

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0055875
APS ID 1035476
Authorization ID 1348412

Applicant and Facility Information

Applicant Name	<u>The Upper Hanover Authority</u>	Facility Name	<u>MaCoby Ck STP</u>
Applicant Address	<u>1704 Pillsbury Road P O Box 205</u> <u>East Greenville, PA 18041-0205</u>	Facility Address	<u>1340 Frye Road</u> <u>Pennsburg, PA 18073</u>
Applicant Contact	<u>Eric Schantz</u>	Facility Contact	<u>Eric Schantz</u>
Applicant Phone	<u>(267) 272-9326</u>	Facility Phone	<u>(215) 679-3129</u>
Client ID	<u>73627</u>	Site ID	<u>459010</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Upper Hanover Township</u>
Connection Status	<u></u>	County	<u>Montgomery</u>
Date Application Received	<u>April 1, 2021</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u></u>
Purpose of Application	<u>Permit Renewal.</u>		

Summary of Review

The permittee applied to renew their NPDES permit for treated sewage discharge to Macoby Creek (MF, TSF) through Outfall 001.

The Macoby STP serves Upper Hanover Township.

The facility include two (2) 855 gpm submersible influent pumps and a channel mounted 1.0 mgd capacity comminutor in the wet well of the influent pump station, a screening building containing a mechanical fine screen with a bypass channel and a bar screen for emergency bypass of the fine screen, three (3) sequencing batch reactor (SBR) basins utilizing in ground concrete tankage, liquid alum feed system to enhance phosphorus removal, two (2) Aqua Disk Filters, and an ultraviolet light disinfection system. Waste sludge from the SBR tanks is pumped to an aerobic digester. Supernatant from the aerobic digester is cycled back through the treatment process and thickened sludge is transferred to a reed bed system. A filtrate pump station with two (2) 320 gpm submersible pumps transfers filtrate from the reed beds and digester supernatant back to the pre-equalization tanks.

Annual average design flow: 0.4 MGD, Hydraulic Design Capacity: 0.4 MGD; Organic Design Capacity: 1,200 lbs/day.

DEP has conducted a site visit on 11/21/21. At the time of the inspection the tertiary disc filter was not operational due to a recent tank leak near the base of the tank. The facility is investigating ways to correct the issue. Effluent quality has not yet been noticeably affected.

Based on previous permit's renewal factsheet:

The treatment plant expanded from an annual average flow of 0.15-mgd to 0.40-mgd in late 2011. The effluent limits were based on a preliminary treatment requirements (PTR) letter dated June 22, 2004. The PTR letter listed

Approve	Deny	Signatures	Date
X		<i>Begay Omuralieva</i> Begay Omuralieva / Environmental Engineering Specialist	March 15, 2022
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	03/16/2022

Summary of Review

the proposed limits as: CBOD5 = 10 mg/l, TSS = 10 mg/l, NH3-N = 1.5 mg/l, DO = 6 mg/l, fecal coliform = 200#/100 ml, and total phosphorus = 0.75 or 0.5 mg/l. Note that the total phosphorus limit was subsequently reduced to 0.3 mg/l because the Macoby Creek was part of an effluent dominated stream study.

The Influent monitoring for BOD5, TSS, and effluent monitoring for Aluminum, Total Nitrogen and UV was added in issued in 2016 permit.

No changes in quality or quantity of the discharge. Therefore, previously established effluent limits will be proposed with additional quarterly monitoring for E.Coli, based on the newly issued DEP's requirements to collect data (see p9. of the factsheet for proposed Effluent Limitations and Monitoring Requirements).

Act 14 Notifications:

Montgomery County Commissioners received a letter on 1/13/21.

Board of Supervisors Upper Hanover Township received a letter on 1/11/21.

Sludge use and disposal description and location(s): Pottstown WWTP

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)	0.4
Latitude	40° 23' 29.02"	Longitude	-75° 29' 2.63"
Quad Name		Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	Macoby Creek (TSF, MF)	Stream Code	01413
NHD Com ID	25981682	RMI	5.3
Drainage Area	6.47 mi ²	Yield (cfs/mi ²)	0.014
Q ₇₋₁₀ Flow (cfs)	0.091 cfs	Q ₇₋₁₀ Basis	USGS Gage 01472400
Elevation (ft)	315	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	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Changes Since Last Permit Issuance:

Treatment Facility Summary				
Treatment Facility Name: Macoby Creek STP				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Sequencing Batch Reactor W/Sol Removal	Ultraviolet	0.4
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.4	1200	Not Overloaded	Aerobic Digestion	Pottstown WWTP

Changes Since Last Permit Issuance: none

Compliance History

DMR Data for Outfall 001 (from January 1, 2021 to December 31, 2021)

