



Department of
Environmental
Conservation

State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

SIC Code:	4952	NAICS Code:	221320	SPDES Number:	NY0312886
Discharge Class (CL):	07	DEC Number:	6-2236-00581/00001		
Toxic Class (TX):	N	Effective Date (EDP):	DRAFT		
Major-Sub Drainage Basin:	03 - 03		Expiration Date (ExDP):		
Water Index Number:	Ont. 40	Item No.:	847 - 48		
Compact Area:	IJC		Modification Dates (EDPM):		

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

PERMITTEE NAME AND ADDRESS						
Name:	Town of Henderson			Attention:	Town Supervisor	
Street:	12105 Town Barn Road			State:	NY	Zip Code: 13650
City:	Henderson			Phone:	(315) 938-5542	
Email:	supervisor@townofhendersonny.org					

is authorized to discharge from the facility described below:

FACILITY NAME, ADDRESS, AND PRIMARY OUTFALL										
Name:	Henderson Wastewater Treatment Facility									
Address / Location:	State Route 3						County:	Jefferson		
City:	Henderson				State:	NY	Zip Code:	13650		
Facility Location:	Latitude:	43 °	50 '	16.2 " N	& Longitude:	76 °	12 '	08.7 " W		
Primary Outfall No.:	001	Latitude:	43 °	50 '	15.1 " N	& Longitude:	76 °	12 '	10.2 " W	
Outfall Description:	Treated Sanitary		Receiving Water:	Stony Creek			Class:	C(T)		

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

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

DISTRIBUTION:

CO BWP - Permit Coordinator
CO BWC - SCIS
Regional Water Engineer
NYSDOH, Watertown
EPA Region II
NYSEFC
IJC

Permit Administrator:	Jessica Hart		
Address:	Dulles State Office Building 317 Washington Street Watertown, New York, 13601-3787.		
Signature:		Date:	

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	LIMITATIONS APPLY	RECEIVING WATER	EFFECTIVE	EXPIRING
001	All Year Unless Specified	Stony Creek	Upon Completion of Construction and Written Acceptance from the Department ^{1,2}	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	0.096	MGD			Continuous	Meter		X	
pH	Daily Minimum	6.5	SU			1/Day	Grab		X	
	Daily Maximum	8.5	SU							
BOD ₅	Daily Maximum	5.0	mg/L	4.0	lbs/d	1/Month	Grab	X	X	3,4
Total Suspended Solids (TSS)	Daily Maximum	10	mg/L	8.0	lbs/d	1/Month	Grab	X	X	3,4
Settleable Solids	Daily Maximum	0.1	mL/L			1/Day	Grab		X	
Dissolved Oxygen (June 1st – Oct. 31 st)	Daily Minimum	7.0	mg/L			1/Day	Grab		X	
Dissolved Oxygen (Nov. 1 st - May 31 st)	Daily Minimum	Monitor	mg/L			1/Day	Grab		X	
Total Phosphorus (as P)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	1/Month	Grab		X	
Ammonia (as N) (June 1 st - Oct. 31 st)	Monthly Average	1.7	mg/L	1.4	lbs/d	1/Month	Grab		X	
Ammonia (as N) (Nov. 1 st - May 31 st)	Monthly Average	3.2	mg/L	2.6	lbs/d	1/Month	Grab		X	
ACTION LEVEL PARAMETERS	Type	Action Level	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Temperature	Daily Maximum	70	°F			1/Day	Grab		X	5
EFFLUENT DISINFECTION		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Required All Year										
Coliform, Fecal	30-Day Geometric Mean	200	No./100 mL			1/Month	Grab		X	
Coliform, Fecal	7-Day Geometric Mean	400	No./100 mL			1/Month	Grab		X	

FOOTNOTES:

1. The permittee is not authorized to discharge until receipt of Department acceptance of Certificate of Completion. Refer to the Schedule of Submittals in the RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS section of this permit.
2. Submittal of Discharge Monitoring Reports (DMRs) is not required until Completion of Construction and receipt of Department acceptance of Certificate of Completion from the Department.

PERMIT LIMITS, LEVELS AND MONITORING (Continued)

3. Effluent shall not exceed 15% and 15% of influent concentration values for BOD₅ & TSS respectively.
4. Percent removal may be calculated using an assumed influent concentration of 200 mg/L.
5. Temperature Action Level – Monitoring Program
If the discharge temperature exceeds the Action Level of 70°F the permittee shall, within one week, undertake the following sampling program.

The permittee shall use the method identified in 40 CFR Part 136 for measuring temperature in the receiving stream. The horizontal and vertical location should be located at a sufficient point in which the impacts of the effluent are appropriately characterized. The sample location shall be located on the same side of the stream that the outfall is located, horizontally located about the midpoint between the shoreline and the centerline of the stream, vertically the sample shall be measured from the top half of the water column. Temperature shall be measured at the following three locations, all within one hour, on the same day, once in the morning and once in the afternoon:

- a. Effluent sample shall be measured as close as practical to the outfall without interference from the receiving water.
- b. Downstream receiving water sample shall be measured 300 feet downstream of the outfall near the facility property line.
- c. Upstream receiving water sample shall be measured 10 feet upstream of the outfall.

The receiving water sampling locations shall be documented by the permittee and used for all subsequent monitoring unless a different location is approved by the Department.

The permittee is exempt from this temperature monitoring program whenever conditions at or near the monitoring locations are unsafe due to weather.

The permittee shall notify the Regional Water Engineer within five (5) days of exceeding the temperature action level and results from the temperature monitoring shall be appended to the corresponding Discharge Monitoring Report (DMR) and emailed in spreadsheet format to spdes.temperaturedata@dec.ny.gov.

Upon review of the data, it may be necessary that a Temperature Management Plan be developed and implemented. If the Action Level is routinely or excessively exceeded, the permit may be subject to modification to incorporate additional monitoring requirements and/or effluent limitations.

MERCURY MINIMIZATION PROGRAM (MMP) - Type IV

On 03/29/2022, the permittee submitted a Conditional Exclusion Certification, certifying that the facility does not have any of the mercury sources listed in Part III.A.3. of DOW 1.3.10.

1. General - The permittee must develop, implement, and maintain a mercury minimization program (MMP), containing the elements set forth below.
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 elements¹ as described in detail below:
 - a. Conditional Exclusion Certification - A certification (Appendix D of DOW 1.3.10), signed in accordance with 750-1.8 Signature of SPDES forms, must be submitted once every five (5) years to the Regional Water Engineer and to the Bureau of Water Permits certifying that Outfall 001 is neither a mercury source nor receives flows from a mercury source. Criteria to determine if a facility has a mercury source are as follows:
 - The facility is or receives discharge from 1) individually permitted combined sewer overflow (CSOs)² communities and/or 2) Type II sanitary sewer overflow (SSO)³ facilities;
 - One or more effluent samples which exceed 12 ng/L, including samples taken as a result of the SPDES application process;
 - Internal or tributary waste stream samples exceed the GLCA effluent limitation **AND** the final effluent samples are less than the GLCA due primarily to dilution by uncontaminated or less contaminated waste streams. Both components of this criterion may include samples taken as a result of the SPDES application process;
 - A permit application or other information indicates that mercury is handled on site and could be discharged through outfalls;
 - Outfalls which contain legacy mercury contamination;
 - The facility's collection system receives discharges from a dental and/or categorical industrial user (CIU)⁴ that may discharge mercury;
 - The facility accepts hauled wastes; or,
 - The facility is defined as a categorical industry that may discharge mercury. This may also include dentists, universities, hospitals, or laboratories which have their own SPDES permit.
 - b. Control Strategy - The control strategy must contain the following minimum elements:
 - i. 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.
 - ii. 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.

¹Neither monitoring nor outreach is required for facilities meeting the criteria for MMP Type IV, but monitoring and/or outreach can be included in the permittee's control strategy.

² CSO permits are included under the 05 and 07 permit classifications.

³ These are overflow retention facilities (ORFs) and are included under the 05 and 07 permit classifications.

⁴ CIUs include those listed under Federal Regulation in 40 CFR Part 400.

MERCURY MINIMIZATION PROGRAM (MMP) – Type IV (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. Review of criteria to determine if the facility has a potential mercury source;
 - a. If the permittee no longer meets the criteria for MMP Type IV, the permittee must notify the Department for a permittee-initiated permit modification;
 - ii. All actions undertaken, pursuant to the control strategy, during the previous year; and
 - iii. Actions planned, pursuant to the control strategy, for the upcoming year.

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. A letter from the Department identifies inadequacies in the MMP.

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

DEFINITIONS:

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.

