL (WTC) ANNUAL REPORT FORM The permittee shall submit a completed WTC Annual Report Form each year that Water Treatment Chemicals are used. The form shall be attached to the December DMR.	December DMR (January 28th)
001	ANNUAL FLOW CERTIFICATION The permittee shall submit an Annual Flow Certification form each year in accordance with 750-2.9(C)(4). The form shall be attached to the February DMR or submitted through nForm.	February DMR (March 28th)
001	BIENNIAL POLLUTANT SCAN The permittee shall implement an ongoing monitoring program and perform effluent sampling every two years as specified in footnote of the permit limits table.	Retain and submit with next NY-2A Application
001	WHOLE EFFLUENT TOXICITY (WET) TESTING WET testing shall be performed as required in the footnote of the permit limits table. The toxicity test report including all information requested of this permit shall be attached to your WET DMRs and sent to the WET@dec.ny.gov email address.	Within 60 days following the end of each monitoring period
001	STORMWATER NO EXPOSURE CERTIFICATION Permittee must recertify every five years a condition of no exposure to stormwater in order to continue to qualify for the no exposure exclusion. The No Exposure Certification Form can be found on the NYSDEC website.	10/1/2025 and every 5 years thereafter
001	MERCURY MINIMIZATION PLAN 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	PRETREATMENT PROGRAM Submit an annual report that briefly describes the permittee's program activities over the previous year. The report shall follow the guidelines contained in this permit and be submitted to the Regional Water Engineer and the Bureau of Water permits as well as the USEPA Region II office.	Within 60 days following the end of each reporting period

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

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.

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.

SPDES Permit Fact Sheet
Ithaca (C), Ithaca (T), Dryden (T)

IAWWTP
NY0026638

NEW YORK STATE | Department of Environmental Conservation

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Summary of Permit Changes

A State Pollutant Discharge Elimination System (SPDES) permittee-initiated permit renewal and full technical review has been drafted for the Ithaca Area Wastewater Treatment Plant (IAWWTP). The details of these changes are specified below and in the permit:

General Updates

- Updated permit format, definitions, and general conditions
- Corrected facility SIC code from 9200 to 4952
- Added facility coordinates to cover page
- Added co-permittees page and summary of additional outfalls page
- Removed Outfalls 002 – 006
- Added stormwater no exposure language
- Added Mercury Minimization Plan (MMP) Type I program requirements
- Updated monitoring locations
- Updated industrial pretreatment program language
    - Adjusted submittal deadline from 28 days after reporting period to 60 days

Outfall 001

- Increased temperature sampling frequency from 3/day to continuous and added daily minimum monitoring requirement
- Adjusted flow and loading limitations for BOD_5 and TSS to reflect two significant digits
- Added monthly average summer ammonia limit of 21 mg/L and schedule of compliance
- Added monthly average monitoring requirement for winter ammonia
- Added daily max effluent limitation for mercury of 50 ng/L
- Added daily max monitoring requirement for nitrite
- Added whole effluent toxicity (WET) action levels of 3.0 TUa and 16.0 TUc
- Added concentration monitoring for bis(2-ethylhexyl) phthalate (kept load action level)
- Added requirement for biennial pollutant scan
- Removed monitoring requirement for TKN
- Removed influent sampling requirement for settleable solids and ammonia
- Removed effluent limitation for trichloroethylene, tetrachloroethylene, and cadmium
- Removed action levels for chloroform, trans-1,2-dichloroethylene, methylene chloride, copper, lead, nickel, silver, and zinc

Outfalls 007-012

- Added permit limits tables for Outfalls 007-012 to Fall Creek and Cascadilla Creek
- New effluent limitation for flow set at max pumping capacity to each creek
- New daily max effluent limitation for ammonia (as N) of 21 mg/L
- New 7-day average fecal coliform limit of 400 mg/L
- New daily max effluent limitation for total residual chlorine of 0.05 mg/L

Schedule of Compliance

- Removed schedule item for submittal of annual Operation and Maintenance Report
- Added item for meeting the final effluent limitation at Outfall 001 for summer ammonia
    - Added interim milestones for submittal of preliminary engineering report and design documents

Schedule of Additional Submittals

- Added quarterly sampling requirement for Per-and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane (1,4-D) for four continuous quarters

- Water Treatment Chemical (WTC) annual report form, annual flow certification, Whole Effluent Toxicity (WET) testing, Stormwater No Exposure Re-certification, Mercury Minimization Plan (maintained onsite), Biennial Pollutant Scan (maintained onsite), and the pretreatment program annual report

This factsheet summarizes the information used to determine the effluent limitations (limits) and other conditions contained in the permit. General background information about the regulatory basis for the effluent limitations and other conditions contained in this permit are in the Appendix linked throughout this factsheet.

Administrative History

6/1/2000 The last full technical review was performed and the SPDES permit became effective with a new five-year term and expiration date of 6/1/2005. The 2000 permit, along with all subsequent modifications, has formed the basis of this permit.

The 2000 permit was administratively renewed in 2005, 2010 and again in 2015.

8/1/2001 The 2000 permit was modified to increase the monthly average flow from 10 to 13.1 MGD.

4/11/2019 Permittee submitted a request to modify the permit to include additional outfalls for alleviating periodic ice jams along Fall Creek and Cascadilla Creek. As support for the modification, Permittee also submitted an NY-2A application, which was incomplete.

5/1/2019 NYSDEC sent a Notice of Incomplete Application requesting additional material be submitted, including an engineering report describing the proposed new outfalls.

5/21/2019 Permittee re-submitted the modification request along with a complete engineering report.

12/4/2019 Permittee submitted a timely and sufficient application for renewal.

6/1/2020 The current permit was extended pursuant to SAPA[1]. NYSDEC must complete a full technical review before any permit modifications can be made.

10/22/2020 NYSDEC informed Permittee that modification request will now be handled as a full technical review of the SAPA extended permit. NYSDEC requested resubmittal of new form NY-2A along with all required sampling.

1/14/2021 NYSDEC received revised engineering report and NY-2A application without complete sampling. Agreed sampling data could be delayed until completion of construction in order to obtain representative effluent data.

3/30/2022 NYSDEC received complete NY-2A sampling data.

Please see the Notice of Complete Application, published in the Environmental Notice Bulletin and newspapers, for information on the public notice process.

[1] State Administrative Procedures Act Section 401(2) and 6 NYCRR 621.11(*l*)

Facility Information

This is a publicly owned treatment works, jointly owned by the City of Ithaca, Town of Ithaca, and Town of Dryden, that receives wastewater from domestic and industrial users from a collection system consisting of separate sewers. The treatment plant was originally constructed in the 1960's and upgraded to its current layout in the mid-1980's. The treatment plant was expanded from 10 MGD to a design flow of 13 MGD in 2001 and modified in 2003 to provide phosphorus removal. The current treatment plant consists of the following:

- Screening and Grit Removal
- Primary Clarification
- Activated Sludge Secondary Treatment (via aeration tanks)
- Final Clarification
- Phosphorus Removal via Actiflo Process (with ferric chloride)
- Chlorine Disinfection

Sludge is anaerobically digested and thickened before being hauled to the Ontario County landfill.

