



State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

SIC Code:	4952	NAICS Code:	221320	SPDES Number:	NY0029271
Discharge Class (CL):	05	DEC Number:	4-1250-00008/00001		
Toxic Class (TX):	T	Effective Date (EDP):	EDP		
Major-Sub Drainage Basin:	06-01	Expiration Date (ExDP):	ExDP		
Water Index Number:	SR (portion 7)	Item No.:	930-7	Modification Dates (EDPM):	-
Compact Area:	SRBC				

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:	Village of Sidney			Attention:	Mayor
Street:	21 Liberty Street				
City:	Sidney	State:	NY	Zip Code:	13838
Email:	snordberg@villageofsidney.org questions@villageofsidney.org <small>(Chief Operator and Mayor, respectively)</small>			Phone:	607-561-2330 (WPCP)

is authorized to discharge from the facility described below:

FACILITY NAME, ADDRESS, AND PRIMARY OUTFALL										
Name:	Village of Sidney Water Pollution Control Plant									
Address / Location:	72 River Street						County:	Delaware		
City:	Sidney			State:	NY		Zip Code:	13838		
Facility Location:	Latitude:	42 °	18 ' 47 " N	& Longitude:	75 °	24 ' 7 " W				
Primary Outfall No.:	001	Latitude:	42 ° 18 ' 57 " N	& Longitude:	75 ° 24 ' 18 " W					
Outfall Description:	Treated Sanitary		Receiving Water:	Susquehanna River		Class:	B		Standard:	B

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

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

DISTRIBUTION:

- CO BWP - Permit Coordinator
- BWP – Permit Writer
- CO BWC - SCIS
- RWE & RPA
- EPA Region II
- NYSEFC
- District Health
- SRBC

Permit Administrator:			
Address:	625 Broadway Albany, NY 12233-1750		
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	Year Round	Susquehanna River	EDP	ExDP

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Flow	Monthly Average	1.7	MGD	-	-	Continuous	Recorder	X		
	Daily Maximum	Monitor	MGD	-	-					
pH	Daily Minimum	6.0	SU	-	-	2/day	Grab		X	
	Daily Maximum	9.0	SU	-	-					
Temperature	Daily Maximum	90	°F	-	-	2/day	Grab	X	X	
	Monthly Average	Monitor								
BOD ₅	Monthly Average	30	mg/L	420	lbs/d	1/week	24-hr. Comp.	X	X	1
	7-Day Average	45	mg/L	640	lbs/d	1/week	24-hr. Comp.		X	
Total Suspended Solids (TSS)	Monthly Average	30	mg/L	420	lbs/d	1/week	24-hr. Comp.	X	X	1
	7-Day Average	45	mg/L	640	lbs/d	1/week	24-hr. Comp.		X	
Settleable Solids	Daily Maximum	0.3	mL/L	-	-	2/day	Grab		X	
Total Kjeldahl Nitrogen (TKN) (as N)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	1/week	24-hr. Comp.	X	X	
Nitrate (NO ₃) (as N)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	1/week	24-hr. Comp.	X	X	
Nitrite (NO ₂) (as N)	Monthly Average	Monitor	mg/L	Monitor	lbs/d	1/week	24-hr. Comp.	X	X	
	Daily Maximum	Monitor	mg/L	-	-	1/week	24-hr. Comp.	X	X	
Total Nitrogen (as N)	Monthly Average	Monitor	mg/L	Monitor	lb/d	1/week	Calculated	X	X	2
	Monthly Total	-	-	Monitor	lb/mo	1/month	Calculated		X	3
	12 Month Rolling Total	-	-	41,000	lb/yr	1/month	Calculated		X	4
Total Phosphorus (as P)	Monthly Average	1.0	mg/L	Monitor	lb/d	1/week	24-hr. Comp.	X	X	5
	Monthly Total	-	-	Monitor	lb/mo	1/month	Calculated		X	6
	12 Month Rolling Total	-	-	2590	lb/yr	1/month	Calculated		X	5, 7
Total Mercury	Daily Maximum	50	ng/L	-	-	1/month	Grab	X	X	
Total Mercury	12 MRA	34	ng/L	-	-	1/month	Calculated	X	X	8
Total Copper	Daily Maximum	Monitor	µg/L	Monitor	lb/d	Quarterly	24-hr. Comp.		X	9
Total Lead	Daily Maximum	Monitor	µg/L	Monitor	lb/d	Quarterly	24-hr. Comp.		X	9

PARAMETER	EFFLUENT LIMITATION					MONITORING REQUIREMENTS				FN
	Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.	
Biennial Pollutant Scan	-	-	-	-	-	1/Two Years	-		X	10
ACTION LEVEL PARAMETERS	Type	Action Level	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Free Cyanide	Daily Maximum	280	µg/L	Monitor	lb/d	1/month	24-hr. Comp.		X	11,12
EFFLUENT DISINFECTION		Limit	Units	Limit	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
Required Seasonal from May 1st - October 31st										
Coliform, Fecal	30-Day Geometric Mean	200	No./100 mL	-	-	1/week	Grab		X	
Coliform, Fecal	7-Day Geometric Mean	400	No./100 mL	-	-	1/week	Grab		X	
Chlorine, Total Residual	Daily Maximum	0.88	mg/L	-	-	2/day	Grab		X	13
WHOLE EFFLUENT TOXICITY (WET) TESTING		Limit	Units	Action Level	Units	Sample Frequency	Sample Type	Inf.	Eff.	FN
WET - Acute Invertebrate	See footnote	-	-	9	TUa	Quarterly	See footnote		X	9, 14
WET - Acute Vertebrate	See footnote	-	-	9	TUa	Quarterly	See footnote		X	9, 14
WET - Chronic Invertebrate	See footnote	-	-	35	TUc	Quarterly	See footnote		X	9, 14
WET - Chronic Vertebrate	See footnote	-	-	35	TUc	Quarterly	See footnote		X	9, 14

FOOTNOTES:

1. Effluent shall not exceed 15% and 15% of influent concentration values for BOD₅ & TSS respectively.
2. Total Nitrogen (as N) = [Total Kjeldahl Nitrogen (TKN), as N] + [Nitrite (NO₂), as N] + [Nitrate (NO₃), as N].
3. Total Nitrogen (as N), monthly total (lb/mo) is calculated as the monthly average load (lb/d) multiplied by the number of days in the month.
4. Total Nitrogen (as N), 12-month rolling total (lb/yr) is calculated as the current month load added to the month loads from the previous eleven months.
5. This is a final effluent limitation which will be effective when the enforcement action limit expires. The enforcement action limit and expiration date are provided in Order on Consent R4-2020-0402-47.
6. Total Phosphorus (as P), month total (lb/mo) is calculated as the monthly average load (lb/d) multiplied by the number of days in the month.
7. Total Phosphorus (as P), 12-month rolling total (lb/yr) is calculated as the current month load added to the month loads from the previous eleven months.
8. The 12-month rolling average for mercury is defined as the sum of the current month's monthly average concentration added to the monthly averages from the eleven previous months, divided by the number of months for which samples were collected in the 12-month period.

Footnotes Continued on Next Page

Footnotes (Continued)

9. Quarterly samples shall be collected in calendar quarters (Q1 – January 1st to March 31st; Q2 – April 1st to June 30th; Q3 – July 1st to September 30th; Q4 – October 1st to December 31st).
10. Biennial Pollutant Scan: The permittee shall perform effluent sampling every two (2) years for all applicable pollutants identified in the NY-2A Application, Tables A - D. Sampling data shall be collected according to the guidance in the NY-2A application and maintained by the permittee. Monitoring results shall not be submitted on the DMR. Data shall be submitted with the next submission of the NY-2A form.
11. At least 8 individual manual grab samples must be collected over the course of 24 hours analyzed separately and the concentrations averaged. Alternatively, grab samples may be collected in the field and composited in the laboratory and analyzed as a single sample if the results are equivalent to the arithmetic averaging of individual grab samples. Where effluent flows do not vary more than 10 percent over the course of composite sample collection, composite samples may be composed of equal size grab samples taken at equal time intervals. Where effluent flows do vary more than 10 percent over the course of sample collection, composite samples must be flow-proportioned.
12. Action Levels: If the action level is exceeded, the additional monitoring requirement is triggered, and the permittee shall undertake a short-term, high-intensity, monitoring program for free cyanide. Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive days and analyzed. Results shall be expressed in both mass and concentration. If levels higher than the action levels are confirmed, the permittee shall evaluate the treatment system operation and identify and employ actions to reduce concentrations present in the discharge. The permit may also be reopened by the Department for consideration of revised action levels or effluent limits. Action level monitoring results and the effectiveness of the actions taken shall be summarized and submitted with the monthly DMR data.
13. This is a final effluent limit. See Schedule of Compliance for any applicable interim effluent limitations.
14. **Whole Effluent Toxicity (WET) Testing:**
Testing Requirements – Acute and if directed Chronic WET testing is required. Testing shall be performed in accordance with 40 CFR Part 136 and TOGS 1.3.2 unless prior written approval has been obtained from the Department. The test species shall be Ceriodaphnia dubia (water flea - invertebrate) and Pimephales promelas (fathead minnow - vertebrate). Receiving water collected upstream from the discharge should be used for dilution. All tests conducted should be static-renewal (two 24-hr composite samples with one renewal for Acute tests and three 24-hr composite samples with two renewals for Chronic tests). The appropriate dilution series should be used to generate a definitive test endpoint, otherwise an immediate rerun of the test may be required. WET testing shall be coordinated with the monitoring of chemical and physical parameters limited by this permit so that the resulting analyses are also representative of the sample used for WET testing. The ratio of critical receiving water flow to discharge flow (i.e., dilution ratio) is 3:1 for acute, and 35:1 for chronic.