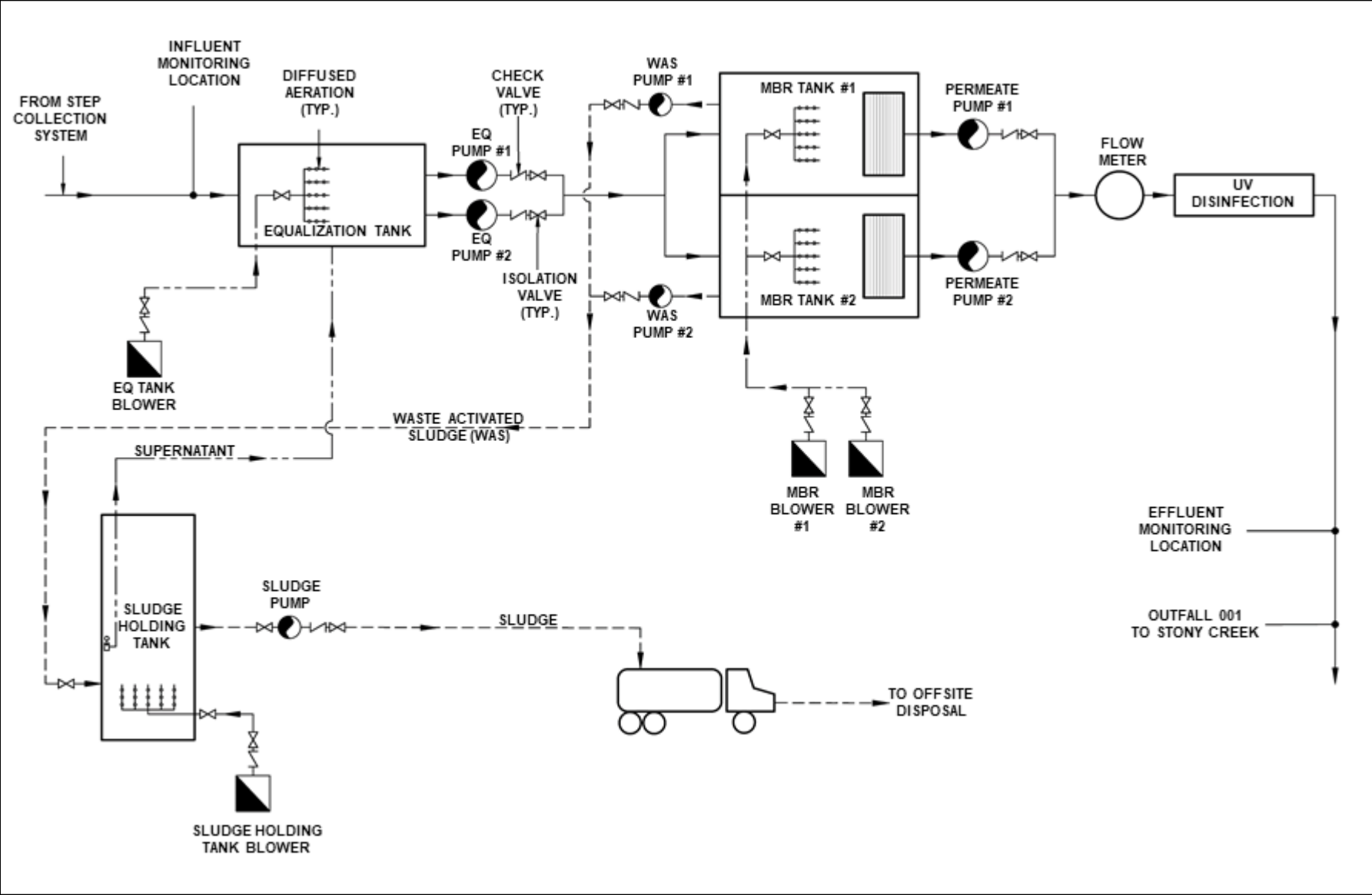
The signs shall have **minimum** dimensions of eighteen inches by twenty-four inches (18" x 24") and shall have white letters on a green background and contain the following information:

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

MONITORING LOCATIONS

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



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
Regional Water Engineer, Region 6
317 Washington St., Watertown, NY 13601-3787 Phone: (315) 785-2513

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

- 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:

SCHEDULE OF ADDITIONAL SUBMITTALS		
Outfall	Required Action	Due Date
001	<u>NOTIFICATION OF START DATE ("START-UP")</u> The permittee shall provide the Department with the proposed start date for the treatment system. This date will be used to establish the start of compliance reporting. Notice shall be provided to the Regional Water Engineer and via email to: NetDMR@dec.ny.gov .	30-days prior to start-up
001	<u>CERTIFICATE OF COMPLETION</u> The permittee shall submit to the Regional Water Engineer written certification by the person or firm licensed to practice professional engineering in the State of New York overseeing construction stating that the disposal system was constructed in accordance with the approved engineering Design Documents.	Prior to start-up

SCHEDULE OF ADDITIONAL SUBMITTALS		
Outfall	Required Action	Due Date
001	<u>PUBLIC NOTIFICATION</u> The permittee shall install identification signs at all outfalls owned and operated by the permittee. The signs shall be placed at or near the outfalls and be easily readable by the public and follow the guidelines contained in this permit.	Prior to start-up
001	<u>MERCURY EFFLUENT MONITORING</u> The permittee shall collect one (1) effluent grab sample representative of normal discharge conditions. The use of use of EPA Method 1669 for sample collection is recommended. The sample shall be analyzed using USEPA Method 1631 by an environmental laboratory accredited by the New York State Department of Health Environmental Laboratory Approval Program (ELAP). The permittee shall submit the laboratory results to the Regional Water Engineer.	Start-up + 12 months
001	<u>MERCURY MINIMIZATION PLAN</u> The permittee must complete and maintain onsite an annual mercury minimization status report in accordance with the requirements of this permit.	Maintained Onsite Start-up + 6 Months, Annually Thereafter
001	<u>ANNUAL FLOW CERTIFICATION</u> 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.	By March 28 th Each Year
001	<u>MERCURY - CONDITIONAL EXCLUSION CERTIFICATION</u> Permittee must submit a mercury conditional exclusion certification every five years in order to maintain MMP Type IV status.	EDP + 5 Years, and Every 5 Years Thereafter

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

Town of Henderson

Henderson Wastewater Treatment Facility

NY0312886



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ACRONYMS

1Q10	1-Day, 10-Year Low Flow
7Q10	7-Day, 10-Year Low Flow
30Q10	30-Day, 10-Year Low Flow
A(A)	Aquatic Acute
A(C)	Aquatic Chronic
BCCs	Bioaccumulative Chemicals of Concern
BOD ₅	5-Day Biochemical Oxygen Demand
BPJ	Best Professional Judgement
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DOW	Division of Water
EPA	United States Environmental Protection Agency
°F	Degrees Fahrenheit
GLWQA	Great Lakes Water Quality Agreement
GV	Guidance Value
HEW	Human, Aesthetic, Wildlife
IJC	International Joint Commission
ISEL	Intermittent Stream Effluent Limits
lbs/d	Pounds per Day
MBR	Membrane Bioreactor
MDV	Multiple Discharge Variance
mg/L	Milligrams per Liter
MGD	Million Gallons per Day
ml/L	Milliliter per Liter
MMPs	Mercury Minimization Programs
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
PIC	Projected Instream Concentration
POTW	Publicly Owned Treatment Works
PWL	Priority Waterbodies List
RIBS	Rotating Intensive Basin Sampling
RSAT	River-Based Effluent Limit Screening Analysis Tool
SEQR	State Environmental Quality Review
SPDES	State Pollutant Discharge Elimination System
STEP	Septic Tank Effluent Pumping
TBEL	Technology-based Effluent Limitations
TMDL	Total Maximum Daily Load
TOGS	Technical and Operational Guidance Series
TSS	Total Suspended Solids
ug/L	Micrograms per Liter
UOD	Ultimate Oxygen Demand
USGS	United States Geologic Survey
UV	Ultraviolet
WET	Whole Effluent Toxicity
WLA	Wasteload Allocations
WQBEL	Water Quality-Based Effluent Limitations

SUMMARY OF PERMIT CHANGES

A new State Pollutant Discharge Elimination System (SPDES) permit has been drafted for the Town of Henderson Wastewater Treatment Facility.

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

ADMINISTRATIVE HISTORY

- 07/16/2021 The Town of Henderson submitted a revised engineering report for a new disposal system to serve the Town of Henderson Sewer District #1. NYSDEC approved the engineering report on 07/20/2021
- 12/03/2021 The Town of Henderson submitted a completed NY-2A SPDES permit application for the proposed disposal system.
- 03/10/2023 The Town of Henderson submitted a revised basis of design report, engineering plans and specifications for the proposed disposal system.

The Notice of Complete Application, published in the Environmental Notice Bulletin (<https://www.dec.ny.gov/enb/enb.html>) and newspapers, contains information on the public notice process.

FACILITY INFORMATION

The Town of Henderson is in Jefferson County, New York, about 16 miles southwest from the City of Watertown. The Town has a residential population of 1,438 (US Census, 2020).

The New York State Department of Environmental Conservation (NYSDEC) Waterbody Inventory/Priority Waterbodies List (WI/PWL) fact sheet for Henderson Bay (PWL 0303-0022) identifies water supply and various recreational (swimming, boating, fishing) uses are known to experience impacts/threats because of inadequately treated sewage discharges from the Hamlet of Henderson Harbor and failing and/or inadequate on-site septic systems serving cottage communities and seasonal homes along the bay.

The WI/PWL fact sheet for Stony Creek (PWL 303-0009) identifies that recreational uses are thought to experience minor impacts/threats due to nutrients and from inadequate on-site septic systems.

