Date: September 12, 2024

Permittee: Binghamton Johnson City Joint Sewage Treatment Board

Facility: Binghamton Johnson City Joint Sewage Treatment Plant

Full Technical Review SPDES Number: NY0024414 Permit Writer: Evan Walters USEPA Major/Class 05 Municipal Water Quality Reviewer: Ethan Sullivan

SPDES Permit Fact Sheet **Binghamton Johnson City Joint** Sewage Treatment Board

Binghamton Johnson City Joint Sewage Treatment Plant NY0024414

Co-Permittees: City of Binghamton Village of Johnson City



Permittee: Binghamton Johnson City Joint Sewage Treatment Board

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Summary of Permit Changes

A State Pollutant Discharge Elimination System (SPDES) EBPS permit renewal has been drafted for the Binghamton Johnson City Joint Sewage Treatment Plant (BJCSTP). The changes to this permit are summarized below:

- The requirements of the City of Binghamton ("City") and the Village of Johnson City ("Village") combined sewer overflow (CSO) permits (NY0024406 and NY0023981 respectively) have been incorporated into the BJCSTP permit (NY0024414)
- Updated permit format, definitions, and general conditions
- **BJCSTP Outfall 001**
 - Corrected longitude on the permit cover page
 - Added monitoring for dissolved oxygen and ultimate oxygen demand (UOD)
 - Added footnotes for dissolved oxygen sampling and UOD calculation
 - Removed the monthly average ammonia load limit and added monitoring
 - o Removed individual nitrate and nitrite monitoring (maintained nitrate + nitrite monitoring)
 - Removed the daily max total Kjeldahl nitrogen concentration and load limits and added monitoring
 - Added a monthly average total nitrogen limit of 6.0 mg/L
 - Added a monthly average total phosphorus limit of 1.0 mg/L
 - Added daily maximum free cyanide monitoring
 - Reduced iron sampling frequency from monthly to quarterly
 - Reduced the 12-month rolling average mercury limit from 24 ng/L to 12 ng/L
 - Added a daily maximum total phenols limit of 8.3 µg/L
 - Added precipitation monitoring requirement
 - Added a biennial pollutant scan requirement
 - o Removed monitoring for total beryllium, chloroform, methyl bromide, methyl chloride, and toluene
 - Increased the Whole Effluent Toxicity (WET) action levels from 1.2 TUa and 6.8 TUc to 2.0 and 7.2 for acute and chronic, respectively
 - Changed WET testing requirement from years ending in 1 and 6 to years ending in 3 and 8
- Removed BJCSTP Outfall 01A and associated footnotes
- Binghamton CSO Outfalls
 - Added "B" to beginning of each CSO Outfall number (e.g., 001 becomes B001, 002 becomes B002, etc.)
 - Corrected lat/long coordinates for Outfalls B005, B006, and B009
 - Changed floatable material units from N/A to events
 - Changed each "Once Every 3 months" sample frequency to "Quarterly"
 - Changed the footnote for the floatable materials parameter to require observation at the beginning of each overflow event instead of at the end of each overflow
 - Changed the footnote for the floatable materials parameter to require reporting of the number of events per reporting period instead of days per month
 - Reorganized and renumbered footnotes
 - Changed floatable materials visual observation from end to beginning of CSO
 - o Clarified the precipitation monitoring requirement

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• Johnson City CSO Outfalls

- Added "J" to beginning of each CSO Outfall number (e.g., 001 becomes J001, 002 becomes J002)
- Corrected lat/long coordinates for both Outfalls J001 and J002
- Corrected the receiving waterbody for Outfall J001 from the Little Choconut Creek to Susquehanna River
- Added outfall descriptions
- Updated receiving waterbody class for Susquehanna River from C to A
- Added effluent limitation types
- Changed overflow volume sample type from instantaneous to metered
- Changed floatable material units from N/A to events
- o Added fecal coliform and total suspended solids (TSS) monitoring
- o Corrected typo from "Phenol" to "Phenols, Total"
- Changed each "1 / 3 months" sample frequency to "Quarterly"
- Changed the footnote for the floatable materials parameter to require observation at the beginning of each overflow event (previously at the end), and to report number of events per reporting period (previously days per month)
- Reorganized and renumbered footnotes
 - Removed footnotes #4 and #5
- Changed floatable materials visual observation from end to beginning of CSO events
- Clarified the precipitation monitoring requirement
- Reorganized the special conditions from the two former CSO permits (NY0024406 and NY0023981) into this permit
- Updated the Best Management Practices for Combined Sewer Overflows and added an applicability table
- Updated the "Combined Sewer Overflow Long Term Control Plan" section, now titled "Special Conditions: CSO Control Policy"
- Added BOD₅ and settleable solids to Post Construction Compliance Monitoring requirements
- Updated Mercury Minimization Program from High Priority POTWs to Type I
- Added clarification regarding signage requirements to Discharge Notification Requirements (requirements unchanged)
- Added Village of Johnson City CSO Map
- Added a column to the Schedule of Additional Submittals clarifying the responsible copermittee(s) for each item

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

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Administrative History

Date	Co-permittee	Action
1/1/1991	Village	The last full technical review was performed and the Johnson City CSO permit became effective with a new five-year term and expiration date of 1/1/1996. The 1991 permit, along with all subsequent modifications, has formed the basis of this permit.
		The permit was administratively renewed in 1996, 2001, 2010, 2015, and again in 2020. The current permit administrative renewal is effective until 7/31/2025.
10/31/1991	Village	The Johnson City CSO permit was modified to require the Village to participate in a combined sewer overflow study with the City and the Binghamton Johnson City Joint Sewage Treatment Board (BJCJSB).
2/13/2004	Village	The Johnson City CSO permit was amended to require compliance with updates to 6 NYCRR 750-2.
10/1/2005	Village	The Johnson City CSO permit was modified to update the best management practices for CSOs.
4/1/2014	City	The last full technical review was performed, and the Binghamton CSO permit became effective with a new five-year term and expiration date of 3/31/2019. The 2014 permit has formed the basis of this permit.
9/1/2015	Village	The Johnson City CSO permit was modified to update to require additional sampling for phosphorus and nitrogen.
3/31/2019	City	The current Binghamton CSO permit was allowed to stay in effect pursuant to SAPA¹.
4/1/2020	BJCJSB	The last full technical review was performed and the permit for BJCSTP became effective with a new five-year term and expiration date of 3/31/2025. The 2020 permit, along with all subsequent modifications, has formed the basis of this permit.
7/1/2020	BJCJSB	The BJCSTP permit was modified to correct various sampling requirements.
4/1/2023	BJCJSB	BJCJSB submitted a NY-2A permit application as required by the 2020 permit.
8/10/2023	City & Village	DEC issued Requests for Information (RFIs) for the City of Binghamton and the Village of Johnson City CSO permits to ensure consistency between permits.
9/19/2023	City	The City submitted a NY-2A permit application.

¹ State Administrative Procedures Act Section 401(2) and 6 NYCRR 621.11(*I*)

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Date	Co-permittee	Action
9/29/2023	City	DEC requested additional information to complete the City's NY-2A permit application.
10/4/2023	Village	The Village submitted a NY-2A permit application.
11/2/2023	City	The City submitted the requested additional application materials.

The Notice of Complete Application, published in the <u>Environmental Notice Bulletin</u> and newspapers, contains information on the public notice process.

Facility Information

BJCSTP is a publicly owned treatment works that receives flow from several municipalities listed below, with effluent consisting of treated sanitary sewage, stormwater, and industrial wastewater. The collection systems consist of both separate and combined sewers and accept flow from significant industrial users (SIUs), also listed below. The City and the Village each send sanitary sewage, stormwater, and industrial wastewater to BJCSTP.

The current 35 MGD BJCSTP consists of:

- Fine screens, aerated grit removal (preliminary treatment)
- Chemically enhanced primary treatment (CEPT)
- Secondary treatment biological aerated filters (CN BAF)
- Denitrification biological filters (DN BAF)
- UV disinfection

Wet weather flows above 35 MGD will bypass the denitrification cells and combine with the DN BAF effluent prior to UV disinfection. The preliminary treatment, CEPT, CN BAF, and disinfection are designed to handle wet weather flows up to 60 MGD. The most recent Wet Weather Operating Plan (WWOP) for BJCSTP was approved February 18, 2021.

Sludge is digested anaerobically, thickened via centrifuge, with optional lime stabilization, and hauled to Broome County Landfill.

BJCSTP's primary outfall (Outfall 001) is a 12-foot-wide concrete channel that discharges to a concrete apron and rock outlet protection adjacent to the confluence of Fuller Hollow Creek and the Susquehanna River, Class A, constructed in 2018. See Figure 2: Outfall 001 at BJCSTP.

The BJCSTP permit also contains two internal outfalls: Outfall 01A for the effluent from the DN BAF cells prior to disinfection, and Outfall 01B for the bypass of the DN BAF cells. Internal Outfall 01A is being removed from this permit as it is no longer necessary for the protection of water quality. Monthly average limitations of 6.0 mg/L and 1.0 mg/L are being moved from Outfall 01A to Outfall 001 for total nitrogen and total phosphorus respectively. See Outfall 01A Pollutant Summary Table for more information.

BJCSTP does not have any planned improvements.

