

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0088528
APS ID 328457
Authorization ID 1423273

Applicant and Facility Information

Applicant Name	<u>Tulpehocken Township Berks County</u>	Facility Name	<u>Tulpehocken Twp Rehrersburg STP</u>
Applicant Address	<u>PO Box 272, 22 Rehrersburg Road</u> <u>Rehrersburg, PA 19550-0272</u>	Facility Address	<u>Cherry Hill Road</u> <u>Rehrersburg, PA 19550</u>
Applicant Contact	<u>Lester Feick</u> <u>(717) 933-5747</u>	Facility Contact	<u>Lester Feick</u> <u>(610) 587-6917</u>
Applicant Phone	<u>tulpysewer@comcast.net</u>	Facility Phone	<u>tulpysewer@comcast.net</u>
Client ID	<u>142968</u>	Site ID	<u>537085</u>
Ch 94 Load Status		Municipality	<u>Tulpehocken Township</u>
Connection Status		County	<u>Berks</u>
Date Application Received	<u>January 3, 2023</u>	EPA Waived?	<u>YES (No change in TMDL loads)</u>
Date Application Accepted	<u>January 17, 2023</u>	If No, Reason	<u>-</u>
Purpose of Application	<u>Permit renewal for treated sewage</u>		

Summary of Review

The facility's existing permit was issued June 29, 2018 with an effective date of July 1, 2018 and an expiration date of June 30, 2023. The existing permit's limits and conditions have been administratively extended. A (paper) permit renewal application was submitted January 3, 2023.

The application represents that:

- there are no hauled-in wastes accepted and none anticipated for the next five years; and
- there are no industrial contributors and only one commercial contributor which is Teen Challenge Rehabilitation Center.

Design flow:

DEP's Standard Operating Procedure (SOP) Establishing Effluent Limitations for Individual Sewage Permits recommends basing effluent limits in sewage permits on the Annual Average Design Flow. The renewal application included an Annual Average Design Flow of 0.065 MGD, which is the same as the flow used in the existing NPDES permit for developing effluent limitations. DEP's eFacts database also shows the Annual Average Flow as 0.065 MGD for this facility.

According to DEP Sewage Planning staff, the facility's 2022 Chapter 94 Annual Municipal Wasteload Report did not project flows over their design flow of 0.065 MGD and did not project organic overloads for the next five years.

Therefore, the renewal permit effluent limits continue to be based on a design flow of 0.065 MGD.

A review of the facility's electronic Discharge Monitoring Report (eDMR) data from January 1, 2021 through November 30, 2023 indicates that there were no months in the reviewed period where the monthly average exceeded the design flow of 0.065 MGD. The Maximum Monthly Average flow reported in these eDMRs was 0.045 MGD. (See attached.)

Approve	Deny	Signatures	Date
x		<i>Bonnie Boylan</i> Bonnie Boylan / Environmental Engineering Specialist	January 11, 2024
x		<i>Maria D. Bebenek for</i> Daniel W. Martin, P.E. / Environmental Engineer Manager	February 1, 2024
x		<i>Maria D. Bebenek</i> Maria D. Bebenek, P.E. / Environmental Program Manager	February 1, 2024

Hauled-in Wastes: None

Sludge use and disposal description and location(s):

According to their application, sewage sludge is hauled to Lehigh County Authority WWTP and to Capital Region Water AWTF.

Combined Sewers Outfalls: Not Applicable

Unresolved Violations:

There are no unresolved violations for this facility according to DEP's eFacts Clean Water Program database.

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). Comments received 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>0.065</u>
Latitude	<u>40° 27' 8"</u>	Longitude	<u>-76° 15' 13"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary (UNT) to Little Swatara Creek</u>	Stream Code	<u>UNT 09944</u>
NHD Com ID	<u>56395573</u>	River Mile Index (RMI)	<u>2.2</u>
Drainage Area	<u>2.0 sq.mi.</u>	Yield (cfs/mi ²)	<u>0.02</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.04 (equivalent of 0.026 MGD)</u>	Q ₇₋₁₀ Basis	<u>PA Stream Stats online tool</u>
Elevation (ft)	<u>495 approx.</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>7-D</u>	Chapter 93 Class.	<u>Cold Water Fish (CWF), Migratory Fish (MF)</u>
Existing Use	<u>-</u>	Existing Use Qualifier	<u>-</u>
Exceptions to Use	<u>-</u>	Exceptions to Criteria	<u>-</u>
Assessment Status	<u>Impaired for Aquatic Life (Assess.ID#23035) Impaired for Recreational Uses (Assess.ID#18392)</u>		
Cause(s) of Impairment	<u>Nutrients, Siltation; Pathogens</u>		
Source(s) of Impairment	<u>Habitat Modification and Agriculture (for aquatic life); Unknown (for Pathogens)</u>		
TMDL Status	<u>Final, EPA approved 7/4/2010</u>	Name	<u>Little Swatara Creek Phosphorus TMDL</u>
	<u>Final, EPA approved 6/22/2011</u>		<u>Little Swatara Crk Sediment TMDL</u>
	<u>Final, EPA approved 12/29/2010</u>		<u>Chesapeake Bay TMDL</u>
Background/Ambient Data – Not available	<u>Data Source – None</u>		
Nearest Downstream Public Water Supply Intake	<u>PA American Water – S. Hanover (Hershey)</u>		
PWS Waters	<u>Swatara Creek</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>Approx. 16.4</u>	Distance from Outfall (mi)	<u>Approx. 40 miles</u>