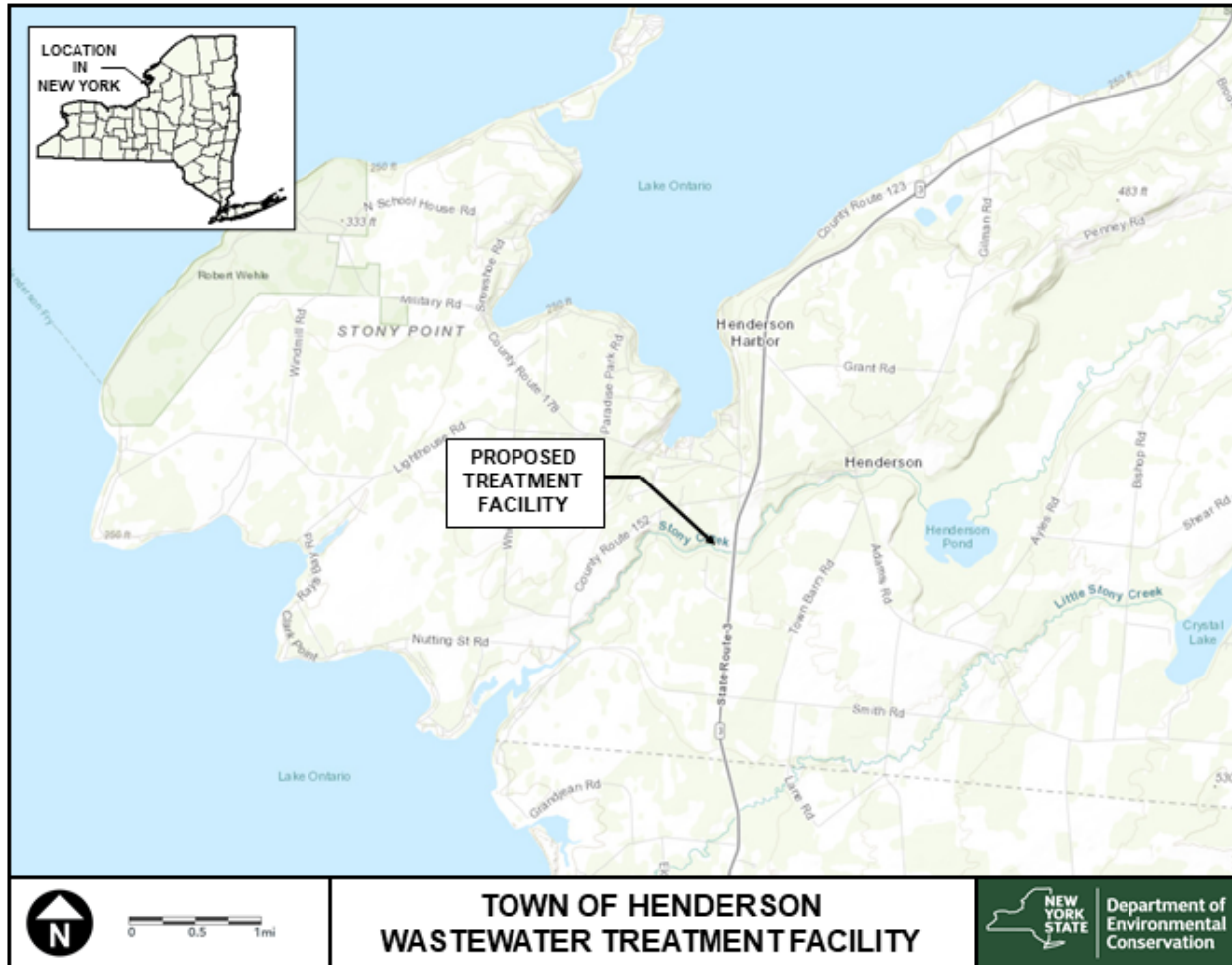
The Town of Henderson proposes to construct a new collection system and wastewater treatment facility which is expected to improve water quality in Henderson Bay and Stony Creek. The Town is currently unsewered.

Site Overview

The proposed facility will be a publicly owned treatment works (POTW) that receives flow from domestic users, with effluent consisting of treated sanitary.

The sewer district will serve about 860 year-round residences, seasonal cottages and homes, and commercial businesses such as restaurants, marinas, and convenient stores in both the waterfront area of Henderson Harbor and Hamlet of Henderson.

Figure 1: Facility Location Map



The proposed collection system will consist of Septic Tank Effluent Pumping (STEP) with about 17.5 miles of low-pressure sewers and 374 municipally owned individual septic tanks. The facility does not anticipate having any industrial users.

The proposed treatment facility has a design flow 0.096 MGD and consists of:

- Flow Equalization
- Aeration Tanks
- Membrane Bioreactor (MBR)
- Ultraviolet (UV) Disinfection
- Sludge Holding Tanks

Liquid sludge will be hauled off-site to a nearby municipal wastewater treatment facility for further processing and disposal.

The primary outfall (Outfall 001) will be a six-inch pipe that outlets to the bank of Stony Creek.

Figure 2. Town of Henderson Sewer District #1

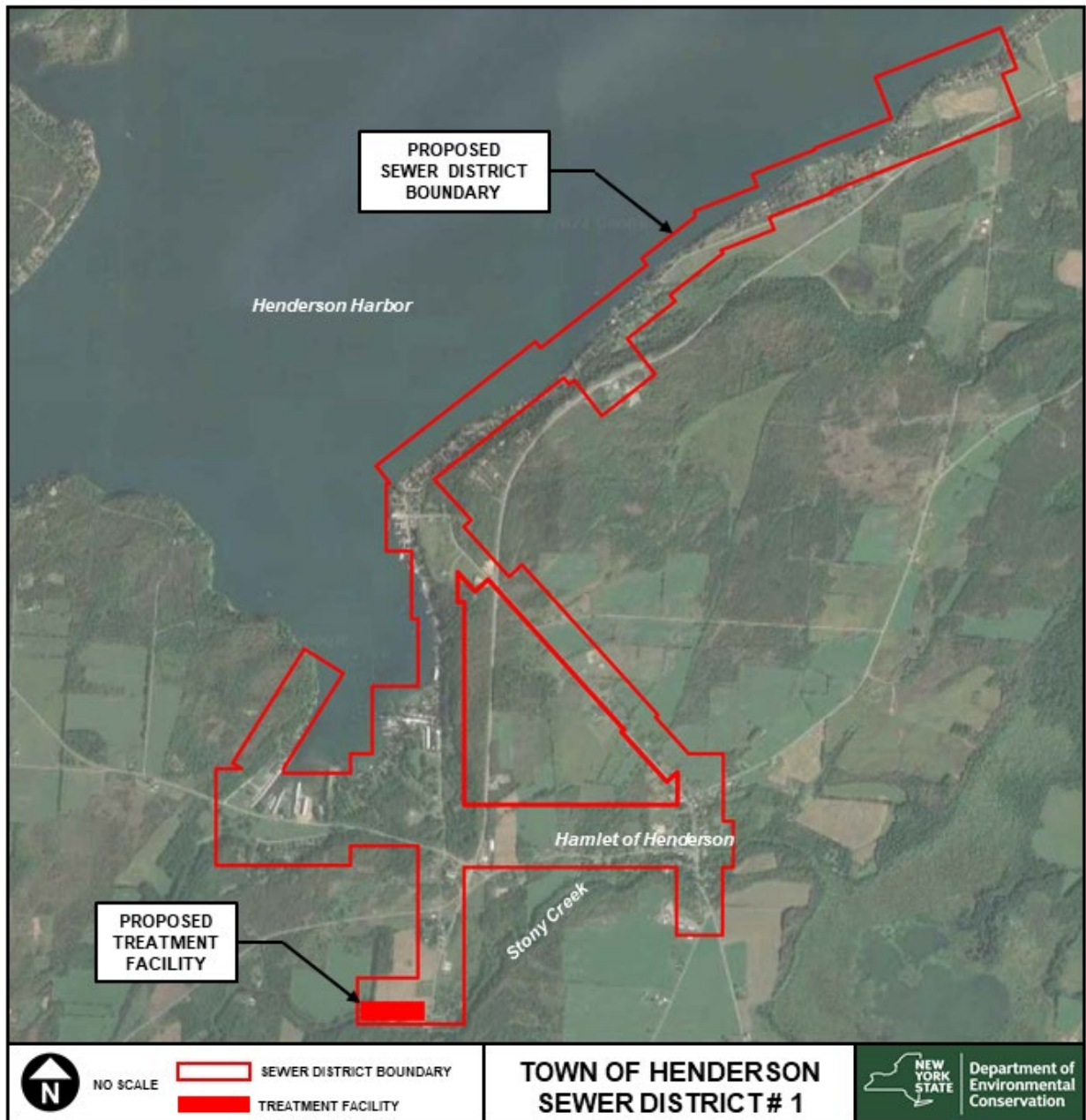
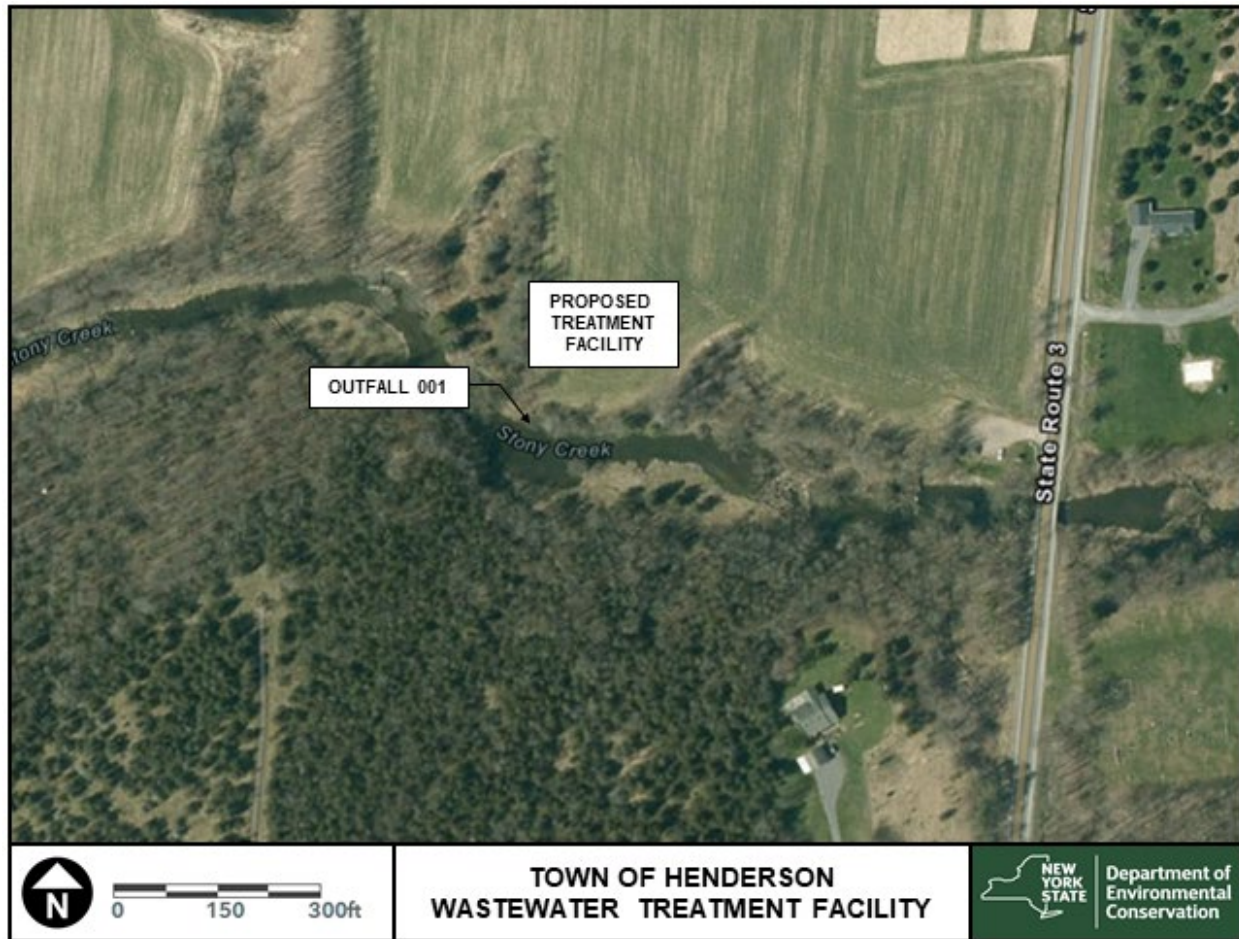


Figure 3. Proposed Outfall and Treatment Plant Location



Existing Effluent Quality

This is a new facility that has yet to be constructed, therefore existing effluent quality is unavailable.

