pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0244295**
Facility Type	**Municipal**	APS ID	**1095547**
Major / Minor	**Minor**	Authorization ID	**1452095**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Franconia Township Sewer Authority**	Facility Name	**Franconia WWTP**
Applicant Address	671 Allentown Road	Facility Address	765 Souder Road
	Telford, PA 18969-2205		Souderton, PA 18964
Applicant Contact	George Witmayer	Facility Contact	George Witmayer
Applicant Phone	(215) 723-1137	Facility Phone	(215) 723-1137
Client ID	86810	Site ID	457767
Ch 94 Load Status	Not Overloaded	Municipality	Franconia Township
Connection Status	No Limitations	County	Montgomery
Date Application Received	August 3, 2023	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Renewal of the NPDES permit.

Summary of Review

The permittee has submitted an application to renew their discharge of wastewater into Skippack Creek (TSF) through Outfall 001.

The Franconia WWTP serves Franconia TWP.
The application lists following Industrial / Commercial Wastewater Contributors:
JBS Meats (domestic only) - Beef Processor; Souderton Area Regional High School; and JP Mascaro and Sons Inc -Solid Waste and Recycling.

The treatment process consists of (a) influent pumping, (b) fine screening, (c) sequential batch reactors to provide carbonaceous BOD removal, nitrification, denitrification, and biological phosphorus removal, (d) chemical addition for enhanced phosphorus removal, (e) membrane filtration, and (f) ultraviolet disinfection. Sludge handling facilities consist of an aerated holding tank.

DEP has conducted a site inspection on 11/13/2023. No violation noted.

There are no changes to the quality and quantity of the discharge, previously established effluent limits and monitoring requirements will be proposed, except for quarterly monitoring for E.coli for collecting statewide data.

Sludge use and disposal description and location(s): DELCORA or Towamencin WWTP

Act 14 Notification: Franconia Township – July 19, 2023.
Montgomery County Commissioners – July 19, 2023.

Approve	Deny	Signatures	Date
X		Begay Omuralieva Begay Omuralieva / Environmental Engineering Specialist	September 12, 2024
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	09/12/2024

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)	.15
Latitude	40Âº 16' 55.01"	Longitude	-75Âº 20' 50.15"
Quad Name	Telford	Quad Code	1643
Wastewater Description:	Sewage Effluent		
Receiving Waters	Skippack Creek (TSF, MF)	Stream Code	01204
NHD Com ID	25998998	RMI	12.64
Drainage Area	5.02 mi	Yield (cfs/mi^2)	0.0354
Q_{7-10} Flow (cfs)	0.178	Q_{7-10} Basis	Previous permit renewal factsheet (below)
Elevation (ft)	233	Slope (ft/ft)	
Watershed No.	3-E	Chapter 93 Class.	TSF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	ALGAE, NUTRIENTS, SILTATION		
Source(s) of Impairment	RURAL (RESIDENTIAL AREAS), RURAL (RESIDENTIAL AREAS), RURAL (RESIDENTIAL AREAS)		
TMDL Status	Final (4/9/2005, withdrawn)	Name	Skippack Creek Watershed TMDL
Nearest Downstream Public Water Supply Intake	Aqua PA Perkiomen Creek		
PWS Waters	Perkiomen Creek	Flow at Intake (cfs)	
PWS RMI	0.924	Distance from Outfall (mi)	14.624

Changes Since Last Permit Issuance: none

Treatment Facility Summary

Treatment Facility Name: Franconia WWTP

WQM Permit No.	Issuance Date
WQG02461703	4/12/17
4612403	9/12/12
WQG02460811	8/5/2008
4607410	6/20/2008
4607401	11/20/2007

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with Ammonia And Phosphorus	Activated Sludge	Ultraviolet	0.15

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.25	1042	Not Overloaded		DELCORA or Towamencin WWTP

Changes Since Last Permit Issuance: none

Compliance History

DMR Data for Outfall 001 (from June 1, 2023 to May 31, 2024)

