

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0062537
APS ID 983759
Authorization ID 1256879

Applicant and Facility Information

Applicant Name	<u>East Union Township Sewer Authority</u>	Facility Name	<u>East Union Township Wastewater Treatment Plant</u>
Applicant Address	<u>P.O. Box 245</u> <u>Sheppton, PA 18248-0245</u>	Facility Address	<u>4 School House Road</u> <u>Sheppton, PA 18248</u>
Applicant Contact	<u>John Puza, Secretary/ Treasurer</u>	Facility Contact	<u>John Puza, Secretary/ Treasurer</u>
Applicant Phone	<u>(570) 384-3125</u>	Facility Phone	<u>(570) 384-3125</u>
Client ID	<u>67022</u>	Site ID	<u>256604</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>East Union Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Schuylkill</u>
Date Application Received	<u>December 20, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>January 3, 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 0.09 MGD of treated sewage into Little Tomhicken Creek, a Cold-Water Fishery, Migratory Fish (CWF, MF) receiving stream in State Water Plan Basin 5-E (Catawissa – Roaring Creeks). 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 not designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies.

While viewing the discharge location of Outfall 001 on eMAP PA and Google Maps it was observed that Little Tomhicken Creek did not seem to run directly by the discharge location. Instead, the aerial imagery showed two unnamed ponds and Little Tomhicken Creek to the northwest. Small channels were seen connecting these ponds to each other and potentially to the where Little Tomhicken Creek was labeled on the maps. USGS StreamStats showed a waterbody connecting the discharge location to the ponds and Little Tomhicken Creek. Due to the uncertainty of what was hydrologically occurring near Outfall 001, a Point of First Use Determination was conducted by DEP Aquatic Biologist, Walter "JR" Holtsmaster.

JR observed fin fish, benthic macroinvertebrates, and aquatic plants in the upstream pond and downstream water body. He confirmed the point of first use would be the discharge point (001) at the culvert pipe to one of the unnamed ponds. However, JR was unable to find a continuous flowing connection from this pond to Little Tomhicken Creek further downstream (40.9029, -76.1383). Pictures are included in the Watershed Information document. JR also reached out to DEP Aquatic Biologist, Joe Kasulaitis, from the Bureau of Abandoned Mine Reclamation (BAMR). Kasulaitis previously conducted sampling at the ponds associated with the Little Tomhicken Creek and informed us that the creek is lost to the mine workings via pits. BAMR has been slowly filling in the pits and rebuilding the stream channel.

The discharge was modeled with WQM 7.0 using Little Tomhicken Creek and the coordinates provided by the permittee at the pond/culvert pipe. There are no representative stream gages in the vicinity of the outfall and the drainage area at Outfall

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried / Environmental Engineering Specialist	July 17, 2020
X		/s/ Amy M. Bellanca, P.E. / Environmental Engineer Manager	8-19-20

Summary of Review

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 estimated using the "PA Historic Streams" and measurement feature of eMapPA, drainage areas were delineated using USGS's StreamStats Interactive Map, and elevations were obtained using the elevation profile feature of StreamStats.

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 modeling recommended stricter summertime limitations for Ammonia-Nitrogen (4.3 mg/L monthly average, 8.6 mg/L IMAX). eDMR data from June 1, 2019 to May 31, 2020 was reviewed. The data showed that the facility is consistently and significantly under the proposed limitations (eDMR data is included on pages 5 and 6). Therefore, these new limitations will come into effect at the permit effective date. Wintertime limitations for Ammonia-Nitrogen has also been added to the permit at three times the new summertime limitations (12.9 mg/L monthly average, 25.8 mg/L IMAX).

The Total Residual Chlorine (TRC) Calculation Spreadsheet recommends stricter limitations than the previous permit. The permittee will be required to meet the new water quality-based limits for TRC starting four years after the permit effective date of the permit (see Part C.III.). TRC limitations from the previously issued permit are in effect for the first four years after the permit effective date.

The 2/month influent monitoring requirements for TSS have been carried over from the previous permit. The 2/month influent monitoring for BOD₅ has been changed to influent monitoring for CBOD₅ to better determine the removal percentages.