Interstate Water Pollution Control Agencies

Outfall 001 will be located within the Great Lakes watershed and the International Joint Commission (IJC) compact area. The IJC Great Lakes Water Quality Agreement (GLWQA), first signed in 1972, and updated in 1978, 1983, 1987, and 2012, is an agreement between the United States and Canada to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes Basin Ecosystem.

One of the objectives of the GLWQA is to limit the total phosphorus loading to Lake Ontario to 7,000 metric tonnes per year (7,716 US tons) which is equivalent to 15,432,000 lbs/year or about 42,280 lbs/day. The goal is to achieve an interim total phosphorus level of 0.01 mg/L in the open waters of Lake Ontario.

Because the design flow is less than 1.0 MGD, effluent limitations for phosphorus is not required under the GLWQA. The draft permit requires monthly effluent monitoring for total phosphorus to support the objectives of the IJC. [Appendix Link](#)

RECEIVING WATER INFORMATION

The facility proposes to discharge via the following outfall:

Table 1. Receiving Water Information

Outfall No.	Design Flow (MGD)	Wastewater Type	Receiving Water
001	0.096	Treated Sanitary	Stony Creek

Stony Creek (Ont. 40) is a tributary to Lake Ontario. The segment of Stony Creek at the discharge point is specified in 6 NYCRR Part 847, Table 1, Item 48, and is classified as C(T).

The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes. The (T) symbol means that the classified waters are trout waters and any water quality standard, guidance value, or thermal criterion that specifically refers to trout or trout waters applies.

The drainage area at the outfall location is around 37 square miles. About 2.5 miles downstream of the discharge location, Stony Creek enters Lake Ontario. Lake Ontario is classified as Class A. The best usages of Class A waters are for a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish, shellfish and wildlife propagation and survival.

The classifications of individual surface waters are specified in 6 NYCRR Parts 800 - 941. The best uses and standards of quality and purity applicable to specific water classes are specified in 6 NYCRR Parts 701-706.

Impaired Waterbody Information

Stony Creek (PWL No. 0303-0009) is not listed on the 2018 New York State Section 303(d) List of Impaired/TMDL Waters, and therefore, there are no applicable wasteload allocations (WLAs) for the proposed discharge.

Critical Receiving Water Data

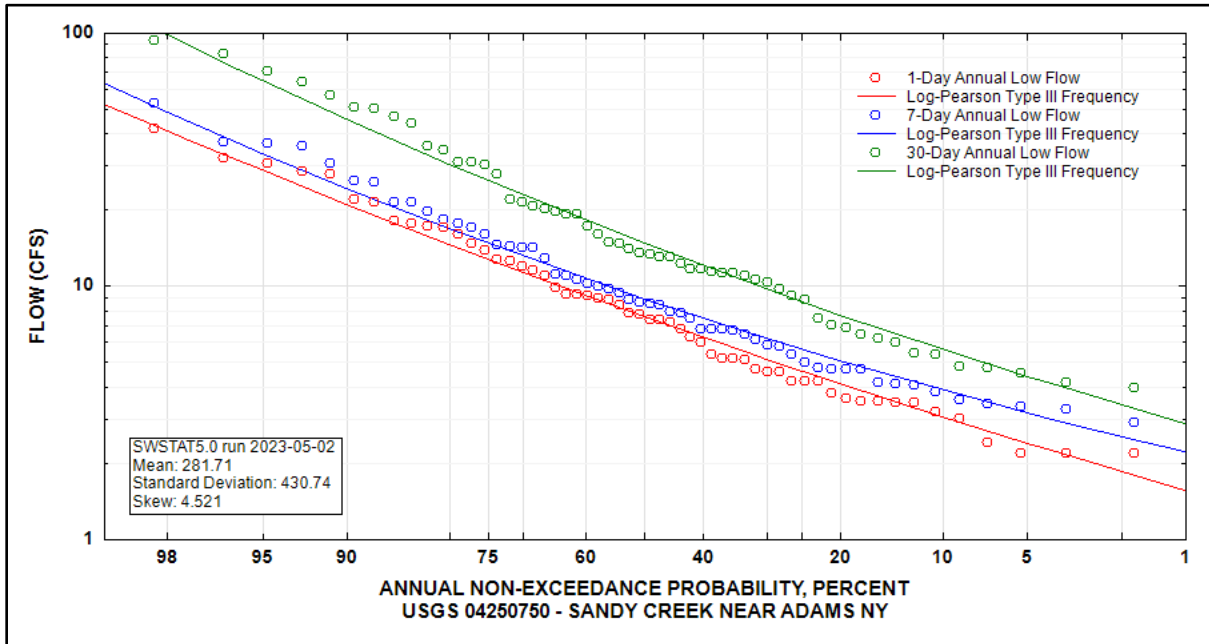
NYSDEC uses critical low flows to evaluate effluent limitations to ensure water quality standards are maintained. The 1Q10, 7Q10 and 30Q10 flows can be thought of as the lowest 1-Day, 7-Day and 30-Day average flows that are expected to occur on average once every 10 years.

The 1Q10 flow is used to assess for aquatic acute A(A), the 7Q10 for aquatic chronic A(C), and the 30Q10 for human, aesthetic, wildlife (HEW).

The nearest stream gage with sufficient daily stream flow records is the United States Geological Survey (USGS) gaging station USGS 04250750, Sandy Creek near Adams NY, which is located about 6.5 miles from the discharge location on Stony Creek. The 1Q10, 7Q10 and 30Q10 flows at Sandy Creek were calculated using the USGS Hydrologic Toolbox software with the Log-Pearson Type III distribution. The analysis is summarized below.

Gage ID: USGS 04250750
 Gage Name: Sandy Creek near Adams NY
 Period of Record Used: April 1, 1958 - March 31, 2022
 Drainage Area at Gage (mi²): 137
 1Q10 Flow at Gage (CFS): 3.04
 7Q10 Flow at Gage (CFS): 3.87
 30Q10 Flow at Gage (CFS): 5.61

Figure 4. Annual Low Flow Frequency Curves - Sandy Creek



There is limited flow information available for Stony Creek. Stream flows of 1.31, 0.77, and 4.8 CFS were measured by the USGS on 08/08/1969, 08/29/1969, and 07/29/1971 at gage station USGS 04250764, Stony Creek at Henderson NY. The flows were obtained from "Low-Flow Frequency Analysis of Streams in New York, United States Geologic Survey Bulletin 74, 1979".

The flow measurements made at Stony Creek were correlated with concurrent flow measurements (flows made on the same day) with Sandy Creek using the Maintenance of Variance Extension Type 1 (MOVE.1) regression method with a logarithmic transformation. The two gages exhibited a strong correlation with a coefficient of determination (R²) of 0.98.

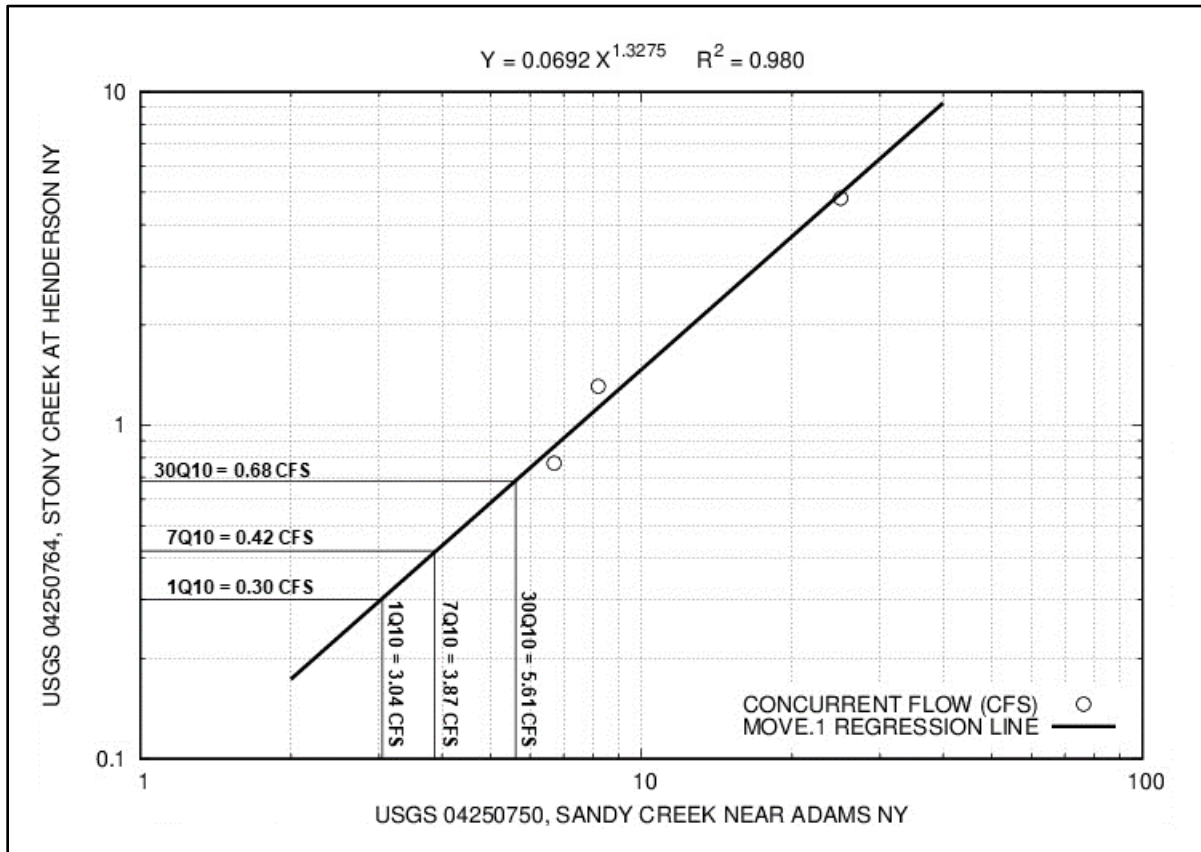
The resulting regression line was used to estimate 1Q10, 7Q10, and 30Q10 flows for Stony Creek based on the 1Q10, 7Q10, and 30Q10 flows calculated at Sandy Creek. A graphical representation of the analysis is depicted in Figure 5.