Monitoring Period - WET testing shall be performed quarterly (calendar quarters) during calendar years ending in 3 and 8.

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

The complete test report including all bench sheets, statistical analyses, reference toxicity data, daily average flow at the time of sampling and other appropriate supporting documentation, shall be submitted within 60 days following the end of each test period with your WET DMR and to the WET@dec.ny.gov email address. A summary page of

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

WET Testing Action Level Exceedances - If an action level is exceeded then the Department may require the permittee to conduct additional WET testing including Acute and/or Chronic tests. Additionally, the permittee may be required to perform a Toxicity Identification/Reduction Evaluation (TI/RE) in accordance with Department guidance. Enforceable WET limits may also apply. The permittee shall be notified in writing by their Regional DEC office of additional requirements. The written notification shall include the reason(s) why such testing, TI/RE and/or limits are required.

DRAFT

STORMWATER POLLUTION PREVENTION REQUIREMENTS

NO EXPOSURE CERTIFICATION

The permittee submitted a Conditional Exclusion for No Exposure Form on 8/5/2021, certifying that all industrial activities and materials are completely sheltered from exposure to rain, snow, snowmelt, and/or stormwater runoff. The permittee must maintain a condition of no exposure for the exclusion to remain applicable. If conditions change resulting in the exposure of materials and activities to stormwater, the permittee must notify the Regional Water Engineer. The permittee must recertify a condition of no exposure every five years by completing the "No Exposure Certification Form" found on the NYSDEC website.

DRAFT

MERCURY MINIMIZATION PROGRAM (MMP) - Type I

1. General - The permittee must develop, implement, and maintain a mercury minimization program (MMP), containing the elements set forth below, to reduce mercury effluent levels with the goal of achieving the WQBEL of 0.7 ng/L.
2. MMP Elements - The MMP must be a written document and must include any necessary drawings or maps of the facility and/or collection system. Other related documents already prepared for the facility may be used as part of the MMP and may be incorporated by reference. At a minimum, the MMP must include the following elements as described in detail below:
 - a. Monitoring - Monitoring at outfall, influent and other locations tributary to compliance points may be performed using either USEPA Method 1631 or another sufficiently sensitive method, as approved under 40 CFR Part 136¹. Monitoring of raw materials, equipment, treatment residuals, and other non-wastewater/non-stormwater substances may be performed using other methods as appropriate. Monitoring must be coordinated so that the results can be effectively compared between locations.

Minimum required monitoring is as follows:

- i. Sewage Treatment Plant Influent and/or Effluent – The permittee must collect samples at the location(s) and frequency as specified in the SPDES permit limitations table.
- ii. Key Locations and Potential Mercury Sources – The permittee must sample *key locations*, chosen to identify *potential mercury sources*, at least semi-annually. Sampling of discharges from dental facilities in compliance with 6 NYCRR 374.4 is not required.
- iii. Hauled Wastes – The permittee must establish procedures for the acceptance of hauled waste to ensure the hauled waste is not a potential mercury source. Loads which may exceed 500 ng/L,² must receive approval from the Department prior to acceptance.
- iv. Decreased Monitoring Requirements - Facilities with EEQ at or below 12 ng/L are eligible for the following:
 - 1) Reduced requirements, through a permittee-initiated permit modification
 - a) Conduct influent monitoring, sampling quarterly, in lieu of monitoring within the collection system, such as at *key locations*; and
 - b) Conduct effluent compliance sampling quarterly.
 - 2) If a facility with reduced requirements reports discharges above 12 ng/L for two of four consecutive effluent samples, the Department may undertake a Department-initiated modification to remove the allowance of reduced requirements.
 - 3) Under the decreased permit requirements, the facility must continue to conduct a status report, as applicable in accordance with 2.c of this MMP, to determine if any waste streams have changed.
- v. Additional monitoring must be completed as required elsewhere in this permit (e.g., locations tributary to compliance points).
- b. Control Strategy - The control strategy must contain the following minimum elements:
 - i. Pretreatment/Sewer Use Law - The permittee must review pretreatment program requirements and the Sewer Use Law (SUL) to ensure it is up-to-date and enforceable with applicable permit requirements and will support efforts to achieve a dissolved mercury concentration of 0.70 ng/L in the effluent.
 - ii. Monitoring and Inventory/Inspections -
 - 1) Monitoring shall be performed as described in 2.a above. As mercury sources are found, the permittee must enforce its sewer use law to track down and minimize these sources.
 - 2) The permittee must inventory and/or inspect users of its system as necessary to support the MMP.
 - a) Dental Facilities
 1. The permittee must maintain an inventory of each dental facility.

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

² A level of 0.2 mg/L (200,000 ng/L) or more is considered hazardous per 40 CFR Part 261.11. 500 ng/L is used here to alert the permittee that there is an unusual concentration of mercury and that it will need to be managed appropriately.

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

2. The permittee must inspect each dental facility at least once every five years to verify compliance with the wastewater treatment operation, maintenance, and notification elements of 6 NYCRR 374.4. Alternatively, the permittee may develop and implement an outreach program,³ which informs users of their responsibilities, and collect the “Amalgam Waste Compliance Report for Dental Dischargers”⁴ form, as needed, to satisfy the inspection requirements. The permittee must conduct the outreach program at least once every five years and ensure the “Amalgam Waste Compliance Report for Dental Dischargers” are submitted by new users, as necessary. The outreach program could be supported by a subset of site inspections.
3. A file shall be maintained containing documentation demonstrating compliance with 2.b.ii.2)a) above. This file shall be available for review by the Department representatives and copies shall be provided upon request.
- b) *Other potential mercury sources*
 1. The permittee must maintain an inventory of other *potential mercury sources*.
 2. The permittee must inspect other *potential mercury sources* once every five years. Alternatively, the permittee may develop and implement an outreach program which informs users of their responsibilities as *potential mercury sources*. The permittee must conduct the outreach program at least once every five years. The outreach program should be supported by a subset of site inspections.
 3. A file shall be maintained containing documentation demonstrating compliance with 2.b.ii.2)b) above. This file shall be available for review by the Department representatives and copies shall be provided upon request.
- iii. Systems with CSO & Type II SSO Outfalls – Permittees must prioritize *potential mercury sources* upstream of CSOs and Type II SSOs for mercury reduction activities and/or controlled-release discharge.
- iv. Equipment and Materials – Equipment and materials (e.g., thermometers, thermostats) used by the permittee, which may contain mercury, must be evaluated by the permittee. As equipment and materials containing mercury are updated/replaced, the permittee must use mercury-free alternatives, if possible.
- v. Bulk Chemical Evaluation – For chemicals, used at a rate which exceeds 1,000 gallons/year or 10,000 pounds/year, the permittee must obtain a manufacturer’s certificate of analysis, a chemical analysis performed by a certified laboratory, and/or a notarized affidavit which describes the substances’ mercury concentration and the detection limit achieved. If possible, the permittee must only use bulk chemicals utilized in the wastewater treatment process which contain <10 ppb mercury.
- c. **Status Report - An annual** status report must be developed and maintained on site, in accordance with the Schedule of Additional Submittals, summarizing:
 - i. All MMP monitoring results for the previous reporting period;
 - ii. A list of known and *potential mercury sources*
 - 1) If the permittee meets the criteria for MMP Type IV, the permittee must notify the Department for a permittee-initiated modification;
 - iii. All actions undertaken, pursuant to the control strategy, during the previous reporting period;
 - iv. Actions planned, pursuant to the control strategy, for the upcoming reporting period; and
 - v. Progress towards achieving a dissolved mercury concentration of 0.70 ng/L in the effluent (e.g., summarizing reductions in effluent concentrations as a result of the control strategy implementation and/or installation/modification of a treatment system).

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

³ For example, the outreach program could include education about sources of mercury and what to do if a mercury source is found.