Secondary Receiving Water:

UNT09944 flows into 09888 Little Swatara Creek at 15.7 RMI (designated use of CWF until approx. 10.2 when designated use changes to Warm Water Fish (WWF), with no different 'existing use'; considered impaired downstream between 3.3 RMI and 11.2 RMI for recreational uses due to pathogens).

Little Swatara Creek flows into 09361 Swatara Creek at 38.6 RMI (designated use of WWF, no existing use). Swatara Creek is not impaired and not listed in a TMDL. Swatara Creek empties in the Susquehanna River at 46 RMI. Swatara Creek empties into the Susquehanna River at approximately 46 RMI.

None of these waterways are designated as Class A wild trout or Wilderness trout or Natural Reproduction Trout.

Changes Since Last Permit Issuance:

This Fact Sheet used a smaller estimated Q₇₋₁₀, from PA Stream Stats online tool, and smaller LFY. The Pa Stream Stats online tool is generally recognized as reliable for headwaters and small streams. The last Fact Sheet estimated the Q₇₋₁₀ using gage correlation but the gage used (01573560) is located approximately 40 miles downstream which does not yield the best estimate. (There are no upstream gages and no downstream gages located nearby.)

Other Comments:

Qs:Qd ratio = 1 : 2.5

Treatment Facility Summary				
Treatment Facility Name: Tulpehocken Township Rehrersburg				
WQM Permit No.		Issuance Date		
0604411		12/16/2004		
0604409		9/8/2004		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia And Phosphorus Reduction	Extended Aeration	Ultraviolet (UV)	0.065
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.078	165		Aerobic Digestion	Other WWTP

Per the WQM permit's Internal Review and Recommendations (IRR), the system is a modified NORWECO extended aeration package plant. Phosphorus reduction is achieved with chemical precipitation.

DEP Inspection Report:

- 1 Lift Station
- 1 Muffin Monster Grinder
- 2 Equalization Tanks
- 1 Splitter box
- Train #1 - 4 Aeration tanks and one clarifier
- Train #2 - 4 Aeration tanks and one clarifier
- 1 UV Unit
- 1 Post-Aeration Chamber
- 3 Aerobic Digesters

Existing permit limits, outfall 001:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instantaneous Minimum	Average Monthly		Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Ultraviolet light dosage (mjoules/cm ²)*	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Carbonaceous Biochemical Oxygen Demand (CBOD5)	13.5	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Suspended Solids	16.3	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
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
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	9.8	XXX	XXX	18.0	XXX	36	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	3.3	XXX	XXX	6.0	XXX	12	2/month	8-Hr Composite
Total Phosphorus	1.1	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite

*units of mjoules/cm² are equivalent to me/cm² for this UV system; the treatment plant's UV system displays as me/cm²

Compliance History

DMR Data for Outfall 001 (from December 1, 2022 to November 30, 2023)

Parameter	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22
Flow (MGD) Average Monthly	0.022	0.027	0.0391	0.04	0.041	0.038	0.03	0.025	0.021	0.022	0.022	0.0209
Flow (MGD) Daily Maximum	0.036	0.053	0.064	0.057	0.06	0.065	0.044	0.039	0.034	0.078	0.033	0.046
pH (S.U.) Instantaneous Minimum	6.53	6.5	6.81	6.74	7.25	6.99	6.6	6.51	6.61	6.26	6.17	6.23
pH (S.U.) Instantaneous Maximum	7.92	7.92	7.77	7.82	7.89	7.8	7.63	7.74	7.64	7.96	7.53	7.35
DO (mg/L) Instantaneous Minimum	8.32	7.55	6.79	7.04	7.4	7.17	7.75	7.68	6.38	6.9	6.38	7.41
CBOD5 (lbs/day) Average Monthly	< 0.1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.3	< 0.2	0.2	0.2	0.07	0.3	0.08
CBOD5 (mg/L) Average Monthly	< 2.1	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	3.3	4.8	4.5	4.9	3.8
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	14	35	40	26	24	39	21	20	17.0	6.0	16	10
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	22	39	56	33	26	45	24	30	31.0	9.0	25	17
BOD5 (mg/L) Raw Sewage Influent Average Monthly	290	311	341	240	294	299	274	349	373	351	290	331
TSS (lbs/day) Average Monthly	0.3	< 0.6	< 0.5	< 0.4	< 0.4	0.8	0.4	0.3	0.3	0.3	0.5	3.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	13	28	33	12	18	34	16	14	12.0	4.0	11	3
TSS (lbs/day) Raw Sewage Influent Daily Maximum	21	29	46	14	26	38	20	22	21.0	4.0	17	3