$$1Q10 = 0.0692 \times (3.04 \text{ CFS})^{1.3275} = 0.30 \text{ CFS}$$

$$7Q10 = 0.0692 \times (3.87 \text{ CFS})^{1.3275} = 0.42 \text{ CFS}$$

$$30Q10 = 0.0692 \times (5.61 \text{ CFS})^{1.3275} = 0.68 \text{ CFS}$$

Figure 5. Concurrent Flows for Stony Creek Versus Sandy Creek



To express the critical receiving water flows from cubic feet per second (CFS) to million gallons per day (MGD), a multiplier of 0.6463 was applied. The critical flows in MGD are:

Table 2: Critical Low Flows at Facility

Outfall	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)
001	0.19	0.27	0.44

The 1Q10, 7Q10, and 30Q10 flows were used to calculate the acute, chronic, and human, aesthetic, wildlife (HEW) dilution ratios, respectively. The facility design flow is 0.096 MGD.

$$\text{Dilution Ratio} = (\text{Facility Flow} + \text{Low Flow}) / \text{Facility Flow}$$

Table 3. Dilution Ratios

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	3.0:1	3.8:1	5.6:1	TOGS 1.3.1

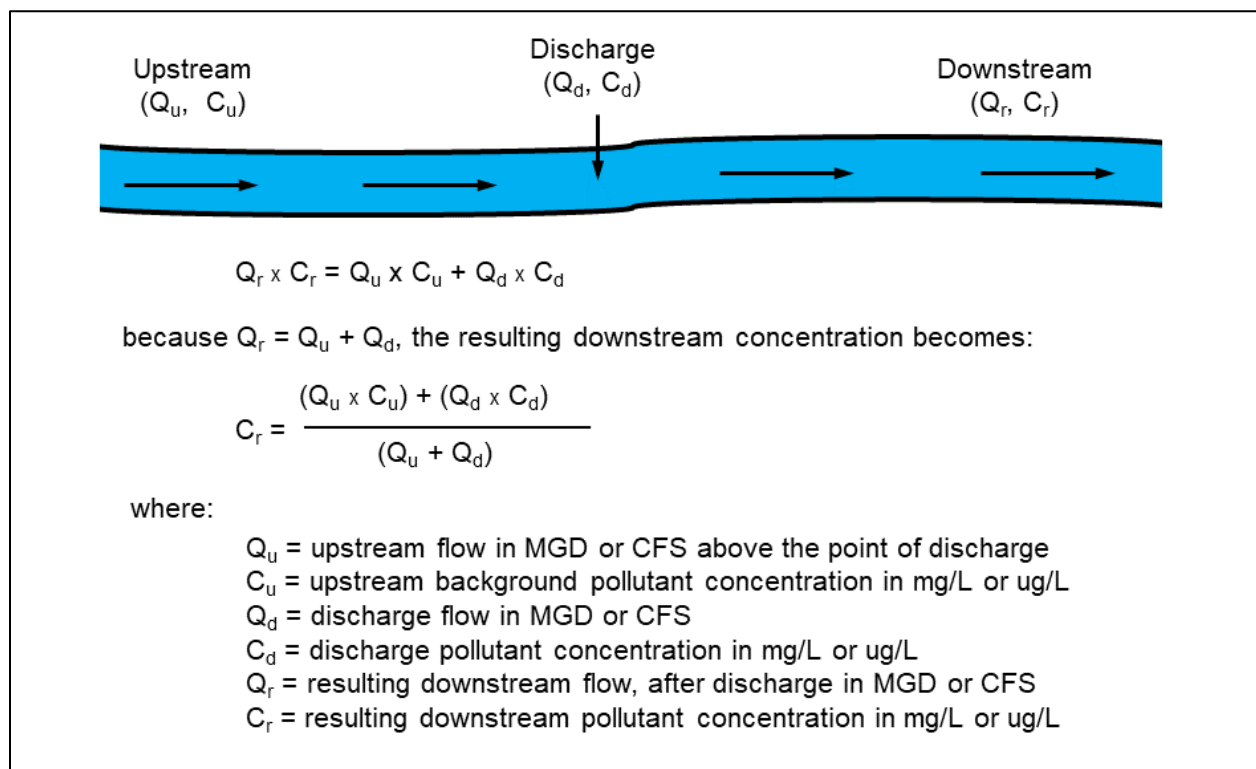
Critical receiving water information for pH and hardness was based on water quality monitoring conducted by NYSDEC under the Rotating Integrated Basin Studies (RIBS) program at monitoring station 03-SAND-2.7, Sandy Creek at Ellisburg.

Table 4. Receiving Water Quality Information

Parameter	Units	Mean	Range	20 th Percentile	80 th Percentile	Number of Samples
pH	SU	7.5	5.8 - 8.9	6.9	8.3	17
Hardness	mg/L	140	88-186	---	---	18

For conservative pollutants with rapid and complete mixing, a steady-state, mass-balance approach using a consistent set of units (MGD, mg/L, etc.) is applied to calculate the downstream water quality resulting from a discharge.

Figure 6. Mass Balance Formula



For non-conservative, oxygen-demanding pollutants, in-stream dissolved oxygen concentrations from a point source discharge to a river or stream are calculated using modeling tools developed

by NYSDEC based on the Streeter-Phelps equations. The method used is documented in *Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water*, EPA/600/6-85/002a.

To calculate the mass loading of a pollutant in pounds per day (lbs/d) from a concentration, the following conversion formula is applied:

$$\text{Loading (lbs/d)} = \text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34$$
$$1 \text{ mg/L} = 1,000 \text{ ug/L}$$

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

PERMIT REQUIREMENTS

The technology based effluent limitations ([TBELs](#)) and water quality-based effluent limitations ([WQBELs](#)) with a discussion of the selected effluent limitation for each pollutant present in the discharge are provided in the [Pollutant Summary Table](#). Typically, the more stringent limitation between the TBELs and WQBELs applies.

Whole Effluent Toxicity (WET) Testing

None of the seven criteria that are indicative of potential toxicity listed in the Appendix to this factsheet are applicable to this facility. Therefore, WET testing is not included in the draft permit. [Appendix Link](#)

Antidegradation

The permit contains effluent limitations which ensure that the best usages of the receiving waters will be maintained. The Notice of Complete Application published in the Environmental Notice Bulletin contains information on the State Environmental Quality Review (SEQR)¹ determination. [Appendix Link](#)

Discharge Notification Act Requirements

In accordance with the Discharge Notification Act (ECL 17-0815-a), the permittee is required to post a sign at each point of wastewater discharge to surface waters, unless a waiver is obtained. Additionally, the permit contains a requirement to make the DMR sampling data available to the public upon request.

Temperature Requirements for Municipal Discharges to Trout Streams

For municipal discharges to streams classified as trout (T) or trout spawning (TS), NYSDEC has reviewed the dilution and expected effluent temperature. Because this is a new facility without existing effluent data, expected effluent temperature was taken from a nearby POTW (Village of Adams, NY0034771). In the past three years (2020-2022), the maximum single day effluent temperature was 73 °F. Single day daily maximum effluent temperatures occasionally exceeded 70 °F during the months of July, August, and September.

Based on NYSDEC thermal screening criteria in Figure 7, the facility falls under Zone 2 and requires a temperature action level. While the discharge temperature is not expected to contravene the standard in 6 NYCRR Part 704, the 70°F action level will provide data to assess the actual effect of the discharge.