⁴ The form, “Amalgam Waste Compliance Report for Dental Dischargers,” can be found here:
https://www.dec.ny.gov/docs/water_pdf/dentalform.pdf

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

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

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

DEFINITIONS:

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

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

DISCHARGE NOTIFICATION REQUIREMENTS

- (a) The permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit, unless the Permittee has obtained a waiver in accordance with the Discharge Notification Act (DNA). Such signs shall be installed before initiation of any new discharge location.
- (b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.
- (c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.
- (d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

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

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

- (e) Upon request, the permittee shall make available electronic or hard copies of the sampling data to the public. In accordance with the RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS page of your permit, each DMR shall be maintained (either electronically or as a hard copy) on record for a period of five years.
- (f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

MINI INDUSTRIAL PRETREATMENT PROGRAM

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

1. Industrial Survey
The permittee submitted the results of an industrial survey.
2. Develop Procedures
The permittee submitted documentation of procedures for obtaining and ensuring compliance with applicable standards. Such procedures include requirements and schedules for discharge permits, industrial self-monitoring, compliance monitoring of industries by the permittee, on-going POTW monitoring, and an enforcement program. Such procedures are equivalent to procedures described or referenced in the document entitled Introduction to the National Pretreatment Program, USEPA, June, 2011, (https://www3.epa.gov/npdes/pubs/pretreatment_program_intro_2011.pdf).
3. Treatment Plant/Industry Monitoring
The permittee submitted the results of industrial and POTW monitoring and a completed Fast Report On Significant Industries forms (FROSI) for all significant industrial users (SIUs).
4. Local Sewer Use Law
The permittee must enact, maintain, and enforce an up-to-date and effective Sewer Use Law in all parts of the POTW service area in accordance with 6 NYCRR Part 750-2.9. The local sewer use law must have the required components of the DEC Model Sewer Use Law, NYSDEC, 1994. Local limits for substances capable of causing SPDES permit violations, endangering municipal employees or limiting sludge disposal options shall be included in the local law. Such limits shall be developed in accordance with document entitled Local Limits Development Guidance, US EPA, July 2004, EPA 833-R-04-002A (<https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=300062Q1.txt>). The permittee shall maintain the up-to-date and effective Sewer Use Law on site and make available to DEC upon request.

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

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

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

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule:

Outfall(s)	Compliance Action	Compliance Date ⁵
001	<u>JOINT OUTFALL AGREEMENT (6 NYCRR 750-2.9(a)(4))</u> The permittee shall enact a joint outfall agreement with Amphenol Corporation (NY0003824) outlining the operation and maintenance responsibilities of the shared Outfall 001 and submit a certification that the agreement has been enacted by EDP + 6 months.	EDP + 6 months
001	<u>TOTAL RESIDUAL CHLORINE LIMITATION</u> The Total Residual Chlorine daily maximum effluent concentration limit of 0.88 mg/L will become effective EDP + 12 months.	EDP + 12 months
Unless noted otherwise, the above actions are one-time requirements.		

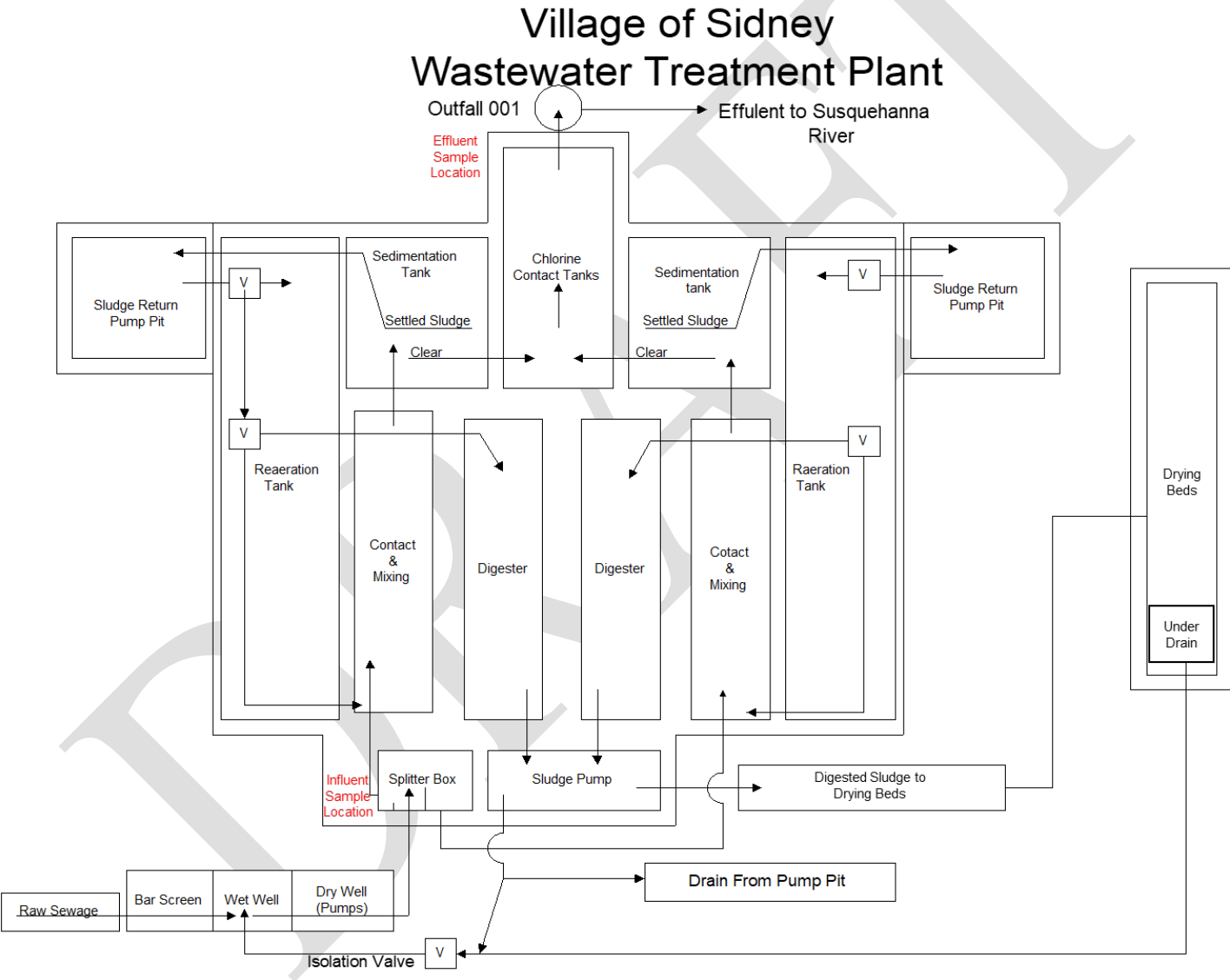
OUTFALL	PARAMETER	INTERIM EFFLUENT LIMIT					MONITORING REQUIREMENTS				Notes
		Type	Limit	Units	Limit	Units	Sample Frequency	Sample Type	Location		
								Inf.	Eff.		
001	Total Residual Chlorine	Daily Maximum	2.0	mg/L			2/day	Grab		X	1
Notes:		1. Interim limits only apply during the disinfection season and expire EDP + 12 months.									

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

⁵ 6 NYCRR 750-1.14 (a)

MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the outlet of the chlorine contact tank (effluent) and at (influent).



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/8461.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 Regional Water Engineer and Bureau of Water Permits at the following addresses:

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

Department of Environmental Conservation
Regional Water Engineer, Region 4
1130 North Westcott Road, Schenectady, New York, 12306-2014 Phone: (518) 357-2045

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

- 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(s)	Required Action	Due Date
001	<u>WATER TREATMENT CHEMICAL (WTC) ANNUAL REPORT FORM</u> The permittee shall submit a completed WTC Annual Report Form each year that Water Treatment Chemicals are used. The form shall be attached to the December DMR.	January 28 th of each year

SCHEDULE OF ADDITIONAL SUBMITTALS		
Outfall(s)	Required Action	Due Date
001	<u>BIENNIAL POLLUTANT SCAN</u> The permittee shall implement an ongoing monitoring program and perform effluent sampling every two years as specified in Footnote 10.	Retain and submit with next NY-2A Application
001	<u>WHOLE EFFLUENT TOXICITY (WET) TESTING</u> WET testing shall be performed on a Acute and if necessary Chronic basis, quarterly in years ending in 3 & 8. The toxicity test report including all information requested of this permit shall be attached to your WET DMRs and sent to the WET@dec.ny.gov email address.	Within 60 days following the end of each monitoring period
001	<u>STORMWATER NO EXPOSURE CERTIFICATION</u> Permittee must recertify every five years a condition of no exposure to stormwater in order to continue to qualify for the no exposure exclusion. The No Exposure Certification Form can be found on the NYSDEC website.	8/1/2026, and every 5 years 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.	February DMR (March 28 th)
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 EDP + 12 months, annually thereafter
001	<u>MINI PRETREATMENT PROGRAM – FROSI</u> Submit completed Fast Report On Significant Industries forms (FROSI) for each SIU to the Department, or notification letter that no new significant industrial users have been added.	February 28 th of each year
001	<u>MINI PRETREATMENT PROGRAM – Industrial Chemical Survey (ICS) Forms</u> Submit Industrial Chemical Survey forms completed by all SIUs to the Department. Notify the Department of any proposed significant changes to its implementing procedures or local sewer use law.	February 28 th 2025 and every three years thereafter

SPDES Permit Fact Sheet Village of Sidney Village of Sidney Water Pollution Control Plant NY0029271



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Summary of Permit Changes

A State Pollutant Discharge Elimination System (SPDES) EBPS permit renewal has been drafted for the Village of Sidney Water Pollution Control Plant. The updated, added, or removed changes to the permit are summarized below:

Updated

- Permit format, definitions, and general conditions
- Chesapeake Bay TMDL limitations and incorporation of existing requirements for total nitrogen, TKN, nitrate, nitrite, and total phosphorus to the permit limits table
- WET action levels based on updated dilution
- Total residual chlorine effluent limitation and added a compliance schedule to meet the new limitation
- Total cyanide action level to free cyanide action level
- Outfall 001 coordinates based on mixing zone form submission
- Mercury Minimization Program Requirements
- Effluent limit table footnotes
- Schedule of Submittals
- Mini Pretreatment Program Requirements

Added

- Facility coordinates
- Phosphorus concentration limitation
- Biennial Pollutant Scan sampling requirement
- Mercury daily maximum limitation of 50 ng/L and 12 MRA of 34 ng/L
- Emerging Contaminants Short-Term Monitoring Program
- Quarterly monitoring for total copper and total lead

Removed

- Previous format of Chesapeake Bay TMDL Implementation tables and sub-aggregate language
- Ammonia monitoring requirement
- PCB requirements
- TRC monthly average concentration and daily maximum load monitoring

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

Administrative History

- 12/1/2009 The last full technical review was performed and the SPDES permit became effective with a new five-year term and expiration date of 12/31/2010. The permit, along with all subsequent modifications, has formed the basis of this permit.
- The permit was administratively renewed in 2010 and again in 2016. The current permit administrative renewal is effective until 12/31/2020.
- 9/1/2014 Permit was modified to include new Chesapeake Bay requirements
- 2/20/2020 The Village of Sidney submitted a timely and sufficient application for permit renewal. The Department suspended review of the application to facilitate a full technical review of the permit.
- 7/16/2020 Department issued a Request for Information (RFI) to modify and renew the SPDES permit due to the facility's EBPS score¹. At the time of the RFI, the facility had an EBPS score of 255.
- 12/31/2020 The current permit was extended pursuant to SAPA².
- 1/14/2021 The Village of Sidney submitted an NY-2A permit application.

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

Facility Information

This publicly owned wastewater treatment plant receives flow from domestic and industrial users. The industrial users include categorical industries and are Significant Industrial Users (SIUs). The collection system consists of separate sewers, with a few small pump stations that do not have overflow outfalls.

The facility is an extended aeration plant with a design flow of 1.7 MGD. Influent wastewater passes through a headworks consisting of manually cleaned bar screens, Parshall flume and a flow meter. There is no grit removal. As shown in the Plant Schematic in the permit, the flow splits to two identical treatment trains, in parallel. The influent enters the "contact and mixing tank" containing activated sludge, and then passes to the sedimentation tank. Ferric chloride is added to the pipe conveying the wastewater to the sedimentation tank as a coagulant for removal of phosphorus. The rectangular sedimentation tank houses a round secondary clarifier (aka "squirle"). Clarified water exiting the sedimentation tanks/secondary clarifiers flows to the chlorine contact tanks for seasonal disinfection with liquid sodium hypochlorite and is discharged to the Susquehanna River via Outfall 001. Solids from the bottom of the sedimentation tank are pumped to the "reaeration tank." The combined detention time that the wastewater has in both the contact and mixing tank and the reaeration tank provides the "extended aeration" and opportunity for biological treatment. Wasted sludge is pumped to the digesters for further aeration, mixing and biological treatment, as well as sludge thickening. Thickened sludge is then injected with a flocculant, to aid in separating the solids from the water, and pumped to one of the two

¹ Pursuant to 6 NYCRR 750-1.18 and NYS Environmental Benefit Permit Strategy (EBPS)

² State Administrative Procedures Act Section 401(2) and 6 NYCRR 621.11(I)

porous pavement sludge drying beds. The dried sludge is hauled to a composting facility in Delaware County.

The outfall (Outfall 001) is a 24" diameter pipe with 5 diffuser ports which extends 40' into the Susquehanna River, 2 feet below the water surface under normal flow conditions. The Sidney WWTP shares the outfall pipe with Amphenol Aerospace (NY0003824).

The facility is planning the following upgrades/improvements:

- New headworks consisting of a new septage receiving station
- New bar screen, bypass screen, flow meter, and grit removal
- Replacement-in-kind for the internal components of the contact tanks, secondary clarifiers/sedimentation tanks and aerobic digesters
- Addition of dechlorination capability at the chlorine contact tank
- Updated fine bubble aeration system with new blowers
- Energy efficient sludge pumps
- Additional sludge drying bed to offset the additional sludge created by the septage receiving station

The facility accepts wastewater from the following municipalities:

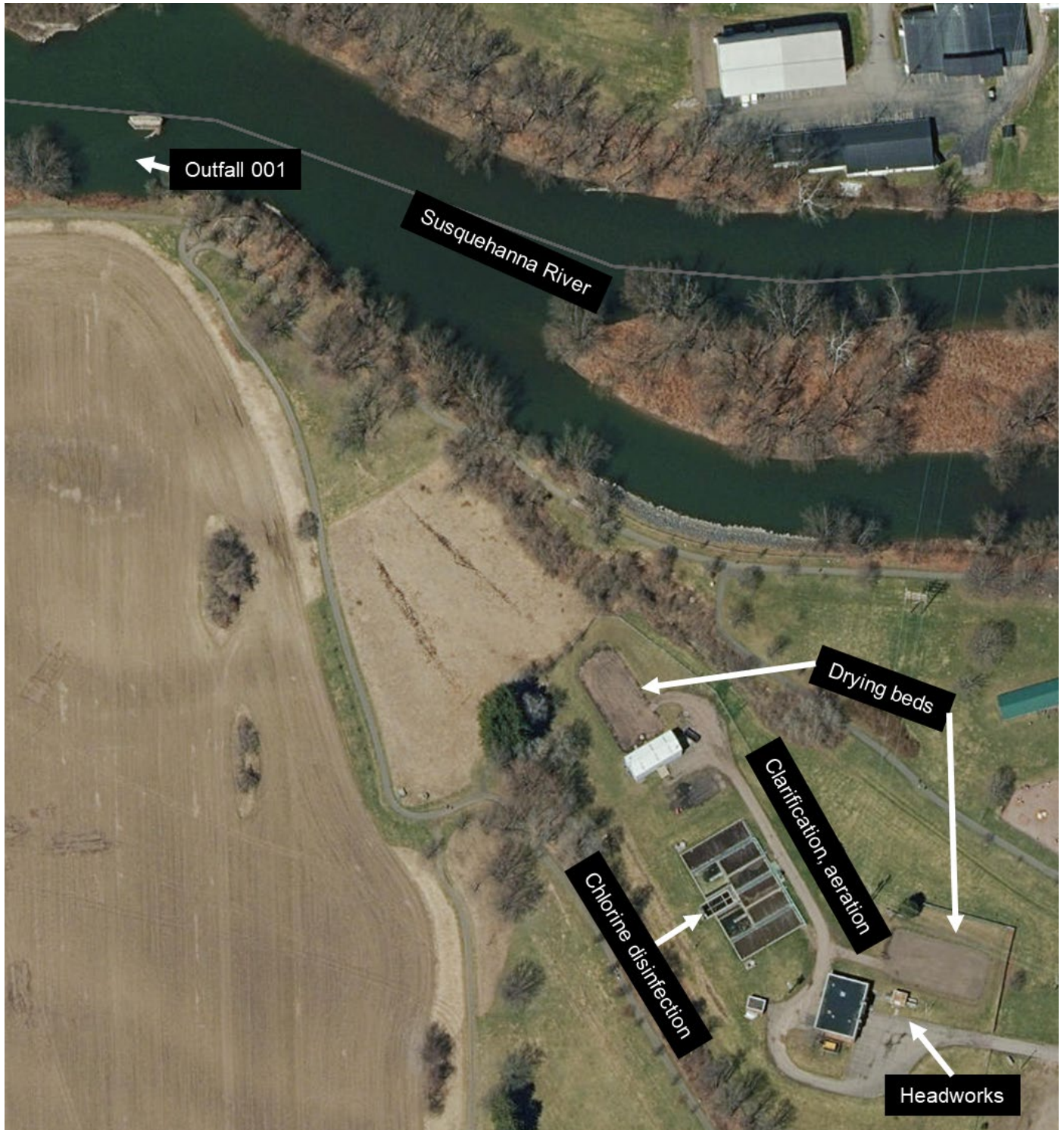
Municipality	POSS # or SPDES #	Collection System
Village of Sidney	NY0029271	Separate

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

Significant Industrial User (SIU)	SIC Code	Categorical Reference (if applicable to 40 CFR)
Amphenol Aerospace	3678	NA ³
ACCO Brands USA	2750	NA

³ Minor operation on site is subject to 40 CFR 428.56(a)

Site Overview



Enforcement History

The facility is operating under Order on Consent R4-2020-0402-47 dated 5/18/2020. The Order requires the following compliance actions:

- Submission of a funding plan, engineering plans, and finalized engineering report which shall identify improvements needed to achieve and maintain the level of performance required by the SPDES permit and the governing regulations 6 NYCRR Part 750-2;
- Submission of monthly construction progress reports to DEC beginning at the start of construction and continuing through the end of construction;
- Submission and implementation of a program to identify and remove infiltration and inflow (I/I) in accordance with 6 NYCRR Part 750-2.9(a)(3).