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BJCSTP accepts sanitary sewage, stormwater, and industrial wastewater from the following

municipalities:

Municipality	POSS # or SPDES #	Collection System
City of Binghamton	NY0024406	Combined
Village of Johnson City	NY0023981	Combined
Village of Port Dickinson	NYS700033	Separate
Town of Binghamton	NYS700052	Separate
Town of Conklin	NYS700028	Separate
Town of Fenton	NYS700081	Separate
Town of Dickinson	NYS700034	Separate
Town of Kirkwood	NYS700031	Separate
Town of Union	NYS700030	Separate
Town of Vestal	NYS700032	Separate

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

Significant Industrial User (SIU)	Location	SIC Code	Categorical Reference (if applicable to 40 CFR)
All Spec Finishing	Binghamton	3479	40 CFR 433
Ametek Inc.	Binghamton	3728	-
Bates Troy Inc.	Binghamton	7213	-
SUNY Broome Community College	Binghamton	8221	-
Binghamton General Hospital	Binghamton	8062	-
Binghamton Water Filtration	Binghamton	4941	-
Binghamton University	Binghamton	8221	-
Buckeye Terminals	Vestal	4226	-
CH Thompson	Binghamton	3471	40 CFR 433
Crysta-Lyn Chemical Inc.	Binghamton	2865	40 CFR 414
e-Systems Group	Conklin	2522	40 CFR 433
Elliott Manufacturing	Binghamton	3568	-
Frito Lay Inc.	Binghamton	2096	-
Greater Binghamton Health	Binghamton	8062	-
i3 Assembly LLC	Binghamton	3672	-
Lourdes Hospital	Binghamton	8062	-
Norfolk Southern	Binghamton	4013	-
Town of Conklin Landfill	Conklin	4952	-
Triple Cities Metal Finishing	Binghamton	3471	40 CFR 433
Wilson Medical Center	Johnson City	8062	-

Combined Sewer Overflows

DEC recognizes that the co-permittees of this permit, BJCJSB, the City, and the Village, are responsible for different components of the collection system and treatment works. For management of the CSOs, all three entities have collaborated under a joint CSO Long Term Control Plan (LTCP). The LTCP was approved as the combination of three reports (listed below), one for each entity. Each of these reports was separately approved by DEC.

BJCJSB - Facility Plan Report, submitted June 29, 2000, approved October 13, 2000

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City of Binghamton – Collection System Improvements Design Report, submitted December 2000, approved March 13, 2002

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Village of Johnson City – CSO Floatables Control Facilities Design Report, submitted October 1, 2001, approved November 29, 2001

The CSO outfalls in the City and the Village are covered under separate permits, NY0024406 and NY0023981 respectively. The contents and conditions of all three permits are being incorporated under one permit number, NY0024414, for the following reasons:

- 1. To ensure that the permit requirements for all three entities will be reviewed and updated simultaneously, in the full context of the system-wide interrelation.
- 2. To provide clarity regarding each entity's responsibilities in meeting the discharge requirements of the overall system enacted through the permit and the approved LTCP.
- 3. To ensure permit limits and requirements are implemented consistently and effectively for long-term water quality improvement.

Following the issuance of this permit, the separate individual SPDES permits for the City of Binghamton CSOs, NY0024406, and the Village of Johnson City CSOs, NY0023981, will be discontinued.

See the Receiving Water Information section for a list of all outfalls.

Site Overview



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Figure 1: Aerial view of BJCSTP showing Outfall 001 and the Susquehanna River, Class A.



Figure 2: Outfall 001 at BJCSTP.

Enforcement History

On January 9, 2012, DEC, the City, the Village, and BJCJSB entered into administrative Consent Order R7-20110628-59 (Order) after a portion of the treatment plant collapsed in May 2011 and the remainder of the facility was flooded by the Susquehanna River in September 2011. The Order required the parties to complete work to return the facility to full operations in compliance with the BJCSTP permit.² Modifications were made to the Order in May 2013, June 2013, July 2014, May 2016, November 2016, March 2017, June 2017, and February 2019. By April 1, 2020, the treatment plant had returned to full operations and was in compliance with the BJCSTP permit.

On February 18, 2022, BJCJSB notified DEC about a catastrophic failure of a sight port which rendered the secondary treatment system inoperable. DEC, the City, the Village, and the Board subsequently entered into Order on Consent R7-20220617-33 dated October 12, 2022. The Order required the following compliance actions:

² As identified in the Order, "Respondent Binghamton and Respondent Johnson City jointly own the Binghamton-Johnson City Joint Sewage Treatment Plant." Additionally, "[t]he Binghamton-Johnson City Joint Sewage Board is a joint agency of and for Respondent Binghamton and Respondent Johnson City and is the operator and manager of the Facility."

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 Submission and implementation of an approvable Work Plan addressing non-compliance due to the catastrophic failure which rendered the secondary treatment system inoperable, a corrective actions Implementation Schedule, and an Interim Operation Plan while repairs are ongoing (completed)

- Monthly updates to the Interim Operations Plan and Implementation Schedule until completion of construction (completed)
- Daily updates on plant performance until completion of construction (completed)
- Submission of a Form NY-2A application by April 1, 2023 (completed)
- One year of quarterly WET testing beginning April 1, 2023 (ongoing)

Compliance and enforcement information can be found on the EPA's <u>Enforcement and Compliance History Online (ECHO)</u> website. Additional information related to CSO discharges can be found at DEC's <u>Sewage Pollution Right to Know</u> webpage.

Existing Effluent Quality

The <u>Pollutant Summary Table</u> presents the existing effluent quality and effluent limitations for BJCSTP. The existing effluent quality was determined from Discharge Monitoring Reports and the application submitted by BJCSTP for the period October 2022 to May 2023. This date range was applied as it represents the resumption of normal plant operations and representative effluent quality after the structural failure of a CN BAF cell. <u>Appendix Link</u>

Interstate Water Pollution Control Agencies

All outfalls are located within the Chesapeake Bay watershed and Susquehanna River Basin Commission (SRBC) compact area which places additional requirements in this permit for nutrient removal. See Chesapeake Bay TMDL Watershed Information below. Appendix Link

Additional Site-Specific Concerns

BJCSTP is located in a sole source aquifer. As required by ECL 17-0828, the facility submitted a completed *Application Supplement B: Discharges within Sole Source Aquifers* form identifying the following water purveyors within a three-mile radius of the facility: Town of Vestal Water Department and Village of Johnson City Water Department.

Receiving Water Information

BJCSTP discharges via the following outfalls:

Outfall No.	SIC Code	Wastewater Type Receiving Wa									
001	4952	Treated sanitary sewage, stormwater, and process wastewater	Susquehanna River, Class A								
	Effluent from Denitrification Cells (DN BAF) Prior to Disinfection										
01A	Internal to Outfall 001										
	Being removed from permit										
01B		Bypass of Denitrification Cells (DN BAF) Prior	to Disinfection								
VIB	Internal to Outfall 001										

Reach Description: The Susquehanna River is located within the Chesapeake Bay Watershed and receives flows from the Chenango River just upstream of the BJCSTP. The Susquehanna

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River is class A at BJCSTP's Outfall 001 and receives discharges from multiple wastewater treatment facilities including Northgate Chenango Wastewater Treatment Plant (1 MGD, NY0213781) located upstream on the Chenango River, and the Village of Endicott Wastewater Treatment Plant (10 MGD, NY0027669) and the Town of Owego Sewage Treatment Plant # 2 (2 MGD, NY0025798) located downstream of BJCSTP.

In-stream hardness was calculated to be 83 mg/L (as CaCO3), as the average of 15 samples taken from RIBS station 06-SUSQ-31.4 from 2017 to 2020. The station is approximately 6.5 miles downstream of BJCSTP.

The City discharges via the following combined sewer overflows (CSOs):

Outfall No.	SIC Code	Wastewater Lyne I I						
B001	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 001)	Susquehanna River, Class A					
B002	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 002)	Susquehanna River, Class A					
B003	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 003)	Susquehanna River, Class A					
B004	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 004)	Susquehanna River, Class A					
B005	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 005)	Susquehanna River, Class A					
B006	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 006)	Susquehanna River, Class A					
B007	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 007)	Susquehanna River, Class A					
B009	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 009)	Susquehanna River, Class A					
B013	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Binghamton Outfall 013)	Chenango River, Class B					

The Village discharges via the following combined sewer overflows (CSOs):

Outfall No.	SIC Code	Wastewater Type	Receiving Water				
J001	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Johnson City Outfall 001)	Susquehanna River, Class A				
J002	4952	Raw sanitary sewage, stormwater, and process wastewater (Formerly Johnson City Outfall 002)	Susquehanna River, Class A				

The receiving water for Outfall J001 was previously listed as Little Choconut Creek. Outfall J001 discharges at the confluence of Little Choconut Creek and the Susquehanna River. The location of J001 was re-evaluated during the permit development process and in discussions following the 2023 Post-Construction Compliance Monitoring (PCCM) Report. The outfall has not been

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relocated or modified; however, its location was determined to discharge to the Susquehanna River and not Little Choconut Creek.