Parameter	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21
Flow (MGD) Average Monthly	0.166	0.179	0.164	0.19	0.168	0.153	0.167	0.163	0.169	0.206	0.188	0.179
Flow (MGD) Daily Maximum	0.202	0.286	0.265	0.744	0.335	0.164	0.196	0.163	0.201	0.264	0.277	0.271
pH (S.U.) Minimum	6.83	6.8	7.15	7.13	6.89	6.93	7.13	7.23	7.22	7.06	7.14	6.08
pH (S.U.) Maximum	7.99	7.62	7.88	7.77	7.36	7.86	7.55	7.76	7.98	7.56	8.02	7.79
DO (mg/L) Minimum	6.82	6.64	6.58	7.01	6.07	6.82	7.19	6.02	6.82	6.0	6.01	6.05
CBOD5 (lbs/day) Average Monthly	5.3	8.0	3.2	< 4.2	< 3.1	5.1	4.1	< 2.6	3.9	4.5	5.5	< 2.8
CBOD5 (lbs/day) Daily Maximum	6.0	8.0	5.0	8.0	5.0	7.0	6.0	3.0	4	5.0	8.0	< 3.0
CBOD5 (mg/L) Average Monthly	4.0	4.0	2.0	< 3.0	< 2.0	4.0	3.0	< 2.0	3.0	3.0	3.0	< 2.0
CBOD5 (mg/L) Weekly Average	5.0	5.0	3.0	7.0	3.0	5.0	4.0	2.0	3.0	3.0	4.0	< 2.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	545	455	355	282	302	217	210	232	234	389	359	285
BOD5 (mg/L) Raw Sewage Influent Average Monthly	354	325	302	300	287	352	322	372	323	240	248	259
TSS (lbs/day) Average Monthly	9.0	4.5	3.9	4.0	7.7	< 3.3	< 1.4	< 2.2	< 4.1	< 3.3	< 5.7	< 2.4
TSS (lbs/day) Raw Sewage Influent Average Monthly	448	316	334	209	233	161	148	185	154	178	126	137
TSS (lbs/day) Daily Maximum	11.0	11.0	6.0	8.0	10	7.0	< 2.0	4.0	9.0	6.0	12	4.0
TSS (mg/L) Average Monthly	7.0	3.0	3.0	3.0	7.0	< 3.0	< 1.0	< 2.0	< 3.0	< 2.0	< 4.0	< 2.0

NPDES Permit Fact Sheet
Upper Hanover Authority Macoby Ck STP & Sanitary Sewer

NPDES Permit No. PA0055875

TSS (mg/L) Raw Sewage Influent Average Monthly	286	270	300	224	231	273	232	308	248	115	97	127
TSS (mg/L) Weekly Average	9.0	8.0	5.0	6.0	10.0	5.0	1.0	3.0	6.0	4.0	9.0	< 2.0
Fecal Coliform (CFU/100 ml) Geometric Mean	< 6.0	< 3.0	5.0	< 4	< 4.0	< 2.0	< 2.0	< 2	< 2.0	< 2	< 2	< 2
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	28.0	16.0	18.0	28	44	< 2.0	< 2.0	< 2	< 2.0	36	< 2	< 2
UV Transmittance (%) Minimum	100	100	100	100	100	100	100	100	100	100	100	100
Total Nitrogen (lbs/day) Average Monthly	6.0	8.0	157	5.0	< 5.0	6.0	< 5.0	< 4.0	5.0	5	7	5.0
Total Nitrogen (mg/L) Average Monthly	4.93	5.76	3.91	4.18	< 3.69	4.42	< 3.54	< 3.53	3.62	3.51	4.55	3.63
Ammonia (lbs/day) Average Monthly	< 0.1	0.3	0.1	< 0.1	< 2.0	< 0.1	< 2.0	< 0.4	< 0.1	< 1.3	< 0.2	< 0.8
Ammonia (mg/L) Average Monthly	< 0.1	0.3	0.1	< 0.1	< 0.3	< 0.1	< 0.5	< 0.3	< 0.1	< 0.8	< 0.1	< 0.6
Total Phosphorus (lbs/day) Average Monthly	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.1	0.3	0.4	< 0.3	0.2
Total Phosphorus (mg/L) Average Monthly	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.3	< 0.2	0.1
Total Aluminum (mg/L) Average Monthly	0.23	0.16	0.27	0.21	0.27	0.15	0.07	0.11	0.13	0.16	0.25	0.15

Compliance History

None

Development of Effluent Limitations

Outfall No. 001 Design Flow (MGD) .4
 Latitude 40° 23' 29.90" Longitude -75° 29' 0.92"
 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)	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)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

The treatment plant expanded from an annual average flow of 0.15-mgd to 0.40-mgd in late 2011. The effluent limits were based on a preliminary treatment requirements (PTR) letter dated June 22, 2004. The PTR letter listed the proposed limits as: CBOD₅ = 10 mg/l, TSS = 10 mg/l, NH₃-N = 1.5 mg/l, DO = 6 mg/l, fecal coliform = 200#/100 ml, and total phosphorus = 0.75 or 0.5 mg/l. Note that the total phosphorus limit was subsequently reduced to 0.3 mg/l because the Macoby Creek was part of an effluent dominated stream study.

Additionally, Influent monitoring for BOD₅ and TSS and effluent monitoring for aluminum, total nitrogen and UV was added.

Based on newly revised DEP's requirements proposed permit will have additional quarterly monitoring for E.Coli.

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" (362-0400-001), 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	Daily Maximum	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
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	33.4	50	XXX	10	15	20	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	33.4	50	XXX	10	15	20	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml)	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
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia	5.0	XXX	XXX	1.5	XXX	3	1/week	24-Hr Composite
Total Phosphorus	1.0	XXX	XXX	0.3	XXX	0.6	1/week	24-Hr Composite
Total Aluminum	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

Compliance Sampling Location: Outfall 001