OUTFALLS: Outfall 001 consists of a 48" outfall pipe that extends into Cayuga Lake ~2300 feet from the shoreline with an ~200ft long multi-port diffuser (20 ports). Outfalls 003-006 were previously used for pump station overflows, and documentation of their closure was submitted to DEC in 2018. These outfalls are being removed from the permit. Outfall 002 is the treatment plant emergency bypass and will remain operational in accordance with 750-2.7 but will no longer be a permitted outfall. This permit renewal includes the addition of six (6) new seasonal outfalls, 007-012, along Fall Creek and Cascadilla Creek for use in melting ice jams and preventing neighborhood flooding. These outfalls will consist of fire hydrants equipped with tablet dechlorinators.

The facility accepts wastewater from the following municipalities:

Municipality	POSS # or SPDES #	Collection System
City of Ithaca	NY0026638	Separate
Town of Ithaca	NYS700040	Separate
Town of Dryden	NYS700038	Separate

The facility accepts wastewater from the following significant industrial users and will be given a new requirement for development of an industrial pretreatment program:

Significant Industrial User (SIU)	Categorical Reference
Evaporated Metal Films (SIC 8091)	-
Cornell University (SIC 8221)	-
Cornell College of Veterinary Medicine (SIC 0241 – Dairy Farms)	40 CFR Part 412

EFFLUENT REUSE FOR HEATING/COOLING HARBOR DEVELOPMENT

In February 2022 an energy reuse project was installed that utilizes the IAWWTP effluent as a heating and cooling source for a new nearby development. A portion of the effluent enters a closed-loop heat exchanger system to provide heating/cooling for the building and then returns to the outfall pipe. After evaluation of a worst-case scenario, it was determined that given the max flow to the heat exchangers and the max increase in intake vs. effluent temperature, the thermal water quality requirements under 6 NYCRR 704.2(b)(3) can be maintained and no changes to the SPDES permit temperature limitations are necessary at this time.

Site Overview

Effluent Sampling Point for Total Residual Chlorine, Fecal Coliform, and Temperature

Ithaca Area Wastewater Treatment Plant (IAWWTP)

Enforcement History

Environmental regulatory compliance and enforcement information for this facility can be found on the Enforcement and Compliance History Online at https://echo.epa.gov.

Existing Effluent Quality

The Pollutant Summary Table presents the existing effluent quality and permit limitations for discharges from the facility. Concentration and mass data are presented, based on Discharge Monitoring Reports submitted by the permittee for the period 10/2015 to 10/2020. In addition, data from the NY-2A application was used to supplement this information. Appendix Link

Additional Site-Specific Concerns

The facility is located within the International Joint Commission (IJC) – Great Lakes compact area. As required by 40 CFR Appendix F to Part 132, discharges to the great lakes will be given water quality based effluent limitations as both concentration and mass. In addition, the IAWWTP, along with portions of the neighborhood near Outfalls 007-012, are located within an environmental justice area.

Receiving Water Information

The facility discharges via the following outfalls:

Outfall No.	SIC Code	Wastewater Type	Receiving Water
001	4952	Treated Sanitary Sewage	Cayuga Lake, Southern End, Class A
002 - 006	Removing from Permit - Plant Bypass and Pump Station Overflows		
New 007 - 009	4952	Treated Sanitary Sewage (for melting of ice jams)	Fall Creek, Class B
New 010 – 012	4952		Cascadilla Creek, Class C

The location of the outfall(s), and the name, classification, and index numbers of the receiving waters are indicated in the Outfall and Receiving Water Summary Table at the end of this fact sheet. Appendix Link

Impaired Waterbody Information

The Cayuga Lake, Southern End (PWL No. 0705-0040) is listed on the 2018 New York State Section 303(d) List of Impaired/TMDL Waters as impaired due to phosphorus, silt, and sediment with a suspected source of municipal and non-municipal point source discharges. DEC has publicly noticed a draft Total Maximum Daily Load (TMDL) for total phosphorus for Cayuga Lake. Upon the TMDL's approval by the EPA, DEC will determine the appropriate timing for a modification to the permit to establish a phosphorus water quality based effluent limit based on the phosphorus wasteload allocation in the TMDL.

Critical Receiving Water Data and Dilution Ratios

OUTFALL 001 (Cayuga Lake, Class A): The facility discharges through primary Outfall 001 to Cayuga Lake, Southern End, which is a Class A ponded waterbody. An analysis was previously conducted in 1986 and determined a chronic dilution ratio of 16:1 and HEW dilution ratio of 17:1. These values were used during the last full technical review in 2001, and in 2005, a letter was sent to the city confirming the continued use of the dilution ratios. The acute dilution ratio has been set equal to the recommended dilution for ponded waterbodies of 10:1 (TOGS 1.3.1).

OUTFALL 007-009 (Fall Creek, Class B) & OUTFALLS 010-012 (Cascadilla Creek, Class C): Six new outfalls are proposed along Fall Creek and Cascadilla Creek for use in alleviating ice jams and preventing neighborhood flooding during the months of December – March. Due to the infrequent and limited use of the outfalls, and difficulty predicting both effluent and receiving water conditions during an event, a conservative dilution ratio of 10:1 was used for the water quality review.

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	10:1	16:1	17:1	Historic Study
007-012 Fall Creek & Cascadilla Creek	10:1			TOGS 1.3.1

Critical receiving water data are listed in the Pollutant Summary Table at the end of this fact sheet.

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

WET testing is being added to the permit due to the permitted flow exceeding 1 MGD (see criteria #7 in the Appendix). No previous WET data was available. Consistent with TOGS 1.3.2, given the dilution available and location within the Great Lakes basin, the permit requires chronic WET testing. Samples will be collected quarterly for a period of one year in years ending in 5 and 0. WET testing action levels of 3.0 TUa and 16.0 TUc have been included in the permit for each species. The acute action levels for each species represent the acute dilution ratio times a factor of 0.3. The chronic action levels represent the chronic dilution ratio.

Anti-backsliding

Effluent limitations for trichloroethylene, tetrachloroethylene, and cadmium are being removed from the permit. Consistent with 6NYCRR Part 750-1.10(C)(2)(i), “a permit may be modified to contain a less stringent effluent limitation if new information is available which was not available at the time of permit issuance”. All parameters have measured non-detect using sufficiently sensitive analytical methods for the last five years and continuation of monitoring is unnecessary for the protection of water quality. As further justification, these parameters will continue to be monitored through the biennial pollutant scans and ongoing WET testing.

