

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0012891
APS ID 998093
Authorization ID 1281575

Applicant and Facility Information

Applicant Name	<u>The Upper Hanover Authority</u>	Facility Name	<u>Upper Hanover Perkiomen WWTP</u>
Applicant Address	<u>PO Box 205</u> <u>East Greenville, PA 18041-0205</u>	Facility Address	<u>Pillsbury Road</u> <u>East Greenville, PA 18041</u>
Applicant Contact	<u>Grant Boyer</u>	Facility Contact	<u>Michael Wetzel</u>
Applicant Phone	<u>(215) 679-3129</u>	Facility Phone	<u>(215) 679-3129</u>
Client ID	<u>73627</u>	Site ID	<u>458836</u>
Ch 94 Load Status		Municipality	<u>Upper Hanover Township</u>
Connection Status		County	<u>Montgomery</u>
Date Application Received	<u>July 2, 2019</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted		If No, Reason	
Purpose of Application	<u>Permit Renewal.</u>		

Summary of Review

The applicant requests approval for renewal of a National Pollutant Discharge Elimination System (NPDES) permit to discharge 0.098 MGD of treated wastewater from The Upper Hanover Authority WWTP serving residential and industrial establishment in Upper Hanover Township, Montgomery County to Perkiomen Creek. At the point of discharge, the creek is classified as Trout Stocking Fishery. The creek is located in 3E-Perkiomen Watershed.

The treatment plant consists of Dissolved Air Flootation (DAF) units for pretreatment of industrial wastewater prior to treating with the remaining sewage waste with Activated Sludge Treatment (AST) plant. The sewage from various collection systems enters in the manhole located at head of the plant. Wastewater then passes through the fine screening and comminutor into pre-equalization tanks, where they mix with pretreated industrial wastewater. Secondary treatment is an activated sludge process that includes nitrogen removal and final clarification. Phosphorous removal is achieved by chemical addition to the biological process. Disinfection is achieved through UV. Liquid sludge is hauled off-site by Potty Queen. Sludge is taken to the Pottstown WWTP in Montgomery County. Treated effluent then discharges into Perkiomen Creek via Outfall 001.

The WWTP receives wastewater from Allentown Refrigeration and Blommer Chocolate Company with an average wastewater flow of 0.018 MGD.

There were no changes to wastewater characteristics, receiving stream classification, and/or wastewater quantity. CBOD₅, NH₃-N, Dissolved Oxygen limits and other parameters remain unchanged, therefore, all existing effluent limitations are carried over in the renewal.

There is no change in the USEPA approved 2003, Total Maximum Daily Load (TMDL) of nutrients for Green Lane Reservoir. Therefore, the Phosphorous limit remains unchanged.

Approve	Deny	Signatures	Date
		Vasantha Palakurti / Environmental Engineering Specialist	October 2, 2019
		Pravin C. Patel, P.E. / Environmental Engineer Manager	

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.	<u>001</u>	Design Flow (MGD)	<u>.098</u>
Latitude	<u>40° 24' 23.07"</u>	Longitude	<u>-75° 31' 18.26"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary to Perkiomen Creek (TSF)</u>	Stream Code	<u>01017</u>
NHD Com ID	<u>25971714</u>	RMI	<u>27.79</u>
Drainage Area	<u>36.32</u>	Yield (cfs/mi ²)	<u>7.05</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.1</u>	Q ₇₋₁₀ Basis	<u>Previous Permit Modeling</u>
Elevation (ft)	<u>308</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>3-E</u>	Chapter 93 Class.	<u>TSF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Not Assessed</u>		
Cause(s) of Impairment	<u>Impaired by organic enrichment/ low dissolved oxygen</u>		
Source(s) of Impairment	<u>Agriculture</u>		
TMDL Status	<u>Final</u>	Name	<u>Green Lane Reservoir</u>

Changes Since Last Permit Issuance: There were no changes to wastewater characteristics, receiving stream classification, and/or wastewater quantity.

