

Application Type Renewal  
Facility Type Municipal  
Major / Minor Minor

## NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0058858  
APS ID 1120364  
Authorization ID 1496758

### Applicant and Facility Information

Applicant Name	<u>Upper Makefield Township</u>	Facility Name	<u>Reeve Tract WWTP</u>
Applicant Address	<u>1076 Eagle Road</u> <u>Newtown, PA 18940-2818</u>	Facility Address	<u>Hayhurst Drive</u> <u>Newtown, PA 18940</u>
Applicant Contact	<u>David Nyman</u>	Facility Contact	<u>Michael Sullivan</u>
Applicant Phone	<u>(215) 968-3340</u>	Facility Phone	<u>(215) 766-2626</u>
Client ID	<u>63613</u>	Site ID	<u>621932</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Upper Makefield Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Bucks</u>
Date Application Received	<u>July 25, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of NPDES permit to discharge treated sewage.</u>		

### Summary of Review

This permittee requests the renewal of NPDES permit PA0058858 to discharge 20,225 gallons per day (gpd) of treated sewage effluent to an unnamed tributary to Jericho Creek. The treated effluent is from a sewage treatment plant (STP) that serves the Reeve Tract subdivision. The treated sewage is being discharged into a manmade wetland marsh recharge area, created within the development area before it goes into an unnamed tributary to Jericho Creek.

The STP consists of a bar screen, a Muffin Monster Grinder unit, two equalization tanks, Aqua Aerobics extended aeration treatment (with aeration, anoxic and re-aeration tanks), settling tank and a holding tank. The flow is then sent to a building with two tertiary filters, a WEDECO ICH-2X1-S ultraviolet light (UV) disinfection system, post-aeration, and flow metering. The treated effluent is discharged into a manhole and sent via 4" force main to a man-made vegetative (i.e. wetland marsh) recharge area within the Reeve Tract subdivision prior to flowing into an unnamed tributary to Jericho Creek. The discharge is generally in compliance with current permit limits. Effluent limits for all parameters will remain same for this permit renewal. Annual monitoring for E. Coli has been added for the renewal and is in consistent with SOP.

The project is located in the Jericho Creek watershed in Upper Makefield Township, Bucks County within the drainage area of the section of non-tidal Delaware River known as Lower Delaware, which is classified as Special Protection Water (SPW). Therefore, effluent limits contained in the Delaware River Basin Commission's (DRBC) guidance for SPWs Discharge Requirement were applied to discharger and will remain the same in this permit renewal. Since, the original permit was issued before the SPW designation of the stream, the existing permit was grandfathered to SPW requirements for all parameters but Fecal Coliform. The SPW designation for the Lower Delaware River required that any future expansion of the Reeve Tract WWTP will be required to comply with the no-Measurable-Change (NMC) to Exiting Water Quality (EWQ).

Approve	Deny	Signatures	Date
X		<i>Ketan Thaker</i> Ketan Thaker / Project Manager	12/23/2024
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	12/23/2024

### Summary of Review

Following are effluent limits:

Parameter	Effluent Limit (AV. MO (mg/l))	Basis
CBOD <sub>5</sub>	10	DRBC "SPW" Requirements
Total Suspended Solids	10	DRBC "SPW" Requirements
Ammonia	1.5	DRBC "SPW" Requirements
Total Nitrogen	10	DRBC "SPW" Requirements
Total Phosphorus	1.0	DRBC "SPW" Requirements
Dissolved Oxygen	6.0 Minimum	DRBC "SPW" Requirements
Fecal Coliform	200 #/100 ml	DRBC "SPW" Requirements
pH (S.U.)	6.0 – 9.0 S. U.	DRBC "SPW" Requirements
Total Dissolved Oxygen	1,000	DRBC Recommendation
Nitrate-N	Report	DRBC Recommendation
UV Disinfection	Report	25 Pa Code 92a.47
E. Coli	Report	25 Pa Code 92a.47

Sludge use and disposal description and location(s): Sludge is hauled off-site to DELCORA WWTP for treatment and disposal.

Act-14 Notification to Upper Merion Township on 7/12/2024.

Act-14 Notification to Bucks County Commissioners on 7/12/2024.

### 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)	.020225
Latitude	40° 17' 29.98"	Longitude	-74° 57' 29.64"
Quad Name	Lambertville	Quad Code	1646
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary to Jericho Creek (WWF, MF)	Stream Code	02989
NHD Com ID	26043944	RMI	0.09
Drainage Area	0.31	Yield (cfs/mi <sup>2</sup> )	0.022
Q <sub>7-10</sub> Flow (cfs)	0.00696	Q <sub>7-10</sub> Basis	PA Stream Stats
Elevation (ft)	140	Slope (ft/ft)	0.038
Watershed No.	2-E	Chapter 93 Class.	WWF, MF
Existing Use	Aquatic life	Existing Use Qualifier	N/A
Exceptions to Use	Not applicable	Exceptions to Criteria	N/A
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	N/A	Name	
Background/Ambient Data		Data Source	
pH (SU)	7		TRG WQM (391-2000-007 default data)
Temperature (°F)	68 (20 °C)		TRG WQM (391-2000-007 default data)
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake	N/A		
PWS Waters	N/A	Flow at Intake (cfs)	N/A
PWS RMI	N/A	Distance from Outfall (mi)	N/A

Changes Since Last Permit Issuance: None

Other Comments: None

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Reeve Tract WWTP				
<b>WQM Permit No.</b>		<b>Issuance Date</b>		
0905405		8/31/2005		
<b>Waste Type</b>	<b>Degree of Treatment</b>	<b>Process Type</b>	<b>Disinfection</b>	<b>Avg Annual Flow (MGD)</b>
Sewage	Tertiary	Activated Sludge	Ultraviolet	0.0202
<b>Hydraulic Capacity (MGD)</b>	<b>Organic Capacity (lbs/day)</b>	<b>Load Status</b>	<b>Biosolids Treatment</b>	<b>Biosolids Use/Disposal</b>
0.0202	40	Not Overloaded		

