

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0063878
APS ID 820637
Authorization ID 1256885

Applicant and Facility Information

Applicant Name	<u>Northeastern Schuylkill Joint Municipal Authority</u>	Facility Name	<u>Northeastern Schuylkill Joint Municipal Authority Wastewater Treatment Plant</u>
Applicant Address	<u>P.O. Box 170, 6 Holly Road Barnesville, PA 18214-0170</u>	Facility Address	<u>6 Holly Road (T-856) Barnesville, PA 18214-0170</u>
Applicant Contact	<u>Nathan Shock, Authority Chairman</u>	Facility Contact	<u>Patrick O'Boyle, WWTP Operator</u>
Applicant Phone	<u>(570) 467-2176</u>	Facility Phone	<u>(215) 256-0042</u>
Client ID	<u>121066</u>	Site ID	<u>497001</u>
Ch 94 Load Status	<u>-</u>	Municipality	<u>Rush Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Schuylkill</u>
Date Application Received	<u>December 24, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>January 8, 2019</u>	If No, Reason	<u>-</u>
Purpose of Application	<u>Renewal of NPDES permit for discharge of treated sewage.</u>		

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.245 MGD of treated sewage into Pine Creek, a Cold-Water Fishery, Migratory Fish (CWF, MF) receiving stream in State Water Plan Basin 3-A (Upper Schuylkill River). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. This stream segment is designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies.

Limitations for pH, CBOD₅, Total Suspended Solids (TSS), and Fecal Coliform are technology-based and carried over from the previous permit. A BPJ-based limitation for Dissolved Oxygen (DO) has been added to the permit.

WQM 7.0 modeling recommended stricter summertime limitations for Ammonia-Nitrogen (6.4 mg/L monthly average, 12.9 mg/L IMAX). The standard 3x multiplier was used to develop the wintertime limitations (19.2 mg/L monthly average, 38.7 mg/L IMAX). These limitations will come into effect three (3) years after the permit effective date (see Part C.II.).

The summertime limitations for Ammonia-Nitrogen from the previously issued permit will be in effect the first three (3) years of the permit. Wintertime limits at three times these previous summertime limits were also added to this permit and will come into effect at the permit effective date.

The previously issued permit did not contain Total Residual Chlorine (TRC) limitations since the Wastewater Treatment Plant utilizes ultraviolet light for disinfection. In the event the facility uses chlorine for cleaning purposes or as a back-up disinfection option, an IMAX technology-based limitation 0.98 mg/L has been added to the permit and is to be sampled "daily when discharging" (see requirements under Part C.I.D). The Total Residual Chlorine (TRC) Calculation Spreadsheet was used to develop this IMAX limitation.

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried / Environmental Engineering Specialist	August 6, 2020
X		/s/ Amy M. Bellanca, P.E. / Environmental Engineer Manager	10-21-20

Summary of Review

A final Total Maximum Daily Load (TMDL) exists for the Little Schuylkill River Watershed. The TMDL addresses metals (Iron, Manganese, and Aluminum) associated with acid mine drainage (AMD). The TMDL also addresses siltation. The TMDL load allocations apply to nonpoint sources of pollution; there are no Waste Load Allocations (WLAs) for this facility. Quarterly monitoring requirements for Total Iron, Total Manganese, and Total Aluminum are added to the permit to monitor these pollutants of concern.

The latest DRBC Preliminary Docket No. D-1999-033 CP-3 requires the addition of monitoring/reporting for 85% minimum CBOD₅ Percent Removal at the same monitoring frequency as CBOD₅, a 1/week CBOD₅ monitoring requirement for the Raw Sewage Influent, and quarterly monitoring/ reporting for Total Dissolved Solids with a 1,000 mg/L limit. The Docket also requires the addition of a wintertime Ammonia-Nitrogen limitation (20 mg/L), which is covered by the Ammonia-Nitrogen limitations recommend by WQM 7.0 modeling.

Per current Standard Operating Procedures for Publicly Owned Treatment Plants, raw sewage influent TSS monitoring/ reporting shall be added to the permit. A monitoring frequency of 1/week has been applied.

Pollutant sampling results submitted with the permit application were entered into the Toxic Screening Analysis Water Quality Pollutants of Concern (TSA) spreadsheet. The highest reported Total Copper concentration was 0.145 mg/L and the highest Total Zinc concentration was 0.261 mg/L. The TSA spreadsheet suggested PENTOX modeling. The most stringent average monthly WQBEL recommended through modeling was 41.778 µg/L for Copper and 357.543 µg/L, which resulted in the TSA spreadsheet recommending the establishment of limits for both. The permittee was given the opportunity to conduct a minimum of 10 additional effluent samples for these parameters. The permittee collected 10 additional samples during March 2020 through May 2020 and provided the results to the Department via letter dated June 3, 2020. These updated results were used to re-run the TSA/PENTOX modeling. The modeling indicated the Copper limits shall be established and the Zinc limits should be reduced to monitoring/reporting.

Therefore, Total Copper limitations were added to the permit and will come into effect three years after the permit effective date. Monitoring/reporting requirements are included in the permit until the limitations come into effect. Quarterly monitoring/reporting for Total Zinc has also been included. The Part C. IV. condition regarding Toxics Reduction Evaluations (TREs) is added to the permit and applies to the Total Copper limitations. The permittee will have the option to accept the implementation of the limitations or to perform site-specific studies to verify or refine the WQBELs.

After the additional samples had already been collected/submitted by the permittee, the Bureau of Clean Water completed a new tool that combines the functions of PENTOX and the Toxic Screening Analysis (TSA) spreadsheet. This new tool is called the Toxics Management Spreadsheet (TMS). This new tool can now be used to develop the WQBELs for toxic pollutants. All sample results for this facility were also modeled with the TMS. The TMS recommended stricter Total Copper limits and monitoring/reporting for Total Zinc, Sulfate (PWS), and Chloride (PWS). Therefore, quarterly monitoring/reporting for Total Zinc, Sulfate (PWS), and Chloride (PWS) have been added to this permit to ensure that enough samples are collected for the next permit renewal.