Compliance History

DMR Data for Outfall 001 (from August 1, 2018 to July 31, 2019)

Parameter	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18
Flow (GPD) Average Monthly	0.049	0.048	0.067	0.046	0.048	0.048	0.058	0.047	0.06	0.036	0.047	0.049
Flow (GPD) Daily Maximum	0.129	0.122	0.158	0.116	0.111	0.075	0.119	0.108	0.113	0.053	0.111	0.142
pH (S.U.) Instantaneous Minimum	6.77	6.95	6.88	6.81	6.76	6.8	6.7	6.6	6.6	6.5	6.5	6.7
pH (S.U.) Instantaneous Maximum	7.8	7.51	7.49	7.6	7.58	7.62	7.4	7.3	7.2	7.1	7.1	7.4
DO (mg/L) Instantaneous Minimum	5.87	6.15	7.75	7.36	8.49	8.1	8.0	8.6	6.7	5.7	5.8	6.1
DO (mg/L) Average Monthly	6.88	7.44	8.63	8.55	9.47	9.33	9.3	9.9	10	7	6.8	6.7
CBOD5 (lbs/day) Average Monthly	2	2	2	3	2	5	2	1	1	< 1	< 4	< 0.7
CBOD5 (lbs/day) Influent Average Monthly	54	60	63	57	93	58	87	72	62	52	47	65
CBOD5 (lbs/day) Influent Weekly Average	60	78	79	62	128	60	104	87	76	62	57	82
CBOD5 (lbs/day) Weekly Average	2	3	2	3	2	5	3	1	2	1	6	0.8
CBOD5 (mg/L) Average Monthly	5.7	7	4	9	6	11	5	3	3	< 3	< 8	< 2
CBOD5 (mg/L) Influent Average Monthly	182	206	151	188	255	158	180	233	112	168	112	226
CBOD5 (mg/L) Influent Weekly Average	211	274	270	195	358	162	216	289	149	192	128	318
CBOD5 (mg/L) Weekly Average	7.8	9	7	11	6	14	5	3	3	3	13	2
BOD5 (lbs/day) Influent Average Monthly	61	80	92	101	112	95	114	79	79	65	59	81

**NPDES Permit Fact Sheet
Upper Hanover Perkiomen WWTP**

NPDES Permit No. PA0012891

BOD5 (lbs/day) Influent Weekly Average	62	100	109	106	150	124	140	101	91	82	74	108
BOD5 (mg/L) Influent Average Monthly	206	273	220	340	306	255	231	259	142	210	143	286
BOD5 (mg/L) Influent Weekly Average	218	353	375	375	417	317	269	336	178	252	167	416
TSS (lbs/day) Average Monthly	1	0.4	< 0.9	2	1	5	3	3	2	1	2	0.6
TSS (lbs/day) Influent Average Monthly	49	61	60	76	80	51	83	51	69	44	31	81
TSS (lbs/day) Influent Weekly Average	58	72	70	101	91	62	113	54	88	52	48	100
TSS (lbs/day) Weekly Average	2	0.4	1	3	2	6	3	4	2	2	4	0.8
TSS (mg/L) Average Monthly	5	1	< 2	6	4	11	6	10	4	4	5	2
TSS (mg/L) Influent Average Monthly	167	208	141	250	218	138	160	167	126	145	74	282
TSS (mg/L) Influent Weekly Average	203	255	240	320	253	157	164	180	173	160	108	388
TSS (mg/L) Weekly Average	6	1	4	10	5	15	8	11	4	5	9	3
Total Dissolved Solids (lbs/day) Average Monthly	182	200	238	197	283	343	290	184	275	226	238	192
Total Dissolved Solids (lbs/day) Daily Maximum	198	228	300	206	307	385	337	201	299	267	251	601
Total Dissolved Solids (mg/L) Average Monthly	574	563	422	656	797	751	535	555	457	557	508	592
Total Dissolved Solids (mg/L) Daily Maximum	608	582	484	661	920	769	593	634	466	697	558	601
Fecal Coliform (CFU/100 ml) Geometric Mean	< 3	< 2	< 2	< 4	< 2	< 2	< 2	< 2	4	< 2	< 2	< 2

