pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Amendment**	Application No.	**PA0042048 A-1**
Facility Type	**Municipal**	APS ID	**915664**
Major / Minor	**Minor**	Authorization ID	**1410343**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Conyngham-Sugarloaf Joint Municipal Authority**	Facility Name	**Conyngham-Sugarloaf Joint Municipal Authority WWTP**
Applicant Address	PO Box 469	Facility Address	611 South Main Street
	Conyngham, PA 18219		Sugarloaf, PA 18249
Applicant Contact	Joseph Gallagher	Facility Contact	Ed Gregory
Applicant Phone	(570) 788-0608	Facility Phone	(570) 788-0608
Client ID	327699	Site ID	256607
Ch 94 Load Status	Existing Hydraulic and Organic Overload	Municipality	Sugarloaf Township
Connection Status	Self-Imposed Connection Prohibition	County	Luzerne
Date Application Received	February 26, 2021	EPA Waived?	Yes
Date Application Accepted	February 26, 2021	If No, Reason	-

Purpose of Application: Amendment of NPDES permit.

Summary of Review

The applicant is requesting an amendment of their NPDES permit to discharge treated sewage to Little Nescopeck Creek, a cold water and migratory fish receiving stream in state water plan basin 05-D (Nescopeck Creek). The receiving stream does not have an existing use classification that is more protective than its designated use. **The application requests a re-rate of the permitted annual average flow from 0.35 MGD to 0.5 MGD.** Water quality management permit application 4022403 for the WWTP upgrade/expansion was received by DEP on September 29, 2022.

In a letter dated December 31, 2021, DEP approved the Act 537 Official Sewage Facilities Plan Update Revision for the expansion and upgrade of the wastewater treatment plant from a 0.35 MGD facility to 0.5 MGD.

The point of first use (POFU) for modeling purposes is assumed to be approximately 4.2 miles downstream from the discharge at Outfall 001 at station NC01 on Nescopeck Creek. A copy of the POFU study is attached. Water Quality modeling utilized the same data from the previous renewal:

Location 1: Point of First Use on Nescopeck Creek

- Drainage Area = 82.8 mi^2
- Elevation = 760 ft
- RMI = 2.44

Location 2: Confluence with unnamed tributary to Nescopeck Creek

- Drainage Area = 90 mi^2
- Elevation = 688 ft
- RMI = 0.01

Approve	Deny	Signatures	Date
X		*Brian Burden* Brian Burden, E.I.T. / Project Manager	July 13, 2023
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Environmental Engineer Manager	8-3-23

Summary of Review

Stream Information: Q_{7-10} = 8.35 cfs (from USGS StreamStats). Low Flow Yield (LFY) = 8.35 cfs / 82.8 mi^2 = 0.1 cfs/mi^2.

WQM 7.0 modeling didn't recommend more stringent water quality-based effluent limitations $CBOD_5$, Ammonia-Nitrogen (NH_3-N) or Dissolved Oxygen. Upon completion of the WWTP upgrade, a technology-based limit of 25.0 mg/L (monthly average) will be in effect as a BPJ limitation as per current DEP guidance. Weekly average and IMAX multipliers for Ammonia-N will match the multipliers for $CBOD_5$.

The TRC calculation spreadsheet didn't recommend water quality-based limitations for TRC. The most current technology-based limitations are included in the permit amendment (0.5 mg/L monthly average, 1.6 mg/L IMAX). As with the previous renewal, the current technology-based limitations for TRC will come into effect on September 1, 2023. Until then, the 1.0 mg/L monthly average and 2.0 mg/L IMAX limitations will be in effect.

The Department's Toxics Management Spreadsheet doesn't recommend limitations for Total Dissolved Solids, Chloride, or Sulfate when modeling the sampling results provided with the previous permit renewal application. There are no current water quality standards for Bromide. Annual monitoring/reporting requirements are included in this amendment for the Little Nescopeck Creek TMDL parameters (Total Aluminum, Total Iron, Total Manganese).

Monthly monitoring/reporting for Total Phosphorus and Total Nitrogen (NO_2+NO_3-N + TKN) is included in the amendment and in accordance with DEP's Phase 3 Watershed Implementation Plan Wastewater Supplement (revised 9/13/2021). Upon completion of the WWTP upgrade/expansion, the WWTP will be issued cap loads for TN and TP. As per the current Phase 3 WIP guidance for Phase 4 facilities (≥ 0.2 MGD and < 0.4 MGD) : *Renewed or amended permits that include an increase in design flow will contain Cap Loads based on the lesser of a) existing TN and TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.*

eDMR contains reported TN and TP concentrations from 2009 through the present. The average TN and TP concentrations since 2009 were calculated to be 14.2 mg/L and 1.2 mg/L, respectively. Using the current design flow of 0.35 MGD, the calculated cap loads are:

14.2 mg/L TN x 0.35 MGD x 8.34 (conversion factor) = 41.4 lbs/day TN
41.4 lbs/day TN x 365 days/yr = 15,111 lbs/yr TN

1.2 mg/L TP x 0.35 MGD x 8.34 (conversion factor) = 3.5 lbs/day TP
3.5 lbs/day TP x 365 days/yr = 1,277 lbs/yr TP

Therefore, the lesser values of 7,306 lbs/yr TN and 974 lbs/yr TP from the Phase 3 WIP are included in the permit as cap loads upon completion of the WWTP upgrade/expansion. The minimum monitoring frequency for TN and TP will be updated to 1/week at that time.