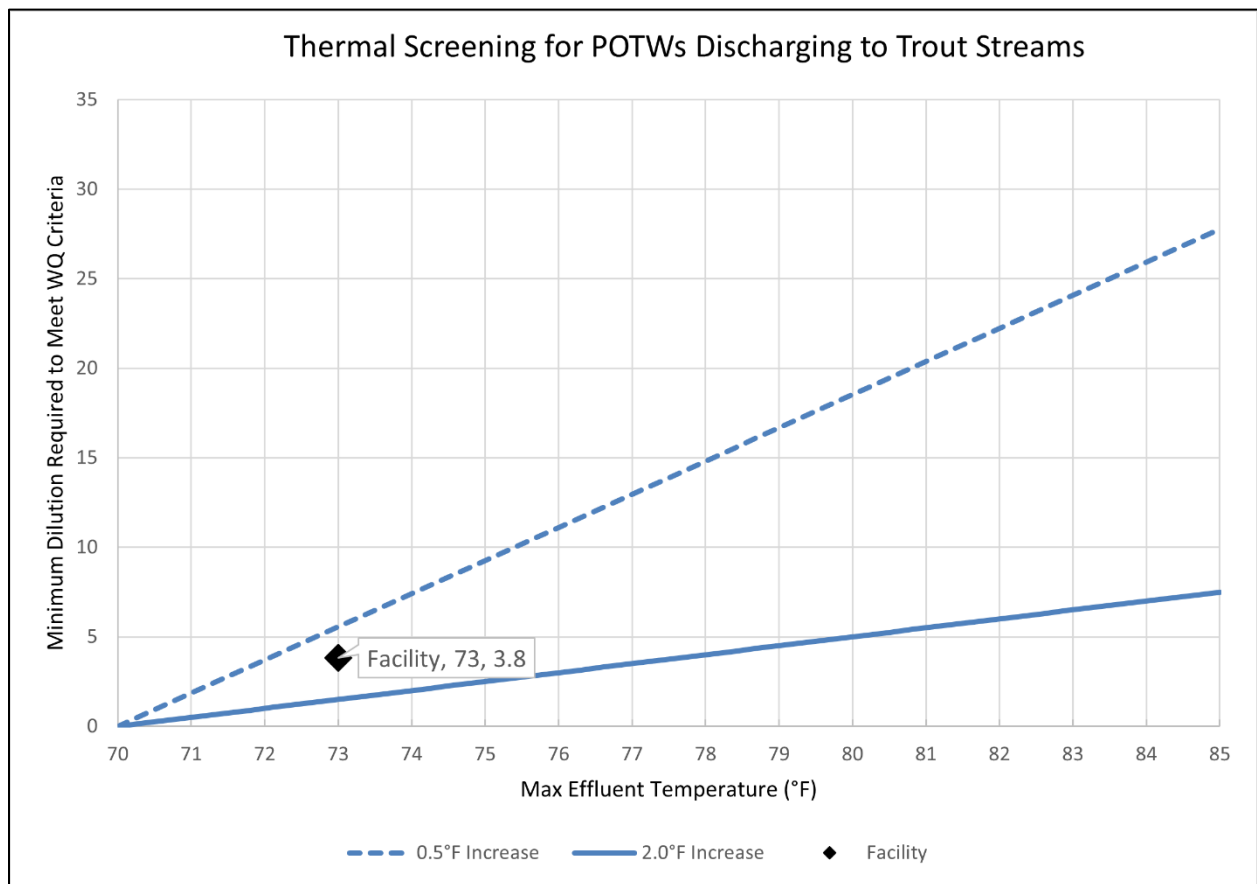
¹ As prescribed by 6 NYCRR Part 617

As described in the permit, if the action level is exceeded, the permittee will be required to collect ambient stream temperature data both above and below the facility at the following locations:

1. An effluent sample shall be measured as close as practical to the outfall without interference from the receiving water.
2. Downstream receiving water sample shall be measured 300 feet downstream of the outfall.
3. Upstream receiving water sample shall be measured 10 feet upstream of the outfall.

Data collected by this monitoring program may be used later to determine the applicability of additional limitations or modifications in accordance with 6 NYCRR 704.4.

Figure 7. Thermal Screening



Mercury²

The multiple discharge variance (MDV) for mercury defined in DEC Program Policy DOW 1.3.10 Mercury – SPDES Permitting & Multiple Discharge Variance provides the framework for NYSDEC

² In accordance with DOW 1.3.10 Mercury – SPDES Permitting & Multiple Discharge Variance (MDV), December 30, 2020.

to require mercury monitoring and mercury minimization programs (MMPs) through SPDES permitting. [Appendix Link](#)

The facility will be located within a Great Lakes basin. In accordance with Appendix F to 40 CFR Part 132 C.2.(3), Water Quality Guidance for the Great Lakes System, not included within the definition of a “new discharge” are new or expanded discharges of bioaccumulative chemicals of concern (BCCs) from a publicly owned treatment works when such discharges are necessary to prevent a public health threat to the community (e.g., a situation where a community with failing septic systems is connected to a POTW to avert a potential public health threat from these failing systems). These and all other discharges of BCCs are defined as existing discharges.” Table 6 in 40 CFR 132 defines mercury as a BCC.

Inadequate and/or failing on-site septic systems in the Hamlet of Henderson have been documented by dye testing conducted in 2002 (NYSDEC PWL 0303-0022 Factsheet).

Because the facility has yet to be constructed, effluent sampling results for mercury are not available. There are no dental facilities or industrial users within the proposed sewer district. Based on similar sized POTWs, the facility is not expected to be a mercury source as defined in DOW 1.3.10.

On 03/29/2022, the permittee submitted a Conditional Exclusion Certification, certifying that the facility does not have any of the mercury sources listed in Part III.A.3. of DOW 1.3.10. Therefore, consistent with DOW 1.3.10, the permit includes requirements for the implementation of MMP Type IV and does not include mercury effluent limitations. The Schedule of Additional Submittals includes a mercury minimization plan annual status report (maintained onsite), and re-certification of the exclusion every five years.

The Schedule of Submittals in the draft permit requires the facility conduct mercury sampling after the treatment plant is put into service to verify it is not a mercury source. If results exceed 12 ng/L, the permit shall be modified to include a Type II MMP and a daily maximum effluent limitation of 50 ng/L in accordance with DOW 1.3.10.

Schedule(s) of Compliance

A Schedule of Compliance is being included³ for the following items ([Appendix Link](#)):

- Complete construction of the disposal system to achieve compliance with the final effluent limitations specified in the draft permit.

Schedule(s) of Additional Submittals

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

- Mercury effluent sampling.
- Mercury Minimization Program Annual Status Report (maintained onsite).
- Annual Flow certification in accordance with 6 NYCRR Part 750-2.9(c)(4).
- Mercury conditional exclusion certification every five years.

³ Pursuant to 6 NYCRR 750-1.14

Permittee: Town of Henderson
Facility: Henderson Wastewater Treatment Facility
SPDES Number: NY0312886
USEPA Non-Major/Class 07 Municipal

Date: September 19, 2023
Permit Writer: Michael Bocchi
Full Technical Review

Special Conditions

Because the facility will receive partially treated influent from individual septic tanks, the permittee may use an assumed value of 200 mg/L when calculating BOD₅ and Total Suspended Solids percent removals.

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	43° 50' 15.1" N	76° 12' 10.2" W	Stony Creek	C(T)	Ont. 40 PWL: 0303-0009	03 / 03	140 ⁴	0.19	0.27	0.44	0.096	3.0:1	3.8:1	5:6

POLLUTANT SUMMARY TABLE

Outfall 001

Outfall #	001	Description of Wastewater: Treated Sanitary													
		Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# 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: All applicable water quality standards were reviewed for development of the WQBELs. The standard and WQBEL shown below represent the most stringent.															
Flow Rate	MGD	Monthly Avg	No Data - New Discharge			0.096	TOGS 1.3.3	Narrative: No alterations that will impair the waters for their best usages.				6 NYCRR Part 703.2	-	TBEL	
<p><u>TBEL</u> Consistent with TOGS 1.3.3, a monthly average flow limitation equal to the average daily design capacity of the treatment plant is specified. This is to ensure the plant is not operated beyond its design capacity.</p> <p><u>WQBEL</u> Not Applicable.</p> <p><u>Basis of Permit Requirement</u> The monthly average TBEL of 0.096 MGD is being specified in the draft permit.</p>															

⁴ Ambient hardness data obtained from RIBS Station 03-SAND-2.7, Sandy Creek at Ellisburg.

Outfall #	Description of Wastewater: Treated Sanitary														
	Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# 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	No Data - New Discharge			6.0	TOGS 1.3.3	-	-	6.5	Range	6.5	6 NYCRR Part 703.3	-	WQBEL
		Maximum	No Data - New Discharge			9.0				8.5		8.5			
<p><u>TBEL</u> Consistent with TOGS 1.3.3 for POTWs, pH TBELs of 6.0 SU - 9.0 SU reflect federal secondary treatment regulations in 40 CFR 133.102(c).</p> <p><u>WQBEL</u> Given the available dilution, an effluent limitation equal to the water quality standard of 6.5 - 8.5 is appropriate to ensure water quality is maintained and/or not to cause/contribute to an exceedance of water quality standards throughout the pH range of the receiving waterbody.</p> <p><u>Basis of Permit Requirement</u> The TBEL/ISEL are specified in the draft permit.</p>															
Temperature	°F	Daily Max	No Data - New Discharge			-	-	Narrative (Trout): No discharge at a temperature over 70°F (21°C) shall be permitted at any time to streams classified for trout			70	6 NYCRR Part 704.2	-	Action Level	
			<p><u>TBELs</u> Not Applicable</p> <p><u>WQBELs</u> Based on the available dilution, an action level 70 °F is appropriate. Exceeding an action level triggers additional temperature sampling requirements, including the receiving water both upstream and downstream of the outfall. Please see the Temperature Requirements for Municipal Discharges to Trout Streams section of the factsheet for a discussion.</p> <p><u>Basis of Permit Requirement</u> An action level of 70 °F is specified in the draft permit.</p>												

Outfall #	Description of Wastewater: Treated Sanitary																
	Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection																
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement		
			Permit Limit	Existing Effluent Quality	# 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				
	mg/L	Daily Min	No Data - New Discharge			7.0	TOGS 1.3.1 ISEL	7.5	5.4	5.0	Narrative	-	6 NYCRR Part 703.3	-	TBEL (ISEL)		
Dissolved Oxygen (DO)	<p>TBELs Consistent with TOGS 1.3.1, intermittent stream effluent limits (ISEL) are applied to discharges to streams with little or no streamflow under critical conditions. These limits represent the highest degree of treatment technology that can reasonably be achieved by a wastewater treatment facility treating domestic type waste. The ISEL for DO is 7.0 mg/L.</p> <p>WQBELs The resulting downstream Dissolved Oxygen (DO) concentration was modeled using the NYSDEC River-Based Effluent Limit Screening Analysis Tool (RSAT) based on Streeter-Phelps equations under summer receiving water critical conditions:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Receiving Water Characteristics Flow = 0.42 CFS (7Q10, TOGS 1.3.1.D) Temperature = 24°C (TOGS 1.3.1.D) DO Saturation = 90% (7.54 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p> </td> <td style="width: 50%; vertical-align: top;"> <p>Effluent Characteristics Flow = 0.15 CFS (0.096 MGD, Permit Limit) Temperature = 24°C (TOGS 1.3.1.D) DO = 7.0 mg/l (Permit Limit) BOD₅/CBOD₅ = 5.0 mg/L (Permit Limit) Ammonia = 1.7 mg/L (Summer Permit Limit) Organic Nitrogen = 1.0 mg/L (BPJ, MBR Technology)</p> </td> </tr> </table>															<p>Receiving Water Characteristics Flow = 0.42 CFS (7Q10, TOGS 1.3.1.D) Temperature = 24°C (TOGS 1.3.1.D) DO Saturation = 90% (7.54 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p>	<p>Effluent Characteristics Flow = 0.15 CFS (0.096 MGD, Permit Limit) Temperature = 24°C (TOGS 1.3.1.D) DO = 7.0 mg/l (Permit Limit) BOD₅/CBOD₅ = 5.0 mg/L (Permit Limit) Ammonia = 1.7 mg/L (Summer Permit Limit) Organic Nitrogen = 1.0 mg/L (BPJ, MBR Technology)</p>
	<p>Receiving Water Characteristics Flow = 0.42 CFS (7Q10, TOGS 1.3.1.D) Temperature = 24°C (TOGS 1.3.1.D) DO Saturation = 90% (7.54 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p>	<p>Effluent Characteristics Flow = 0.15 CFS (0.096 MGD, Permit Limit) Temperature = 24°C (TOGS 1.3.1.D) DO = 7.0 mg/l (Permit Limit) BOD₅/CBOD₅ = 5.0 mg/L (Permit Limit) Ammonia = 1.7 mg/L (Summer Permit Limit) Organic Nitrogen = 1.0 mg/L (BPJ, MBR Technology)</p>															
June 1 st – Oct. 31 st	<p>The receiving water was modeled from Outfall 001 to the confluence with Lake Ontario using 4 stream segments from to account for variations in stream geometry (slope, width, velocity, depth). Modeling results predicted a minimum instream DO concentration of 5.4 mg/L about 0.6 miles downstream of Outfall 001, which maintains water quality standards.</p> <p>Model runs at effluent DO levels/limits lower than 7.0 mg/L predicted instream DO concentrations less than 5 mg/L which would not maintain water quality standards and would require additional and stricter effluent limits for Ultimate Oxygen Demand (UOD). Therefore, the ISEL TBEL for DO is appropriate to maintain DO water quality standards.</p> <p>Basis of Permit Requirement The seasonal summer ISEL TBEL limit of 7.0 mg/L for DO is being specified in the draft permit.</p>																