Fecal Coliform (CFU/100 ml) Instantaneous Maximum	5	< 2	< 2	7	3	< 2	< 2	< 2	8	< 2	< 2	< 2
UV Intensity (mW/cm ²) Minimum	100	100	100	100	100	100	100	100	100	100	100	100
Total Nitrogen (lbs/day) Average Monthly	< 3	< 4	< 5	< 5	< 6	< 9	< 6	< 6	< 7	< 3	< 2	< 1
Total Nitrogen (mg/L) Average Monthly	< 10.8	< 10.91	< 8.91	< 17.05	< 17.26	< 18.77	< 11.29	< 18.64	< 11.35	< 8.31	< 4.82	< 3.5
Ammonia (lbs/day) Average Monthly	< 0.03	< 0.04	< 0.06	< 0.05	< 0.1	4.2	< 0.3	< 0.03	< 0.1	< 0.04	< 0.05	< 0.03
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.2	< 0.3	8.4	< 0.4	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1
Total Phosphorus (lbs/day) Average Monthly	0.04	0.03	0.05	0.05	0.06	0.2	0.08	0.04	0.05	0.06	0.06	0.05
Total Phosphorus (mg/L) Average Monthly	0.1	0.1	0.1	0.02	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.2

Development of Effluent Limitations

Water Quality-Based Limitations

DMR data from August 2018 thru July 2019 was summarized and reviewed for this analysis. Based on an average monthly flow of 0.05 MGD and the reported data entered in Toxic Screening Analysis Spreadsheet, only TDS is shown as parameter of concern. TDS in the current permit already has an established limit therefore no further PENTOX modeling was performed.

Conventional Parameters

CBOD₅, NH₃-N, Dissolved Oxygen limits are carried over from previous permits. No changes to assumptions, flows, etc., so effluent limits remain unchanged for CBOD₅.

Phosphorus

The outfall of the WWTP is located on Perkiomen Creek, upstream of Green Lane Reservoir. In March 2003, USEPA approved a Total Maximum Daily Load (TMDL) of nutrients for Green Lane Reservoir. The TMDL is accomplished by requiring all point sources in the watershed to achieve effluent limitations of 0.5 mg/l total phosphorus and reductions in nonpoint source total phosphorus contributions from cropland, hay/pasture land, septic systems, stream bank areas, transitional lands, and low and high intensity development.

Total Nitrogen

Reporting for total nitrogen as recommended by SOP is carried over to this permit renewal.

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (GPD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	Report	XXX	XXX	1/day	Grab
CBOD5	20	32	XXX	25	40	50	2/month	24-Hr Composite
CBOD5 Influent	Report	Report	XXX	Report	Report	XXX	2/month	24-Hr Composite
BOD5 Influent	Report	Report	XXX	Report	Report	XXX	2/month	24-Hr Composite
TSS Influent	Report	Report	XXX	Report	Report	XXX	2/month	24-Hr Composite
TSS	25	37	XXX	30	45	60	2/month	24-Hr Composite
Total Dissolved Solids	817	1635 Daily Max	XXX	1000	2000 Daily Max	2500	2/month	24-Hr Composite
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
UV Intensity (mW/cm ²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Metered
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	12.0	XXX	XXX	15.0	XXX	30	2/month	24-Hr Composite
Ammonia May 1 - Oct 31	4.0	XXX	XXX	5.0	XXX	10	2/month	24-Hr Composite
Total Phosphorus	0.4	XXX	XXX	0.5	XXX	1	2/month	24-Hr Composite