The loading limitations for BOD_5 and TSS have also been adjusted to reflect two significant digits, consistent with reporting requirements under 750-2.5(e)(2). Appendix Link

Antidegradation

The permit contains effluent limitations which ensure that the designated best use of the receiving waters will be maintained. Please see the Environmental Notice Bulletin for information on the State Environmental Quality Review (SEQR)[2] determination. Appendix Link

[2] As prescribed by 6 NYCRR Part 617

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. The permit also contains a requirement that the permittee make the sampling data available, upon request, to the public. 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 10/26/2020, 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 submittals also includes a due date for re-certification every five years as required by 40 CFR 122.26(g)(iii). This requirement is new.

Biennial Pollutant Scan

As required under 40CFR 122.21(j)(4)(vi) three effluent samples must be submitted with an NY-2A Application. The permit includes a new requirement to perform biennial sampling (once every two years) 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.

Mercury[3]

The multiple discharge variance (MDV) for mercury provides the framework for NYSDEC to require mercury monitoring and mercury minimization programs (MMPs), through SPDES permitting. Since the facility is located within the Great Lakes watershed and is an EPA Major Class 05 facility, the permit includes new requirements for the implementation of MMP Type I.

Based on a maximum measured value of 2.4 ng/L (3 grab samples collected within 24-hr period as part of the application) the facility is expected to meet the new daily max permit limit of 50 ng/L (with monthly sampling frequency). The limit represents the general level currently achievable (GLCA). The data collected will be used to establish an additional 12-month rolling average effluent limit during the next permit review. Appendix Link

An MMP consisting of the following is also a new requirement:

- Additional monitoring at Key Locations
- Control strategy for implementation of the MMP
- Annual status report (maintained onsite)

Industrial Pretreatment Program

The permittee is required to continue implementation of a USEPA-approved pretreatment program in accordance with 40 CFR Part 403 and TOGS 1.3.3. The program specifies continued implementation of an industrial user compliance program, submission of user information, modification of local sewer use law (if necessary), and periodic reporting. The annual report due date is being changed from 28 days to 60 days after the end of the reporting period.

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

Schedule(s) of Compliance

A Schedule of Compliance is being included[4] for attainment of the final effluent limits for summer ammonia. This is a new requirement, and the permittee cannot immediately comply. A major adjustment to the treatment facility operations is needed and could take a significant amount of time to properly plan and implement. Appendix Link

Schedule(s) of Additional Submittals

A schedule of submittals has been included for the following:

- Sampling requirement for Per-and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane (1,4-D) for four continuous quarters
- Water Treatment Chemical (WTC) Annual Report Form
- Annual Flow Certification
- Whole Effluent Toxicity (WET) Testing
- Stormwater No Exposure Re-certification
- Mercury Minimization Plan (maintained onsite)
- Pretreatment Program Annual Report

[4] Pursuant to 6 NYCRR 750-1.14

Permittee: Ithaca (C), Ithaca (T), Dryden (T)
Facility: IAWWTP
SPDES Number: NY0026638
USEPA Major/Class 05 Municipal

Date: April 25, 2024 v.1.1
Permit Writer/Water Quality: Monica Moss

Full Technical Review

OUTFALL AND RECEIVING WATER SUMMARY TABLE

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° 28' 00" N	76° 30' 50" W	Cayuga Lake, Southern End	A	ONT 66-12-P296 PWL: 0705-0040	07/05	150[5]	NA			13	10:1	16:1	17:1
007	42° 27' 17" N	76° 30' 2" W	Fall Creek	B	ONT 66-12-P296-74 PWL: 0705-0036	07/05	162[6]	NA			1.2	10:1		
008	42° 27' 14" N	76° 29' 52" W												
009	42° 27' 12" N	76° 29' 42" W												
010	42° 27' 2" N	76° 30' 15" W	Cascadilla Creek	C	ONT 66-12-P296-75-3 PWL: 0705-0035			NA			1.4	10:1		
011	42° 26' 54" N	76° 30' 8" W												
012	42° 26' 42" N	76° 29' 58" W												

POLLUTANT SUMMARY TABLE - Outfall 001

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater														
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[7]	# 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 10/2015 to 10/2020 was obtained from Discharge Monitoring Reports provided by the permittee. The multiplier used in the projected instream calculation is recommended from EPA's Technical Support Document, Chapter 3.3. The translators used to convert between total and dissolved form for all metals are in accordance with the EPA Document 823-B-96-007.															
Flow Rate	MGD	Monthly Avg	13.1	6.2 Actual Average	59	**13**	Design Flow	Narrative: No alterations that will impair the waters for their best usages.					703.2	-	TBEL
	Consistent with TOGS 1.3.3, a monthly average flow limitation equal to the average daily design capacity of the treatment plant is specified. The averaging period is being adjusted from 30-day arithmetic mean to monthly average for ease of reporting. Consistent with 750-2.5(e)(2), the limitation has been adjusted to two significant digits.														

[5] The previous water quality review used a hardness value of 150 mg/L. This is consistent with a value of 157 mg/L taken from the average of 4 samples collected in 2016 by a nearby facility, Cayuga Operating Company NY0001333, as part of their WET testing.
[6] The hardness for Fall Creek and Cascadilla Creek was taken as the average of 10 samples collected at DEC's RIBS station 7053301 on Fall Creek in Ithaca in 2012.
[7] 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)

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater														
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality[7]	# 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			
pH	SU	Minimum	6.0	6.4 Min	59	**6.0**	TOGS 1.3.3	7.6*	-	6.5 – 8.5	Range	-	703.3	-	TBEL	
		Maximum	9.0	8.4 Max	59	**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 reasonably protective of the WQS. *Ambient pH was taken as the 75th percentile of 14 data points collected by NYSDEC from the Southern Shelf of Cayuga Lake in 2018 and 2019 (value is also equivalent to the 80th percentile).															
Temperature	°F	Daily Max	90	68	59	**90**	Antibacksliding	-	Narrative (Lake): The water temperature at the surface of a lake shall not be raised more than 3ºF over the temperature that existed before the addition				704.2	-	TBEL	
	°F	Daily Min	-	-	-	**Monitor**	750-1.13	-	-					-	Monitor	
	Consistent with the narrative standard under 704.2 for facilities that discharge to non-trout waters, the temperature will continue to be limited to 90ºF. A conservative evaluation was done using the max allowable effluent temp, max effluent flow, minimum summer lake temp, with no heat loss, and the surface temperature of the lake is still not expected to increase over the 3ºF of the narrative standard. The potential reuse of effluent for heating/cooling of the nearby harbor development has also been evaluated and is expected to meet water quality criteria without the need for additional permit limitations (see Facility Information). Effluent temperature will continue to be measured at the dechlorination building but is changing to continuous measurement with a new requirement for reporting both the max and min temperature.															
Dissolved Oxygen (DO)	mg/L	Daily Min	-	-	-	-	-	-	5.6 Critical Point	(Non-Trout) 4.0 mg/L	Narrative	No Reasonable Potential	703.3	-	No Limitation	
	The downstream DO concentration was modeled using the following assumptions: Effluent DO = 2.0 mg/l (assumed concentration for an activated sludge system), Effluent BOD_5 = 45 mg/L (existing permit limit), Effluent Ammonia = 36 mg/L as NH_3 (max concentration from 2015-2020), initial sewage width of 200ft (approximate diffuser length), and dilution of 10:1. The dilution of 10 is typically used for lake discharges and was applied here to build a conservative model. The model showed that DO standards are maintained even at the 10:1 dilution and consequently WQBELs for DO are unnecessary.															