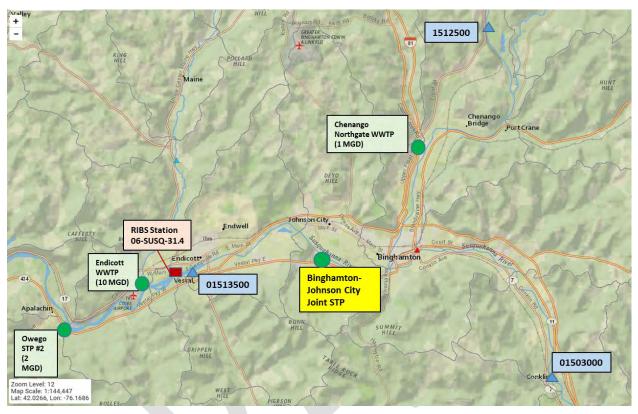


Figure 3: Map showing Susquehanna River and significant facilities including: BJCSTP (point of discharge), Village of Endicott Wastewater Treatment Plant (approximately 7.5 miles downstream), the Town of Owego Sewage Treatment Plant # 2 (approximately 13.5 miles downstream), Chenango Northgate Wastewater Treatment Plant (approximately 7.5 miles upstream on the Chenango River), USGS gage 01503000 (approximately 12 miles upstream), USGS gage 01513500 (approximately 5 miles downstream), USGS gage 01512500 (approximately 14.5 miles upstream on the Chenango River), and RIBS station 06-SUSQ-31.4, (approximately 6.5 miles downstream).

See the Outfall and Receiving Water Summary Table and Appendix for additional information.

Toxics Reduction Strategy

DEC conducted a watershed analysis for the Susquehanna River in 2022. The analysis is used in addition to the DEC'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 reach. The critical reach for evaluation of the Susquehanna River is located downstream from BJCSTP near the Endicott Wastewater Treatment Plant (WWTP). This is the furthest downstream Class A reach. This analysis supports continuation of the existing limitations or monitoring requirements for total cyanide, iron, lead, copper, and thallium. This analysis also supports removal of the monitoring requirements for chloroform, toluene, beryllium, methyl bromide, and methyl chloride since no water quality impact was predicted.

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Impaired Waterbody Information

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 TMDL³, as discussed below.

Chesapeake Bay TMDL Watershed Information

BJCSTP 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.

BJCJSB is required to continue to sample and report total phosphorus as P, total Kjeldahl nitrogen (TKN) as N, nitrate (NO₃) + nitrite (NO₂) 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.

Final Limits at BJCSTP Outfall 001

Total Phosphorus (as P) 12-month Load (TP 12-ML): 106,543 lb/year effective 1/1/2025 Total Nitrogen (as N) 12-month Load (TN 12-ML): 639,261 lb/year effective 4/1/2020

Critical Receiving Water Data

The low flow condition for the Susquehanna River at BJCSTP was obtained from a drainage basin ratio analysis with USGS gage station at Vestal (01513500), located on the Susquehanna River approximately 5.0 miles downstream of the facility. Additionally, low flow data from USGS gage station Susquehanna River at Conklin (01503000), located approximately 12 miles upstream of the facility, and USGS gage station near Chenango Forks (01512500), located on the Chenango River approximately 14.5 miles upstream of the facility were reviewed and were consistent with the drainage basin analysis. The 1Q10, 7Q10 and 30Q10 flows at the gages were found from Hydrologic Toolbox and an analysis of data from 1938 to 2022.

DRAINAGE BASIN RATIO	1Q10	7Q10	30Q10							
Gage Name		Susquehanna River at Vestal								
Gage ID Number	1513500									
Low Flow at Gage (cfs)	322	340	399							
Drainage Area at Gage (mi ²)	3950	3950	3950							
Drainage Area at Facility (mi ²)	3900	3900	3900							
Drainage Basin Ratio (facility / gage)	0.99	0.99	0.99							
Calculated Flow at Facility (cfs)	318	336	394							

The 1Q10, 7Q10, and 30Q10 flows were used to calculate the acute, chronic, and human, aesthetic, wildlife (HEW) dilution ratios, respectively. The dilution ratios have been adjusted from the previous permit review as reported low flow values are now available through USGS Hydrologic Toolbox.

Dilution Ratio = (Facility Flow + Low Flow) / Facility Flow

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³ See https://www.dec.ny.gov/lands/33279.html

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Outfall No.	Acute Dilution Ratio A(A)	Chronic Dilution Ratio A(C)	Human, Aesthetic, Wildlife Dilution Ratio (HEW)	Basis						
001	6.9	7.2	8.3	TOGS 1.3.1						
01B	Internal to Outfall 001									

Critical receiving water data are listed in the <u>Pollutant Summary Table</u> at the end of this fact sheet. <u>Appendix Link</u>

Permit Requirements

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

Whole Effluent Toxicity (WET) Testing

The requirement for WET testing at BJCSTP is continued from the previous permit. Due to multiple catastrophic flooding and other structural failures, as well as most recently invalidated WET lab data (which was not the fault of the treatment plant operator), no previous WET data were available to perform a reasonable potential analysis. Consistent with TOGS 1.3.2, given the dilution available and location outside of the Great Lakes basin, this permit will continue to require chronic WET testing. Corresponding to the increase in the calculated dilution ratio at this facility – as discussed in the section above – WET testing action levels have been increased from 1.2 TUa and 6.8 TUc to 2.0 TUa and 7.2 TUc 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. Samples will be collected quarterly for a period of one year in years ending in 3 and 8.

Anti-backsliding

The monthly average loading limit for ammonia (as N) and the daily maximum concentration and loading limits for total Kjeldahl nitrogen (TKN, as N) at BJCSTP Outfall 001 are being discontinued. These limits predate the Chesapeake Bay TMDL nitrogen limits. As a result of the limits imposed under the TMDL, BJCSTP was upgraded to achieve full nitrification. Due to the changes made to the facility to achieve full nitrification, limits for ammonia and TKN are no longer necessary for the protection of water quality. Backsliding is allowed for ammonia under 6NYCRR 750-1.10(c)(1), "material and substantial alterations or additions to the permitted facility occurred after permit issuance, which justify the application of a less stringent effluent limitation". Appendix Link

Antidegradation

This 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)⁴ determination. Appendix Link

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⁴ As prescribed by 6 NYCRR 617

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Discharge Notification Act Requirements

In accordance with the Discharge Notification Act (ECL 17-0815-a), BJCJSB, the City, and the Village are 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 permits.

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

Requirements for Combined Sewer Overflows (CSOs) Appendix Link

Best Management Practices (BMPs) for Combined Sewer Overflows (CSOs)

The BMPs for CSOs, included in this permit, require BJCJSB, the City, and the Village to: implement operation and maintenance procedures⁵; use the existing treatment plant and collection system to the maximum extent practicable; effect sewer design replacement and drainage planning; maximize pollutant capture; and minimize water quality impacts from combined sewer overflows. The submittal requirements are summarized in the Schedule of Additional Submittals. These requirements are being continued from the previous permits for the City and the Village. For BJCJSB, six BMPs are being added as applicable from the previous permit.

BMP 1. CSO Maintenance/Inspection

The intent of this BMP is to ensure proper maintenance and inspection of the combined sewer system and associated structures. For all permittees that own or operate these appurtenances, routine inspections, repair, cleaning, and maintenance must be performed. BJCJSB maintains and operates the influent throttling gates at BJCSTP and, pursuant to this permit, must inspect the influent throttling gates on at least a weekly basis. The requirements for the City and the Village to maintain and inspect all CSOs within their respective collection systems are being continued from the previous permits.

BMP 2. Maximum Use of Collection System for Storage

The intent of this BMP is to ensure that the flows BJCSTP is required to treat during wet weather can be conveyed to BJCSTP. Per TOGS 1.6.3, "in systems with potential for significant collection system storage, consideration should be given to in-line storage technologies such as inflatable dams or sluice gates which can be controlled from the host POTW via telemetry." Due to BJCJSB's ability to modulate influent flows to BJCSTP, and thereby lead to the commencement of CSO discharges, this BMP is applicable to BJCSTP. The operations of such a gate should be included in the WWOP per BMP #6.

The requirements for the City and the Village to use the maximum amount of in-system storage capacity (without causing service backups) is being continued from the previous permits. The purpose of these requirements is to minimize CSOs from the City and the Village collection

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⁵ See 6 NYCRR 750-2.8(a)(2)

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systems, and to convey the maximum amount of combined sewage to BJCSTP in accordance

with BMP 4. "Maximize Flow to POTW."

BMP 7. Control of Floatable and Settleable Solids

The discharge of floating solids, oil and grease, or solids of sewage origin which cause deposition in the receiving waters, is a violation of the NYS Narrative Water Quality Standards contained in 6 NYCRR Part 703. The intent of this BMP is to prevent aesthetic issues and other floating substances from being discharged during wet weather conditions.

In order to eliminate or minimize the discharge of these substances, BJCJSB, the City, and the Village are all being required to implement all of the measures cited in BMPs 1, 2, & 4, and the City and the Village shall implement BMP 5. Since BJCJSB is allowed to operate a secondary treatment bypass, in accordance with BMP #4, BJCSTP's WWOP, continued operation of the bypass must minimize the discharge of these pollutants. If aesthetic problems persist, BJCJSB, the City, and the Village should consider whether modifications to the WWOP would address the issue and make modifications as necessary.

BMP 10. Sewage Backups

This BMP provides the authority for NYSDEC to prohibit further connection to the POTW system, which may exacerbate sewer backups (SBUs) and surcharging in the system. This BMP ensures that none of the following will cause or contribute to SBUs or surcharge problems in the collection system: operation of the throttling gate in accordance with the WWOP in BMP #6; interceptor maintenance in accordance with BMP #1; maximizing storage in the collection system in accordance with BMP #2.