**NPDES Permit Fact Sheet
Tulpehocken Township Rehrersburg STP**

NPDES Permit No. PA0088528

TSS (mg/L) Average Monthly	4.8	< 5.0	< 4.4	< 4.0	< 4.0	6.2	5.3	5.8	7.6	12.2	9.6	8.7
TSS (mg/L) Raw Sewage Influent Average Monthly	244	252	291	111	197	268	207	247	280	260	187	165
Fecal Coliform (No./100 ml) Geometric Mean	< 12	18	4	12	68	17	20	15	< 5	9.0	13	25
Fecal Coliform (No./100 ml) Instantaneous Maximum	156	48	5	22	71	19	28	15	26	10.0	17	63
Total Nitrogen (lbs/day) Average Monthly	2	4	3	4.0	3.0	4	4	2	1.0	0.7	1	1
Total Nitrogen (mg/L) Average Monthly	39.9	36.6	31.3	38.3	31.0	34.83	42.6	36.8	32.7	34.0	28.3	37
Ammonia (lbs/day) Average Monthly	< 0.005	< 0.01	< 0.01	< 0.01	< 0.009	< 0.01	< 0.008	< 0.006	< 0.01	0.02	0.2	< 0.003
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.19	0.79	4.01	< 0.1
Total Phosphorus (lbs/day) Average Monthly	0.009	0.03	0.03	0.02	0.03	0.03	0.02	0.02	0.01	0.007	0.02	0.007
Total Phosphorus (mg/L) Average Monthly	0.21	0.26	0.22	0.18	0.31	0.25	0.23	0.27	0.28	0.4	0.45	0.25
UV Dosage (mjoules/cm ²) Instantaneous Minimum	1.7	2.5	3.3	2.9	3.4	2.7	2.8	2.7	1.6	1.7	2.3	2.6

Compliance History

No effluent violations, Unauthorized discharges, or Non-Compliances from December 1, 2020 to November 30, 2023.

DEP Most Recent Inspection:

May 30, 2018 – No Violations noted.

Samples collected by Inspector: no permit limit exceedances. DMRs that were reviewed by Inspector matched lab results and bench sheets. Influent samples are collected by permittee at splitter box. Effluent samples are collected by permittee at post-aeration location. Ultrasonic effluent meter used, with 7-day chart. Inspector recommended that the #1 clarifier effluent trough be leveled.

Development of Effluent Limitations

<p>Outfall No. <u>001</u></p> <p>Latitude <u>40° 27' 8"</u></p> <p>Wastewater Description: <u>Sewage Effluent</u></p>	<p>Design Flow (MGD) <u>0.065</u></p> <p>Longitude <u>-76° 15' 13"</u></p>
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Technology-Based Effluent Limitations (TBELs)

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 (TSS)	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)
Total Phosphorus	2.0**	Average Monthly		96.5(c)

*applied to sewage facilities for which monitoring frequency is at least once per week

** this TBEL is applicable when the received water is impaired for Total Phosphorus. Because the receiving water is impaired for Total Phosphorus in this case, a TBEL of 2.0 mg/l as a monthly average was imposed in previous permits and has been carried forward.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen (DO)

A minimum effluent limit of 5.0 mg/L for DO is derived from state water quality criteria found in 25 Pa. Code §93.7(a). The existing permit included a minimum effluent limit for DO of 5.0 mg/l and no change is recommended.

Intermittent and Ephemeral Streams, Drainage Channels and Swales

Although the stream low-flow to discharge flow ratio (Qs:Qd) is less than 3:1, the recommended effluent limits based on treatment standards (TBELs) provided in DEP’s ‘Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers’ [Technical Guidance document 386-2000-013] were not imposed in their previous NDPES permits. The original NPDES permit was issued in 2004. The document 386-2000-013 was published in 2008. DEP’s Standard Operating Procedure (SOP) for Establishing Effluent Limitations for Individual Sewage Permits was developed later. This SOP recommends applying the more stringent treatment requirements in document 386-2000-013 when the Qs:Qd ratio is less than 3:1. If the facility expands in the future, stricter permit limits may be imposed. The following condition has been added to Part C of the draft renewal permit:

“The attention of the permittee is directed to the fact that effluent is discharged to a location with little or no assimilative capacity or dilution during critical periods. If the effluent creates a health hazard or nuisance, the permittee shall, upon notice from DEP, provide such additional treatment as may be required by DEP.”

Water Quality-Based Effluent Limitations (WQBELs)

CBOD₅, Ammonia (NH₃-N), and Dissolved Oxygen (DO)

DEP uses a model, WQM 7.0, to determine appropriate permit requirements for CBOD₅, NH₃-N and DO. The model results will show calculated WQBELs if they are more stringent or will default to the TBELs if the TBELs are protective enough of the receiving waterway. For more explanation of the WQM 7.0 model, see Technical Reference Guide WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, document 386-2000-016. The NH₃ calculations used in the model are based on the DEP's Implementation Guidance of Section 93.7 Ammonia Criteria, 391-2000-013.