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater													
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[7]	# 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		
5-day Biochemical Oxygen Demand (BOD_5)	mg/L	Monthly Avg	30	17	59/0	**30**	TOGS 1.3.3	-	See Dissolved Oxygen			No Reasonable Potential	703.3	-	TBEL
		7 Day Avg	45	46*	59/0	**45**									
	lbs/d	Monthly Avg	2502	888	59/0	**2500**	Anti-backsliding								
		7 Day Avg	3753	3039	59/0	**3800**									
	% Rem	Minimum	85	92 Avg	59/0	**85**	TOGS 1.3.3								
	Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. The existing load limitations are carried over from the permit when the facility was only 10 MGD and will remain permit requirements due to anti-backsliding. The downstream DO concentration was modeled and shown to maintain DO standards. WQBELs for BOD are unnecessary. Consistent with 750-2.5(e)(2), the load limitation has been adjusted to two significant digits. *Three violations occurred in 2019 with BOD_5 values >50 mg/L with a maximum value of 79 mg/L. The 99th percentile of the lognormal data set including these three points is 60 mg/L. Excluding the three points gives 46 mg/L.														
Total Suspended Solids (TSS)	mg/L	Monthly Avg	30	6.2	59/0	**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	33	59/0	**45**									
	lbs/d	Monthly Avg	2502	349	59/0	**2500**	Anti-backsliding								
		7 Day Avg	3753	2005	59/0	**3800**									
	% Rem	Minimum	85	97 Avg	59/0	**85**	TOGS 1.3.3								
	Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. The existing load limitations are carried over from the permit when the facility was only 10 MGD and will remain permit requirements due to anti-backsliding. Given that adequate dilution is available, an effluent limitation equal to the TBEL, and consistent with TOGS 1.3.3, is reasonably protective of water quality standards. Consistent with 750-2.5(e)(2), the load limitation has been adjusted to two significant digits.														
Settleable Solids	mL/L	Daily Max	0.3	0.16*	25/34	**0.3**	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 0.3 mL/L for POTWs providing secondary treatment without filtration. Given that adequate dilution is available the TBEL is reasonably protective of WQS. * Four violations occurred in 2016-2017 with values greater than 1.0 mg/L. The 95th percentile of the lognormal data set including these four points is 6.3 mg/L. Excluding the four points gives 0.16 mg/L.														

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater														
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality[7]	# 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			
Nitrogen, Ammonia (as N) June 1st – Oct. 31st	mg/L	Monthly Avg	Monitor	36 Max as NH3 30 as N	24/0	-	-	-	2.4 as N	1.2 as N	A(C)	**21** as N	703.5	-	WQBEL	
	The WQS for Ammonia was determined from 703.5 from a pH of 7.6 and a temperature of 25ºC. The pH was taken as the 75th percentile of 14 Cayuga Lake, Southern Shelf samples from 2018 and 2019. The temperature of the receiving waterbody was assumed consistent with TOGS 1.3.1E. The projected instream concentration was calculated using the maximum reported summertime effluent concentration of 36 mg/L as NH_3 (equal to 30 mg/L as N) and a negligible upstream concentration. A data specific coefficient of variation of 0.74 was used to determine the appropriate multiplier of 1.35. The multiplier was applied to the maximum effluent concentration and 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 a reasonable potential to cause or contribute to a WQS violation and therefore a WQBEL is specified. Consistent with discharges to the Great Lakes watershed, WQBELs should be given as both mass and concentration; however, the flow limitation and concentration limit are equivalent to a load limit. The existing performance of the system shows high variability in effluent ammonia and a compliance schedule is being added to the permit to allow time to optimize performance or perform plant improvements.															
Nitrogen, Ammonia (as N) Nov. 1st – May 31st	mg/L	Monthly Avg	Monitor	35 Max as NH3 29 as N	35/0	**Monitor**	750-1.13 Monitor	-	1.9 as N	1.9 as N	A(C)	No Reasonable Potential	703.5	-	Monitor	
	The WQS for Ammonia was determined from 703.5 using a pH of 7.6 and a temperature of 10ºC. The pH was taken as the 75th percentile of 14 Cayuga Lake, Southern Shelf samples from 2018 and 2019. The temperature of the receiving waterbody was assumed consistent with TOGS 1.3.1E. The projected instream concentration was calculated using the maximum reported wintertime effluent concentration of 35 mg/L as NH_3 (equal to 29 mg/L as N) and a negligible upstream concentration. A data specific coefficient of variation of 0.5 was used to determine the appropriate multiplier of 1.1. The multiplier was applied to the maximum effluent concentration and 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 and therefore only monitoring is being required at this time. If a limitation was needed in the future the calculated WQBEL is 31 mg/L as N.															
Total Kjeldahl Nitrogen (TKN)	mg/L	Monthly Avg	Monitor	38 Max	59/0	-	-	-	-	-	-	-	-	-	Monitoring Discontinued	
	There is no applicable water quality standard for total kjeldahl nitrogen (TKN). A new ammonia effluent limitation has been included and monitoring for TKN is no longer needed. The requirement for influent and effluent TKN monitoring has been removed from the permit.															