The Order was issued after monthly Discharge Monitoring Reports submitted to the Department by the permittee for July 2019 through December 2019 indicated violations of the Facility's Total Phosphorus 12-month load limit of 2590 lbs/yr.

Under the Order, the "permitted effluent limit for Total Phosphorus (12-month load) from Outfall 001 shall be increased to 3,186 lbs/year. This interim effluent limitation applies from the Effective Date of this Order until completion of construction in accordance with the approved schedule above, plus 12 months to restart the final 12-month load limit."

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

Existing Effluent Quality

The [Pollutant Summary Table](#) presents the existing effluent quality and effluent limitations. The existing effluent quality was determined from Discharge Monitoring Reports submitted by the permittee for the period 4/30/2016 to 3/31/2021. In addition, data from 2015 Short Term High Intensity Monitoring Submission was used to supplement this information. [Appendix Link](#)

Interstate Water Pollution Control Agencies

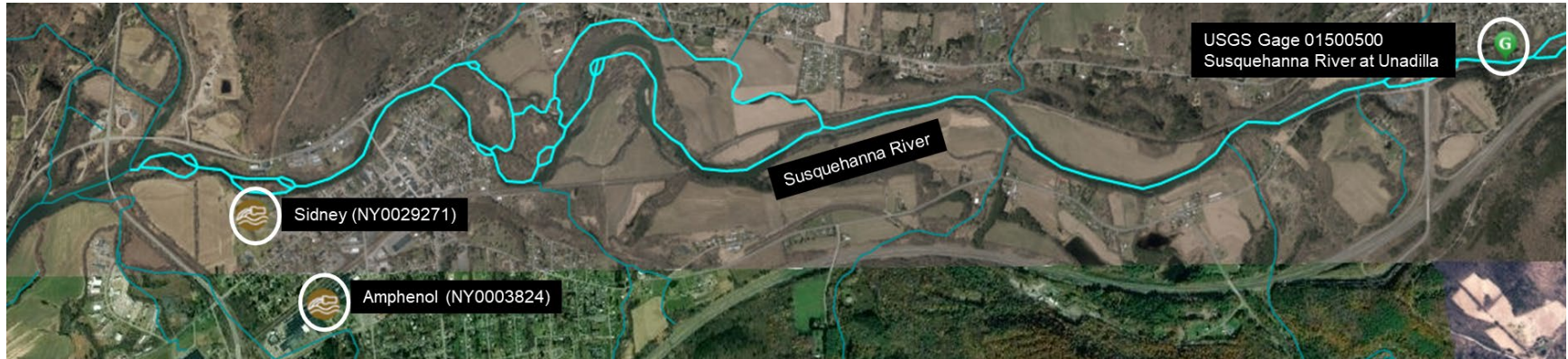
Outfall 001 is located within the Chesapeake Bay watershed and Susquehanna River Basin Commission (SRBC) compact area which places additional requirements in the SPDES permit. [Appendix Link](#)

Receiving Water Information

The facility discharges via the following outfalls:

Outfall No.	SIC Code	Wastewater Type	Receiving Water
001	4952	Treated sanitary and pre-treated process water	Susquehanna, Class B

Reach Description: USGS Gage 01500500 is approximately 6 miles upstream of Outfall 001 on the Susquehanna River (0601-0020), in the Chesapeake Bay watershed. The segment of Susquehanna River at the point of discharge is Class B. Dissolved Oxygen was modeled from Sidney WWTP to Bainbridge STP and 2 miles downstream of Bainbridge STP.



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

Impaired Waterbody Information

The Susquehanna River (PWL No. 0601-0020) is not listed on the 2018 [New York State Section 303\(d\) List](#) of Impaired/Total Maximum Daily Load (TMDL) waters; however, this waterbody segment is located within the Chesapeake Bay Watershed and is subject to the applicable requirements of the [Chesapeake Bay TMDL](#) and New York's Phase III Watershed Implementation Plan (Phase III WIP) for the TMDL⁴, as discussed below.

Chesapeake Bay TMDL Watershed Information

The Village of Sidney is considered a "Bay-Significant" municipal facility because its design flow is equal to or greater than 400,000 gallons per day. In accordance with the Phase III WIP, the nitrogen and phosphorus loads warrant discharge limits and effluent monitoring for these parameters.

The Village of Sidney is required to sample and report Total Phosphorus as P, as well as Total Kjeldahl Nitrogen (TKN) as N, Nitrite (NO₂) as N, Nitrate (NO₃) as N, and to calculate Total Nitrogen as N. The Total Nitrogen and Total Phosphorus 12-month loads (TN 12-ML and TP 12-ML respectively) are defined as the sum of the current month loads added to the month loads from the eleven previous months for Nitrogen and Phosphorus, respectively. See the Pollutant Summary Table for a discussion on the derivation of Total Nitrogen and Total Phosphorus effluent limits.

The Water Quality Based Effluent Limits (WQBELs) below are set by DEC in accordance with the Phase II and III WIP.

Interim Limits Effective through 12 months after construction completion per Order on Consent R4-2020-0402-47

Total Phosphorus (as P) 12-month Load (TP 12-ML): 3,186 lb/year

Final Limits Effective 12 months after construction completion per Order on Consent R4-2020-0402-47

Total Phosphorus (as P) 12-month Load (TP 12-ML): 2590 lb/year

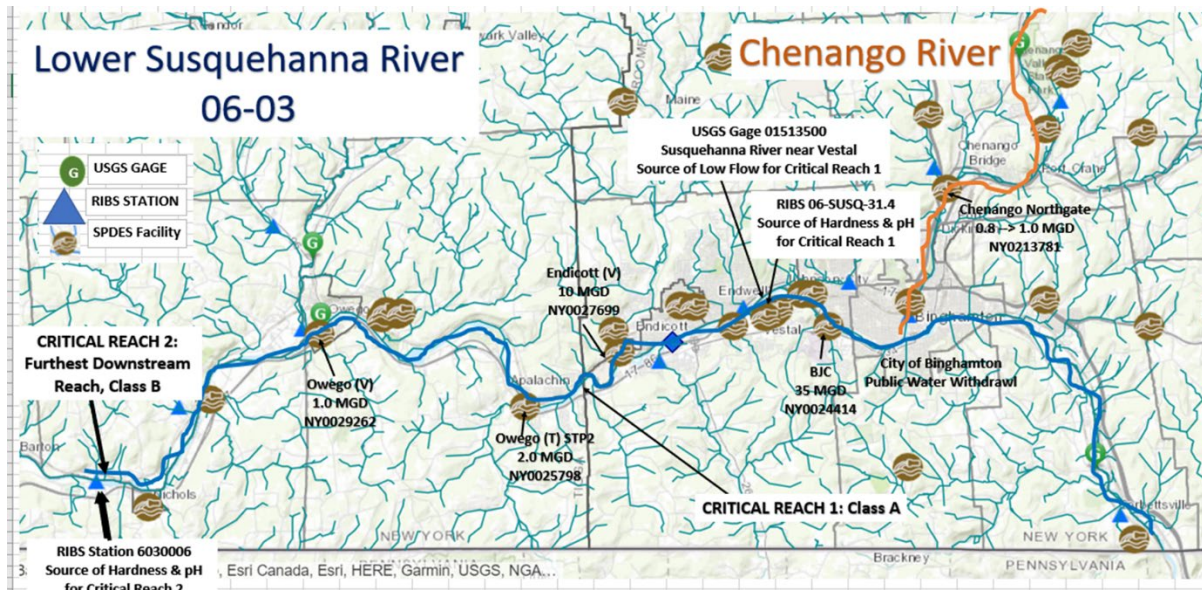
Final Limits (Currently Effective)

Total Nitrogen (as N) 12-month Load (TN 12-ML): 41,000 lb/year

Toxics Reduction Strategy

The Department conducted a watershed analysis for the Susquehanna River Watershed in 2022. The critical reaches for the Susquehanna River Watershed are the headwaters downstream to the Class A portion that ends at the Town of Endicott and from downstream of Endicott to the end of the Susquehanna River in NY near the Town of Nichols (Class B). The WMDL analysis is used in addition to the Department's individual facility review to ensure that the cumulative impacts from various point source discharges do not exceed the waste assimilative capacity (WAC) of the critical reaches. The following pollutants were found to be water quality limiting in the Susquehanna River and a watershed maximum daily load is being added or maintained: bis(2-ethylhexyl) phthalate, iron, cyanide, thallium, phenolic compounds, silver, lead, and copper.

⁴ See <https://www.dec.ny.gov/lands/33279.html>



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

Critical Receiving Water Data & Mixing Zone

The low flow condition for the Susquehanna River was obtained from a drainage basin ratio analysis with USGS gage station 01500500, Susquehanna River at Unadilla located at 42.3155, -75.4037. The 1Q10, 7Q10 and 30Q10 flows at the gage were found from the USGS SW Toolbox software and an analysis of data from 1939 to 2020.