BJCJSB operates the influent throttling gates at BJCSTP, impacting the flows received at the plant; therefore, BJCSTP operations can possibly, but may not necessarily, affect sewage backups in the collection systems of the City or the Village. Therefore, whenever there are documented, recurrent instances of sewage backing up into house(s) or discharges of raw sewage onto the ground surface from surcharging manholes, the owner of the collection system in which these instances occur is required to provide written notification to BJCJSB of these instances. This requirement is new. In these circumstances, BJCJSB, the City, and the Village should consider if modifications to the Wet Weather Operating Plan are necessary.

BMP 13. Public Notification

BMP #13 is being clarified to include the requirement that BJCJSB notify the public of all known or suspected discharge events that occur not in accordance with requirements of BMP #4, "Maximize Flow to POTW" or BMP #6, "Wet Weather Operating Plan," including bypasses of treatment unit(s). The public notification requirements for the City and the Village, including CSO outfall signage, are being continued from the previous permits.

BMP 14. Characterization and Monitoring

This BMP is intended for the development of the LTCP and any future revision of the LTCP required. The characterization of the total POTW, including BJCSTP and the combined sewer systems of the City and the Village, is most effectively completed when considering the hydraulics of the complete system during development of a LTCP. Therefore, BMP 14 is being clarified to require BJCJSP, the City, and the Village to jointly characterize the combined sewer system, determine the frequency of overflows, and identify CSO impacts in accordance with Combined Sewer Overflows, Guidance for Nine Minimum Controls, EPA, 1995, Chapter 10. These are minimum requirements, more extensive characterization and monitoring efforts may be required as part of future revision of the Long-Term Control Plan (LTCP).

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Long-Term Control Plan (LTCP)

As described in the <u>Facility Information</u> section above, CSO discharges from the City and the Village are addressed under an approved joint LTCP, in collaboration with BJCJSB, to achieve compliance with the USEPA CSO Control Policy.

On April 14, 1992, the City entered into an Order on Consent with DEC (Case No. R7-0579-90-12) to address CSO violations. On April 6, 1992, BJCJSB, the City, and the Village entered into a different Order on Consent with DEC (Case No. R7-0580-90-12), requiring evaluation of the combined sewer system and development, submission, and implementation of an LTCP. In accordance with Order on Consent R7-0589-90-12, the City and Village submitted a joint LTCP on February 28, 1999, consistent with the "Guidance for Long-Term Control Plan", EPA, September 1995. The plan was approved on October 13, 2000. The approved LTCP stated the co-permittees were already attaining the presumptive approach criteria. The approved LTCP consisted of two phases: phase one incorporated requirements for collection system projects in both the City and the Village; and phase two was the BJCSTP upgrade. Implementation of the approved LTCP is completed as of 2020.

Post-Construction Compliance Monitoring (PCCM)

The EPA National CSO Control policy requires the City and the Village as CSO communities to develop and implement a PCCM Program to verify compliance with the policy and evaluate attainment of NYS water quality standards. A PCCM Plan (PCCMP) was submitted by the City and the Village on February 10, 2010, and approved by DEC on March 1, 2010. The City and the Village conducted initial PCCM in 2010 and submitted the Final Report in February 2011. Due to multiple significant construction projects at BJCSTP, further PCCM was deferred until completion of construction and return to normal operations. The City and the Village conducted additional PCCM in 2021-2022 and submitted a Final Report on December 26, 2022. DEC provided comment on the 2022 PCCM Report and issued a conditional approval on October 13, 2023, which amongst other things, required submission of a revised PCCMP and additional sampling. A comprehensive revised PCCMP was submitted January 18, 2024. DEC provided comments on the revised PCCMP on February 21, 2024, to which the City & Village jointly responded on March 1, 2024. The revised PCCMP was approved by DEC on March 13, 2024. The City and Village will conduct another year of follow-up monitoring in 2024. In addition to this follow-up monitoring in 2024, this permit requires routine PCCM in years ending 2 and 7, submitted in a PCCM report the following year (years ending 3 and 8).

Sensitive Area Reassessment

This permit requires the City and the Village to perform reassessment of the feasibility of eliminating or relocating CSO outfalls discharging to sensitive areas. The reassessment is required once per permit term, or every five years. This requirement is new.

Stormwater Pollution Prevention Requirements

BJCSTP is a publicly owned treatment works ≥ 1 MGD that requires SPDES permit coverage under 40 CFR 122.26 (b)(14)(ix). On September 27, 2019, BJCJSB submitted a Conditional Exclusion for No Exposure Form, certifying that all industrial activities and materials are completely sheltered from exposure. This condition must be maintained for the exclusion to remain applicable. The schedule of submittals also includes a due date for re-certification every five years as required by 40 CFR 122.26(g)(iii). This requirement is being continued from the previous permit.

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Mercury⁶

The multiple discharge variance (MDV) for mercury provides the framework for DEC to require mercury monitoring and mercury minimization programs (MMPs), through SPDES permitting. BJCSTP is located outside the Great Lakes Basin and is an EPA Major, Class 05 POTW with mercury sources in the collection system, and the previous permit included requirements for the implementation of MMP for High Priority POTWs. This permit includes updated requirements for the implementation of MMP Type I. Appendix Link

For BJCSTP Outfall 001, this permit will continue to have a daily max total mercury effluent limitation of 50 ng/L. The 12-month rolling average limit of 24 ng/L is being reduced to 12 ng/L based on the existing effluent quality (EEQ) and 95th percentile value of 0.7 ng/L (8 samples collected from 10/2022 to 5/2023). As the EEQ is <12 ng/L, the sampling frequency is being reduced from monthly to quarterly, and quarterly influent monitoring may be conducted in lieu of monitoring within the collection system.

A mercury minimization program consisting of the following will also be continued:

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

Biennial Pollutant Scan

Three effluent samples for applicable parameters must be submitted with an NY-2A Application⁷. This permit includes a requirement to perform biennial sampling (once every two years) of the treatment plant 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.

Industrial Pretreatment Program

BJCJSB is required to continue implementation of a USEPA-approved pretreatment program in accordance with 40 CFR 403 and TOGS 1.3.3. The program specifies continued implementation of an industrial user compliance program, submission of user information, modification of local sewer use law (if necessary), and periodic reporting.

Emerging Contaminant Monitoring

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

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

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

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

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

The DEC 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

The DEC 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.

modify the permit to incorporate a pollutant minimization program per 6 NYCRR 750-1.14(f).

Schedule(s) of Additional Submittals

A schedule of additional submittals is included in this permit for the following (Appendix Link):

- BJCJSB
 - o Water Treatment Chemical (WTC) Annual Report Form
 - Emerging Contaminant Short-Term Monitoring Program
 - Annual Flow Certification
 - o Biennial Pollutant Scan
 - Whole Effluent Toxicity (WET) Testing
 - Stormwater No Exposure Certification
 - Mercury Minimization Program Status Report
 - Industrial Pretreatment Program Report
 - CSO Annual Report
- The City and Village
 - CSO Annual Reports
 - o Post-Construction Compliance Monitoring (PCCM) Program Reports
 - Sensitive Area Reassessment Reports
 - Public Notification

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Water Quality Reviewer: Ethan Sullivan

OUTFALL AND RECEIVING WATER SUMMARY TABLE - BJCSTP

						Water Index No. /	Major /					Critical	Dil	ution R	atio
Outfall	Latitude	Longitude	Receiving Water Name	Water Class	Priority Waterbody Listing (PWL) No.	Sub Basin	Hardness (mg/l)	1Q10 (MGD)	7Q10 (MGD)	30Q10 (MGD)	Effluent Flow (MGD)	A(A)	A(C)	HEW	
001	42° 05' 52" N	75° 57' 48" W	Susquehanna River	А	SR-04 PWL: 0603-0002	06 / 03	838	205	217	254	35	6.9	7.2	8.3	
01A	42° 05' 51" N	75° 57' 49" W	Internal to Outfall 001		Being removed from permit										
01B	42° 05' 51" N	75° 57' 49" W	Internal to Outfall 001			-	-	-	-	-	-	-	-	-	

POLLUTANT SUMMARY TABLE - BJCSTP

Outfall 001

Outfall #	001	as defined Type of T	rescription of Wastewater: Treated combined wastewater and stormwater. Wastewater consists of sanitary and industrial wastes, including categorical industries as defined in 40 CFR Subchapter N. Type of Treatment: Fine screens, aerated grit removal, chemically enhanced primary treatment (CEPT), biological aerated filters (CN BAF), denitrification (DN AF), ultraviolet disinfection											
Effluent Parameter			Existing Discharge Data			-	ΓBELs	Water Quality Data & WQBELs						Basis for
	Units	Averaging Period	Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML

General Notes: Existing discharge data from 10/2022 to 5/2023 was obtained from Discharge Monitoring Reports and NY-2A application materials submitted by BJCJSB on 4/1/2023. All applicable water quality standards were reviewed for development of the WQBELs. The standard and WQBEL shown below represent the most stringent.

Note: Unless noted otherwise, existing effluent quality represents that actual average and actual maximum of monthly average and daily maximum (including 7-day averages) sampling. These calculations were selected due to the low number of samples.

MGD	12 MRA	35	21 Average	8/0	1		Narrative: No alterations that will impair the waters for	703.2	-	Design Flow
MGD	Daily Max	Monitor	59 Max	8/0	-	-	their best usages.		-	Monitor

Flow Rate

A flow limit of 35 MGD equal to the maximum capacity through the DN BAF cells is specified. At this flow, the facility can treat wastewater using all treatment units specified above. Flows above 35 MGD bypass the denitrification units and are discharged via Outfall 01B. If the collection system experiences flows above 60 MGD, combined sewer overflow discharges may occur in the City or the Village.