Parameter	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23
Flow (MGD) Average Monthly	0.0551	0.0552	0.0571	0.0616	0.0688	0.0658	0.0608	0.0580	0.0568	0.0395	0.0413	0.0522
Flow (MGD) Weekly Average	0.0580	0.0617	0.0647	0.0811	0.0800	0.0771	0.0713	0.0606	0.0600	0.0449	0.0439	0.0793
pH (S.U.) Daily Minimum	6.5	7.2	7.1	7.0	7.3	7.1	7.4	7.3	7.3	7.5	7.3	7.1
pH (S.U.) Instantaneous Maximum	7.5	7.6	7.5	7.6	8.2	7.7	7.9	7.8	7.8	8.1	7.9	7.9
DO (mg/L) Daily Minimum	6.7	7.8	8.6	8.9	9.1	8.2	7.7	6.6	6.4	6.4	6.4	7.0
CBOD5 (lbs/day) Average Monthly	0.9	0.4	0.5	0.6	0.6	0.7	0.6	0.9	0.5	0.5	0.4	0.4
CBOD5 (lbs/day) Raw Sewage Influent Average Monthly	188	85	90	114	127	91	178	173	82	47	43	83
CBOD5 (lbs/day) Weekly Average	2.4	0.5	0.6	0.8	0.8	1.0	0.8	1.6	0.6	1.0	0.4	0.5
CBOD5 (mg/L) Average Monthly	2	1	1	1	1	1	1	2	1	1	1	1
CBOD5 (mg/L) Raw Sewage Influent Average Monthly	411	194	173	195	203	128	280	321	156	149	120	177
CBOD5 (mg/L) Weekly Average	5	1	1	1	1	1	1	3	1	2	1	1
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	212	198	225	193	159	117	202	221	102	60	62	126
BOD5 (mg/L) Raw Sewage Influent Average Monthly	463	456	416	332	206	165	307	410	195	195	173	266
TSS (lbs/day) Average Monthly	0.8	0.6	0.5	0.5	0.4	0.7	0.6	0.5	0.4	1.0	0.6	0.9
TSS (lbs/day) Raw Sewage Influent Average Monthly	164	146	228	155	158	130	163	178	117	60	59	172

TSS (lbs/day) Weekly Average	1.3	1.7	0.9	1.2	0.7	1.1	0.9	1.2	0.6	3.6	1.6	1.5
TSS (mg/L) Average Monthly	2	2	1	1	1	1	1	1	1	3	1	2
TSS (mg/L) Raw Sewage Influent Average Monthly	362	335	425	267	252	188	266	335	222	195	167	364
TSS (mg/L) Weekly Average	3	4	2	2	1	3	2	2	1	10	4	5
Total Dissolved Solids (mg/L) Average Quarterly			532.0			396.0			439.0			492.0
Fecal Coliform (No./100 ml) Geometric Mean	1	1	1	1	1	1	1	1	1	1	1	1
Fecal Coliform (No./100 ml) Instantaneous Maximum	1	1	1	1	5	1	1	1	1	1	1	1
UV Transmittance (%) Daily Minimum	100	73	68	69	71	85	100	100	100	100	100	100
Total Nitrogen (lbs/day) Average Monthly	1.09	0.47	1.94	3.05	2.15	1.14	2.21	1.76	0.98	0.41	0.53	0.61
Total Nitrogen (mg/L) Average Monthly	2.4	1.1	3.7	4.8	3.5	1.6	3.4	3.0	1.9	1.1	1.4	1.5
Ammonia (lbs/day) Average Monthly	0.02	0.02	0.24	0.29	0.59	0.11	0.07	0.03	0.03	0.01	0.02	0.01
Ammonia (mg/L) Average Monthly	0.05	0.04	0.44	0.45	0.89	0.14	0.11	0.06	0.05	0.02	0.04	0.02
Total Phosphorus (lbs/day) Average Monthly	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01
Total Phosphorus (mg/L) Average Monthly	0.02	0.03	0.03	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.02	0.03
Total Copper (mg/L) Average Quarterly			< 0.010			< 0.10			< 0.01			< 0.010

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.15
Latitude 40º 16' 55.00" **Longitude** -75º 20' 50.00"
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	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	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)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	200 / 100 ml	Geo Mean	-	DRBC
Fecal Coliform (10/1 – 4/30)	1,000 / 100 ml	IMAX*	-	DRBC
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

* No more than 10% of sample can exceed 1,000/100 ml.

No changes to the receiving stream and discharge characteristics.
Therefore all previously established effluent limits and monitoring requirements are in proposed permit documents as listed below:

The existing DO, CBOD5, TSS, TN, NH3-N, and TP limits were based on the PTR. No Water Quality Modeling was performed to calculate the CBOD5, DO, and NH3-N limits due to the stream being effluent dominated.

Toxics:
Based on the monitoring data (maximum concentrations) reported on the application, DEP utilizes Toxics Screening Analysis and PENTOXSD to (1) evaluate reasonable potential for toxic pollutants to cause or contribute to an excursion above the water quality standards and (2) develop WQBELs for those such toxic pollutants (i.e., 40 CFR § 122.44(d)(1)(i)). The model then recommended the

Table 1. PENTOXSD ver. 2.0d

Pollutant	Effluent Limit, *µg/L*	Governing Criterion	Max. Daily Limit, *µg/L*	Most Stringent	
				WQBEL, *µg/L*	WQBEL Criterion
Total Copper	20.277	AFC	31.635	20.277	AFC

most stringent WQBEL for the following pollutant (see Table 1).
AFC: Acute Fish Criteria

Following PENTOXSD modeling, the most stringent WQBEL for Total Copper was then entered into Toxic Screening Analysis. As shown on Table 2, the analysis then recommends an appropriate action for Total Copper in the permit (i.e., No Limits/Monitoring, Establish Limits, or Monitor) based on the following logic specified in DEP's Standard Operating Procedure (SOP) [(1)]:

a. Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL.

b. For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.

c. For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

d. Application managers may, on a site- and pollutant-specific basis, deviate from these guidelines where there is specific rationale that is documented in the fact sheet.

