

Application Type Renewal  
 Facility Type Non-Municipal  
 Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0031631  
 APS ID 297  
 Authorization ID 1220271

**Applicant and Facility Information**

Applicant Name	<u>Twin Valley School District</u>	Facility Name	<u>Twin Valley Joint School</u>
Applicant Address	<u>4851 N Twin Valley Road</u> <u>Elverson, PA 19520-9340</u>	Facility Address	<u>4851 N Twin Valley Road</u> <u>Elverson, PA 19520-9340</u>
Applicant Contact	<u>Scott Haddock</u>	Facility Contact	<u>Scott Haddock</u>
Applicant Phone	<u>(610) 286-8600</u>	Facility Phone	<u>(610) 286-8600</u>
Client ID	<u>83304</u>	Site ID	<u>451863</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Caernarvon Township</u>
Connection Status		County	<u>Berks</u>
Date Application Received	<u>January 31, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>March 15, 2018</u>	If No, Reason	
Purpose of Application	<u>NPDES permit renewal.</u>		

**Summary of Review**

Twin Valley School District has applied for an NPDES permit renewal for discharge of treated sewage. The permit was last issued on July 30, 2013, with an effective date of August 1, 2013. The treatment plant serves about 2,252 students, faculty and staff from the elementary, middle, and high schools of the Twin Valley School District. This facility is located in Caernarvon Township, Berks County. The permit expired on July 31, 2018 and has been administratively extended since that time.

Changes from the previous permit: Unit of Fecal Coliform changed from CFU/100 ml to No./100 ml.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the draft permit will be published in the *Pennsylvania Bulletin* for public comments for 30 days. Any additional information or public review of documents associated with the discharge or the applicant may be available at the PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file reviews, contact the SCRO File Review Coordinator at 717.705.4700.

Approve	Deny	Signatures	Date
X		Hilary H. Le / Environmental Engineering Specialist	October 31, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Clean Water Program Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.027
Latitude	40° 10' 12.26"	Longitude	-75° 51' 48.20"
Quad Name	Elverson	Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	East Branch Conestoga River (WWF)	Stream Code	07815
NHD Com ID	57461577	RMI	1.5 miles
Drainage Area	2.34 mi. <sup>2</sup>	Yield (cfs/mi <sup>2</sup> )	See comments below
Q <sub>7-10</sub> Flow (cfs)	See comments below	Q <sub>7-10</sub> Basis	USGS StreamStats
Elevation (ft)	610.81	Slope (ft/ft)	
Watershed No.	7-J	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	NUTRIENTS, NUTRIENTS, ORGANIC ENRICHMENT		
Source(s) of Impairment	AGRICULTURE, SOURCE UNKNOWN, SOURCE UNKNOWN		
TMDL Status	Final, 04/09/2005	Name	Conestoga Headwaters TMDL
Nearest Downstream Public Water Supply Intake	Lancaster Municipal Authority WTP, Lancaster County		
PWS Waters	Conestoga River	Flow at Intake (cfs)	
PWS RMI	23.6 miles	Distance from Outfall (mi)	Approximate 39 miles

**Drainage Area**

The discharge is to East Branch Conestoga River at RMI 1.5 miles. A drainage area upstream of the discharge is estimated to be 2.34 mi.<sup>2</sup>, according to USGS PA StreamStats available at <https://streamstats.usgs.gov/ss/>.

**Streamflow**

The nearby small watershed within the Conestoga River drainage basin at Lancaster was chosen as a proper representative watershed. The Q<sub>7-10</sub> is 40.3 cfs and the drainage area is 324 mi.<sup>2</sup> (according to USGS PA StreamStats available at <https://streamstats.usgs.gov/ss/>) which results in a Q<sub>7-10</sub> low flow yield of 0.124 cfs/mi.<sup>2</sup>. This information is used to obtain a chronic or 30-day (Q<sub>30-10</sub>), and an acute or 1-day (Q<sub>1-10</sub>) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

$$\begin{aligned} \text{Low Flow Yield} &= Q_{7-10\text{gage}} / \text{Drainage Area}_{\text{gage}} = 40.3 \text{ cfs} / 324 \text{ mi.}^2 = 0.124 \text{ cfs/mi.}^2 \\ Q_{7-10\text{discharge}} &= 0.124 \text{ cfs/mi.}^2 * \text{Drainage Area}_{\text{discharge}} = 0.124 \text{ cfs/mi.}^2 * 2.34 \text{ mi.}^2 = 0.29 \text{ cfs} \\ Q_{30-10} &= 1.36 * Q_{7-10\text{discharge}} = 1.36 * 0.29 \text{ cfs} = 0.39 \text{ cfs} \\ Q_{1-10} &= 0.64 * Q_{7-10\text{discharge}} = 0.64 * 0.29 \text{ cfs} = 0.185 \text{ cfs} \end{aligned}$$