The monitoring/reporting for Total Nitrogen (TN), Total Phosphorus (TP), Total Kjeldahl Nitrogen (TKN), and Nitrate-Nitrite as N has been maintained in this permit.

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).

A TMDL (Total Maximum Daily Load) for the Catawissa Creek Watershed was approved by EPA on April 9, 2003. The TMDL addresses metals (iron, manganese and aluminum) and depressed pH associated with acid mine drainage (AMD). All the allocations in the TMDL are load allocations to non-point sources of pollution. Per the SOP for Establishing Effluent Limitations for Individual Sewage Permits for renewals, if there are WLAs that are specific to the discharge then consistent effluent limits should be established in the permit. There are no WLAs for this facility.

As per the permittee's Sludge and Biosolids Supplemental Report forms, sludge is hauled to the Greater Hazleton Joint Sewer Authority in West Hazleton Township, PA by Beaver Valley Environmental.

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

A Water Management System Inspection query indicated that on July 31, 2019 a Compliance Evaluation was performed. Follow-up inspections were conducted on August 29, 2019 and September 11, 2019.

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



Watershed Info -
East Union Twp.pdf



WQM 7.0 - East
Union Twp.pdf



TRC_CALC_East
Union Twp.pdf

Summary of Review

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.	001	Design Flow (MGD)	0.09
Latitude	40° 54' 10.44"	Longitude	-76° 7' 31.08"
Quad Name	Nuremberg	Quad Code	1136
Wastewater Description: Sewage Effluent			
Receiving Waters	Little Tomhicken Creek (CWF)	Stream Code	27573
NHD Com ID	65641195	RMI	1.72 (estimated)
Drainage Area	1.63 mi ²	Yield (cfs/mi ²)	0.10
Q ₇₋₁₀ Flow (cfs)	0.163	Q ₇₋₁₀ Basis	State-wide default
Elevation (ft)	1,591	Slope (ft/ft)	-
Watershed No.	5-E	Chapter 93 Class.	CWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	PH		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final	Name	Catawissa Creek
Nearest Downstream Public Water Supply Intake	Catawissa Municipal Water Authority		
PWS Waters	Catawissa Creek	Flow at Intake (cfs)	-
PWS RMI	1.01	Distance from Outfall (mi)	≈ 30.1

Treatment Facility Summary				
Treatment Facility Name: East Union Township Sewer Authority				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge Aeration	Chlorination	0.049 (2015-2017)
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.090	187	Not Overloaded	Aerobic Sludge Digester	Hauled

Compliance History

DMR Data for Outfall 001 (from June 1, 2019 to May 31, 2020)

Parameter	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19
Flow (MGD) Average Monthly	0.07303	0.07071	0.0591	0.06272	0.06013	0.05772	0.05653	0.05204	0.04524	0.04664	0.05738	0.05965
Flow (MGD) Daily Maximum	0.28239	0.19594	0.08602	0.12632	0.14670	0.08915	0.14112	0.11808	0.06221	0.05881	0.13409	0.13856
pH (S.U.) Minimum	6.5	6.4	6.4	6.5	6.4	6.3	6.2	6.7	6.9	6.7	6.6	6.8
pH (S.U.) Maximum	7.3	7.1	7.0	6.9	6.9	7.0	7.0	7.2	7.5	7.2	7.2	7.3
TRC (mg/L) Average Monthly	1.1	1.1	1.1	1.0	1.0	1.2	0.8	0.9	0.9	0.4	0.5	0.9
TRC (mg/L) Instantaneous Max	1.8	2.2	2.3	1.7	1.8	2.6	1.2	2.2	1.8	0.7	1.1	1.9
CBOD5 (lbs/day) Average Monthly	1.4	1.8	1.0	2.8	2.1	4.6	1.5	3.1	< 0.9	< 0.7	< 0.8	1.9
CBOD5 (lbs/day) Weekly Average	1.5	2.4	1.0	3.1	3.2	5.9	1.7	4.8	0.9	< 0.8	< 1.0	2.5
CBOD5 (mg/L) Average Monthly	2.8	2.7	2.3	5.5	5.1	9.6	3.4	8.7	< 2.4	< 2.0	< 2.0	3.9
CBOD5 (mg/L) Weekly Average	3.2	3.0	2.4	5.6	7.7	10.4	3.9	13.2	2.8	< 2.0	< 2.0	5.0
BOD5 (lbs/day) Raw Sewage Influent Avg Monthly	61.3	118.4	67.5	40.6	80.6	49.1	68.6	67.2	83.2	46.9	73.3	85.4
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	63.3	140.1	77.2	46.1	106.6	53.4	71.3	83.5	97.9	52.3	76.5	100.5
BOD5 (mg/L) Raw Sewage Influent Avg Monthly	118	204	157	80	180	111	158	190	229	127	176	182
TSS (lbs/day) Average Monthly	0.8	3.2	1.9	13.5	2.1	9.0	2.6	3.4	1.4	< 1.1	1.9	< 1.1
TSS (lbs/day) Raw Sewage Influent Avg Monthly	22.8	51.0	33.9	20.9	27.3	30.5	41.1	30.5	40.0	39.8	42.6	48.0
TSS (lbs/day) Raw Sewage Influent Daily Maximum	27.5	67.1	36.6	25.7	29.3	38.8	54.4	41.6	41.8	56.7	89.7	65.1

