pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0253219**
Facility Type	**Municipal**	APS ID	**1039959**
Major / Minor	**Minor**	Authorization ID	**1356404**

Applicant and Facility Information

Applicant Name	**East Franklin Township**	Facility Name	**Cowansville STP**
Applicant Address	106 Cherry Orchard Avenue Kittanning, PA 16201-3310	Facility Address	230 Reesedale Road Kittanning, PA 16201-3310
Applicant Contact	Barry Peters (cscholl@eastfranklintownship.com)	Facility Contact	Barry Peters (cscholl@eastfranklintownship.com)
Applicant Phone	(724) 548-2310	Facility Phone	(724) 548-2310
Client ID	77287	Site ID	665630
Ch 94 Load Status	Not Overloaded	Municipality	East Franklin Township
Connection Status	No Limitations	County	Armstrong
Date Application Received	May 28, 2021	EPA Waived?	Yes
Date Application Accepted	June 3, 2021	If No, Reason	-

Purpose of Application: Renewal of an NPDES Permit for an existing discharge of treated sanitary wastewater.

Summary of Review

Act 14 - Proof of Notification was submitted and received.

A Part II Water Quality Management permit is not required at this time.

The applicant should be able to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:

A. Stormwater into Sewers
B. Right of Way
C. Solids Handling
D. Effluent Chlorine Optimization and Minimization
E. Little or No Assimilative Capacity

SPECIAL CONDITIONS:

II. Solids Management

There are no open violations in efacts associated with the subject Client ID (77287) as of 9/27/2023. *CWY 10/3/2023*

Approve	Deny	Signatures	Date
X		Stephen A. McCauley Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist	9/27/2023
X		Chad W. Yurisic Chad W. Yurisic, P.E. / Environmental Engineer Manager	10/3/2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.029
Latitude	40º 52' 46.00"	Longitude	-79º 34' 28.00"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		

Receiving Waters	Glade Run (TSF)	Stream Code	46185
NHD Com ID	123857505	RMI	10.8
Drainage Area	2.17	Yield (cfs/mi^2)	0.027
Q_{7-10} Flow (cfs)	0.058	Q_{7-10} Basis	calculated
Elevation (ft)	1129	Slope (ft/ft)	0.00568
Watershed No.	17-E	Chapter 93 Class.	TSF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-

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

Nearest Downstream Public Water Supply Intake		Buffalo Township Municipal Water Authority - Freeport	
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,576
PWS RMI	30.0	Distance from Outfall (mi)	21.5

Sludge use and disposal description and location(s): All sludge is disposed of at an approved landfill

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for an existing discharge of 0.029 MGD of treated sewage from a municipal STP in East Franklin Township, Armstrong County.

Treatment permitted under WQM Permit 0309402 consists of the following: A comminutor with bypass bar screen, two equalization tanks, three aeration tanks, final clarification, tablet chlorine disinfection and tablet dechlorination, hydrated lime for pH control, and a polishing tank. Sludge goes to an aerobic digester.

1. Streamflow:

Buffalo Creek near Freeport, PA - USGS Gage No. 03049000 (1942-2008):

Q_{7-10}:	3.8	cfs	(USGS StreamStats)
Drainage Area:	137	sq. mi.	(USGS StreamStats)
Yieldrate:	0.027	cfsm	(Calculated)

Glade Run at Outfall 001:

Yieldrate:	0.027	cfsm	(Calculated above)
Drainage Area:	2.17	sq. mi.	(USGS StreamStats)
% of stream allocated:	100%	Basis:	No nearby discharges
Q_{7-10}:	0.058	cfs	(Calculated)

2. Wasteflow:

Maximum discharge: 0.029 MGD = 0.044 cfs

Runoff flow period: 24 hours Basis: Runoff flow for municipal STPs

The calculated stream flow (Q7-10) is less than 3 times the permitted discharge flow. In accordance with the SOP, since this is an existing discharge, and the treatment requirements in document number 391-2000-014, titled, "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers", dated April 12, 2008, are not attainable, the treatment requirements will not be added to this renewal.

Flow will be required to be monitored as authorized under Chapter 92a.61, and as recommended in the SOP.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, E. Coli, Total Phosphorus, Total Nitrogen, NH_3-N, $CBOD_5$, Dissolved Oxygen, and Disinfection.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), and will be retained.

b. Total Suspended Solids

Limits are 30.0 mg/l as a monthly average and 60.0 as an instantaneous maximum.