The resulting dilution ratio (under Q<sub>7-10</sub> conditions) is  $Q_{\text{stream}}/Q_{\text{discharge}} = 0.29 \text{ cfs}/[0.027 \text{ MGD} * (1.55 \text{ cfs/MGD})] = 6.9:1$

**East Branch of Conestoga River**

25 Pa Code 93.90 classifies Conestoga river as warm water fishes (WWF) surface water. Based on the 2016 Integrated Water Quality Report, East Branch of Conestoga River is impaired due to nutrients and organic enrichment/low D.O. caused by agriculture and other sources which summarizes in table below.

Source	Cause	Date Listed	TMDL Date
Agriculture	Nutrients	1996	2005
Other		1996	2005
	Organic Enrichment/ Low D.O.	1996	2005

**Potable Water Supply Intake**

The nearest downstream public water supply intake is the Lancaster Municipal Authority WTP, Lancaster County intake on the Conestoga River, approximately 39 miles from the point of discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Twin Valley Joint School				
<b>WQM Permit No.</b>		<b>Issuance Date</b>		
0691419		5/27/1997		
0691419 05-1		11/16/2005		
<b>Waste Type</b>	<b>Degree of Treatment</b>	<b>Process Type</b>	<b>Disinfection</b>	<b>Avg Annual Flow (MGD)</b>
Sewage			Hypochlorite	0.027
<b>Hydraulic Capacity (MGD)</b>	<b>Organic Capacity (lbs/day)</b>	<b>Load Status</b>	<b>Biosolids Treatment</b>	<b>Biosolids Use/Disposal</b>
0.027		Not Overloaded		

The WWTP train is as follows:

Comminutor / Bar Screen (1) ⇒ EQ Tank (1) ⇒ Aeration Tank (1) ⇒ Clarifiers (2) ⇒ Sand Field Dosing Final Tank (1) ⇒ Continuous Up-Flow Sand Filter (1) ⇒ Chlorine Contact Tank (1) ⇒ Sludge Holding Tank (1) ⇒ Discharge

The new rapid sand filter replaced the four open filters (WQM No. 0691419 amended on 11/16/2005).

The system incorporates chemical addition in the form of soda ash (for pH control), chlorine (for disinfection), and aluminum sulfate (for Phosphorus control). Sludge is held in a holding tank for disposal by a licensed hauler.

Compliance History	
<b>Summary of DMRs:</b>	DMRs reported last 12 months from September 1, 2018 to August 31, 2019 are summarized in the Table below.
<b>Summary of Inspections:</b>	3/22/2017: Mr. Buss, DEP WQS, conducted the compliance evaluation inspection. There were no violations identified during inspection.  1/24/2019: Mr. Buss, DEP WQS, conducted the compliance evaluation inspection. All treatment units were online and operating normally, records were up to date. Final effluent mostly cleared with light suspended solids. There were no violations identified during inspection.
<b>Other Comments:</b>	There are no open violations associated with this facility or permittee.

Other Comments: DMRs for the past 12 months indicated compliance. In general, the facility appears to be operating satisfactorily.