The model input values and output values are attached. The River Mile Indices (RMIs) and elevations that were used came from DEP's eMapPA while the Drainage Areas and stream design low-flows (Q7-10) came from USGS PA Stream Stats online tool. Low Flow Yield (LFY) is calculated as stream low-flow, Q7-10, divided by Drainage Area of the stream at the outfall location. Some model input values were default values because background data was not available at this location and no site-specific data was forwarded with the application.

The model results for CBOD₅ and DO are the same as the existing permit limits: the model defaulted to the TBELs.

The NH₃ criterion, an equation, changed in the 2020 amendments to the Pa Water Quality Standards, Pa Code Chapter 93. The model incorporates the new Ammonia criterion. Also, the Q7-10 used as a model input was smaller than what was used for the previous permit (See page 3 of the Fact Sheet where this was explained.) The model calculated more stringent warm weather NH₃ limits: 2.4 mg/l as a monthly average and 4.8 mg/l as a maximum for the months of May through October. As was done in the previous permit (and many other NPDES permits), the cool weather NH₃ limits were allowed to be less stringent, recognizing that NH₃ is less toxic in colder water. As was done in the previous permit, a multiplier of 3 was applied to the warm weather NH₃ limits resulting in cool weather NH₃ limits of 7.2 mg/l as a monthly average and 14.4 mg/l as a maximum for the months of November through April.

The facility's eDMRs from January 1, 2021 through November 30, 2023 indicate that they can meet the more stringent NH₃ limits without the need for a compliance schedule (consistent with DEP's SOP New and Reissuance Sewage Individual NPDES Permit Applications). In the 35 months reviewed, there were no warm weather months when the effluent exceeded 2.4 mg/l as a monthly average, the proposed new limit for warm weather months. There was one cool weather month when the effluent exceeded 7.2 mg/l as a monthly average, but the monthly average effluent concentration was 1.6 mg/l and the 90th percentile of monthly averages was 5.2 mg/l during the cool weather months, well below 7.2 mg/l, the proposed cool weather NH₃ limit in the renewal permit. There were no months of the 35 reviewed when the monthly average NH₃ mass load would have exceeded the proposed new mass load limits, either during warm or cool weather months. (See attached.)

DEP's SOP New and Reissuance Sewage Individual NPDES Permit Applications recommends as follows:

IV.G.2. For WQBELs and other TBELs in which the permittee has demonstrated its ability to comply by meeting the proposed limit at least 75% of the time considering existing performance data, no compliance schedule should be established in the draft permit.

Total Residual Chlorine (TRC)

It was confirmed with the permittee by phone, January 10, 2024, that they have not been using chlorine for any purpose and do not plan to use chlorine in the next 5 years, the term of the NPDES permit. This permit writer cautioned them that chlorine was not recommended even for intermittent cleaning purposes because DEP's TRC model calculated low WQBELs of 0.07 mg/l as a monthly average and 0.22 mg/l as a maximum. For this reason, the Part C condition found in many STPs' NPDES permits for chlorine use was not included.

Toxics

There are no industrial contributors nor were there any sample results in the application for toxic parameters.

Little Swatara Creek Total Maximum Daily Load (TMDL)

The Little Swatara Creek TMDLs were developed as a result of the creek's impairment assessment: Sediment and nutrients were identified as problems, with phosphorus the limiting nutrient. According to the (2011) TMDL: "There are no point sources addressed in these TMDL segments." (The original NPDES permit and WQM permit for the Rehrersburg STP were issued in 2004). The TMDL does not include any point source Waste Load Allocations (WLAs) that need to be incorporated into this permit. The necessary reductions in loadings were intended to be achieved "through reductions in current sediment and phosphorus loadings from cropland, from hay/pasture, developed areas, and streambanks" using Best Management Practices (BMPs).

Because the receiving water is impaired for Total Phosphorus (TP), a TBEL of 2.0 mg/l as a monthly average was imposed in previous permits and has been carried forward.

The facility's eDMR data from January 1, 2021 through November 30, 2023 were summarized:
Average monthly TP load was 0.064 lbs/day and average monthly TP concentration was 0.31 mg/l;
Average monthly Total Nitrogen (TN) load was 4.6 lbs/day and average monthly TN concentration was <29.3 mg/l;
Average monthly TSS load was 1.17 lbs/day and average monthly TSS concentration was <6.1 mg/l.

Chesapeake Bay Strategy/TMDL

In the Chesapeake Bay strategy to reduce nutrient loading, prior to the TMDL being adopted, PADEP categorized facilities contributing nutrients and ranked them according to their discharge flow. Phase 5 facilities are those existing sewage plants with discharge flows > 0.002 MGD and < 0.2 MGD. They must monitor for Total Phosphorus (TP) and Total Nitrogen (TN), at a minimum, but cap loads have not been imposed. However, any Phase 5 facility that undergoes an expansion would be subject to an immediate cap load [Phase 3 Watershed Implementation Plan Wastewater Supplement, July 29, 2022]. (Cap load refers to total allowed loadings, in lbs/year, after any applicable credits and/or offsets).