⁸ Ambient hardness data obtained from the average of 15 samples collected at RIBS Chemistry Monitoring Station 06-SUSQ-31.4 from 2017-2020 and is consistent with values used for the previous water quality review.

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USEPA Major/Class 05 Municipal Water Quality Reviewer: Ethan Sullivan Description of Wastewater: Treated combined wastewater and stormwater. Wastewater consists of sanitary and industrial wastes, including categorical industries as defined in 40 CFR Subchapter N. Outfall # 001 Type of Treatment: Fine screens, aerated grit removal, chemically enhanced primary treatment (CEPT), biological aerated filters (CN BAF), denitrification (DN BAF), ultraviolet disinfection **TBELs Existing Discharge Data** Water Quality Data & WQBELs Basis for Effluent Averaging # of Data Existing **Ambient** Projected Units ML Permit Permit WQ Std. Basis for Calc. Parameter Period **Points** Limit Instream WQ Type Effluent Basis Bkgd. Requirement Limit or GV **WQBEL** WOBFL Detects / Non-Quality Conc. Conc. Detects 6.3 SU 6.0 8/0 Minimum 6.0 No Min 8.19 703.3 TOGS 1.3.3 6.5 - 8.5Reasonable **TBEL** Range 8.2 SU 9.0 8/0 9.0 Potential Maximum Hq Max Consistent with TOGS 1.3.3 for POTWs, TBELs reflect secondary treatment standards. Given the available dilution, an effluent limitation equal to the TBEL is protective of the WQS. Narrative (Non-Trout): The water temperature at the surface of a stream shall 22 not be raised to more than 90F at any point Daily Max | Monitor 8/0 704.2 Monitor Max and... shall not be raised or lowered to more than 5F over the temperature that existed Temperature before the addition Consistent with 6 NYCRR 750-1.13(a), monitoring is being continued and may be used to inform future permitting decisions. (Non-No 750-1.13 0.31 4.3 mg/L Daily Min 365 / 0 Monitor Trout) Narrative Reasonable 703.3 Monitor Monitor Critical Point Average 4.0 mg/L Potential The downstream DO concentration was modeled using the Streeter-Phelps equations and the following assumptions: Effluent DO = 2 mg/l (assumed value consistent with TOGS 1.3.1D), Effluent CBOD₅ = 27 mg/L (existing permit limit), Effluent NOD = 45 mg/L (existing ammonia limit = 1800 lbs/d). The model included the Northgate Chenango Dissolved WWTP (NY0213781) located 7.4 miles upstream on the Chenango River along with the additional flow from the confluence with the Chenango River. The model also Oxygen accounted for the Endicott WWTP (NY0027669) and Owego STP #2 (NY0025798) located 7.5 and 11.5 miles downstream respectively. The information included in the (DO) 303(e) Water Quality Management Plan for the Susquehanna River Basin, dated November 1976, was also reviewed for consistency with the dissolved oxygen model. The model showed that DO standards are maintained and consequently WQBELs for DO are unnecessary and the TBELs are protective of water quality. The model was used to represent the worst-case scenario of summer temperature conditions. The existing limits are also protective of winter conditions. Monitoring for DO and UOD is being included to provide information for the next water quality review. 750-1.13 Ultimate mg/L Daily Max Monitor See Dissolved Oxygen (DO) Monitor Monitor Oxygen Demand

See justification for Dissolved Oxygen (DO). Monitoring is being added to provide information for the next water quality review.

(UOD)

⁹ Per TOGS 1.3.1E, ambient pH obtained from 75th and 80th percentile values from 8 data points, collected at RIBS stations 06-SUSQ-33.5, 06-SUSQ-35.6, 06-SUSQ-37.6 in 1984, 2014, 2022,

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Description of Wastewater: Treated combined wastewater and stormwater. Wastewater consists of sanitary and industrial wastes, including categorical industries as defined in 40 CFR Subchapter N. Outfall # 001 Type of Treatment: Fine screens, aerated grit removal, chemically enhanced primary treatment (CEPT), biological aerated filters (CN BAF), denitrification (DN BAF), ultraviolet disinfection **TBELs** Existing Discharge Data Water Quality Data & WQBELs Basis for Effluent Averaging # of Data Existing **Ambient** Projected Units ML Permit Permit WQ Std. Basis for Calc. Parameter Period Points WQ Type Effluent Limit Bkad. Instream Basis Requirement Limit or GV **WQBEL** WOBEL Detects / Non-Quality Conc. Conc. Detects Monthly 11 18 8/0 Average Avg 7 Day 14 mg/L 27 8/0 Avg Average 20 Monitor 8/0 Daily Max No 5-day Max See Dissolved Oxygen Reasonable 703.3 Antibacksliding Carbonaceous 1.600 Monthly 5300 8/0 Potential Biochemical Average Avg lbs/d Oxygen 7 Dav 2.500 7900 8/0 Demand Avg Average (CBOD₅) % 95 Minimum 85 8/0 Rem Average See justification for Dissolved Oxygen. Consistent with TOGS 1.3.3 for POTWs, the existing limits are more protective than secondary treatment standards. Loading limits reflect concentration limits at the 35 MGD design flow. The minimum monthly average 85% removal requirement applies including times when Outfall 01B is in use. Monthly 6.4 20 8/0 Avg Average 7 Dav 11 30 8/0 mg/L Avg Average 21 Narrative: None from sewage, industrial Monitor 8/0 Daily Max Max wastes or other wastes that will cause 703.2 Antibacksliding Total Monthly 980 deposition or impair the waters for their best 5.800 8/0 Suspended Average usages. Avg lbs/d Solids (TSS) 2,034 7 Day 8,800 8/0 Avg Average % 92 Minimum 85 8/0 Rem Average Consistent with TOGS 1.3.3 for POTWs, the existing limits are more protective than secondary treatment standards. Given the available dilution, the existing limits are also protective of the narrative water quality standards. Loading limits reflect concentration limits at 35 MGD design flow. Narrative: None from sewage, industrial 0.1 wastes or other wastes that will cause Antibacksliding 0.3 8/0 0.3 703.2 mL/L Daily Max TOGS 1.3.3 & TBEL Max deposition or impair the waters for their best Settleable usages Solids Consistent with TOGS 1.3.3, the effluent limitation is remaining 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 protective of water quality.

USEPA Major/Class 05 Municipal

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Outfall #	001	as defined	in 40 CFF	R Subchap	ter N.		water and stormw				<u> </u>				
Outrail #	001	Type of T BAF), ultra			ens, aerated	grit remova	al, chemically en	hanced pr	imary treati	ment (CEF	PT), biologi	cal aerated file	ters (CN BA	AF), de	enitrification (DN
			Existi	ng Discha	rge Data		TBELs		Wa	ater Quality	y Data & W	QBELs			Doois for
Effluent Parameter	Units	Averaging Period	Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
	mg/L	Monthly Avg	thly 1800 45 7*/0			-	-	0.082**	0.14	0.6 Summer 0.9 Winter	A(C)	No Reasonable	703.5	-	Monitor
	lb/d	Monthly Avg			7* / 0	Monitor	750-1.13 Monitor	-	-	-	-	Potential			Monitor
Nitrogen, Ammonia (as N)	concer multipli applied contrib inform being of *Samp used for **Assu	ntration was er ¹⁰ of 2.0 value to a WC future permochanged to retaken in corrections ambier existing emed ambier	calculated was applied the project the project was applied the project with the project was applied to the project with the project was applied to the proje	d using the d to the meted instrem. Therefore, sions. The only (see D22, meas ality.	e maximum aximum efflue am concent re, no limitat loading limit Anti-backslic ured 0.7 mg/entration of all	reported effuent concentration. A conion is specified predates the ding discussion. L, was signomeron acor	sion).	on of 0.3 t for the no projected in with 6 NYC day TMDL man subse	mg/L as N umber of sa nstream cor CRR 750-1. Nitrogen lin quent mont	and an as imples. In ncentration 13, conce nits and is hs. This d	esumed am accordance to the WC ntration mo no longer re ata point m	bient upstrear e with TOGS 1 S indicates no nitoring is bei equired for the ay not represe	m concentra 1.3.1E, the log reasonable or reasonable or gentinue exprotection ent normal	ation of HEW of le pote ed and of wa	of 0.082 mg/L. A dilution ratio was ential to cause or
	mg/L	Monthly Average	Monitor	2.4 Max	8/0	-	·	-	0.55	10	H(WS)	No Reasonable Potential		-	Discontinued
	lb/d	Monthly Average	Monitor	260 Average	8/0	·	-	-	-	-	-	-	703.5	-	Discontinued
Nitrate (NO ₃) as N	concer	ntration. A mass. A compa	nultiplier, a arison of th	s recomm	ended in EP. ed instream o	A's Technic concentration	al Support Docur	ment Chap	oter 3.3, of 1	1.9 was ap	plied to the	projected eff	luent to acc	ount fo	nbient upstream or the number of n. Therefore, no
	Consis limitation		e Phase II	I WIP, moi	nitoring for n	itrate + nitri	te and TKN are b	eing conti	inued and w	vill be use	d to inform	the individual	constituent	s of th	e Total Nitrogen