Outfall #	Description of Wastewater: Treated Sanitary																
	Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection																
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement		
			Permit Limit	Existing Effluent Quality	# 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				
	mg/L	Daily Min	No Data - New Discharge			-		10.1	6.2	5.0	Narrative	-	6 NYCRR Part 703.3	-	-		
Dissolved Oxygen (DO) Nov. 1 st – May 31 st	<p><u>TBELs</u> Not Applicable.</p> <p><u>WQBELs</u> The downstream Dissolved Oxygen (DO) concentration was modeled using the NYSDEC River-Based Effluent Limit Screening Analysis Tool (RSAT) based on Streeter-Phelps equations under winter receiving water critical conditions:</p> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p><i>Receiving Water Characteristics</i> Flow = 0.42 CFS (7Q10, TOGS 1.3.1.D) Temperature = 10°C (TOGS 1.3.1.D) DO Saturation = 90% (10.1 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p> </td> <td style="vertical-align: top; width: 50%;"> <p><i>Effluent Characteristics</i> Flow = 0.15 CFS (0.096 MGD, Permit Limit) Temperature = 10°C (TOGS 1.3.1.D) DO = 0.0 mg/l (Worst Case Scenario) BOD₅/CBOD₅ = 5.0 mg/L (TBEL) Ammonia = 3.2 mg/L (Winter WQBEL) Organic Nitrogen = 1.9 mg/L (BPJ, MBR Technology)</p> </td> </tr> </table> <p>The receiving water was modeled from Outfall 001 to the confluence with Lake Ontario using 4 stream segments from to account for variations in stream geometry/hydraulics. RSAT modeling results predicted an instream DO concentration of 6.2 mg/L about 0.6 miles downstream of Outfall 001, which maintains water quality standards and consequently a winter DO limit is unnecessary as the TBEL for BOD₅ and WQBEL for Ammonia are protective of DO water quality standards.</p> <p><u>Basis of Permit Requirement</u> Seasonal winter monitoring for DO is being specified in the draft permit. Monitor only will allow for not running mechanical equipment for DO reaeration during winter conditions reducing equipment wear-and-tear, electrical use, and overall carbon footprint.</p>															<p><i>Receiving Water Characteristics</i> Flow = 0.42 CFS (7Q10, TOGS 1.3.1.D) Temperature = 10°C (TOGS 1.3.1.D) DO Saturation = 90% (10.1 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p>	<p><i>Effluent Characteristics</i> Flow = 0.15 CFS (0.096 MGD, Permit Limit) Temperature = 10°C (TOGS 1.3.1.D) DO = 0.0 mg/l (Worst Case Scenario) BOD₅/CBOD₅ = 5.0 mg/L (TBEL) Ammonia = 3.2 mg/L (Winter WQBEL) Organic Nitrogen = 1.9 mg/L (BPJ, MBR Technology)</p>
	<p><i>Receiving Water Characteristics</i> Flow = 0.42 CFS (7Q10, TOGS 1.3.1.D) Temperature = 10°C (TOGS 1.3.1.D) DO Saturation = 90% (10.1 mg/L, TOGS 1.3.1.D) Upstream NOD = 0.0 mg/L (TOGS 1.3.1.D) Upstream UOD = 3.0 mg/L (TOGS 1.3.1.D)</p>	<p><i>Effluent Characteristics</i> Flow = 0.15 CFS (0.096 MGD, Permit Limit) Temperature = 10°C (TOGS 1.3.1.D) DO = 0.0 mg/l (Worst Case Scenario) BOD₅/CBOD₅ = 5.0 mg/L (TBEL) Ammonia = 3.2 mg/L (Winter WQBEL) Organic Nitrogen = 1.9 mg/L (BPJ, MBR Technology)</p>															

Outfall #	001															
	Description of Wastewater: Treated Sanitary															
Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection																
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality	# 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	Daily Max	No Data - New Discharge			5.0	TOGS 1.3.1 (ISEL)	-	See Dissolved Oxygen						-	TBEL
	lbs/d	Daily Max	No Data - New Discharge			4.0	6 NYCRR Part 750-1.10(a)									
	% Rem	Minimum	No Data - New Discharge			85	TOGS 1.3.3									
<p><u>TBELs</u> Consistent with TOGS 1.3.1, the ISEL TBEL for BOD₅ is 5.0 mg/L and is expressed as a daily maximum.</p> <p>6 NYCRR Part 750-1.10(a) and 40 CFR Part 122.45(f)(1) requires effluent limits for most parameters be expressed in terms of mass/weight. The calculated BOD₅ limit expressed as weight at the permitted flow limit is:</p> <p style="text-align: center;">TBEL = 0.096 MGD x 5.0 mg/L x 8.34 = 4.0 lbs/day.</p> <p>As specified in TOGS 1.3.3, federal secondary treatment standards in 40 CFR Part 133.102(a)(3) requires that the 30-day average percent removal shall not be less than 85 percent. Because the treatment plant receives partially treated wastewater from a Septic Tank Effluent Pumping (STEP) collection system, an influent BOD₅ concentration of 200 mg/L may be assumed when calculating percent removal.</p> <p><u>WQBELs</u> Please refer to Dissolved Oxygen for the water quality analysis.</p> <p><u>Basis of Permit Requirement</u> BOD₅ TBELs are being specified in the draft permit.</p>																

Outfall #	001	Description of Wastewater: Treated Sanitary														
		Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality	# 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 Suspended Solids (TSS)	mg/L	Daily Max	No Data - New Discharge			10	TOGS 1.3.1 (ISEL)	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.						6 NYCRR Part 703.2	-	TBEL (ISEL)
	lbs/d	Daily Max	No Data - New Discharge			8.0	6 NYCRR Part 750-1.10(a)									
	% Rem	Minimum	No Data - New Discharge			85	TOGS 1.3.3									
<p><u>TBELs</u> Consistent with TOGS 1.3.1, the ISEL TBEL for TSS is 10 mg/L and is expressed as a daily maximum.</p> <p>6 NYCRR Part 750-1.10(a) and 40 CFR Part 122.45(f)(1) requires effluent limits for most parameters be expressed in terms of mass/weight. The calculated TSS limit expressed as weight at the permitted flow limit is:</p> <p style="text-align: center;">TBEL = 0.096 MGD x 10 mg/L x 8.34 = 8.0 lbs/day.</p> <p>As specified in TOGS 1.3.3, federal secondary treatment standards in 40 CFR Part 133.102(b)(3) requires that the 30-day average percent removal shall not be less than 85 percent. Because the treatment plant receives partially treated wastewater from a Septic Tank Effluent Pumping (STEP) collection system, an influent TSS concentration of 200 mg/L may be assumed when calculating percent removal.</p> <p><u>WQBELs</u> An effluent limitation equal to the ISEL is appropriate for streams with little flow under critical flow conditions and is protective of water quality standards.</p> <p><u>Basis of Permit Requirement</u> TSS TBELs are being specified in the draft permit.</p>																

Outfall #	001	Description of Wastewater: Treated Sanitary													
		Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & QBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. QBEL	Basis for QBEL		
Settleable Solids	mL/L	Daily Max	No Data - New Discharge			0.1	TOGS 1.3.3	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages			6 NYCRR Part 703.2	-	TBEL	
	<p><u>TBELs</u> MBRs replace secondary clarification and filtration in a single step. Consistent with TOGS 1.3.3, the effluent limitation is equal to the TBEL of 0.1 mL/L for POTWs providing secondary treatment and filtration.</p> <p><u>QBELs</u> The TBEL is protective of water quality standards.</p> <p><u>Basis of Permit Requirement</u> Effluent limitations equal to the TBEL of 0.1 ml/L is specified in the draft permit.</p>														
Nitrogen, Ammonia (as N)	mg/L	Monthly Avg	No Data - New Discharge			-	-	-	-	0.30	A(C)	1.7	TOGS 1.1.1	-	QBEL
	<p><u>TBEL</u> Not Applicable.</p> <p><u>QBEL</u> The water quality standard for Ammonia (as NH₃) is 0.36 mg/L and was determined from TOGS 1.1.1 and TOGS 1.3.1.E using a pH of 8.3 (80th Percentile) and a summer temperature of 25°C. Effluent limitations and reporting for Ammonia has been changed from (as NH₃) to (as N) for simpler data reporting by being consistent with typical commercial laboratory reporting units. Values can be converted using the equation: Ammonia (as N) = Ammonia (as NH₃) x 0.8224. The instream water quality standard for Ammonia (as N) is:</p> <p style="padding-left: 40px;">Ammonia (as N) = 0.36 mg/L x 0.8224 = 0.30 mg/L</p> <p>The QBEL was calculated using the 30Q10 (HEW) flow and applying a mass balance:</p> <p style="padding-left: 40px;">Mass Balance = (0.44 MGD x 0 mg/L) + (0.096 MGD x QBEL) = (0.44 MGD + 0.096 MGD) x 0.30 mg/L QBEL = 1.7 mg/L</p> <p><u>Basis of Permit Requirement</u> Effluent limitations equal to the QBEL of 1.7 mg/L is specified in the draft permit.</p>														