Compliance History

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

Parameter	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18
Flow (MGD) Average Monthly	0.01199	0.00742	0.00047008	0.009421	0.010482	0.010754	0.008662	0.009533	0.010327	0.012567	0.012029	0.016867
Flow (MGD) Daily Maximum	0.0711	0.014543	0.006581	0.020544	0.013641	0.017126	0.013901	0.020539	0.020392	0.021886	0.020082	0.039272
pH (S.U.) Minimum	7.1	6.9	7.0	7.0	8.0	7.5	7.4	7.5	6.8	6.8	6.7	7.1
pH (S.U.) Maximum	7.8	7.7	7.5	7.6	9.0	7.5	7.8	8.1	7.8	7.6	7.8	7.6
DO (mg/L) Minimum	6.9	6.7	6.8	6.8	8.0	9.7	9.6	7.8	7.2	7.4	6.8	7.0
TRC (mg/L) Average Monthly	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4
TRC (mg/L) Instantaneous Maximum	0.5	0.4	0.6	0.7	0.6	0.6	0.5	0.6	0.8	0.9	0.5	0.7
CBOD5 (mg/L) Average Monthly	< 2	< 2	< 2	< 2	8	< 2	< 3	3	< 2	< 3	< 2	< 3
CBOD5 (mg/L) Instantaneous Maximum	< 2	< 2	< 2	< 2	9	2	3	3	2	3	< 2	3
TSS (mg/L) Average Monthly	4	3	1	< 1	4	3	7	< 1	< 3	2	< 1	3
TSS (mg/L) Instantaneous Maximum	6	3	1	1	6	4	7	< 1	5	2	< 1	4
Fecal Coliform (CFU/100 ml) Geometric Mean	< 0.2	90	< 2	29	< 36	< 2	< 9	< 2	< 2	< 9	< 2	8
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 0.3	161	3	44	70	< 2	15	< 2	2	38	2	30
Total Nitrogen (lbs/day) Annual Average									3.26			
Total Nitrogen (mg/L) Annual Average									1.83			
Total Nitrogen (lbs) Total Annual									22.0			
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	2							< 0.1	1
Ammonia (mg/L) Instantaneous Maximum	0.1	< 0.1	0.35	4.16							< 0.1	1.59
Total Phosphorus (lbs/day) Average Monthly	0.42	0.15	0.63	0.56	1.16	0.41	0.494	5.38	0.49	0.60	0.83	2.09
Total Phosphorus (mg/L) Average Monthly	0.3	0.2	0.11	0.2	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.3
Total Phosphorus (mg/L) Instantaneous Maximum	0.36	0.22	0.15	0.28	0.56	0.2	0.31	0.24	0.22	0.17	0.25	0.34
Total Phosphorus (lbs) Total Annual									6.58			

**Development of Effluent Limitations**

<b>Outfall No.</b> <u>001</u>	<b>Design Flow (MGD)</b> <u>0.027</u>
<b>Latitude</b> <u>40° 10' 0.70"</u>	<b>Longitude</b> <u>-75° 51' 25.70"</u>
<b>Wastewater Description:</b> <u>Sewage Effluent</u>	

**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 <sub>5</sub>	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**

***Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>):***

The attached computer printout of the WQM 7.0 stream model indicates that a monthly average limit of 25 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. Therefore, the existing limits of 25 mg/L average monthly, and 50 mg/L instantaneous maximum will remain in the proposed permit as per guidance document 391-2000-014. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

***Ammonia (NH<sub>3</sub>-N):***

NH<sub>3</sub>-N calculations were first based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the in-stream NH<sub>3</sub>-N criteria used in the attached computer model of the stream:

- Discharge pH = 7.0 (Default)
- Discharge Temperature = 20°C (Default)
- Stream pH = 7.0 (Default)
- Stream Temperature = 25°C (Default)
- Background NH<sub>3</sub>-N = 0 (Default)

The attached computer printout of the WQM7.0 stream model shows a monthly average limit of 25 mg/L and 50 mg/L instantaneous maximum. However, the NH<sub>3</sub>-N (May 1 – October 31) more stringent in existing limits of 14 mg/L average monthly, and 28 mg/L instantaneous maximum will remain in the proposed permit. Additionally, past DMRs and inspection reports show that the facility has been consistently achieving concentrations under these limits.

***Total Suspended Solids (TSS):***

The existing limits of 30 mg/L average monthly and 60 mg/L instantaneous maximum will remain in the renewal permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Past DMRs and inspection reports show that the facility has been consistently achieving concentrations under these limits.

***Dissolved Oxygen (D.O.):***

A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit and current Department criteria.

***pH:***

The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa. Code § 95.2(2).

**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 (average monthly) and not greater than 1,000/100 ml (IMAX) and 25 Pa. Code § 92a.47(a)(5) requires a winter limit of 2,000/100 ml as a geometric mean (average monthly) and not greater than 10,000/100 ml (IMAX), respectively.

**Total Residual Chlorine (TRC):**

Based on the attached TRC Excel Spreadsheet calculator, which uses the equations and calculations from the Department's May 1, 2003 Implementation Guidance for Total Residual Chlorine (ID No. 391-2000-015), the facility's discharge must meet a monthly average limit of 0.5 mg/L and an instantaneous maximum limit of 1.6 mg/L. Based on the DMRs from the past year, the facility has been consistently achieving this limit. Therefore, this limit will remain in the renewal permit.