 $^{^{\}rm 10}$ As recommended from EPA's Technical Support Document, Chapter 3.3

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SPDES Number: NY0024414

USEPA Major/Class 05 Municipal Wastewater: Treated combined wastew

Water Quality Reviewer: Ethan Sullivan

Outfall #	001	as defined	in 40 CFR	Subchap	ter N.		water and stormw								
Outrail #	001	Type of Ti BAF), ultra			ens, aerated	I grit remov	al, chemically en	hanced pr	imary treati	ment (CEF	PT), biologi	cal aerated filt	ers (CN BA	AF), de	enitrification (DN
			Existi	ng Dischai	rge Data	-	ΓBELs		Wa	ater Quality	/ Data & W	QBELs			Basis for
Effluent Parameter	Units	Averaging Period	Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Permit Requirement
	mg/L	Monthly Average	Monitor	1.0 Max	7* / 0	-	-		0.24	1.0	HEW	No Reasonable Potential	703.5	-	Discontinued
	lb/d	Monthly Average	Monitor	40 Average	7* / 0	-	-	-	-	-	-	-	. 00.0	-	Discontinued
Nitrite (NO ₂) as N	concer sample WQBE Consis limitatio	ntration. A mes. A compa L is specifie tent with the ons.	nultiplier, a rison of the ed, and ind Phase III October 20	s recommo e projecteo ividual nitr WIP, mor 22, measo	ended in EP/ d instream co ite monitorin nitoring for nit	A's Technic oncentration g is being d trate + nitrit	maximum report al Support Docur to the WQS ind iscontinued. e and TKN are be ificantly higher the	nent Chap icates no r eing contin	ter 3.3, of 2 easonable ued and wi	2.0 was ap potential to	plied to the cause or o	projected efflucontribute to a	uent to acco WQS viola onstituents	ount fo tion. T	r the number of herefore, no Total Nitrogen
	mg/L	Monthly Avg	Monitor	1.8 Max	8/0	-	·	-	0.55	10	HEW	No Reasonable Potential	703.5	-	Monitor
	lb/d	Monthly Avg	Monitor	290 Max	8/0	-		-	-	-	-	-	703.5	-	Monitor
Nitrate (NO ₃) + Nitrite (NO ₂) as N	concer sample WQBE Consis	ntration. A mes. A compa L is specifie	nultiplier, a arison of thed. ed.	s recomme ne projecte	ended in EP ed instream o	A's Technic concentration	the maximum real Support Docur on to the WQS in r nitrate + nitrite	ment Chap dicates no	oter 3.3, of 1 reasonabl	1.9 was ap e potentia	pplied to the I to cause o	projected efflor contribute to	uent to acc o a WQS v	ount fo	or the number of n. Therefore, no

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Outfall #	001	as defined Type of T	in 40 CFF reatment:	Subchapt Fine scree	ter N.		vater and stormv al, chemically er								
		BAF), ultra		ntection ng Dischar	ge Data	Т	 ΓBELs		Wa	ater Quality	Data & WC	QBELs			
Effluent Parameter	Units	Averaging Period		Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	l	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requiremen
	mg/L	Monthly Avg	Monitor	1.6 Average	8/0	-	-	-	-	-	-	-		-	Monitor
	mg/L	Daily Max	38	3.5 Max	8/0	Monitor	750-1.13 Monitor	-	-	-	-	-		-	Monitor
	lb/d	Monthly	Monitor	230 Average	8/0	-	-	-	-	-	-	-	_	-	Monitor
	10/ 0	Avg)											
∕jeldahl (TKN) as N)	lb/d There i	Daily Max		740 Max			750-1.13 Monitor s predate the Childing discussion		- Bay TMDL	- Nitrogen li	mits and are	- e no longer r	equired for t	- he pro	Monitor
Nitrogen, Total Kjeldahl (TKN) (as N)	lb/d There i	Daily Max	/QS for C	740 Max	erbodies. Th	e TKN limits	Monitor s predate the Ch		- Bay TMDL	- Nitrogen li	mits and are	- e no longer r	equired for t		
Kjeldahl (TKN) (as N)	lb/d There i	Daily Max	/QS for C	740 Max	erbodies. Th	e TKN limits	Monitor s predate the Ch		- Bay TMDL	- Nitrogen li	mits and are	e no longer r	required for t		
∕jeldahl (TKN) as N)	lb/d There i quality	Daily Max s no TKN V and have b	/QS for C een chang	740 Max lass A wate ged to mon 3.4 Average 6.9 Max	erbodies. Th itor only (see	e TKN limits	Monitor s predate the Ch		Bay TMDL	- Nitrogen li	- amits and are		1		
Kjeldahl (TKN) as N)	There i quality	Daily Max s no TKN V and have b Monthly Average	/QS for C een chang Monitor	740 Max lass A wate ged to mon 3.4 Average 6.9	erbodies. Th itor only (see 8 / 0	e TKN limits	Monitor s predate the Ch		Bay TMDL	- Nitrogen li	mits and are		1	he pro	otection of war
Kjeldahl (TKN) as N)	There i quality mg/L mg/L	Daily Max s no TKN V and have b Monthly Average Daily Max Monthly Average Daily Max	/QS for Ceen change Monitor Monitor	740 Max lass A water and the second	erbodies. Th itor only (see 8/0 8/0	e TKN limits	Monitor s predate the Ch		- Bay TMDL	- Nitrogen li	mits and are		1	he pro	
Kjeldahl (TKN) as N)	There i quality mg/L mg/L lb/d	Daily Max s no TKN V and have b Monthly Average Daily Max Monthly Average	/QS for Ceen change Monitor Monitor Monitor	740 Max lass A water and the second	erbodies. Thitor only (see	e TKN limits	Monitor s predate the Ch		- Bay TMDL	- Nitrogen li	mits and are		1	he pro	otection of wat

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Outfall #	001	as defined	in 40 CFF	R Subchap	ter N.		water and stormw								
Outlail #	001	Type of Ti BAF), ultra			ens, aerated	grit remov	al, chemically er	nhanced pr	rimary treati	ment (CEI	PT), biologic	al aerated fil	ters (CN B	4F), d	enitrification (DN
			Existi	ng Discha	rge Data		TBELs		Wa	ater Qualit	y Data & Wo	QBELs			Doois for
Effluent Parameter	Units	Averaging Period	Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
	mg/L	Monthly Avg	Monitor	0.35 Average	8/0	•	-					1.0	WIP III		
	mg/L	Daily Max	Monitor	0.60 Average	8/0	-	-	-				-	-		
Total	lb/d	Monthly Avg	Monitor	49 Average	8/0	-	-	-	that will	e: None in result in g	rowths of	-	-		
Phosphorus	lb/d	Daily Max	Monitor	140 Max	8/0	-	-	-	will impai	r the wate	slimes that rs for their	-	-	-	TMDL
	lb/mo	Monthly Total	Monitor	20,000 Max	8/0	-	-	-	b	est usage	S.	-	-		
	lb/yr	12 Month Rolling Load	106,543	170,000	8/0	-	-					-	-		
	averag at the f	e and a fina acility. The a	I 12 month annual loa n this fact	n rolling tot ding limita	al limitation o	of 106,543 l	is removal ¹¹ , this bs/yr. The 1.0 mg n a 1.0 mg/L cond	g/L phosph	orus concei	ntration is n flow of 3	achievable v 35 MGD for 3	with the curre 365 days of th	nt treatmen	t techi	nology employed Chesapeake Bay
	μg/L	Daily Max	Monitor	Max <0.56		-	-	-	-	1,100*	A(C)	No Reasonable	703.5	-	Discontinued
	lb/d	Daily Max	Monitor	Max	0/8	-	-	-	-	-	-	Potential	-	-	Discontinued
Beryllium, Total	greater The ex	than 75 pp	m. oring requ	irements a		continued in	luble form; and is n this permit and ormation.	-							

¹¹ Consistent with NYCRR 750-2.8(a)(5).

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Outfall #	001	as defined	in 40 CFF	Subchap	ter N.										gorical industries
Outrail #	001	Type of T BAF), ultra			ens, aerated	grit remov	al, chemically en	hanced pr	imary treat	ment (CEF	PT), biologic	cal aerated fil	ters (CN B/	AF), d	enitrification (DN
		·	Existi	ng Dischai	rge Data	-	ΓBELs		Wa	ater Quality	y Data & W	QBELs			Desig for
Effluent Parameter	Units	Averaging Period	Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
	μg/L	Daily Max	Monitor	22 Max	8/0	-	-	-	6.9 Dissolved	7.6 Dissolved	A(C)	No	703.5	-	Monitor
	lb/d	Daily Max	20	3.3 Max	8/0	-	-	-	-	-	-	Reasonable Potential	-	-	Antibacksliding
Copper, Total	metals A comp	projected instream concentration was calculated using the maximum reported effluent concentration of 22 µg/L and a negligible ambient upstream concentration coller, as recommended in EPA's Technical Support Document Chapter 3.3, of 2.4 was applied to the projected effluent to account for the number of samples. A list translator of 1.042 was applied to convert between the total and dissolved form in accordance with the EPA Document 823-B-96-007. Imparison of the projected instream concentration to the WQS indicates no reasonable potential to cause or contribute to a WQS violation. The existing daily mum limitation is being maintained in this permit to protect downstream water quality in accordance with 6 NYCRR 701.1. See the Toxics Reduction Strategy second information.										ng daily			
	mg/L	Daily Max	Monitor	<0.025 Max	0/8		-	-	-	0.2	H(WS)	No	703.5	-	Monitor
Cyanide, Total	lb/d	Daily Max	10	<4.0 Max	0/8	-	-	-		-	-	Reasonable Potential	-	-	Antibacksliding
		isting daily i			s being main	tained in thi	s permit to prote	ct downstre	eam water o	quality in a	ccordance	with 6 NYCRF	R 701.1. Se	e the]	Coxics Reduction
	μg/L	Daily Max	-	-	-	Monitor	750-1.13 Monitor	-	-	5.2	A(C)	-	703.5	-	Monitor
Cyanide, Free	lb/d	Daily Max	-		-	Monitor	750-1.13 Monitor	-	-	-	-	-	-	-	Monitor
	Monito	ring for free	cyanide is	being add	ded in accord	dance with	ΓOGS 1.3.1E to ι	reflect curr	ent laborato	ory method	ls and to ob	otain data for f	future analy	ses.	
	mg/L	Daily Max	Monitor	<0.0010 Max	0/8	-	-	-	-	0.3 Dissolved	E(WS)	No	703.5	-	Monitor
	lb/d	Daily Max	290	<0.35 Max	0/8	-	-	-	-	-	-	Reasonable Potential	-	-	Antibacksliding
Iron, Total		tion Strateg					is permit to prote sampling freque								