Besides the regulatory standard of 2.0 mg/l for **TP** cited above and in the TBEL section of this Fact Sheet, DEP assesses the potential impact of TP on the impaired downstream Chesapeake Bay thus:

Total P @ Y = Total P x 0.99^Y,
where Y=stream miles to the PA-MD line and Total P is the lbs/day TP loading.
(This equation was documented in the EPA's Chesapeake Bay Management Report.)
Total P (at outfall) = 2.0 mg/l x 0.065 MGD x 8.34 c.f. = 1.1 lb/day TP loading.
Y= approximately 102 miles in this case.
0.99^Y = 0.366
Total P @ Y = 1.1 x 0.366 = 0.40 lbs/day

The loading to the critical part of the Susquehanna River is estimated as 0.40 lbs/day. Given that 3814 lbs/day was previously identified as the Total Phosphorus loading of all discharges in the Lower Susquehanna River Basin, 0.40 lbs/day comprises <0.01% of that total. According to the DEP's phosphorus guidance [Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, document 386-2000-021, paragraph IV.B.], a stricter TP limit than the 2.0 mg/l TBEL would be appropriate if the load percentage was > 0.25%. Therefore, more stringent phosphorus limitations will not be required to protect the Lower Susquehanna River.

For this facility, the renewal permit carries forward from the previous permit their same monitoring requirement for TN. (TN for both concentration and mass loads is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO₂+NO₃-N), where TKN and NO₂+NO₃-N are measured in the same sample.)

The facility's eDMR data from January 1, 2021 through November 30, 2023 were summarized:
Average monthly TP load was 0.064 lbs/day and average monthly TP concentration was 0.31 mg/l;
Average monthly Total Nitrogen (TN) load was 4.6 lbs/day and average monthly TN concentration was <29.3 mg/l;
Average monthly TSS load was 1.17 lbs/day and average monthly TSS concentration was <6.1 mg/l.

Additional Considerations

Anti-Backsliding:

No permit limitations have been made less stringent.

Antidegradation Requirements:

All effluent limitations and monitoring requirements have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Flow Monitoring:

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Influent BOD & TSS Monitoring:

The existing influent monitoring reporting requirement for TSS and BOD5 will be maintained in the draft permit. This requirement has been consistently assigned to all municipal wastewater treatment facilities and is necessary to verify the 85% removal permit requirement as well as to ensure process control.

Mass Loading Limitations:

All effluent mass loading limits have been based on the formula: design flow x concentration limit x conversion factor of 8.34.

Monitoring Frequency and Sample Type:

Monitoring frequencies have been carried forward from the existing permit consistent with DEP's SOP New and Reissuance Sewage Individual NPDES Permit Applications, except for E.Coli. For E.Coli, the monitoring frequency of once per quarter is consistent with DEP's SOP Establishing Effluent Limitations for Individual Sewage Permits.

The sample types have been carried forward from the existing permit except that '8-hour composite' was changed to '24-hour composite' after discussions with the permittee: their sampling equipment can handle 24-hour composite sampling.

Rounding of Limits

Limits were expressed with number of decimal points recommended in DEP's Technical Guidance Document (TGD) 386-04000-001 unless the DEP software introduced since the date of the TGD required differently.

Total Dissolved Solids (TDS) Baseline

In order to implement the regulations at Chapter 95.10 relevant to imposing TDS limits if increased loads trigger this requirement in the future, a TDS Baseline should be documented. A future increase of TDS loads is measured against existing mass loads, described in Chapter 95.10(a)(1) as "maximum daily discharge loads of TDS...that were authorized by the Department prior to August 21, 2010". However, the facility's previous NPDES permits did not require TDS sampling nor does the permit application for Minor Sewage facilities of this size. There is not enough information to calculate a TDS baseline.

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 as needed 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)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Light Intensity (mW/cm ²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD5	13.5	XXX	XXX	25.0	XXX	50	2/month	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Suspended Solids	16.3	XXX	XXX	30.0	XXX	60	2/month	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
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/quarter	Grab
Ammonia Nov 1 - Apr 30	3.9	XXX	XXX	7.2	XXX	14.4	2/month	24-Hr Composite
Ammonia May 1 - Oct 31	1.3	XXX	XXX	2.4	XXX	4.8	2/month	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Phosphorus	1.1	XXX	XXX	2.0	XXX	4	2/month	24-Hr Composite

Compliance Sampling Location: at discharge from the facility

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment)
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment)
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment)
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment)
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input checked="" type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input checked="" type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input checked="" type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input checked="" type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input checked="" type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input checked="" type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input checked="" type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
<input checked="" type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input checked="" type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP New and Reissuance Sewage Individual NPDES Permit Applications, BCW-PMT-002, Version 2.0
<input checked="" type="checkbox"/>	SOP: Establishing Effluent Limitations for Individual Sewage Permits, BCW-PMT-033, Version 1.9.
<input type="checkbox"/>	SOP: Establishing WQBELs and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers, BCW-PMT-037, Version 1.5.
<input checked="" type="checkbox"/>	Other: Phase 3 Watershed Implementation Plan Wastewater Supplement for Chesapeake Bay , revised July 29, 2022