The facility is monitoring Copper on quarterly basis under current permit. All sample results are less than 10 ug/l, which isles than 50% of the calculated WQBEL, Quarterly monitoring will be continued in the renewal.

Additional Considerations

pH:
The effluent discharge pH should remain above 6 and below 9 standard units per 25 Pa. Code § 95.2(1) which is consistent with previous permit renewal.

UV Disinfection:
DEP's SOP (1) and 10 States Standard recommends monitoring of UV transmittance (%), UV dosage (µW/cm2 or mjoules/cm2), or UV intensity (µW/cm2 or mjoules/cm2) at the same monitoring frequency that would be used for TRC. An email from FSA's consultant November 14, 2018 indicated that the plant can monitor UV transmittance in %. So, a monitoring and reporting only requirement will be added in this renewal with a frequency of 1/day.

(1) Establishing Effluent Limitations for Individual Sewage Permits; BPNPSM-PMT-033, Version 1.5, revised August 23, 2013
Fecal Coliform:
The recent coliform guidance in 25 Pa. code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml. Per the Administrative Manual – Part III Water Quality Regulations (amended) by Delaware River Basin Commission (DRBC), to comply with effective disinfection, the number of organisms of the fecal coliform group remaining after treatment does not exceed 200 per 100 milliliters as a geometric average and 1,000 per 100 milliliters in more than 10 percent of the samples taken over a period of thirty consecutive days. This limit (year-round) is more stringent compared to Chapter 92a requirements. The existing permit has final fecal coliform limit for summer as 200 geo-mean (1,000 as IMAX) and winter limit as 200 geo mean (1,000 as IMAX with 10% rule.) The minimum measurement frequency is 1/week. It is noteworthy that the unit for fecal coliform is changed from "CFU/100 ml" to "No/100 ml" to reflect current central office guidance (see email in appendix). Since the permittee is using eDMR and eDMR may not be updated yet to report the new unit, the permittee may report as CFU/100 ml with a note that they are using the Colilert test and the results are in MPU/100 ml.

Monitoring Frequency and Sample Types:
Otherwise specified above, the monitoring frequency and sample type of compliance monitoring for existing parameters are recommended by DEP's SOP and Permit Writers Manual and/or on a case-by-case basis using BPJ.

Flow and Influent Monitoring Requirement:
The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii). The existing influent monitoring reporting requirement for TSS and BOD5 will be maintained in the draft permit per Chapter 94 requirement and to check compliance with the secondary treatment.

Total Dissolved Solids (TDS):
TDS and its associated solids including Bromide, Chloride, and Sulfate have become statewide pollutants of concern. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

-Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.

- Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.

-Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/L.

The existing permit has TDS limit of 1,000 mg/l as average monthly, 2,000 mg/l as weekly average, and 2,500 mg/l as instantaneous maximum. The application data indicated a maximum concentration of 1,106 mg/l which exceeded threshold of 1,000 mg/l for facilities with design flow of >0.1 MGD. It is recommended that existing average monthly limit of 1,000 mg/l will be carried over as 1,000 mg/l average quarterly limit and 2,500 mg/l as Instantaneous Maximum limit.

Osmotic Pressure:
Osmotic pressure is related to high TDS/Chloride concentration and affects mostly Potable Water Supply (PWS) intakes. The nearest downstream PWS intake is Aqua PA Inc. which is approximately 15 miles downstream of the discharge point. Since there is no concern of high TDS or Chloride concentration in the effluent due to discontinuation of an industrial contributor and long distance between discharge point to PWS intake, it is recommended that existing monitoring requirement for Osmotic Pressure to be removed.

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	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
CBOD5	12.5	19.0	XXX	10	15	20	1/week	24-Hr Composite
CBOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS	12.5	19.0	XXX	10	15	20	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	1000.0 Avg Qrtly	XXX	2500	1/quarter	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	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	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Total Nitrogen	7.5	XXX	XXX	6.0	XXX	12	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	4.0	XXX	XXX	3.0	XXX	6	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	1.9	XXX	XXX	1.5	XXX	3	1/week	24-Hr Composite
Total Phosphorus	0.12	XXX	XXX	0.1	XXX	0.2	1/week	24-Hr Composite
Total Copper	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 001

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Approve	Deny	Signatures	Date
X		Begay Omuralieva Begay Omuralieva / Environmental Engineering Specialist	September 12, 2024
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	09/12/2024