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Outfall #	001	as defined Type of Ti BAF), ultra	reatment:	Fine scre		grit remov	al, chemically en	hanced pr	imary treati	ment (CEF	PT), biologic	cal aerated filt	ers (CN BA	\F), de	enitrification (DI
		DAI), uitia		ng Dischai	ge Data	-	ГBELs		Wa	ater Quality	Data & W	QBELs			
Effluent Parameter	Units	Averaging Period	Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
	μg/L	Daily Max	Monitor	<1.0 Max	0/8	-	-	-	-	3.1 Dissolved	A(C)	No	703.5	-	Monitor
₋ead, Total	lb/d	Daily Max	18	<0.35 Max	0/8	-	-	-	-	-	-	Reasonable Potential	-	-	Antibackslidin
											R 701.1. Se	e the	Toxics		
	ng/L	Daily Max	50	0.68 Max	8/0	-	-	-	-	0.7	H(FC)	50	GLCA	-	DOW 1.3.10
Mercury, Total	ng/L	12 MRA	24	1.4 Average	8/0	-	-	-	-	0.7	H(FC)	12	-	-	DOW 1.3.10
	See Me	ercury section	on of this f		Sampling fre	quency is b	peing reduced fro	m monthly	to quarterly	y.					
	μg/L	Daily Max	Monitor	<0.20 Max	0/8	-	-			8.0	A(C)	No Reasonable	703.5	-	Monitor
hallium, Total	lb/d	Daily Max	Monitor	<0.070 Max	0/8	-	-	-	•	-	-	Potential	-	-	Monitor
,		isting monite	orina reau	irements a	re being mai	ntained in t	his permit to prot	ect downs	tream wate	r quality in	accordance	e with 6 NYCF	RR 701.1. S	See the	e <u>Toxics</u>
	Reduct	ion Strategy			ormation.			ool do mio		. ,					
	Reduct		z section for		formation.	-	-	-	-	7.0	H(WS)	No	703.5	-	Discontinued
Chloroform		ion Strategy	z section for	or more int		-	-	-	-	· · ·	H(WS)	No Reasonable Potential	703.5	-	
Chloroform	μg/L lb/d The ex	Daily Max Daily Max isting monite	Monitor Monitor Monitor oring requi	<1.0 Max <0.18 Max irements a	0/8		this permit and a rmation.	-	-	7.0	-	Reasonable Potential	-	-	Discontinued
Chloroform	μg/L lb/d The ex	Daily Max Daily Max isting monite	Monitor Monitor Monitor oring requi	<1.0 Max <0.18 Max irements a	0 / 8 0 / 8 re being disc			-	-	7.0	-	Reasonable Potential	-	-	Discontinued Discontinued ith 6 NYCRR Discontinued

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Outfall #	001	as defined	in 40 CFF	Subchapt	ter N.										gorical industries
Outrail #	001	Type of Tr BAF), ultra			ens, aerated	grit remov	al, chemically en	hanced pr	rimary treati	ment (CEF	PT), biologic	cal aerated fil	ters (CN B/	AF), de	enitrification (DN
			Existi	ng Dischai	rge Data	-	ГВELs		Wa	ater Quality	y Data & W	QBELs			Basis for
Effluent Parameter	Units	Averaging Period	Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Permit Requirement
	μg/L	Daily Max	Monitor	<1.2 Max	0/8	-	-		-	5.0	H(WS)	No Reasonable	703.5	-	Discontinued
Methyl Chloride	lb/d	Daily Max	Monitor	<0.11 Max	0/8	-	-	-	-	-	-	Potential	-	-	Discontinued
		e existing monitoring requirements are being discontinued in this permit and are no longer needed to inform downstream water quality in 1.1. See the Toxics Reduction Strategy section for more information.									in accorda	nce w	ith 6 NYCRR		
	μg/L	Daily Max	Monitor	<1.0 Max	0/8	-	-		-	5.0	H(WS)	No Reasonable	703.5	-	Discontinued
Toluene	lb/d	Daily Max	Monitor	<0.18 Max	0/8	-		-	-	-	-	Potential	-	-	Discontinued
					re being disc egy section fo		this permit and armation.	are no lonç	ger needed	to inform	downstream	n water quality	in accorda	nce w	ith 6 NYCRR
	#/100	30d Geo Mean	200	3.5 Average	8/0	200	TOGS 1.3.3				nly geometr ve examina		703.4		TBEL
Coliform, Fecal	mL	7d Geo Mean	400	11 Max	8/0	400	TOGS 1.3.3	-	not exceed		vo oxamina		7 00.1		1522
	Consist		OGS 1.3.3	effluent d	isinfection is	required ye	ear-round due to	the class	of the recei	ving wate	rbody. Feca	ıl coliform effli	uent limitati	ons ed	qual to the TBEL
	mg/L	Daily Max	0.030		0/0	2.0	TOGS 1.3.3	-	-	0.005	A(C)	0.026	703.5	0.03	Antibacksliding
Total Residual							through UV disir L and less than								
Chlorine (TRC)	with thi	s permit, sa	mpling for	TRC is or	nly applicable	e if chlorine		fection or o	other waste	water trea					bove. Consistent odor control and
Additional Parar	neters D	Detected													
	μg/L	Daily Max	-	75.9	1/0	-	-	-	56.7	1	E(WS)	8.3	703.5	-	WQBEL
Phenols, Total	assume sample	ed negligible	e upstrear irison of th	n ambient	concentration	on. The mu	ıltiplier was seled	cted from I	EPA's Tech	nnical Sup	port Docum	nent Chapter	3.3 to acco	ount fo	ion ratio, and an or the number of and therefore a

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USEPA Major/Class 05 Municipal Outfall 01A

		Description	of Wast	tewater: E	ffluent from	denitrification	on cells (DN BAF) prior to d	isinfection -	- internal to	Outfall 00	1			
Outfall #	01A	Type of Tre	eatment:	Fine scre	ens, aerated	grit remov	al, chemically er	hanced pr	imary treat	ment (CEP	T), biologic	al aerated fil	ters (CN BA	AF), de	enitrification (DI
			Existi	ing Discha	rge Data	-	TBELs		Wa	ater Quality	Data & WO	QBELs			Б : (
Effluent Parameter	Units	Averaging Period	Permit Limit	Existing Effluent Quality	# of Data Points Detects / Non- Detects	Limit	Basis	Ambient Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
	•						rom Discharge N						•		
	rtotal nit	rogen and to					rry for the protect ring of total nitrog								
Flow Rate	MGD	Daily Max	Monitor	57 Max	8/0	-	-	Narrative their best		ions that wi	II impair the	waters for	703.2	-	Discontinued
	Further	monitoring o	of flow at	Outfall 00°	I will provide	sufficient in	nformation for fut	ure permit	reviews.						
	mg/L	Monthly Avg	6.0	3.2 Average	8/0	-	·	-	-		-	-	-	-	Discontinued
Total Nitrogen	lb/d	Monthly Avg	Monitor	470 Average	8/0		-	-	-		-	-	-	-	Discontinued
	A mont	hly average	total nitro	gen limit o	f 6.0 mg/L is	being adde	ed to Outfall 001	and will be	protective	of water qu	uality.				
Nitrogen, Total	mg/L	Monthly Avg	Monitor	1.4 Average	8/0	-	-	-			-	-	-	-	Discontinued
Kjeldahl (TKN) (as N)	lb/d	Monthly Avg	Monitor	200 Average	8/0	-	-	-	-	,	-	-	-	-	Discontinued
,	Furthe	r monitoring	of TKN a	t Outfall 00	1 will provid	e sufficient	information for fu	uture perm	it reviews.						
Nitrite (NO ₂) +	mg/L	Monthly Avg	Monitor	1.8 Average	8/0	-	-	-	-		-	-	-	-	Discontinued
Nitrate (NO ₃) (as N)	lb/d	Monthly Avg	Monitor	270 Average	8/0	-	-	-	-		-	-	-	-	Discontinued
(Further	monitoring o	of nitrite a	nd nitrate	at Outfall 00	1 will provid	de sufficient infor	mation for	future perm	nit reviews.					
Action Level Pa	rameters	S													
	mg/L	Monthly Avg	1.0	0.31 Avg	8/0	-	-	-	-	amounts	None in that will	-	703.2		Discontinued
Total Phosphorus	lb/d	Monthly Avg	Monitor	43 Avg	8/0	-	-	-	-	algae, w	growths of eeds and that will waters for usages.	-	-	-	Discontinued