As per DEP guidance, quarterly monitoring/reporting is included in the permit for E.Coli.

Part C.III.G is added to the permit requiring the permittee to notify DEP when the WWTP upgrade is complete. Updated mass-based limitations for $CBOD_5$ and TSS will come into effect upon completion of the upgrade.

Part C.III.F is added to the permit for when UV disinfection is utilized at the upgraded WWTP.

As per the facility's 2021 Chapter 94 report: *"CSJMA has contracted with Entech Engineering, Inc. to develop an Act 537 Plan to address the hydraulic and organic overload conditions. Entech Engineering submitted the 537 Plan to PADEP and addressed subsequent review comments. The plan was ultimately approved by PADEP in December 2021. The approved plan includes various alternatives to address the hydraulic and organic overload conditions; including but not limited to wastewater treatment facility upgrades and the continuation of a major Inflow and Infiltration (I/I) program as described below.*

CSJMA has initiated Inflow and Infiltration (I/I) investigations which include: CCTV inspections, smoke testing, and home inspections to locate and eliminate sources of extraneous flow. As of the end of 2021, CSJMA has smoke tested the entire service area and completed CCTV inspection of 51,000 feet of sewer and approximately 40% of the system's private service

Summary of Review

laterals. As part of the approved 537 Plan CSJMA has committed $1.5 million dollars to a sewer investigation and rehabilitation program over a five year period.

CSJMA will also continue its use of the Dynamic Separator to provide treatment to the hydraulic overload flows.

CSJMA also plans to implement a regular cleaning protocol in their collection system to reduce the likelihood of blockages in the areas where sanitary sewer overflows have occurred.

In 2022, CSJMA is proposing to replace approximately 3,000 linear feet of gravity sewer main in various parts of the collection system where I/I has historically been problematic."

There are currently 3 WPC NPDES open violations for the permittee that may warrant withholding issuance of this permit amendment:

Inspection ID 3299571 (10/21/2021): 1.) Failure to submit NPDES renewal application at least 180 days prior to expiration or later approved date, 2.) Violation of effluent limits in Part A of permit, and 3.) Failure to submit monitoring report(s) or properly complete monitoring reports.

Sludge use and disposal description and location(s): The 2021 Chapter 94 report states: *"Domestic wastewater sludge is accumulated within the bottom of the clarifiers. After accumulation, the sludge is pumped to the aerobic digester tanks, where it is aerobically digested, conditioned, and thickened to approximately 2.4%. After thickening, the sludge is hauled off-site by an approved hauler. During 2021, approximately 26.73 dry tons were transported to the Greater Hazelton WWTP."*

DEP and CSJMA are in the process of entering into a Consent Order and Agreement for various violations of the Clean Streams Law and NPDES permit PA0042048. A check in the amount of $14,284.00 for the assessed civil penalty was provided to DEP in June 2023.

Conyngham WWTP POFU.pdf
Joint Act 537 Plan Approval.pdf
TMS PA0042048.pdf
WQM Modeling.pdf
TRC Calculation.pdf

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Summary of Review

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.5
Latitude	41º 0' 5"	Longitude	-76º 3' 51"
Quad Name	Shickshinny	Quad Code	0936
Wastewater Description:	Sewage Effluent		

Receiving Waters	Little Nescopeck Creek (CWF/MF)	Stream Code	28140
NHD Com ID	65639639	RMI	1.2
Drainage Area	10.8 mi^2	Yield (cfs/mi^2)	0.1 cfs/mi^2
Q_{7-10} Flow (cfs)	8.35 (at POFU)	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	760 (at POFU)	Slope (ft/ft)	0.0055
Watershed No.	5-D	Chapter 93 Class.	CWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, pH, Sulfate		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Little Nescopeck Creek

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	Danville Municipal Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	1120
PWS RMI	122.5	Distance from Outfall (mi)	~42

Treatment Facility Summary

Treatment Facility Name: Conyngham-Sugarloaf Joint Municipal Authority WWTP

WQM Permit No.	Issuance Date
4006401-T1	7/26/2016

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Contact Stabilization	Chlorine	0.48 (2021) overload

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.35	595	Existing Hydraulic and Organic Overload	Sludge Thickener	Hauled away to another WWTP

Note: WQM permit application 4022403 was submitted to DEP for the upgrade/expansion of the WWTP from 0.35 MGD to 0.5 MGD. As of the date of draft permit amendment issuance, the WQM permit has not been issued. The table above summarizes the current 0.35 MGD WWTP.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.35
Latitude 41º 0' 5" **Longitude** -76º 3' 51"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25.0	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40.0	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45.0	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: The TRC limitation comes into effect on September 1, 2023.

Water Quality-Based Limitations

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	5.0	Minimum	Previous Pollution Report