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater														
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data: Permit Limit	Existing Discharge Data: Existing Effluent Quality[7]	Existing Discharge Data: # of Data Points Detects / Non-Detects	TBELs: Limit	TBELs: Basis	Water Quality Data & WQBELs: Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
Total Phosphorus	mg/L	Monthly Avg	-	1.03	1/0	**Monitor**	TMDL	0.01*	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	-	Monitor
	lb/d	12 MRA	40	15	59/0	**40**	TMDL	-							TBEL
	A TMDL is currently being developed for Cayuga Lake to address the impairment due to phosphorus loadings. The existing load limit of 40 lbs/d will remain and the facility. See Impaired Waterbodies Section for more discussion. This limit applies to the total effluent flow, including the new Outfalls 007-012. *Ambient phosphorus calculated as the average of 16 lake samples collected in 2018-2019.														
Coliform, Fecal	#/100 ml	30d Geo Mean	200	19	59/0	**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	400 Max	59/0	**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. This parameter will continue to be measured at the dechlor building.														
Total Residual Chlorine (TRC)	mg/L	Daily Max	0.1	0.09 Max	58/0	**0.1**	Anti-backsliding	-	-	0.005	A(C)	0.4	703.5	-	TBEL
	Effluent disinfection is currently required year-round and will remain a permit requirement. The WQBEL was calculated by multiplying the WQS by the chronic dilution ratio and a decay factor of five. The decay factor was applied due to the distance from the point of chlorine addition to the outfall pipe (~2,300 ft). The existing limitation will remain due to anti-backsliding.														
Additional Effluent Limitations															
Tri-chloroethylene	ug/L	-	-	<1.0	0/12	-	-	-	Not Detected	5	H(WS)	No Reasonable Potential	703.5	-	Discontinued
	lb/d	Daily Max	Monitor	<0.6	0/59					-	-		-		
	lb/d	Daily Avg	4.2	<0.6	0/59					-	-		-		
	The last five years of load data collected have all been non-detect and the concentration data submitted with the application also measured non-detect. The effluent limitation and monitoring requirement has been removed from the permit. See anti-backsliding section for justification.														
Tetra-chloroethylene	ug/L	-	-	<1.0	0/1	-	-	-	Not Detected	0.7 GV	H(WS)	No Reasonable Potential	TOGS 1.1.1	-	Discontinued
	lb/d	Daily Max	1.3	<0.6	0/59					-	-		-		
	lb/d	Daily Avg	1.0	<0.6	0/59					-	-		-		
	The last five years of load data collected have all been non-detect and the concentration data submitted with the application also measured non-detect. The effluent limitation and monitoring requirement has been removed from the permit. See anti-backsliding section for justification.														

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater													
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[7]	# 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		
Cadmium, Total	ug/L	-	-	<20 Total	0/12	-	-	-	Not Detected	3.3* Total	A(C)	No Reasonable Potential	703.5	-	Discontinued
	lb/d	Daily Max	2.2	0.9 Total	1/58					-	-		-		
	lb/d	Daily Avg	Monitor		1/58					-	-		-		
	The last five years of data collected have all been non-detect (aside from a single value of 0.9 lb/d) and the concentration data provided by the permittee for 2021 measured all non-detect. The single detection of 0.9 lb/d is significantly below the calculated WQBEL of 5.7 lb/d and the effluent limitation and monitoring requirement has been removed from the permit. See anti-backsliding section for justification. *The water quality standard for cadmium is 2.98 ug/L as dissolved, which using the EPA chronic translator of 1.123 is converted to 3.3 ug/L as total.														
Action Levels															
Chloroform	ug/L	-	-	7.3 Max	13*	-	-	-	0.69	7.0	H(WS)	No Reasonable Potential	703.5	-	Action Level Discontinued
	lb/d	AL	0.8	0.38 Max	17/2				-	-	-		-		
	The projected instream concentration was calculated using the max effluent concentration of 7.3 ug/L, a negligible upstream concentration, and a multiplier of 1.6. The multiplier was applied to the maximum effluent concentration and 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, the action level is being removed. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														
Trans-1,2-Dichloro-ethylene	ug/L	-	-	1.0 Max	13*	-	-	-	0.09	5	H(WS)	No Reasonable Potential	703.5	-	Action Level Discontinued
	lb/d	AL	0.8	0.06 Max	2/17				-	-	-		-		
	The majority of the last five years of load data collected have all been non-detect with only two detections. The projected instream concentration was calculated using the effluent concentration of 1.0 ug/L, a negligible upstream concentration, a multiplier of 1.6, and the HEW dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and the action level has been removed. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														
Methylene Chloride	ug/L	-	-	9.1 Max	13*	-	-	-	0.86	5	H(WS)	No Reasonable Potential	703.5	-	Action Level Discontinued
	lb/d	AL	1.9	0.55 Max	2/17				-	-	-		-		
	The majority of the last five years of load data collected have all been non-detect with only two detections. The projected instream concentration was calculated using the effluent concentration of 9.1 ug/L, a negligible upstream concentration, a multiplier of 1.6, and the HEW dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and the action level has been removed. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater													
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[7]	# 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		
Bis(2-ethylhexyl) phthalate	ug/L	-	-	<10	0/13	**Monitor**	750-1.13	-	Not Detected	5.0 0.6	H(WS) A(C)	No Reasonable Potential	703.5	7.5	Monitoring & Action Level
	lb/d	AL	1.8	<0.61	0/19*	**1.8**	Action Level			-	-		-		
	All data collected over the last five years has been non-detect; however, the laboratory method used may not have been a sufficiently sensitive method. The calculated WQBEL for the aquatic chronic standard is 9.6 ug/L and below the detection limit for the laboratory method used. The action level is being continued in the permit until additional data using EPA Method 625.1 can be obtained. Concentration monitoring has been added. *DMR data is for the equivalent di(2-ethylhexyl phthalate) parameter.														
Copper, Total	ug/L	-	-	32 Max Total	13*	-	-	-	3.1 Dissolved	13 Dissolved	A(C)	No Reasonable Potential	703.5	-	Action Level Discontinued
	lb/d	AL	5.6 Total	4.6 Max Total	5/14				-	-	-		-		
	The projected instream concentration was calculated using the maximum reported effluent concentration of 32 ug/L, a negligible upstream concentration, a metals translator of 1.042, a multiplier of 1.6, and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and the action level has been removed from the permit. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														
Lead, Total	ug/L	-	-	28 Max Total	13*	-	-	-	2.1 Dissolved	5.9 Dissolved	A(C)	No Reasonable Potential	703.5	-	Action Level Discontinued
	lb/d	AL	4.6 Total	1.1 Total	1/18				-	-	-		-		
	The projected instream concentration was calculated using the maximum reported effluent concentration of 28 ug/L, a negligible upstream concentration, a metals translator of 1.366, a multiplier of 1.6, and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and the action level has been removed from the permit. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														
Nickel, Total	ug/L	-	-	20 Max Total	13*	-	-	-	2.0 Dissolved	73 Dissolved	A(C)	No Reasonable Potential	703.5	-	Action Level Discontinued
	lb/d	AL	8.2 Total	1.1 Max Total	2/17				-	-	-		-		
	The projected instream concentration was calculated using the maximum reported effluent concentration of 20 ug/L, a negligible upstream concentration, a metals translator of 1.003, a multiplier of 1.6, and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and the action level has been removed from the permit. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater														
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality[7]	# 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			
Silver, Total	ug/L	-	-	<20 Total	0/13	-	-	-	Not Detected	8.2 Dissolved	A(A)*	No Reasonable Potential	703.5	-	Action Level Discontinued	
	lb/d	AL	1.8 Total	1.1 Max Total	1/18					-	-		-			
	The last five years of load data collected have all been non-detect (aside from a single value of 1.1 lb/d) and the concentration data provided by the permittee for 2021 also measured non-detect. The single reported value of 1.1 lb/d is significant below the calculated WQBEL of 14 lb/d and the action level has been removed from the permit. *The chronic water quality standard for silver is 0.1 ug/L as ionic, which consistent with TOGS 1.3.1E, does not have an approved analytical method and is very reactive and unlikely to exist in the ionic form if minimum pH controls exist.															
Zinc, Total	ug/L	-	-	30 Max Total	13*	-	-	-	3.0 Dissolved	116 Dissolved	A(C)	No Reasonable Potential	703.5		Action Level Discontinued	
	lb/d	AL	10.8 Total	1.8 Max Total	6/13				-	-	-		-			
	The projected instream concentration was calculated using the maximum reported effluent concentration of 30 ug/L, a negligible upstream concentration, a metals translator of 1.014, a multiplier of 1.6, and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and the action level has been removed from the permit. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.															
Additional Pollutants Detected in the NY-2A																
Mercury	ng/L	Daily Max	-	2.4	3/0	-	-	-	-	0.7	H(FC)	**50**	-	-	MDV	
	The facility flow is >1 MGD and will be given new mercury minimization plan requirements for Type I including a new daily max effluent limitation of 50 ng/L along with a new mercury minimization program requirement, in accordance with the updated 2020 MDV.															
Total Dissolved Solids (TDS)	mg/L	-	-	660	1/0	-	-	251	276	500	Narrative	No Reasonable Potential	703.3	-	No Monitoring or Limitation	
	The projected instream concentration was calculated using the maximum value of 660 mg/L, ambient concentration of 251 mg/L (ambient TDS value taken from data submitted for nearby facility on Cayuga Lake), and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and therefore no limitations or monitoring is required.															
Nitrate	mg/L	-	-	1.1	1/0	-	-	*	0.4	10	H(WS)	No Reasonable Potential	703.5	-	No Monitoring or Limitation	
	The projected instream concentration was calculated using the maximum value of 1.1 mg/L and a negligible ambient concentration. A multiplier of 6.2 was applied to the max concentration along with the HEW dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and therefore no limitations or monitoring is required. *Cayuga lake data is only available for the combined nitrate+nitrite value (see below).															