Basis: Application of Chapter 92a47 technology-based limits. The mass loading limits were increased slightly to correct previous rounding errors.

c. Fecal Coliform

05/01 - 09/30:	200/100ml	(monthly average geometric mean)
	1,000/100ml	(instantaneous maximum)
10/01 - 04/30:	2,000/100ml	(monthly average geometric mean)
	10,000/100ml	(instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits

d. E. Coli

Monitoring was added for E. Coli at a frequency of 1/year.

Basis: Application of Chapter 92a.61 as recommended by the SOP for flows greater than 0.002 MGD and less than 0.05 MGD.

e. Phosphorus

Chapter 96.5 does not apply. Therefore, the previous monitoring for Total Phosphorus will be retained in accordance with the SOP, based on Chapter 92a.61.

f. Total Nitrogen

The previous monitoring for Total Nitrogen will be retained in accordance with the SOP, based on Chapter 92a.61.

g. Ammonia-Nitrogen (NH_3-N)

Median discharge pH to be used:	7.1	Standard Units (S.U.)
		Basis: eDMR data from previous 12 months
Discharge temperature:	25°C	(default value used in the absence of data)
Median stream pH to be used:	7.0	Standard Units (S.U.)
		Basis: default value used in the absence of data
Stream Temperature:	25˚C	(default value used for TSF modeling)
Background NH_3-N concentration:	0.0	mg/l
		Basis: Default value
Calculated NH_3-N Summer limits:	3.7	mg/l (monthly average)
	7.4	mg/l (instantaneous maximum)
Calculated NH_3-N Winter limits:	11.1	mg/l (monthly average)
	22.2	mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer NH3-N limits above (see Attachment 1). The winter limits are calculated as three times the summer limits. The calculated limits are more restrictive than in the previous permit. Based on eDMR data, the more restrictive limits are attainable so they will be added with this renewal.

h. $CBOD_5$

Median discharge pH to be used: 7.1 Standard Units (S.U.)

Basis: eDMR data from previous 12 months

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25˚C (default value used for TSF modeling)

Background $CBOD_5$ concentration: 2.0 mg/l

Basis: Default value

Calculated $CBOD_5$ limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the calculated CBOD5 limits above (see Attachment 1). These limits are the same as the previous permit and will be retained. The mass loading limits were increased slightly to correct previous rounding errors.

i. Influent Total Suspended Solids and BOD_5

Monitoring for these two parameters will be retained as recommended in the SOP for POTWs, as authorized under Chapter 92a.61.

j. Dissolved Oxygen (DO)

The technology-based minimum of 4.0 mg/l is recommended by the WQ Model (see Attachment 1) and the SOP based on Chapter 93.7, under the authority of Chapter 92a.61. This limit is the same as the previous permit and will be retained.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), and will be retained.

k. Disinfection

☐ Ultraviolet (UV) light monitoring

☒ Total Residual Chlorine (TRC) limits: 0.19 mg/l (monthly average)
0.64 mg/l (instantaneous maximum)

Basis: The TRC limits above were calculated using the Department's TRC Calculation Spreadsheet (see Attachment 2). The limits are more restrictive than the previous NPDES Permit. Based on eDMR data, the more restrictive limits are attainable so they will be added with this renewal.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), and will be retained.

4. Reasonable Potential Analysis for Receiving Stream:

A Reasonable Potential Analysis was not performed in accordance with State practices for Outfall 001 using the Department's Toxics Management Spreadsheet since no sampling other than sewage-related parameters was performed for this facility with the renewal application.

5. Reasonable Potential for Downstream Public Water Supply (PWS):

The Department's Toxics Management Spreadsheet does not calculate limits for parameters that are based on PWS criteria (TDS, Chloride, Bromide, and Sulfate). Since no relevant sampling was provided, mass-balance calculations were not performed.

Nearest Downstream potable water supply (PWS): Buffalo Township Municipal Water Authority - Freeport
Distance downstream from the point of discharge: 21.5 miles (approximate)

Result: No limits or monitoring are necessary as significant dilution is available.

6. Flow Information:

This facility receives 100% of flow from the East Franklin Township-Cowansville Area. All the sewers are separate sewers.

7. Anti-Backsliding:

Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.