PERMIT	MONITORIN	MONITORIN	OUTFA	PARAMET	UNITS	1_VALUE	1_LIMIT	1_SBC	2_VALUE	2_LIMIT	2_SBC	FREQUENC	SAMPLE_TY
PA0088528	1/1/2021	1/31/2021	1	Flow	MGD	0.014	Monitor	Average Mor	0.027	Monitor	Daily Max	1/day	Measured
PA0088528	2/1/2021	2/28/2021	1	Flow	MGD	0.015	Monitor	Average Mor	0.041	Monitor	Daily Max	1/day	Measured
PA0088528	3/1/2021	3/31/2021	1	Flow	MGD	0.021	Monitor	Average Mor	0.042	Monitor	Daily Max	1/day	Measured
PA0088528	4/1/2021	4/30/2021	1	Flow	MGD	0.023	Monitor	Average Mor	0.043	Monitor	Daily Max	1/day	Measured
PA0088528	5/1/2021	5/31/2021	1	Flow	MGD	0.026	Monitor	Average Mor	0.04	Monitor	Daily Max	1/day	Measured
PA0088528	6/1/2021	6/30/2021	1	Flow	MGD	0.029	Monitor	Average Mor	0.041	Monitor	Daily Max	1/day	Measured
PA0088528	7/1/2021	7/31/2021	1	Flow	MGD	0.035	Monitor	Average Mor	0.052	Monitor	Daily Max	1/day	Measured
PA0088528	8/1/2021	8/31/2021	1	Flow	MGD	0.032	Monitor	Average Mor	0.06	Monitor	Daily Max	1/day	Measured
PA0088528	9/1/2021	9/30/2021	1	Flow	MGD	0.043	Monitor	Average Mor	0.218	Monitor	Daily Max	1/day	Measured
PA0088528	10/1/2021	10/31/2021	1	Flow	MGD	0.0282	Monitor	Average Mor	0.049	Monitor	Daily Max	1/day	Measured
PA0088528	11/1/2021	11/30/2021	1	Flow	MGD	0.021	Monitor	Average Mor	0.037	Monitor	Daily Max	1/day	Measured
PA0088528	12/1/2021	12/31/2021	1	Flow	MGD	0.018	Monitor	Average Mor	0.028	Monitor	Daily Max	1/day	Measured
PA0088528	1/1/2022	1/31/2022	1	Flow	MGD	0.013	Monitor	Average Mor	0.023	Monitor	Daily Max	1/day	Measured
PA0088528	2/1/2022	2/28/2022	1	Flow	MGD	0.016	Monitor	Average Mor	0.038	Monitor	Daily Max	1/day	Measured
PA0088528	3/1/2022	3/31/2022	1	Flow	MGD	0.019	Monitor	Average Mor	0.03	Monitor	Daily Max	1/day	Measured
PA0088528	4/1/2022	4/30/2022	1	Flow	MGD	0.026	Monitor	Average Mor	0.074	Monitor	Daily Max	1/day	Measured
PA0088528	5/1/2022	5/31/2022	1	Flow	MGD	0.032	Monitor	Average Mor	0.059	Monitor	Daily Max	1/day	Measured
PA0088528	6/1/2022	6/30/2022	1	Flow	MGD	0.038	Monitor	Average Mor	0.065	Monitor	Daily Max	1/day	Measured
PA0088528	7/1/2022	7/31/2022	1	Flow	MGD	0.0452	Monitor	Average Mor	0.071	Monitor	Daily Max	1/day	Measured
PA0088528	8/1/2022	8/31/2022	1	Flow	MGD	0.035	Monitor	Average Mor	0.066	Monitor	Daily Max	1/day	Measured
PA0088528	9/1/2022	9/30/2022	1	Flow	MGD	0.03	Monitor	Average Mor	0.051	Monitor	Daily Max	1/day	Measured
PA0088528	10/1/2022	10/31/2022	1	Flow	MGD	0.026	Monitor	Average Mor	0.036	Monitor	Daily Max	1/day	Measured
PA0088528	11/1/2022	11/30/2022	1	Flow	MGD	0.03	Monitor	Average Mor	0.08	Monitor	Daily Max	1/day	Measured
PA0088528	12/1/2022	12/31/2022	1	Flow	MGD	0.0209	Monitor	Average Mor	0.046	Monitor	Daily Max	1/day	Measured
PA0088528	1/1/2023	1/31/2023	1	Flow	MGD	0.022	Monitor	Average Mor	0.033	Monitor	Daily Max	1/day	Measured
PA0088528	2/1/2023	2/28/2023	1	Flow	MGD	0.022	Monitor	Average Mor	0.078	Monitor	Daily Max	1/day	Measured
PA0088528	3/1/2023	3/31/2023	1	Flow	MGD	0.021	Monitor	Average Mor	0.034	Monitor	Daily Max	1/day	Measured
PA0088528	4/1/2023	4/30/2023	1	Flow	MGD	0.025	Monitor	Average Mor	0.039	Monitor	Daily Max	1/day	Measured
PA0088528	5/1/2023	5/31/2023	1	Flow	MGD	0.03	Monitor	Average Mor	0.044	Monitor	Daily Max	1/day	Measured
PA0088528	6/1/2023	6/30/2023	1	Flow	MGD	0.038	Monitor	Average Mor	0.065	Monitor	Daily Max	1/day	Measured
PA0088528	7/1/2023	7/31/2023	1	Flow	MGD	0.041	Monitor	Average Mor	0.06	Monitor	Daily Max	1/day	Measured
PA0088528	8/1/2023	8/31/2023	1	Flow	MGD	0.04	Monitor	Average Mor	0.057	Monitor	Daily Max	1/day	Measured
PA0088528	9/1/2023	9/30/2023	1	Flow	MGD	0.0391	Monitor	Average Mor	0.064	Monitor	Daily Max	1/day	Measured
PA0088528	10/1/2023	10/31/2023	1	Flow	MGD	0.027	Monitor	Average Mor	0.053	Monitor	Daily Max	1/day	Measured
PA0088528	11/1/2023	11/30/2023	1	Flow	MGD	0.022	Monitor	Average Mor	0.036	Monitor	Daily Max	1/day	Measured
						0.0275	AVERAGE		0.0537	AVERAGE			
						0.0452	MAXIMUM		0.0728	90th Percentile			