Outfall #	001	**Description of Wastewater:** Treated Sanitary Wastewater														
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Chlorine Disinfection, and Phosphorus Removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality[7]	# 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			
Nitrite	mg/L	-	-	3.4	1/0	**Monitor**	750-1.13	*	-	0.1	A(C)	1.6	703.5	-	Monitoring	
	It is expected that the treatment process adjustments or upgrades needed to meet the new ammonia limit will greatly affect the nitrite concentrations and monitoring has been added to provide additional data for the next review. *Cayuga lake data is only available for the combined nitrate+nitrite value (see below).															
Nitrate + Nitrite	mg/L	-	-	4.5*	1/0	-	-	0.86**	2.5	10	H(WS)	No Reasonable Potential	703.5	-	No Monitoring or Limitation	
	The projected instream concentration was calculated using the maximum calculated value of 4.5 mg/L and ambient concentration of 0.86 mg/L. A multiplier of 6.2 was applied to the max concentration along with the HEW dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and therefore no limitations or monitoring is required. * Calculated as the sum of nitrate + nitrite. ** Calculated as the average of 7 Cayuga Lake samples collected from 2018-2019.															

POLLUTANT SUMMARY TABLE - Outfall 007-012

Outfall #	007-012	**Description of Wastewater:** Treated Sanitary Wastewater for Melting Ice Jams (Plant Effluent Prior to Dechlorination)													
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Phosphorus Removal, and Chlorination													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[8]	# 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: Outfalls 007-009 (Fall Creek) and 010-012 (Cascadilla Creek) are new outfalls that are only permitted to discharge during the months of **December – March** on an as needed basis for the purpose of melting ice jams and preventing neighborhood flooding. The permittee must notify DEC whenever discharge is needed through any of the six outfalls. One representative effluent sample will be collected at each Outfall for each discharge event and attached to the monthly DMRs. Existing effluent data from 10/2015 to 10/2020 was obtained from Outfall 001 DMRs and is summarized below.														
pH, BOD_5, TSS, Settleable Solids, Total Phosphorus, and Mercury: The effluent for Outfalls 007-012 has received the same treatment as that for Outfall 001, except for dechlorination. The limitations for pH, BOD_5, TSS, settleable solids, total phosphorus, and mercury on Outfall 001 are protective of water quality for both Fall Creek and Cascadilla Creek. Due to the available dilution in both creeks, no additional limitations are required for these parameters.															
Flow Rate	MGD	Daily Max	-	-	-	**1.2** 007-009 Fall Creek **1.4** 010-012 Cascadilla Creek	Max Pump Capacity	Narrative: No alterations that will impair the waters for their best usages.					703.2	-	TBEL
	The combined flow to outfalls 007-009 and 010-012 will be limited and set at the max pumping capacity of the pumps (pumping capacities taken from the Ice Jam Mitigation report dated 7/12/2019). This data may be obtained from a calculation of pump run times.														
Temperature	°F	Daily Max	-	68	59	90	Applied at Outfall 001	-	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	-	No Limitation or Monitoring
	Consistent with the narrative standard under 704.2 for discharges to non-trout waters, the temperature is already being limited to 90ºF at Outfall 001 (as measured at the dechlor building). Given that discharge at Outfalls 007-012 will only be permitted for the months of December – March, no additional limitation is needed to prevent a discharge temperature over 90ºF. Similarly, since the discharge will be used to melt ice, the temperature of the effluent as it melts the ice and enters the creek is expected to be very close to 32ºF and is not expected to affect the ambient temperature by ± 5ºF. Therefore, no additional limitation is being added to the permit.														