8. Attachment List:

Attachment 1 - WQ Modeling Printouts

Attachment 2 - TRC_Calc Spreadsheet

(The Attachments above can be found at the end of this document)

Compliance History

DMR Data for Outfall 001 (from August 1, 2022 to July 31, 2023)

Parameter	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22
Flow (MGD) Average Monthly	0.007	0.006	0.005	0.006	0.007	0.005	0.008	0.006	0.007	0.005	0.005	0.007
pH (S.U.) Minimum	7.2	7.1	7.0	6.9	7.2	6.3	7.1	7.1	6.3	6.9	6.8	7.0
pH (S.U.) Maximum	7.6	7.6	7.6	7.7	7.5	6.9	7.5	7.5	7.4	7.5	7.6	7.77
DO (mg/L) Minimum	9.70	9.87	9.96	9.87	10.09	10.04	10.01	10.06	10.01	10.06	10.03	10.00
TRC (mg/L) Average Monthly	0.17	0.18	0.17	0.15	0.13	0.13	0.15	0.14	0.12	0.16	0.18	0.16
TRC (mg/L) Instantaneous Maximum	0.22	0.29	0.30	0.20	0.22	0.22	0.31	0.19	0.22	0.20	0.28	0.26
CBOD5 (lbs/day) Average Monthly	< 0.22	< 0.11	< 0.19	0.23	0.42	< 0.22	< 0.20	< 0.15	< 0.19	< 0.14	< 0.15	< 0.17
CBOD5 (mg/L) Average Monthly	< 3.10	< 3.0	< 4.30	5.60	7.70	< 3.80	< 3.00	< 3.05	< 4.80	< 3.00	< 3.0	< 3.0
CBOD5 (mg/L) Instantaneous Maximum	3.20	< 3.0	5.60	7.60	7.90	4.60	< 3.00	3.10	6.60	< 3.00	< 3.0	< 3.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	5.40	11.95	5.45	3.75	8.38	5.79	15.37	9.83	4.45	6.79	11.58	7.68
TSS (lbs/day) Average Monthly	0.31	0.26	0.83	2.06	2.34	2.29	1.90	0.61	1.08	0.37	0.38	0.92
TSS (lbs/day) Raw Sewage Influent Average Monthly	5.74	16.68	6.04	3.59	10.71	8.65	20.19	13.42	6.83	10.26	14.00	10.47
TSS (mg/L) Average Monthly	5.0	7.0	19.0	50.0	44.0	40.0	37.0	12.0	28.0	9.0	8.0	16.0
TSS (mg/L) Instantaneous Maximum	7.0	8.0	28.0	58.0	48.0	52.0	56.0	15.0	39.0	13.0	10.0	27.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 3	< 23	2	50	< 2	436	< 1	< 2	28	12	94
Fecal Coliform (No./100 ml) Instantaneous Maximum	1	6	518	3	2420	2	518	1	4	61	25	727
Total Nitrogen (mg/L) Daily Maximum								56.80				
Ammonia (lbs/day) Average Monthly	< 0.01	< 0.01	< 0.01	0.01	0.14	< 0.08	0.08	< 0.01	< 0.01	< 0.01	0.01	< 0.01

Ammonia (mg/L) Average Monthly	< 0.13	< 0.10	< 0.10	0.13	2.49	< 1.29	0.96	< 0.21	< 0.10	< 0.11	0.23	< 0.13
Ammonia (mg/L) Instantaneous Maximum	0.15	< 0.10	< 0.10	0.15	3.10	2.48	1.51	0.31	0.10	0.11	0.30	0.15
Total Phosphorus (mg/L) Daily Maximum								8.85				

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.19	XXX	0.64	1/day	Grab
CBOD5	6.0	XXX	XXX	25.0	XXX	50.0	2/month	Grab
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
TSS	7.2	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	Report Annl Avg	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	2.6	XXX	XXX	11.1	XXX	22.2	2/month	Grab
Ammonia May 1 - Oct 31	0.8	XXX	XXX	3.7	XXX	7.4	2/month	Grab

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Phosphorus	Report Annl Avg	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab

Compliance Sampling Location: at Outfall 001, after disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids, and Fecal Coliforms are technology-based on Chapter 92a.47. Monitoring for influent BOD_5 and influent TSS is based on Chapter 92a.61. Monitoring for E. Coli, Total Nitrogen, and Total Phosphorus is based on Chapter 92a.61. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7.