StreamStats Output Report-Rehrersbg STP 001					
State/Region ID	PA				
Workspace ID	PA20240104184003749000				
Latitude	40.45279				
Longitude	-76.25469				
Time	1/4/2024				
Low-Flow Statistics Parameter 100.0 Percent Low Flow Region 2					
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.05	square mi	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
STRDEN	Stream Density	1.3	miles per	0.51	3.1
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99
Low-Flow Statistics Flow 100.0 Percent Low Flow Region 2					
Statistic	Value	Unit			
7 Day 2 Year Low Flow	0.159	ft ³ /s			
30 Day 2 Year Low Flow	0.255	ft ³ /s			
7 Day 10 Year Low Flow	0.0411	ft ³ /s			
30 Day 10 Year Low Flow	0.0721	ft ³ /s			
90 Day 10 Year Low Flow	0.153	ft ³ /s			
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USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS).					
USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not constitute an endorsement.					
Application Version: 4.19.2					
StreamStats Services Version: 1.2.22					
NSS Services Version: 2.3.2					

StreamStats Output Report_RMI 0 UNT-downstrm Rehrersbg STP					
State/Region ID	PA				
Workspace ID	PA20240104185009957000				
Latitude	40.44954				
Longitude	-76.26814				
Time	1/4/2024				
Low-Flow Statistics Para	100.0 Percent Low Flow Region 2				
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.39	square mi	4.93	1280
PRECIP	Mean Annual Precipita	45	inches	35	50.4
STRDEN	Stream Density	1.44	miles per	0.51	3.1
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99
Low-Flow Statistics Flow	100.0 Percent Low Flow Region 2				
Statistic	Value	Unit			
7 Day 2 Year Low Flow	0.171	ft^3/s			
30 Day 2 Year Low Flow	0.276	ft^3/s			
7 Day 10 Year Low Flow	0.0443	ft^3/s			
30 Day 10 Year Low Flow	0.0778	ft^3/s			
90 Day 10 Year Low Flow	0.164	ft^3/s			
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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and doe					
Application Version: 4.19.2					
StreamStats Services Version: 1.2.22					
NSS Services Version: 2.3.2					

Input Data WQM 7.0

General Data

General
Stream
Discharge and Parameters

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	LFY (cfs)	Slope (ft/ft)	PWS With (mgd)	Apply FC
▶ 9944	2.200	495	2	0.1	0	0	<input checked="" type="checkbox"/>
9944	0.000	490	2.39	0.1	0	0	<input checked="" type="checkbox"/>

Input Data WQM 7.0

Stream Data

General
Stream
Discharge and Parameters

Design Condition Q7-10 Q1-10 Q30-10

RMI	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
▶ 2.200	0.00	0.04	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00
0.000	0.00	0.04	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00

Note: when stream flow is entered, the model uses the input values and not the default LFY values (shown above)

Input Data WQM 7.0

Discharge and Parameter Data

General Stream **Discharge and Parameters**

Discharge Data								
RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
2.200	Rehrersbg STP	PA0088528	0.0000	0.0650	0.0000	0.000	25.00	7.00

Parameter Data					
Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/day)	
▶ CBOD5	25.00	2.00	0.00	1.50	
NH3-N	25.00	0.00	0.00	0.70	
Dissolved Oxygen	5.00	8.24	0.00	0.00	