DRAINAGE BASIN RATIO	1Q10	7Q10	30Q10	
Gage Name	Susquehanna River at Unadilla			
Gage ID Number	1500500			
Low Flow at Gage (cfs)	72	84	103	SW Toolbox
Drainage Area at Gage (mi ²)	982	982	982	USGS gage webpage
Drainage Area at Facility (mi ²)	1030	1030	1030	Streamstats
Drainage Basin Ratio (facility / gage)	1.05	1.05	1.05	
Calculated Flow at Facility (cfs)	76	88	108	

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

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

Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis
001	30:1	35:1	42:1	TOGS 1.3.1

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

Permit Requirements

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

Whole Effluent Toxicity (WET) Testing

An evaluation of the discharge indicates the potential for toxicity based on the following criteria:

[Appendix Link](#)

- Treatment plants which equal or exceed a discharge of 1MGD. (#7)
- 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. (#4)

Consistent with TOGS 1.3.2, a reasonable potential analysis was performed using the existing WET data for this facility (see data below). It was determined that while the analysis indicated no potential for toxicity in the effluent, WET testing is required based on the criteria listed above and WET action levels are being continued in the permit. Given the dilution available and location outside of the Great Lakes basin, the permit requires acute and if necessary chronic WET testing. Samples will be collected quarterly in years ending in 3 and 8. WET testing action levels of 9 TUa and 35 TUC have been included in the permit for each species. The acute action level for each species represent the acute dilution ratio times a factor of 0.3. The chronic action levels represent the chronic dilution ratio.

Test Date	¹ MSS 48H LC50 (%Effluent)	² MSS TUa	³ TUa Action Level	⁴ MSS Survival 100% Effluent	⁵ Acute Test Result	⁶ MSS RPD TUa	⁷ Acute WET Limit Required	⁸ Predicted MSS TUc	⁹ TUc Action Level	¹⁰ Chronic Test Result	¹¹ MSS RPD TUc	¹² Chronic WET Limit Required
02/18	> 100% (FI)	< 0.3 (FI)	5.1	100% (FI)	Pass	< 0.8	No	< 10.0 (FI)	34.0	Pass	< 26.0	No
06/18	> 100% (FI)	< 0.3 (FI)	5.1	100% (FI)	Pass	< 0.8	No	< 10.0 (FI)	34.0	Pass	< 26.0	No
09/18	> 100% (FI)	< 0.3 (FI)	5.1	100% (FI)	Pass	< 0.8	No	< 10.0 (FI)	34.0	Pass	< 26.0	No
11/18	> 100% (FI)	< 0.3 (FI)	5.1	100% (FI)	Pass	< 0.8	No	< 10.0 (FI)	34.0	Pass	< 26.0	No

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

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

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

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

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

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

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

⁸Predicted Most Sensitive Species Toxic Units Chronic: is calculated as $(\text{MSS TUa} \times 10)$ the default Acute:Chronic ratio used to predict chronic toxicity from acute test results in the absence of chronic testing. When MSS TUa is < 0.3 , < 1.0 should be used for the prediction, since this is defined as the acceptable amount of chronic toxicity at the edge of the chronic mixing zone. In Class A/SA, B/SB and C/SC waters, we must ultimately protect for chronic toxicity.

⁹Toxic Unit Chronic Action Level/Limit: is calculated as $[\text{Chronic Dilution Factor} \times 1.0 \text{ TUc}]$ representing the maximum allowable effluent TUc at the edge of the chronic mixing zone after mixing with the receiving water and using the seven-day once-in-ten year low flow (7Q10), to assure chronic protection of the receiving water.

¹⁰Chronic Test Result: $\text{MSS TUc} \leq \text{TUc Action Level/Limit}$ for passing effluent test result and $\text{MSS TUc} > \text{TUc Action Level/Limit}$ for a failing effluent test result.

¹¹Most Sensitive Species Reasonable Potential Determination Toxic Units Chronic: is calculated as $(\text{MSS TUc} \times 2.6)$, the Reasonable Potential Multiplier when four quarterly tests have been completed, taking into account the statistical potential for effluent variability to occur causing an exceedance of the toxicity based action level.

¹²Chronic Whole Effluent Toxicity Limit Required: $\text{MSS RPD TUc} \leq \text{TUc Action Level}$, then no toxicity based limit is required and the action level remains in place. If $\text{MSS RPD TUc} > \text{TUc Action Level}$, then a toxicity based limit is required and the action level becomes the limit. ***In low dilution situations, the combined application of the default ACR and RPD to the acute results often mathematically suggests the need for chronic WET limits even when there is no toxicity evident in 100% effluent (a non-detect). Therefore, this data cannot be used to implement a WET limit.

Anti-backsliding

The following effluent limitations are subject to an antibacksliding determination. [Appendix Link](#)

- PCB-1242 and PCB-1248: Since PCBs remediation was addressed under Consent Order 04-0312-85-06 M1, and the source of contamination to the WWTP has been removed, PCB limitations are no longer needed in the permit. Backsliding is allowed under 6 NYCRR Part 750-1.10(c)(1).

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)⁵ determination.

[Appendix Link](#)

Discharge Notification Act Requirements

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

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

Stormwater Pollution Prevention Requirements

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

On 8/5/2021, the permittee submitted a Conditional Exclusion for No Exposure Form, certifying that all industrial activities and materials are completely sheltered from exposure to stormwater. This condition must be maintained for the exclusion to remain applicable. The schedule of submittals also includes a due date for re-certification every five years as required by 40 CFR 122.26(g)(iii). This requirement is new.

Mercury⁶

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

The facility is a Class 05 Municipal Facility with a design flow greater than 1 MGD and the permit includes requirements for the implementation of MMP Type I.

The permit includes a daily max total mercury effluent limitation of 50 ng/L, sampled monthly. The facility has ≥ 10 effluent mercury data points and the existing effluent quality (EEQ) of 34 ng/L was calculated from the lognormal 99th percentile of 21 mercury effluent samples collected from July 2014 to June 2015 as part of a short-term high intensity monitoring program. A mercury minimization program consisting of the following is also required:

- Monitoring of key locations, as defined in the MMP
- Control strategy for implementation of the MMP
- Annual status report (maintained onsite)

The facility is located outside the Great Lakes Basin and the EEQ is >12 ng/L; therefore, the permit includes a 12-month rolling average total mercury effluent limitation equal to the EEQ.

⁵ As prescribed by 6 NYCRR Part 617

⁶ In accordance with DOW 1.3.10 Mercury – SPDES Permitting & Multiple Discharge Variance (MDV), December 30, 2020.

Biennial Pollutant Scan

Three effluent samples for applicable parameters must be submitted with an NY-2A Application⁷. The permit includes a requirement to perform biennial sampling (once every two years) of the WWTP effluent for the parameters in the NY-2A Application, Tables A – D. This requirement ensures the data is representative of effluent conditions over the permit term and will be available for the next application submittal and permit review. This requirement is new.

PCB Minimization Program

In June 2008, the permittee conducted comprehensive sampling of the effluent in connection with a Department-initiated modification of the SPDES permit. Polychlorinated biphenyls (PCBs) were found to be present in excess of water quality standards. The source of PCBs was a cracked pipe that received contaminated groundwater from the Amphenol Aerospace property. The PCB contamination was cleaned up through remediation efforts and the municipal pipe was replaced. The source of PCBs was removed under Consent Order 04-0312-85-06 M1. On 11/19/2021, the permittee submitted a record demonstrating completion of the required work for Consent Order 04-0312-85-06 M1 and the letter of completion from DEC sent 10/19/2012.

Mini Industrial Pretreatment Program

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

Schedule(s) of Compliance

A Schedule of Compliance is being included⁸ for the following items ([Appendix Link](#)):

- Submittal of a joint outfall agreement

Emerging Contaminant Monitoring

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

Pursuant to 6 NYCRR Part 750-1.13(b), the permit includes a short-term monitoring program to evaluate the influent and effluent discharge levels of Per-and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane. This monitoring program is consistent with PFAS guidance released in EPA guidance memos dated April 28, 2022, and December 5, 2022.

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

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

⁷ Pursuant to 40 CFR 122.21(j)(4)(vi).

⁸ Pursuant to 6 NYCRR 750-1.14

Permittee: Village of Sidney
Facility: Village of Sidney Water Pollution Control Plant
SPDES Number: NY0029271
USEPA Major/Class 05 Municipal

Date: October 5, 2023 v.1.7
Permit Writer: Catherine Winters
Water Quality Reviewer: Catherine Winters
Full Technical Review

Schedule(s) of Additional Submittals

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

- WTC Annual Report
- Biennial Pollutant Scan – retain on site
- WET Testing Results
- Stormwater No Exposure Certification
- Annual flow certification
- Mercury Minimization Plan – retain on site
- Mini Pretreatment Program – FROSI and ICS Forms
- Emerging Contaminant Short-Term Monitoring Program

OUTFALL AND RECEIVING WATER SUMMARY TABLE

Outfall	Latitude	Longitude	Receiving Water Name	Water Class	Water Index No. / Priority Waterbody Listing (PWL) No.	Major / Sub Basin	Hardness (mg/L)	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)	Critical Effluent Flow (MGD)	Dilution Ratio		
												A(A)	A(C)	HEW
001	42° 18' 57" N	-75° 24' 18" W	Susquehanna River	B	SR-7 (portion as described) PWL: 0601-0020	06/01	130 ⁹	49	57	70	1.7	30:1	35:1	42:1

POLLUTANT SUMMARY TABLE

Outfall 001

Outfall #	Description of Wastewater: treated sanitary sewage and pre-treated industrial process water														
	Type of Treatment: screening, clarification, aeration, final clarification, chlorine disinfection and chemical phosphorus removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ¹⁰	# of Data Points Detects / Non-Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL		
General Notes: Existing discharge data from 4/30/2016 to 3/31/2021 was obtained from Discharge Monitoring Reports provided by the permittee. 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	1.7	0.62 Actual Average	59/1	1.7	Design Flow	Narrative: No alterations that will impair the waters for their best usages.				703.2	-	TBEL	
	Consistent with TOGS 1.3.3, a monthly average flow limitation equal to the average daily design capacity of the treatment plant is specified.														
pH	SU	Minimum	6.0	6.3	60/0	6.0	TOGS 1.3.3	8.2 ¹¹	-	6.5 – 8.5	Range	-	703.3	-	TBEL
		Maximum	9.0	7.5	60/0	9.0									
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. Given the available dilution an effluent limitation equal to the TBEL is reasonably protective of the WQS.															