The annual monitoring and reporting for Total Nitrogen, Total Phosphorous, Total Kjeldahl Nitrogen, and Nitrate-Nitrite as N has been updated to quarterly monitoring and reporting in this permit.

24-hour composite sampling is now required for every pollutant except pH, DO, TRC, and Fecal Coliform.

Monitoring frequencies for all parameters with limitations have been updated to the recommended frequencies found in Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations (Document No. 362-0400-001).

There are no representative stream gages in the vicinity of the outfall and the drainage area at Outfall 001 is too small for USGS StreamStats to estimate accurate low flow values. Therefore, the default Low Flow Yield (LFY) of 0.1 cfs/mi² was chosen to model the discharge. For modeling inputs, RMI values were obtained using the "PA Historic Streams" feature of eMapPA, drainage areas were delineated using USGS's StreamStats Interactive Map, and elevations were obtained using the elevation profile feature of StreamStats.

As per the permittee's Sewage Sludge and Biosolids Supplemental Report forms, sludge is hauled to the Greater Hazelton Joint Sewer Authority in Hazelton, PA by Biros Septic & Drain Cleaning, Inc.

The existing permit expired on August 31, 2019 and the application for renewal was received on time.

Summary of Review

A Water Management System Inspection query indicated that on August 20, 2019 a Compliance Evaluation was performed and on June 25, 2020 a Routine/Partial Inspection was performed.

There are no open violations for this client that warrant withholding issuance of this permit.



Watershed Info -
NSJMA.pdf



WQM_7.0_NESJMA.
pdf



3-3-20_Toxics_Scree
ning_Analysis_NESJMA



7-21-20_Toxics_Scre
ening_Analysis_NES.



TMS_NESJMA.pdf



TRC_CALC_NESJMA.
pdf



TRC_CALC_NESJMA.
pdf



DRBC Docket
1999-033 CP-3.pdf



SDE Letter
6-3-2020.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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.245</u>
Latitude	<u>40° 49' 1.48"</u>	Longitude	<u>-76° 1' 24.47"</u>
Quad Name	<u>Delano</u>	Quad Code	<u>1237</u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Pine Creek (CWF, MF)</u>	Stream Code	<u>2269</u>
NHD Com ID	<u>25968780</u>	RMI	<u>1.28</u>
Drainage Area	<u>7.52 mi²</u>	Yield (cfs/mi ²)	<u>0.10</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.752</u>	Q ₇₋₁₀ Basis	<u>State-wide default</u>
Elevation (ft)	<u>1,017</u>	Slope (ft/ft)	<u>-</u>
Watershed No.	<u>3-A</u>	Chapter 93 Class.	<u>CWF, MF</u>
Existing Use	<u>-</u>	Existing Use Qualifier	<u>-</u>
Exceptions to Use	<u>-</u>	Exceptions to Criteria	<u>-</u>
Assessment Status	<u>Non-Attaining Use(s)</u>		
Cause(s) of Impairment	<u>Pathogen</u>		
Source(s) of Impairment	<u>Unknown</u>		
TMDL Status	<u>Final</u>	Name	<u>Little Schuylkill River</u>
Nearest Downstream Public Water Supply Intake	<u>Pottstown Borough Water Authority</u>		
PWS Waters	<u>Schuylkill River</u>	Flow at Intake (cfs)	<u>-</u>
PWS RMI	<u>57</u>	Distance from Outfall (mi)	<u>~ 73.7</u>

Treatment Facility Summary				
Treatment Facility Name: Northeastern Schuylkill Joint Municipal Authority				
WQM Permit No.	Issuance Date			
5418404	10/17/2019			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	~ 0.120 (2016 – October 2018)
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.245	490	Not Overloaded	Aerobic Digesters	Hauled

Development of Effluent Limitations

Outfall No. 001
Latitude 40° 49' 2.00"
Wastewater Description: Sewage Effluent

Design Flow (MGD) 0.245
Longitude -76° 1' 23.00"

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	-	-
	50.0	IMAX	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	-	-
	60.0	IMAX	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)
Fecal Coliform (5/1 – 9/30)	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)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Dissolved Oxygen	5.0	Minimum	-	BPJ

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen May 1 - Oct 31	6.4	Average Monthly	WQM 7.0
	12.9	IMAX	
Ammonia-Nitrogen Nov 1 - Apr 30	19.2	Average Monthly	
	38.7	IMAX	
Total Residual Chlorine	0.98	IMAX	TRC Calculation Spreadsheet
Total Copper	0.042	Average Monthly	Toxic Screening Analysis Spreadsheet and PENTOX Modeling
	0.084	Daily Maximum	
Carbonaceous Biochemical Oxygen Demand (CBOD ₅) Raw Sewage Influent	Report	Average Monthly	DRBC Docket No. D-1999-033 CP-3
CBOD ₅ Minimum % Removal (%)	85%	Minimum Monthly Average	
Total Dissolved Solids	1,000	Average Quarterly	
	2,000	IMAX	
Total Suspended Solids Raw Sewage Influent	Report	Average Monthly	Standard Operating Procedures for Publicly Owned Treatment Plants
Sulfate	Report	Average Quarterly	Toxics Management Spreadsheet (TMS) – ensuring enough samples are collected for the next permit renewal
Total Zinc			
Chloride			
Total Manganese			Little Schuylkill River Watershed TMDL
Total Aluminum			
Total Iron			

Anti-Backsliding

No limitations were made less stringent.