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Outfall 01B

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Outrail 01	D			_											
Outfall #	01B	Description	n of Waste	water: Byp	ass of deni	trification c	ells (DN BAF) –	internal to	Outfall 001						
	0.5	Type of Tre	eatment: Fi	ne screens	s, aerated g	rit removal	, chemically enh	anced prin	nary treatm	ent (CEPT)), biological	aerated filter	s (CN BAF))	
			Existin	g Discharg	je Data	7	ΓBELs		Wa	ater Quality	Data & WO	QBELs			Dania tan
Effluent Parameter	Units	Averaging Period	Permit Limit	Existing Effluent Quality ¹²	THOS BOLOGIO	Limit	Basis	Bkgd. Conc.	Projected Instream Conc.	WQ Std. or GV	WQ Type	Calc. WQBEL	Basis for WQBEL	ML	Basis for Permit Requirement
General Notes: reviewed for dev										provided b	y the BJCJ	SB. All applic	able water	quality	y standards were
Flow Rate	MGD	Daily Max	Monitor	16 Max	7/0	-	-		: No alterati	ons that wi	ill impair the	e waters for	703.2	-	Monitor
l	Consis	tent with 6 N	YCRR 750-	-1.13, flow	monitoring	is being co	ntinued for infor	mational p	urposes an	d to calcula	ate pollutan	t loadings.			
Nitrite (NO ₂) +	mg/L	Daily Max	Monitor	14 Max	7/0	-	-	-			-	-	-		Monitor
Nitrate (NO ₃) (as N)	lb/d	Daily Max	Monitor	1,400 Max	7/0	-	-	-	-		-	-	-		Monitor
	Consis	tent with 6 N	YCRR 750-	-1.13, nitra	te + nitrite r	nonitoring i	s being continue	ed for infor	mational pu	irposes.					
Nitrogen, Total	mg/L	Daily Max	Monitor	9.8 Max	7/0	-	-	1	-		-	-	-		Monitor
Kjeldahl (TKN) (as N)	lb/d	Daily Max	Monitor	320 Max	7/0	-	-	-	-		-	-	-	-	Monitor
	Consis	tent with 6 N	YCRR 750-	-1.13, total	Kjeldahl ni	trogen mon	itoring is being o	continued f	for informati	ional purpo	ses.				
	mg/L	Daily Max	Monitor	21 Max	7/0		-	-	-		-	-	-		Monitor
Total Nitrogen	lb/d	Daily Max	Monitor	1,700 Max	7/0	-	-	-	-		-	-	-		Monitor
	Consis	tent with 6 N	YCRR 750-	-1.13, total	nitrogen m	onitoring is	being continued	d for inform	national purp	ooses.					
	mg/L	Daily Max	Monitor	1.9 Max	7/0	-	-	-	-	Narrative: amounts	None in that will	-	703.2		Monitor
Total Phosphorus	lb/d	Daily Max	Monitor	78 Max	7/0		-	-	-	algae, w slimes	growths of eeds and that will waters for usages.	-	-	-	Monitor
1	Consis	tent with 6 N	YCRR 750-	-1.13, total	phosphoru	s monitorin	g is being contir	nued for inf	formational	purposes.					

¹² Existing Effluent Quality: Daily Max = 99% lognormal; Monthly Avg = 95% lognormal (for datasets with ≤3 nondetects); Daily Max = 99% delta-lognormal; Monthly Avg = 95% delta-lognormal (for datasets with >3 nondetects)

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Appendix: Regulatory and Technical Basis of Permit Authorizations

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

Regulatory References

The provisions of the SPDES 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
 - o 40 CFR, Chapter I, subchapters D, N, and O
- State environmental regulations
 - o 6 NYCRR Part 621
 - o 6 NYCRR Part 750
 - o 6 NYCRR Parts 700 704 Best use and other requirements applicable to water classes
 - o 6 NYCRR Parts 800 941 Classification of individual surface waters
- DEC 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 guick guide to the references used within the fact sheet:

SPDES Permit Requirements	Regulatory Reference
Anti-backsliding	6 NYCRR 750-1.10(c)
Best Management Practices (BMPS) for CSOs	6 NYCRR 750-2.8(a)(2)
Environmental Benefits Permit Strategy (EBPS)	6 NYCRR 750-1.18, NYS ECL 17-0817(4), TOGS 1.2.2 (revised
	January 25,2012)
Exceptions for Type I SSO Outfalls (bypass)	6 NYCRR 750-2.8(b)(2), 40 CFR 122.41
Mercury Multiple Discharge Variance	Division of Water Program Policy 1.3.10
	(DOW 1.3.10)
Mixing Zone and Critical Water Information	TOGS 1.3.1 & Amendments
PCB Minimization Program	40 CFR Part 132 Appendix F Procedure 8, 6 NYCRR 750-1.13(a)
	and 750-1.14(f), and TOGS 1.2.1
Pollutant Minimization Program (PMP)	6 NYCRR 750-1.13(a), 750-1.14(f), TOGS 1.2.1
Schedules of Compliance	6 NYCRR 750-1.14
Sewage Pollution Right to Know (SPRTK)	NYS ECL 17-0826-a, 6 NYCRR 750-2.7
State Administrative Procedure Act (SAPA)	State Administrative Procedure Act Section 401(2), 6 NYCRR
	621.11(I)
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 Departme	nt NYCRR 750-2.1(i)
Request for Additional Information	

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

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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 SPDES 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, <u>Technical Support Document for Water Quality-based Toxics Control</u>, 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 <u>Pollutant Summary Table</u> 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 SPDES permit.

When conducting a full technical review of an existing SPDES 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 SPDES 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 SPDES permits is prohibited unless one of the specified exceptions applies, which will be cited on a case-by-case basis in this fact sheet. Consistent with current case law¹³ and USEPA interpretation¹⁴ 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.

¹³ American Iron and Steel Institute v. Environmental Protection Agency, 115 F.3d 979, 993 n.6 (D.C. Cir. 1997)

¹⁴ 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)

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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 SPDES 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 SPDES permit, DEC 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, SPDES 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 SPDES permits include limitations for all pollutants or parameters which are or may be discharged at a level which may cause or contribute to an exceedance of any State water quality standard adopted pursuant to NYS ECL 17-0301. Additionally, 6 NYCRR Part 701.1 prohibits the discharge of pollutants that will cause impairment of the best usages of the receiving water as specified by the water classifications at the location of discharge and at other locations that may be affected by such discharge. Water quality standards can be found under 6 NYCRR Parts 700-704. The limitations must be stringent enough to ensure that water quality standards are met at the point of discharge and in downstream waters and must be consistent with any applicable WLA which may be in effect through a TMDL for the receiving water. These and other requirements are summarized in TOGS 1.1.1, 1.3.1, 1.3.2, 1.3.5 and 1.3.6. DEC 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., DEC 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:

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"EPA Technical Support Document for Water Quality-Based Toxics Control" (March 1991); EPA Region VIII's "Mixing Zones and Dilution Policy" (December 1994); DEC 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, DEC 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, DEC 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 SPDES 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 SPDES permit application or a short-term high intensity monitoring program, or data gathered by DEC;
- 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.

DEC 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

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

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For carbonaceous and nitrogenous oxygen demanding pollutants, DEC 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 SPDES 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 SPDES 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 SPDES 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 SPDES permit with a compliance level set equal to the ML of the most sensitive method.

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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 SPDES 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 SPDES 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.

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Requirements for Combined Sewer Overflows (CSOs)

Pollution from combined sewer overflows is controlled with implementation of SPDES permit conditions in accordance with the Division of Water CSO Control strategy (TOGS 1.6.3) and the USEPA CSO Control Policy issued April 11, 1994.

CWA Section 402(q) requires that each SPDES permit for a discharge from a municipal combined storm and sanitary sewer shall conform to EPA's Combined Sewer Overflow Control Policy. ^[1] The CSO Control Policy identifies specific requirements for Phase I and Phase II permits.

Phase I SPDES permits must include requirements for the implementation of the Nine Minimum Controls (NMCs) and development of the Long-Term CSO Control Plan (LTCP). The 15 CSO Best Management Practices (BMPs), set forth in TOGS 1.6.2, are equivalent to the "Nine Minimum Control Measures" required under the USEPA National Combined Sewer Overflow policy. BMPs are technology-based requirements developed in accordance with best professional judgement. These are largely non-structural measures designed to maximize pollutant capture and removal from the combined sewer system and the POTW as a whole.

Phase II SPDES permits must include requirements to implement the technology-based controls, including the NMCs determined on a BPJ basis, as well as requirements which ensure that the selected CSO controls are implemented, operated, and maintained as described in the LTCP. These requirements are critical to meeting the objectives of the CSO Control Policy, including to bring all CSO discharge points into compliance with the technology-based and water quality-based requirements of the CWA, and to minimize the water quality, aquatic biota, and human health impacts from CSOs.

Additionally, the CSO Control Policy requires SPDES permits to include a requirement for CSO communities who have developed an approved LTCP to reassess overflows to sensitive areas in those cases where elimination or relocation of the overflows is not physically possible and economically achievable. The reassessment should be based on consideration of new or improved techniques to eliminate or relocate overflows or changed circumstance that influence economic achievability.

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

^[1] Available at https://www.epa.gov/sites/production/files/2015-10/documents/owm0111.pdf PAGE 37 OF 38

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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). DEC 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 SPDES permit not identified in a separate Schedule of Compliance.