[8] 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)

Outfall #	007-012	**Description of Wastewater:** Treated Sanitary Wastewater for Melting Ice Jams (Plant Effluent Prior to Dechlorination)													
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Phosphorus Removal, and Chlorination													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[8]	# 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		
Dissolved Oxygen (DO)	mg/L	Daily Min	-	-	-	-	-	-	-	(Non-Trout) 4.0 mg/L	Narrative	No Reasonable Potential	703.3	-	No Limitation or Monitoring
	The maximum dissolved oxygen concentration in the creek during the months of December – March may approach the saturation concentration of 14 mg/L. This is based on the assumed creek temperature during an ice melt event being very close to 32ºF. This value is significantly higher than the water quality standard of 4.0 mg/L. Given the dilution ratios available, and the effluent limitations already in place for Outfall 001, the DO standards are adequately maintained in both creeks and continue to be maintained ~1.0 mile downstream to either the confluence with Cayuga Lake Inlet, or discharge into Cayuga Lake itself. No additional limitation for DO parameters (BOD_5) above what is required at Outfall 001 is needed.														
Nitrogen, Ammonia (as N)	mg/L	Monthly Avg	-	35 Max as NH_3 29 Max as N	35/0	-	-	-	3.2 as N	2.1 as N	A(C)	**21**	703.5	-	WQBEL
	The WQS for Ammonia was determined from 703.5 from an assumed pH of 7.5 (consistent with TOGS 1.3.1E) and a temperature of 32ºF (0ºC) (assumed temperature of the creek during an ice jam event). RIBS data for Fall Creek from 2012 was evaluated for pH but given that no data was available for December - March the assumed pH of 7.5 was used. The projected instream concentration was calculated using the maximum reported wintertime effluent concentration of 35 mg/L as NH_3 (equal to 29 mg/L as N) and a negligible upstream concentration. A data specific coefficient of variation of 0.5 was used to determine the appropriate multiplier[9] of 1.1. The multiplier was applied to the maximum effluent concentration and divided by the dilution ratio to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates reasonable potential to violate the water quality standard in both creeks and an ammonia limitation is included.														
Coliform, Fecal	#/100 ml	7d Geo Mean	-	670*	59/0	**400**	TOGS 1.3.3	-	Narrative: The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.				703.4	-	TBEL
	Due to the proximity of the new outfalls to Cayuga Lake, which is a Class A waterbody, disinfection is being required year-round for Outfalls 007-012 (see DEC NOIA letter dated 5/1/2019). The effluent is currently disinfected using chlorine injection right as the effluent leaves the facility and includes the flow to Outfalls 007-012. As detailed in the Ice Jam Mitigation report dated 7/12/2019, the selected design provides adequate contact time under the design flow conditions to expect removal of fecal coliform. Fecal coliform limitations are applied at Outfalls 007-012.														
Total Residual Chlorine	mg/L	Daily Max	-	0.1	58/0	2.0	TOGS 1.3.3	-	-	0.005	A(C)	**0.05**	TOGS 1.1.1	-	WQBEL
	The effluent is currently disinfected using chlorine injection right as the effluent leaves the facility and includes Outfalls 007-012. Dechlorination occurs further downstream and does not include the effluent to Outfalls 007-012. According to the Ice Jam Mitigation report dated 7/12/19, dechlorination will be achieved with chemical tablets and dechlorinators located on each outfall fire hydrant. The WQBEL was calculated by multiplying the WQS by the dilution ratio. Due to the dilution, the calculated WQBEL is less than the TBEL and has been applied.														

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

Outfall #	007-012	**Description of Wastewater:** Treated Sanitary Wastewater for Melting Ice Jams (Plant Effluent Prior to Dechlorination)														
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Phosphorus Removal, and Chlorination														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality[8]	# 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			
Action Levels & Additional Parameters from Outfall 001																
Chloroform	ug/L	-	-	7.3 Max	13*	-	-	-	1.2	7.0	H(WS)	No Reasonable Potential	703.5	-	No Limitation or Monitoring	
	lb/d	-	-	0.38 Max	17/2				-	-	-		-			
	There is no applicable water quality standard for chloroform for discharges to Class B (Fall Creek) or Class C (Cascadilla Creek) streams; however, due to the proximity of the Class A portion of the lake, an evaluation was done on the projected instream concentration. The projected instream concentration was calculated using the effluent concentration of 7.3 ug/L, a negligible upstream concentration, and a multiplier of 1.6. The multiplier was applied to the maximum effluent concentration and 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. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.															
Trans-1,2-Dichloro-ethylene	ug/L	-	-	1.0 Max	13*	-	-	-	0.16	5	H(WS)	No Reasonable Potential	703.5	-	No Limitation or Monitoring	
	lb/d	-	-	0.06 Max	2/17				-	-	-		-			
	The majority of the last five years of load data collected have all been non-detect with only two detections. There is no applicable water quality standard for discharges to Class B (Fall Creek) or Class C (Cascadilla Creek); however, due to the proximity of the Class A portion of the lake, an evaluation was done on the projected instream concentration. The projected instream concentration was calculated using the effluent concentration of 1.0 ug/L, a negligible upstream concentration, a multiplier of 1.6, and the HEW dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.															
Methylene Chloride	ug/L	-	-	9.1 Max	13*	-	-	-	1.5	5	H(WS)	No Reasonable Potential	703.5	-	No Limitation or Monitoring	
	lb/d	-	-	0.55 Max	2/17				-	-	-		-			
	The majority of the last five years of load data collected have all been non-detect with only two detections. The applicable water quality standard for discharges to Class B or C is 200 ug/L H(FC); however, due to the proximity of the Class A lake, an evaluation was done on the Class A standard. The projected instream concentration was calculated using the effluent concentration of 9.1 ug/L, a negligible upstream concentration, a multiplier of 1.6, and the HEW dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.															

Outfall #	007-012	**Description of Wastewater:** Treated Sanitary Wastewater for Melting Ice Jams (Plant Effluent Prior to Dechlorination)
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Phosphorus Removal, and Chlorination

Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[8]	# 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		
Copper, Total	ug/L	-	-	32 Max Total	13*	-	-	-	4.9 Dissolved	14 Dissolved	A(C)	No Reasonable Potential	703.5	-	No Limitation or Monitoring
	lb/d	-	-	4.6 Max Total	5/14				-	-	-				
	The projected instream concentration was calculated using the maximum reported effluent concentration of 32 ug/L, a negligible upstream concentration, a metals translator of 1.042, a multiplier of 1.6, and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														
Lead, Total	ug/L	-	-	28 Total	13*	-	-	-	3.2 Dissolved	6.4 Dissolved	A(C)	No Reasonable Potential	703.5	-	No Limitation or Monitoring
	lb/d	-	-	1.1 Total	1/18				-	-	-				
	The projected instream concentration was calculated using the maximum reported effluent concentration of 28 ug/L, a negligible upstream concentration, a metals translator of 1.388, a multiplier of 1.6, and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														
Nickel, Total	ug/L	-	-	20 Total	13*	-	-	-	3.2 Dissolved	78 Dissolved	A(C)	No Reasonable Potential	703.5	-	No Limitation or Monitoring
	lb/d	-	-	1.1 Max Total	2/17				-	-	-		-		
	The projected instream concentration was calculated using the maximum reported effluent concentration of 20 ug/L, a negligible upstream concentration, a metals translator of 1.003, a multiplier of 1.6, and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														
Zinc, Total	ug/L	-	-	30 Total	13*	-	-	-	4.7 Dissolved	125 Dissolved	A(C)	No Reasonable Potential	703.5		No Limitation or Monitoring
	lb/d	-	-	1.8 Max Total	6/13				-	-	-		-		
	The projected instream concentration was calculated using the maximum reported effluent concentration of 30 ug/L, a negligible upstream concentration, a metals translator of 1.014, a multiplier of 1.6, and the chronic dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. *Summary concentration data was reported on the NY-2A application only and the number of detects vs. non-detects is unknown.														