⁹ Ambient hardness data obtained from average of 27 rotating integrated basin sampling (RIBS) ambient samples.

¹⁰ Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤ 3 non-detects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects)

¹¹ Ambient pH obtained from 80th percentile of 22 RIBS samples.

Outfall #	Description of Wastewater: treated sanitary sewage and pre-treated industrial process water														
	Type of Treatment: screening, clarification, aeration, final clarification, chlorine disinfection and chemical phosphorus removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ¹⁰	# 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		
Temperature	°F	Daily Max	90	72 actual max	60/0	90	Antibacksliding	-	Narrative (Non-Trout): The water temperature at the surface of a stream shall not be raised to more than 90F at any point and... shall not be raised or lowered to more than 5F over the temperature that existed before the addition				704.2	-	WQBEL
		Monthly Average	Monitor	70 actual max	60/0	-	-	-	-	-	-	-	-	-	Monitor
Consistent with 6 NYCRR 704.2, the WQBEL is maintained.															
Dissolved Oxygen (DO)	mg/L	Daily Min	-	-	-	-	-	-	4.8 Critical Point	(Non-Trout) 4.0 mg/L	Narrative	No reasonable potential	703.3	-	No Limitation
	The downstream DO concentration was modeled using the Streeter-Phelps equations and the following assumptions. The primary reach of the model included data from both Sidney WPCP and Amphenol Aerospace (NY0003824) since the effluent from the two facilities comingles prior to discharge into the Susquehanna River. Effluent DO = 2.0 mg/L (assumed value consistent with TOGS 1.3.1D), Effluent BOD ₅ = 79 mg/L (current Sidney permit limit of 45 mg/L plus Amphenol application data of 34 mg/L), Effluent NOD = 358 mg/L (calculated from maximum reported Sidney ammonia of 19 mg/L as NH ₃ -N and Amphenol maximum reported ammonia of 30 mg/L as NH ₃ -N). Reach Description: The model included the Bainbridge WWTP (NY0030597) ~5 miles downstream and continued for ~ 2 miles downstream of Bainbridge WWTP. The model showed that the existing Sidney permit limits and Amphenol conditions are adequate for maintaining downstream water quality.														
5-day Biochemical Oxygen Demand (BOD ₅)	mg/L	Monthly Avg	30	12	60/0	30	TOGS 1.3.3	-	See Dissolved Oxygen	No reasonable potential	703.3	-	TBEL		
		7 Day Avg	45	25	60/0	45	TOGS 1.3.3								
	lbs/d	Monthly Avg	420	62	60/0	420	TOGS 1.3.3								
		7 Day Avg	640	130	60/0	640	TOGS 1.3.3								
	% Rem	Minimum	85	90 actual min	60/0	85	TOGS 1.3.3								
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. See justification for Dissolved Oxygen.															
Total Suspended Solids (TSS)	mg/L	Monthly Avg	30	13	60/0	30	TOGS 1.3.3	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages.	703.2	-	TBEL			
		7 Day Avg	45	25	60/0	45	TOGS 1.3.3								
	lbs/d	Monthly Avg	420	84	60/0	420	TOGS 1.3.3								
		7 Day Avg	640	190	60/0	640	TOGS 1.3.3								
	% Rem	Minimum	85	92	60/0	85	TOGS 1.3.3								
Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. Given that adequate dilution is available, an effluent limitation equal to the TBEL, and consistent with TOGS 1.3.3, is reasonably protective of water quality standards.															

Outfall #	001	Description of Wastewater: treated sanitary sewage and pre-treated industrial process water													
		Type of Treatment: screening, clarification, aeration, final clarification, chlorine disinfection and chemical phosphorus removal													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ¹⁰	# 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		
Settleable Solids	mL/L	Daily Max	0.3	*	0/60	0.3	TOGS 1.3.3	-	Narrative: None from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages				703.2	-	TBEL
	*All values reported as <0.1 or 0 mL/L. Consistent with TOGS 1.3.3, the effluent limitation is equal to the TBEL of 0.3 mL/L for POTWs providing secondary treatment without filtration. Given that adequate dilution is available the TBEL is reasonably protective of WQS.														
Nitrogen, Ammonia (as N) June 1 st – Oct. 31 st	mg/L	Monthly Avg	Monitor	17	60/0	-	-	-	0.11	0.49	A(C)	No reasonable potential	703.5	-	No Limitation
		Daily Max	Monitor	21	60/0	-	-	-	-	-	-	-	-		
	lbs/d	Monthly Avg	Monitor	66	60/0	-	-	-	-	-	-	-	-	-	
		Daily Max	Monitor	72	60/0	-	-	-	-	-	-	-	-	-	
The WQS for Ammonia was determined from TOGS 1.1.1 from a summer pH of 8.2 (80 th percentile of RIBS data) and a temperature of 25 °C (assumed from TOGS 1.3.1E). The projected instream concentration was calculated using the maximum reported monthly average effluent concentration of 13 mg/L NH ₃ -N and an ambient upstream concentration of 0.082 mg/L (assumed in accordance with TOGS 1.3.1D). A multiplier ¹² of 1.0 was applied to the maximum effluent concentration to account for the number of samples. In accordance with TOGS 1.3.1E, the HEW dilution ratio was applied to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.															
Nitrogen, Ammonia (as N) Nov. 1 st – May 31 st	mg/L	Monthly Avg	Monitor	13	60/0	-	-	-	0.10	0.72	A(C)	No reasonable potential	703.5	-	No Limitation
		Daily Max	Monitor	19	60/0	-	-	-	-	-	-	-	-		
	lbs/d	Monthly Avg	Monitor	120	60/0	-	-	-	-	-	-	-	-	-	
		Daily Max	Monitor	99	60/0	-	-	-	-	-	-	-	-	-	
The WQS for Ammonia was determined from TOGS 1.1.1 from a summer pH of 8.2 (80 th percentile of RIBS data) and a temperature of 10 °C (assumed from TOGS 1.3.1E). The projected instream concentration was calculated using the maximum reported monthly average effluent concentration of 12 mg/L NH ₃ -N and an ambient upstream concentration of 0.082 mg/L (assumed in accordance with TOGS 1.3.1D). A multiplier ¹² of 1.0 was applied to the maximum effluent concentration to account for the number of samples. In accordance with TOGS 1.3.1E, the HEW dilution ratio was applied to calculate the projected instream concentration. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. Therefore, no limitation is specified.															

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

Outfall #	001	Description of Wastewater: treated sanitary sewage and pre-treated industrial process water													
		Type of Treatment: screening, clarification, aeration, final clarification, chlorine disinfection and chemical phosphorus removal													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ¹⁰	# 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 Kjeldahl Nitrogen (TKN) (as N)	mg/L	Monthly Avg	Monitor	89	60/0	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
	lb/d	Monthly Avg	Monitor	25	60/0	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
	Consistent with the Phase III WIP, sampling and reporting for TKN will be continued in the permit and used to calculate the Monthly Average Total Nitrogen.														
Nitrate (NO ₃) (as N)	mg/L	Monthly Avg	Monitor	51	60/0	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
	lb/d	Monthly Avg	Monitor	150	60/0	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
	Consistent with the Phase III WIP, sampling and reporting for nitrate will be continued in the permit and used to calculate the Monthly Average Total Nitrogen.														
Nitrite (NO ₂) (as N)	mg/L	Monthly Avg	Monitor	3.3	60/0	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
		Daily Max	-	-	-	-	-	-	-	0.100	A(C)	35	6 NYCRR 703.5	-	Monitor
	lb/d	Monthly Avg	Monitor	12	59/1	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
Consistent with the Phase III WIP, sampling and reporting for nitrite will be continued in the permit and used to calculate the Monthly Average Total Nitrogen. Daily maximum nitrate monitoring is being added so the need for a WQBEL can be assessed at the next permit review.															
Total Nitrogen	mg/L	Monthly Avg	Monitor	43	60/0	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
	lb/d	Monthly Avg	Monitor	160	60/0	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
	lb/mon	Monthly Total	Monitor	4000	60/0	Monitor	WIP III	-	-	-	-	-	-	-	Monitor
	lb/yr	12 Month Rolling Total	41,000	36,000	60/0	41,000	WIP III	-	-	-	-	-	-	-	TMDL
Consistent with the Phase III WIP the permit includes an annual loading limitation of 41,000 lbs/yr. See Chesapeake Bay TMDL discussion in this factsheet.															