**NPDES Permit Fact Sheet
East Union Township Sewer Authority**

NPDES Permit No. PA0062537

TSS (lbs/day) Weekly Average	0.9	4.0	3.0	15.4	2.9	11.4	3.5	5.1	1.6	1.9	2.9	1.7
TSS (mg/L) Average Monthly	1.5	5.0	4.5	26.5	5.0	19.0	6.0	9.5	4.0	< 3.0	4.7	< 2.5
TSS (mg/L) Raw Sewage Influent Avg Monthly	45	91	79	42	62	64	96	87	112	108	92	106
TSS (mg/L) Weekly Average	2.0	5.0	7.0	33.0	7.0	20.0	8.0	14.0	5.0	5.0	8.0	4.0
Fecal Coliform (CFU/100 ml) Geometric Mean	< 8	233	< 3	36	< 3	33	< 7	< 13	< 7	663	137	< 1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	70	1810	10	130	10	110	50	170	50	1750	860	< 1
Nitrate-Nitrite (lbs/day) Annual Average						3.7						
Nitrate-Nitrite (mg/L) Annual Average						10.8						
Total Nitrogen (lbs/day) Annual Average						3.9						
Total Nitrogen (mg/L) Annual Average						11.5						
Ammonia (lbs/day) Average Monthly	0.1							0.6	< 0.1	< 0.04	< 0.1	0.1
Ammonia (mg/L) Average Monthly	0.2							1.7	< 0.2	< 0.1	< 0.2	0.3
TKN (lbs/day) Annual Average						0.2						
TKN (mg/L) Annual Average						0.7						
Total Phosphorus (lbs/day) Annual Average						1.4						
Total Phosphorus (mg/L) Annual Average						4.0						

Development of Effluent Limitations

Outfall No. 001 Design Flow (MGD) 0.09
 Latitude 40° 54' 10.44" Longitude -76° 7' 31.08"
 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)
	50.0	IMAX	-	92a.47
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)
	60.0	IMAX	-	92a.47
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:

Parameter	Limit (mg/l)	SBC	Model
Total Residual Chlorine	0.18	Average Monthly	TRC Calculation Spreadsheet
	0.59	IMAX	
Ammonia-Nitrogen May 1 - Oct 31	4.3	Average Monthly	WQM 7.0
	8.6	IMAX	
Ammonia-Nitrogen Nov 1 - Apr 30	12.9	Average Monthly	Previous permit requirement. (Updated influent BOD5 sampling to influent CBOD5 sampling)
	25.8	IMAX	
Carbonaceous Biochemical Oxygen Demand (CBOD5) Raw Sewage Influent	Report	Average Monthly	
Total Suspended Solids Raw Sewage Influent	Report	Average Monthly	

Anti-Backsliding

No limitations were made less stringent.