Changes Since Last Permit Issuance: None

Other Comments: None

Compliance History

DMR Data for Outfall 001 (from November 1, 2023 to October 31, 2024)

Parameter	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23
Flow (MGD) Average Monthly	0.00742 2	0.00740 5	0.00690 4	0.00742 2	0.00756 5	0.00876 4	0.00853 1	0.00830 9	0.00849 4	0.00908 3	0.00918 6	0.00792 4
Flow (MGD) Daily Maximum	0.01150 3	0.01142 3	0.00978 5	0.01075 8	0.00987 6	0.01261 6	0.01132 8	0.01351 4	0.01474 9	0.01335 6	0.01631 8	0.01254 7
pH (S.U.) Instantaneous Minimum	7.73	7.75	7.77	7.83	7.58	7.71	7.28	7.5	7.55	7.66	7.95	7.81
pH (S.U.) Instantaneous Maximum	8.84	8.23	8.77	8.94	8.41	8.17	8.1	8.56	8.16	8.46	9.0	8.7
DO (mg/L) Instantaneous Minimum	8.01	7.92	7.00	7.49	7.47	6.93	7.32	6.74	6.66	8.46	7.96	6.99
CBOD5 (lbs/day) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.1	0.2	< 0.2	< 0.2	< 0.1
CBOD5 (lbs/day) Raw Sewage Influent   Average Monthly	9	7	13	< 3	9	16	< 9	7	13	32	12	9
CBOD5 (mg/L) Average Monthly	< 2	< 2	< 2	< 2	< 2	< 3	< 2	< 2	< 2	< 2	< 2	< 2
CBOD5 (mg/L) Raw Sewage Influent   Average Monthly	143	123	244	< 45.8	150	190	< 134	90.5	190	381	165.6	145.1
BOD5 (lbs/day) Raw Sewage Influent   Average Monthly	11	9	19	7	10	27	11	8.0	21	53	14	10
BOD5 (mg/L) Raw Sewage Influent   Average Monthly	171	166	353	113.8	147	306	168	103.4	302	630	199	164.2
TSS (lbs/day) Average Monthly	0.3	< 0.06	0.1	< 0.06	< 0.1	0.09	< 0.07	< 0.2	0.07	0.2	< 0.08	< 0.2

**NPDES Permit Fact Sheet  
Reeve Tract WWTP**

**NPDES Permit No. PA0058858**

TSS (lbs/day) Raw Sewage Influent   Average Monthly	14	8	17	5	3	31	14	13	30	50	6	10
TSS (mg/L) Average Monthly	5	< 1	3	< 1	< 2	1	< 1	< 2	1	3	< 1	< 3
TSS (mg/L) Raw Sewage Influent   Average Monthly	225	141	323	82	51	346	208	164	445	587	83	158
Total Dissolved Solids (mg/L) Average Monthly	731	674	656	595	663	606	752	628	567	627	577	655
Total Dissolved Solids (mg/L) Daily Maximum	749	714	684	602	663	616	831	642	604	717	599	656
Fecal Coliform (CFU/100 ml) Geometric Mean	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
UV Intensity (mW/cm²) Minimum	1.0	1.1	0.2	1.3	1.1	0.9	0.8	0.8	0.7	0.7	0.9	0.7
Total Nitrogen (lbs/day) Average Monthly	< 0.5	< 0.4	< 0.4	< 0.3	< 0.4	0.5	< 0.5	< 0.5	< 0.6	0.5	< 0.5	< 0.6
Total Nitrogen (mg/L) Average Monthly	< 7.6	< 6.7	< 7.7	< 4.9	< 5.6	5.8	< 7.8	< 7.9	< 8.7	6.5	< 6.4	9.6
Ammonia (lbs/day) Average Monthly	0.003	0.01	0.003	0.004	0.004	0.02	0.003	0.01	0.008	0.006	0.02	0.02
Ammonia (mg/L) Average Monthly	0.1	0.2	0.1	0.1	0.1	0.2	0.05	0.2	0.1	0.1	0.3	0.3
Nitrate (mg/L) Average Monthly		5.97	7.01	4.25	4.88	4.51						
Total Phosphorus (lbs/day) Average Monthly	0.02	0.03	0.01	0.03	0.03	0.03	0.02	0.02	0.01	0.02	0.03	0.02
Total Phosphorus (mg/L) Average Monthly	0.3	0.5	0.2	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.3	0.4

**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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/day	Grab
CBOD5	1.7	XXX	XXX	10	XXX	20	2/month	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	1/month	24-Hr Composite
TSS	1.7	XXX	XXX	10	XXX	20	2/month	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	2000 Daily Max	2500	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	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
UV Intensity (mW/cm <sup>2</sup> )	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Nitrogen	1.7	XXX	XXX	10.0	XXX	20	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	0.50	XXX	XXX	3.0	XXX	6	2/month	24-Hr Composite
Ammonia May 1 - Oct 31	0.3	XXX	XXX	1.5	XXX	3	2/month	24-Hr Composite
Nitrate May 1 - Sep 30	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Phosphorus	0.2	XXX	XXX	1.0	XXX	2	2/month	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: Same parameters, limits, monitoring frequencies, and sample type as previous permit. Annual monitoring for E. Coli is added for this permit renewal.





Approve	Deny	Signatures	Date
X		<i>Ketan Thaker</i> Ketan Thaker / Project Manager	12/23/2024
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	12/23/2024