Outfall #	007-012	**Description of Wastewater:** Treated Sanitary Wastewater for Melting Ice Jams (Plant Effluent Prior to Dechlorination)													
		Type of Treatment: Screening, Grit Removal, Activated Sludge Secondary Treatment, Clarification, Phosphorus Removal, and Chlorination													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality[8]	# 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		
Total Dissolved Solids (TDS)	mg/L	-	-	660	1/0	-	-	251	292	500	Narrative	No Reasonable Potential	703.3	-	No Monitoring or Limitation
	The projected instream concentration was calculated using the maximum value of 660 mg/L, an ambient concentration of 251 mg/L (ambient TDS value taken from data submitted for nearby facility on Cayuga Lake), and the dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and therefore no limitations or monitoring is required.														
Nitrate	mg/L	-	-	1.1	1/0	-	-	*	0.7	10	H(WS)	No Reasonable Potential	703.5	-	No Monitoring or Limitation
	There is no applicable water quality standard for discharges to Class B (Fall Creek) or Class C (Cascadilla Creek); however, due to the proximity of the Class A portion of the lake, an evaluation was done on the projected instream concentration. The projected instream concentration was calculated using the maximum value of 1.1 mg/L and a negligible ambient concentration. A multiplier of 6.2 was applied to the max concentration along with the HEW dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and therefore no limitations or monitoring is required. *Cayuga lake data is only available for the combined nitrate+nitrite value (see below).														
Nitrite	mg/L	-	-	3.4	1/0	-	-	*	-	0.1	A(C)	1.6	703.5	-	Interim Monitoring at Outfall 001
	It is expected that the treatment process adjustments or upgrades needed to meet the new ammonia limit will greatly affect the nitrite concentrations. Monitoring at Outfall 001 during the compliance period for ammonia has been added to provide additional data for the next review (see Schedule of Compliance). *Cayuga lake data is only available for the combined nitrate+nitrite value (see below).														
Nitrate + Nitrite	mg/L	-	-	4.5*	1/0	-	-	0.86**	3.6	10	H(WS)	No Reasonable Potential	703.5	-	No Monitoring or Limitation
	There is no applicable water quality standard for discharges to Class B (Fall Creek) or Class C (Cascadilla Creek); however, due to the proximity of the Class A portion of the lake, an evaluation was done on the projected instream concentration. The projected instream concentration was calculated using the maximum calculated value of 4.5 mg/L and ambient concentration of 0.86 mg/L. A multiplier of 6.2 was applied to the max concentration along with the HEW dilution ratio. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation and therefore no limitations or monitoring is required. * Calculated as the sum of nitrate + nitrite. ** Calculated as the average of 7 Cayuga Lake samples collected from 2018-2019.														

Appendix: Regulatory and Technical Basis of Permit Authorizations

The information presented in the Appendix is meant to supplement the factsheet for multiple types of permits and may not be applicable to this specific permit.

Regulatory References

The requirements included in SPDES permits are based on both federal and state laws, regulations, policies, and guidance.

- 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, often referred to as Technical and Operational Guidance Series memos (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 factsheet:

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 (TOGS 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)

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.

Outfall and Receiving Water Information

Impaired Waters

The NYS 303(d) List of Impaired/TMDL Waters (http://www.dec.ny.gov/chemical/31290.html) identifies waters where specific designated uses are not fully supported and for which the state must consider the development of a 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 for the development of the TMDL, and to allow the Department to accurately determine the existing capabilities of the wastewater treatment plant to assure that wasteload allocations (WLAs) are allocated equitably.

Existing Effluent Quality

During development of the permit, a statistical evaluation of existing effluent quality is performed to calculate the 95th (monthly average) and 99th (daily maximum) percentiles of the existing effluent quality. That evaluation is completed 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. When there are three or fewer non-detects, a lognormal distribution of the data is assumed, and lognormal calculations are used to determine the monthly average and daily maximum concentrations of the existing effluent. 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 permit limitations form the basis for the next permit. Existing effluent quality is evaluated against the existing permit 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 factsheet. Consistent with current case law[10] and USEPA interpretation[11] 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.

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

[10] American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)
[11] 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)

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. 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.

Other Technology Based Effluent Limitations:

There are no federal technology-based standards for toxic pollutants from POTWs. For each toxic parameter present in the discharge a Reasonable Potential Analysis is conducted. This may be a statistical analysis of existing data in accordance with TOGS 1.2.1, or an assessment of the technology employed at the facility and selection of the appropriate limitation from TOGS 1.2.1 Attachment C. Where the TBEL is more stringent than the WQBEL, the TBEL is applied as an action level in accordance with TOGS 1.3.3.

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 700-704 and 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. The limitations must be stringent enough to ensure that water quality standards are met 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.

Mixing Zone Analyses

Mixing zone analyses 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, water quality-based effluent limitations 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, 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.

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 Part 702.16(b) of Chapter X, Title 6 of the New York State Codes, Rules, and Regulations. 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), 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), and 6 NYCRR 750-1.13 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 DOW Program Policy 1.3.10, Mercury SPDES permitting and Multiple Discharge Variance (MDV) (TOGS 1.3.10) was developed in accordance with 6 NYCRR 702.17(h) and approved by EPA in October 2015. The MDV is necessary because human caused conditions or sources of mercury prevent attainment of the water quality standard and cannot be remedied, i.e., mercury is ubiquitous in New York waters at levels above the water quality standard and compliance with WQBELs for mercury cannot be achieved with demonstrated treatment technologies. The MDV will result in reasonable progress toward achieving the WQBEL by including meaningful, yet achievable, requirements in SPDES permits.

During the period where the MDV is applicable, the increased risks to human health are mitigated by fish consumption advisories issued periodically by both the NYS Department of Health and the United States Food and Drug Administration. Therefore, NYSDEC has determined that the MDV is consistent with the protection of the public health, safety, and welfare.

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

Schedules of Additional Submittals

Schedules of Submittals are used to summarize the deliverables required by the permit.

Mini Industrial Pretreatment Program

Pretreatment requirements are intended to protect a WWTP from receiving pollutants that cause pass through or interference to the operations of the POTW receiving such wastes. When necessary, the Department, in accordance with TOGS 1.3.3. and through issued SPDES permits, requires WWTPs to develop and implement mini or partial pretreatment programs. These requirements are consistent with regulations in 6 NYCRR §750-2.9(b)(1), ECL 17-0811, ECL 17-0825, and 40 CFR §403.5.

As part of the mini pretreatment program, a WWTP must identify industrial users; determine whether legal authority controls (e.g. sewer use laws) are adequate; require, issue, and enforce industrial user permits; and, implement the program.