Outfall #	001														
	Description of Wastewater: Treated Sanitary														
Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection															
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# 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) Nov. 1 st – May 31 st	mg/L	Monthly Avg	No Data - New Discharge			-	-	-	-	0.58	A(C)	3.2	TOGS 1.1.1	-	WQBEL
	<p><u>TBELs</u> Not Applicable.</p> <p><u>WQBELs</u> The water quality standard for Total Ammonia (as N) of 0.58 mg/L was determined in accordance with TOGS 1.3.1.E and TOGS 1.1.1 with a pH of 8.3 SU (80th percentile), winter temperature of 10°C, under 30Q10 flow conditions. To convert Ammonia (as NH₃) from TOGS 1.1.1 to Ammonia (as N), a multiplier of 0.8224 was applied.</p> <p>Mass Balance = (0.44 MGD x 0 mg/L) + (0.096 MGD x WQBEL) = (0.44 MGD + 0.096 MGD) x 0.58 mg/L WQBEL = 3.2 mg/L</p> <p><u>Basis of Permit Requirement</u> Effluent limitations equal to the WQBEL of 3.2 mg/L is specified in the draft permit.</p>														
Total Phosphorus	mg/L	Monthly Avg	No Data - New Discharge			-	-	-	-	-	-	-	-	-	Monitor
	Phosphorus monitoring is being required to support the objectives of the International Joint Commission (IJC). Please refer to Interstate Water Pollution Control Agencies section of this fact sheet for a discussion.														
Total Mercury	ng/L	Monthly Avg	No Data - New Discharge			-	-	-	-	0.7	H(FC)	-	6 NYCRR Part 703.5	-	DOW 1.3.10
	Please see the Mercury section of this factsheet for more information.														

Outfall #	001	Description of Wastewater: Treated Sanitary													
		Type of Treatment: Individual Septic Tanks, Flow Equalization, Screening, Membrane Bioreactor (MBR), Ultraviolet (UV) Disinfection													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality	# 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		
Coliform, Fecal	#/100 ml	30d Geo Mean	No Data - New Discharge			200	TOGS 1.3.3	-	Narrative: The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.				6 NYCRR Part 703.4	-	TBEL
		7d Geo Mean	No Data - New Discharge			400	TOGS 1.3.3	-							
<p><u>TBELs</u> Consistent with TOGS 1.3.3, effluent disinfection is required year-round due to the class of the downstream waterbody. About 2.5 miles downstream of the discharge point, Stony Creek enters Lake Ontario which is classified as Class A. Fecal coliform TBELs of 200/400 #/100 ml are based on TOGS 1.3.3 for POTWs.</p> <p><u>WQBELs</u> Given the available dilution, TBELs will maintain water quality standards.</p> <p><u>Basis of Permit Requirement</u> Fecal coliform effluent limitations equal to the TBEL are specified in the draft permit.</p>															
Total Residual Chlorine (TRC)	mg/L	Daily Max	No Data - New Discharge			2.0	TOGS 1.3.3	-	0.25	0.005	A(C)	0.04	6 NYCRR Part 703.5	0.03	-
	<p><u>TBELs</u> In accordance with TOGS 1.3.3 for POTWs, a TBEL of 2.0 mg/L is specified.</p> <p><u>WQBELs</u> Projected Instream Concentration (PIC) with the TBEL under A(C) conditions:</p> $PIC = [(0.67 \text{ MGD} \times 0 \text{ mg/L}) + (0.096 \text{ MGD} \times 2.0 \text{ mg/L})] / (0.67 \text{ MGD} + 0.049 \text{ MGD}) = 0.25 \text{ mg/L}$ <p>WQBEL Calculation under A(C) conditions:</p> $\text{Mass Balance} = (0.67 \text{ MGD} \times 0 \text{ mg/L}) + (0.096 \text{ MGD} \times \text{WQBEL}) = (0.67 \text{ MGD} + 0.096 \text{ MGD}) \times 0.005 \text{ mg/L}$ $\text{WQBEL} = 0.04 \text{ mg/L}$ <p>The calculated WQBEL is less than the TBEL and an effluent limitation equal to the WQBEL of 0.04 mg/L is appropriate.</p> <p><u>Basis of Permit Requirement</u> The permittee has selected UV for disinfection. Chlorine limits are not necessary and are not being specified in the draft permit. The chlorine evaluation is being provided should the design of the treatment plant change and/or for informational purposes.</p>														

APPENDIX: REGULATORY AND TECHNICAL BASIS OF PERMIT AUTHORIZATIONS

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

Regulatory References

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

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

The following is a quick guide to the references used within the 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 (DOW 1.3.10)
Mixing Zone and Critical Water Information	TOGS 1.3.1 & Amendments
PCB Minimization Program	40 CFR Part 132 Appendix F Procedure 8, 6 NYCRR 750-1.13(a) and 750-1.14(f), and TOGS 1.2.1
Pollutant Minimization Program (PMP)	6 NYCRR 750-1.13(a), 750-1.14(f), TOGS 1.2.1
Schedules of Compliance	6 NYCRR 750-1.14
Sewage Pollution Right to Know (SPRTK)	NYS ECL 17-0826-a, 6 NYCRR 750-2.7
State Administrative Procedure Act (SAPA)	State Administrative Procedure Act Section 401(2), 6 NYCRR 621.11(l)
State Environmental Quality Review (SEQR)	6 NYCRR Part 617
USEPA Effluent Limitation Guidelines (ELGs)	40 CFR Parts 405-471
USEPA National CSO Policy	33 USC Section 1342(q)
Whole Effluent Toxicity (WET) Testing	TOGS 1.3.2
General Provisions of a SPDES Permit Department Request for Additional Information	NYCRR 750-2.1(i)

Outfall and Receiving Water Information

Impaired Waters

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

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

Interstate Water Pollution Control Agencies

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

Existing Effluent Quality

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

Permit Requirements

Basis for Effluent Limitations

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

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

Anti-backsliding

Anti-backsliding requirements are specified in the CWA sections 402(o) and 303(d)(4), ECL 17-0809, and regulations at 40 CFR 122.44(l) and 6 NYCRR 750-1.10(c) and (d). Generally, the relaxation of effluent limitations in permits is prohibited unless one of the specified exceptions applies, which will be cited on a case-by-case basis in this factsheet. Consistent with current case law⁵ and USEPA interpretation⁶ 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.

⁵ American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)

⁶ U.S. EPA, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; 65 Fed. Reg. 31682, 31704 (May 18, 2000); Proposed Water Quality Guidance for the Great Lakes System, 58 Fed. Reg. 20802, 20837 & 20981 (April 16, 1993)

Antidegradation Policy

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

Effluent Limitations

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

Technology-based Effluent Limitations (TBELs)

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

Water Quality-Based Effluent Limitations (WQBELs)

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

Mixing Zone Analyses

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

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

Critical Flows

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

Reasonable Potential Analysis (RPA)

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

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

The Department uses modeling tools to estimate the expected concentrations of the pollutant in the receiving water and develop WQBELs. These tools were developed in part using the methodology referenced above. If the estimated concentration of the pollutant in the receiving water is expected to exceed the ambient water quality standard or guidance value (i.e. numeric interpretation of a narrative water quality standard), then there is a reasonable potential that the discharge may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. If a TMDL is in place, the facility's WLA for that pollutant is applied as the WQBEL.

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

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

Whole Effluent Toxicity (WET) Testing:

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

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

Minimum Level of Detection

Pursuant to 40 CFR 122.44(i)(1)(iv) and 6 NYCRR 750-2.5(d), SPDES permits must contain monitoring requirements using sufficiently sensitive test procedures approved under 40 CFR Part 136. A method is “sufficiently sensitive” when the method’s minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant parameter; or the lowest ML of the analytical methods approved under 40 CFR Part 136. The ML represents the lowest level that can be measured within specified limitations of precision and accuracy during routine laboratory operations on most effluent matrices. When establishing effluent limitations for a specific parameter (based on technology or water quality requirements), it is possible that the calculated limitation will fall below the ML established by the approved analytical method(s). In these instances, the calculated limitation is included in the permit with a compliance level set equal to the ML of the most sensitive method.

Monitoring Requirements

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

Other Conditions

Mercury

The multiple discharge variance (MDV) for mercury was developed in accordance with 6 NYCRR 702.17(h) “to address widespread standard or guidance value attainment issues including the presence of a ubiquitous pollutant or naturally high levels of a pollutant in a watershed.” The first MDV was issued in October 2010, and subsequently revised and reissued in 2015; each subsequent iteration of the MDV is designed to build off the previous version, to make reasonable progress towards the water quality standard (WQS) of 0.7 ng/L dissolved mercury. The MDV is necessary because human-caused conditions or sources of mercury prevent attainment of the WQS and cannot be remedied (i.e., mercury is ubiquitous in New York waters at levels above the WQS and compliance with a water quality based effluent limitation (WQBEL) for mercury cannot be achieved with demonstrated effluent treatment technologies). The Department has determined that the MDV is consistent with the protection of public health, safety, and welfare. During the effective period of this MDV, any increased risks to human health are mitigated by fish consumption advisories issued periodically by the NYSDOH. All surface water SPDES permittees are eligible for authorization by the MDV provided they meet the requirements specified in DOW 1.3.10.

Schedules of Compliance

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

Schedule(s) of Additional Submittals

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