Record: 1 of 2 No Filter Search

Input Data WQM 7.0

Discharge and Parameter Data

General Stream **Discharge and Parameters**

Discharge Data								
RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
0.000	downstrm		0.0000	0.0000	0.0000	0.000	20.00	7.00

Parameter Data				
Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/day)
▶ CBOD5	25.00	2.00	0.00	1.50
NH3-N	25.00	0.00	0.00	0.70
Dissolved Oxygen	5.00	8.24	0.00	0.00

Record: 2 of 2 No Filter Search

Analysis Results WQM 7.0

Hydrodynamics NH3-N Allocations D.O. Allocations D.O. Simulation **Effluent Limitations**

RMI	Discharge Name	Permit Number	Disc Flow (mgd)
2.20	Rehrersbg STP	PA0088528	0.0000

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	25		
NH3-N	2.38	4.76	
Dissolved Oxygen			5

Record: 1 of 1 No Filter Search

NPDES Permit Fact Sheet
Tulpehocken Township Rehrersburg STP

NPDES Permit No. PA0088528

MONITORIN	MONITORING	PARAMETE	UNITS	1_VALUE	1_LIMIT	1_SBC	C_UNITS	Conc. winter		Conc.summer	C2_SBC	
1/1/2021	1/31/2021	Ammonia	lbs/day	< 0.01	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
2/1/2021	2/28/2021	Ammonia	lbs/day	< 0.02	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
3/1/2021	3/31/2021	Ammonia	lbs/day	0.08	9.8	Avg.Mo.	mg/L	0.41			Avg.Mo.	
4/1/2021	4/30/2021	Ammonia	lbs/day	< 0.03	9.8	Avg.Mo.	mg/L	0.2			Avg.Mo.	
5/1/2021	5/31/2021	Ammonia	lbs/day	< 0.03	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
6/1/2021	6/30/2021	Ammonia	lbs/day	< 0.03	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
7/1/2021	7/31/2021	Ammonia	lbs/day	< 0.04	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
8/1/2021	8/31/2021	Ammonia	lbs/day	< 0.04	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
9/1/2021	9/30/2021	Ammonia	lbs/day	< 0.06	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
10/1/2021	10/31/2021	Ammonia	lbs/day	< 0.03	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
11/1/2021	11/30/2021	Ammonia	lbs/day	< 0.02	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
12/1/2021	12/31/2021	Ammonia	lbs/day	< 0.02	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
1/1/2022	1/31/2022	Ammonia	lbs/day	< 0.01	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
2/1/2022	2/28/2022	Ammonia	lbs/day	3	9.8	Avg.Mo.	mg/L	10.87			Avg.Mo.	
3/1/2022	3/31/2022	Ammonia	lbs/day	< 0.2	9.8	Avg.Mo.	mg/L	6.9			Avg.Mo.	
4/1/2022	4/30/2022	Ammonia	lbs/day	< 0.8	9.8	Avg.Mo.	mg/L	2.58			Avg.Mo.	
5/1/2022	5/31/2022	Ammonia	lbs/day	< 0.008	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
6/1/2022	6/30/2022	Ammonia	lbs/day	< 0.02	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
7/1/2022	7/31/2022	Ammonia	lbs/day	< 0.02	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
8/1/2022	8/31/2022	Ammonia	lbs/day	< 0.02	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
9/1/2022	9/30/2022	Ammonia	lbs/day	0.01	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
10/1/2022	10/31/2022	Ammonia	lbs/day	< 0.01	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
11/1/2022	11/30/2022	Ammonia	lbs/day	< 0.04	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
12/1/2022	12/31/2022	Ammonia	lbs/day	< 0.003	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
1/1/2023	1/31/2023	Ammonia	lbs/day	0.2	9.8	Avg.Mo.	mg/L	4.01			Avg.Mo.	
2/1/2023	2/28/2023	Ammonia	lbs/day	0.02	9.8	Avg.Mo.	mg/L	0.79			Avg.Mo.	
3/1/2023	3/31/2023	Ammonia	lbs/day	< 0.01	9.8	Avg.Mo.	mg/L	0.19			Avg.Mo.	
4/1/2023	4/30/2023	Ammonia	lbs/day	< 0.006	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
5/1/2023	5/31/2023	Ammonia	lbs/day	< 0.008	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
6/1/2023	6/30/2023	Ammonia	lbs/day	< 0.01	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
7/1/2023	7/31/2023	Ammonia	lbs/day	< 0.009	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
8/1/2023	8/31/2023	Ammonia	lbs/day	< 0.01	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
9/1/2023	9/30/2023	Ammonia	lbs/day	< 0.01	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
10/1/2023	10/31/2023	Ammonia	lbs/day	< 0.01	3.3	Avg.Mo.	mg/L			0.1	Avg.Mo.	
11/1/2023	11/30/2023	Ammonia	lbs/day	< 0.005	9.8	Avg.Mo.	mg/L	0.1			Avg.Mo.	
				3	MAX		<	1.58	Avg winter	<	0.1	Avg summer
								10.87	Max winter		0.1	Max summer
								5.166	90th percentile winter			