Outfall #	Description of Wastewater: treated sanitary sewage and pre-treated industrial process water															
	Type of Treatment: screening, clarification, aeration, final clarification, chlorine disinfection and chemical phosphorus removal															
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement	
			Permit Limit	Existing Effluent Quality ¹⁰	# 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 Phosphorus	mg/L	Monthly Avg	Monitor	3.0	60/0	1.0	WIP III	Narrative: None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.						703.2	-	TBEL
	lb/d	Monthly Avg	Monitor	12	60/0	Monitor	WIP III									Monitor
	lb/mo	Monthly Total	Monitor	380	60/0	Monitor	WIP III									Monitor
	lb/yr	12 Month Rolling Total	2590	2900 Actual Max	60/0	2590	WIP III									TMDL
Consistent with the Phase III WIP, and to maximize phosphorus removal ¹³ , the permit includes a total phosphorus concentration limit of 1.0 mg/L expressed as a monthly average and a final annual loading limitation of 2,590 lbs/yr. The 1.0 mg/L phosphorus concentration is not achievable with the current treatment technology employed at the facility, and the facility is under order to comply with the final phosphorus load; therefore, the compliance date for both the concentration and load limitations will be effective according to Order on Consent R4-2020-0402-47. The annual loading limitation (2,590 lbs/yr) was calculated from a 0.5 mg/L concentration at the design flow of 1.7 MGD for 365 days of the year. Interim and final loading limits are provided in Chesapeake Bay TMDL discussion in this factsheet.																
Total Mercury	ng/L	Daily Max	STHIM	34	21/3	50	GLCA	-	-	0.7	H(FC)	50	GLCA	-	DOW 1.3.10	
	ng/L	12 MRA	STHIM	34	21/3	34	EEQ	-	-	0.7	H(FC)	34	EEQ	-	DOW 1.3.10	
See Mercury section of this factsheet .																
Fecal Coliform	#/100 ml	30d Geo Mean	200	21	14/16	200	TOGS 1.3.3	-	Narrative: The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.				703.4	-	TBEL	
		7d Geo Mean	400	640 actual max	14/16	400	TOGS 1.3.3	-								
Consistent with TOGS 1.3.3, effluent disinfection is required seasonally from May 1st - October 31st, due to the class of the receiving waterbody. Fecal coliform limits equal to the TBEL are specified.																
Total Residual Chlorine (TRC)	mg/L	Daily Max	2.0	2.0 actual max	30/0	2.0	TOGS 1.3.3	-	0.058	0.005	A(C)	0.88	703.5	0.03	WQBEL	
		Monthly Avg	Monitor	1.8	30/0	-	-	-	-	-	-	-	-	-	Discontinued	
	lb/d	Monthly Avg	Monitor	96	30/0	-	-	-	-	-	-	-	-	-	Discontinued	
Effluent disinfection is currently required seasonally and will remain a permit requirement. The WQBEL was calculated by multiplying the WQS by the chronic dilution ratio and a decay factor of five. Due to the low dilution, the calculated WQBEL is less than the TBEL and an effluent limitation equal to the WQBEL is appropriate.																

¹³ Consistent with NYCRR 750-2.8(a)(5).

Outfall #	001	Description of Wastewater: treated sanitary sewage and pre-treated industrial process water													
		Type of Treatment: screening, clarification, aeration, final clarification, chlorine disinfection and chemical phosphorus removal													
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ¹⁰	# 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		
Cyanide, Total (previously) Cyanide, Free	µg/L	Daily Max	280-AL	308 actual max	12/48	-	-	-	-	-	-	-	703.5	-	Action Level
	lb/d	Daily Max	Monitor	16	28/38	-	-	-	-	-	-	-			Monitor
There is no reasonable potential to exceed the total cyanide water quality standard. The more stringent WQS is for free cyanide; however, an approved analytical method for free cyanide was not previously available. The action level has been maintained but changed to free cyanide. Reasonable potential for free cyanide will be determined at the next permit review. Additionally, a maximum daily load will be developed for free cyanide and load monitoring is being added to inform future watershed analysis in accordance with TOGS 1.3.1 and 6 NYCRR Part 701.1.															
PCB-1242	ng/L	Daily Max	200	2.9	1/59	-	-	-	-	-	-	-	-	95	Discontinued
	lb/d	Daily Max	Monitor	0.90	15/45	-	-	-	-	-	-	-			
The source of PCBs has been remediated; therefore, the PCB-1242 limitation has been discontinued.															
PCB-1248	ng/L	Daily Max	200	2.9	1/59	-	-	-	-	-	-	-	-	95	Discontinued
	lb/d	Daily Max	Monitor	0.80	16/44	-	-	-	-	-	-	-			
The source of PCBs has been remediated; therefore, the PCB-1242 limitation has been discontinued.															
Additional Pollutants Detected															
Total Aluminum	mg/L	Daily Max	-	0.029 actual max	1/9	-	-	-	NA	NA	NA	NA	703.5	-	No Limitation
	Aluminum data was reported as part of a short-term high intensity monitoring program included in the previous permit. In accordance with TOGS 1.3.1E, aluminum solubility cannot exceed the WQS in receiving water bodies with a pH > 6.5. The pH of the Susquehanna River near Sidney is 8.2; therefore, no aluminum limitation is specified.														
Total Copper	µg/L	Daily Max	-	35 actual max	6/6	-	-	-	1.6	11	A(C)	No reasonable potential	703.5	-	Monitor
	lb/d		-	-	-	-	-	-	-	-	-	-	-	-	Monitor
Copper data was reported as part of a short-term high intensity monitoring program included in the previous permit. The projected instream concentration was calculated using the maximum measured effluent concentration of 0.035 mg/L and an ambient upstream concentration assumed to be zero. A multiplier ¹² of 1.6 was applied to the projected effluent to account for the number of samples. A metals translator of 1.042 was applied to convert between the total and dissolved form in accordance with EPA Document 823-B-96-007. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation; therefore, no WQBEL is specified. A watershed analysis indicates that copper may be a pollutant of concern in the Susquehanna Watershed; therefore, copper monitoring is being added to the permit to inform future analyses.															

Outfall #	Description of Wastewater: treated sanitary sewage and pre-treated industrial process water														
	Type of Treatment: screening, clarification, aeration, final clarification, chlorine disinfection and chemical phosphorus removal														
Effluent Parameter	Units	Averaging Period	Existing Discharge Data			TBELs		Water Quality Data & WQBELs						ML	Basis for Permit Requirement
			Permit Limit	Existing Effluent Quality ¹⁰	# 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 Lead	µg/L	Daily Max	-	1.1 actual max	1/11	-	-	-	0.038	5.0	A(C)	No reasonable potential	703.5	-	Monitor
	lb/d		-	-	-	-	-	-	-	-	-	-	-	-	Monitor
Lead data was reported as part of a short-term high intensity monitoring program included in the previous permit. The projected instream concentration was calculated using the maximum measured effluent concentration of 0.0011 mg/L and an ambient upstream concentration assumed to be zero. A multiplier ¹² of 1.6 was applied to the projected effluent to account for the number of samples. A metals translator of 1.328 was applied to convert between the total and dissolved form in accordance with EPA Document 823-B-96-007. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation; therefore, no WQBEL is specified. A watershed analysis indicates that lead may be a pollutant of concern in the Susquehanna Watershed; therefore, lead monitoring is being added to the permit to inform future analyses.															
Total Nickel	mg/L	Daily Max	-	0.0054 actual max	3/9	-	-	-	0.00025	65	A(C)	No reasonable potential	703.5	-	No Limitation
	Nickel data was reported as part of a short-term high intensity monitoring program included in the previous permit. The projected instream concentration was calculated using the maximum measured effluent concentration of 0.0054 mg/L and an ambient upstream concentration assumed to be zero. A multiplier ¹² of 1.6 was applied to the projected effluent to account for the number of samples. A metals translator of 1.003 was applied to convert between the total and dissolved form in accordance with EPA Document 823-B-96-007. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation; therefore, no WQBEL is specified.														
Total Zinc	mg/L	Daily Max	-	0.062 actual max	8/4	-	-	-	0.0028	103	A(C)	No reasonable potential	703.5	-	No Limitation
	Zinc data was reported as part of a short-term high intensity monitoring program included in the previous permit. The projected instream concentration was calculated using the maximum measured effluent concentration of 0.062 mg/L and an ambient upstream concentration assumed to be zero. A multiplier ¹² of 1.6 was applied to the projected effluent to account for the number of samples. A metals translator of 1.014 was applied to convert between the total and dissolved form in accordance with EPA Document 823-B-96-007. A comparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation; therefore, no WQBEL is specified.														

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 law¹⁴ and USEPA interpretation¹⁵ 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.

¹⁴ American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)

¹⁵ 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.

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

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.

Mini Industrial Pretreatment Program

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

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