**Chesapeake Bay Strategy:**

According to Pennsylvania's Chesapeake Bay Tributary Strategy, this treatment facility is categorized as a Phase V facility, a facility with a design flow between 0.002 MGD and 0.2 MGD. As per the new Supplement to Phase II WIP (Watershed Implementation Plan), the renewal permit for the facility that is classified as a Phase V discharger will contain monitoring and reporting for TN and TP throughout the permit term at a frequency no less than annually. Since the existing permit already contains total annual TP mass limit and monthly average concentration limit of 2.0 mg/L. However, monitoring and reporting annually requirement for TN will remain in the proposed permit in accordance with Supplement to Phase II WIP.

**Total Phosphorus (TP):**

A TMDL for nutrients have been approved in the Conestoga Headwaters TMDL on August 2004. The treated effluent discharged from this facility is currently covered by this TMDL. The TMDL included a phosphorus allocation to this facility of 164.48 lbs/year based on the design flow of 0.027 MGD and the 2.0 mg/L phosphorus limit. Accordingly, this annual load will be maintained in the permit. The Conestoga Headwaters TMDL states the following:

*"The Zerbe Sisters Nursing Facility and the Twin Valley School District discharge treated sewage effluent into the streams covered by this TMDL, permit numbers PA0031861 and PA0031631, respectively. The combined average phosphorus loading for the two facilities during 2002-2003 was 87.30 lbs/yr of phosphorus, which was included in the AVGWLF modeling runs for determining existing conditions. The design flows for the Zerbe and Twin Valley facilities are 0.036 mgd (million gallons per day) and 0.027 mgd respectively. Based on the 2.0 mg/l phosphorus limit for each facility, the potential for phosphorus loads if the Zerbe and Twin Valley capacities were fully utilized is 219.31 lbs/yr and 164.48 lbs/yr. This loading rate based on the design capacities of the two plants is used in the final TMDL allocations (WLA)."*

However, the existing IMAX limit will also remain in the proposed permit and was determined by multiplying the average monthly by a factor of two to account for variability.

**Toxic:**

This is a minor sewage facility receiving domestic wastewater only and the current application does not require sampling of toxic pollutants (or heavy metals) for those facilities with design flows less than 0.1 MGD. Therefore, no reasonable potential analysis for toxic pollutants has been performed for this permit renewal.

**Additional Consideration**

*Flow Monitoring*

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

*Monitoring Frequency and Sample Type*

The facility currently is required to collect 5/week effluent grab samples for DO, TRC, and pH; bi-monthly effluent 8-hr composite samples of TSS, and TP; bi-monthly effluent grab samples of CBOD<sub>5</sub>, fecal coliform, and ammonia-nitrogen; and annually effluent calculate sample of TN. Based on the best professional judgement of the author, the existing monitoring frequencies are sufficient and necessary. Therefore, the renewal permit monitoring frequencies will remain the same as those specified in the existing permit.

*Antidegradation (93.4)*

The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

*303d Listed Streams*

This discharge is not located on a 303d listed stream segment.

*Class A Wild Trout Fisheries*

No Class A Wild Trout Fisheries are impacted by this discharge.

**Anti-Backsliding**

Unless stated otherwise in this fact sheet, all permit requirements proposed in this fact sheet are at least as stringent as existing permit requirements in accordance with 40 CFR §122.44(l)(1).

**WQM 7.0 MODEL INPUT:**

1. Outfall 001 on East Branch Conestoga River
  - a. Elevation: 610.81 ft
  - b. RMI: 1.5 miles
  - c. Drainage Area: 2.34 mi.<sup>2</sup>
  - d. Low Flow Yield: 0.124 cfs/mi.<sup>2</sup>
  - e. Discharge Flow: 0.027 MGD
2. Just before East Branch Conestoga River to Conestoga River
  - a. Elevation: 534.69 ft
  - b. RMI: 0.1 mile to Conestoga River
  - c. Drainage Area: 3.5 mi.<sup>2</sup>
  - d. Low Flow Yield: 0.124 cfs/mi.<sup>2</sup>
  - e. Discharge Flow: 0.000 MGD

Attachment is WQM 7.0 data.



20191030140442363  
.pdf

TRC Results

<b>TRC EVALUATION</b>				
Input appropriate values in A3:A9 and D3:D9				
0.29	= Q stream (cfs)	0.5	= CV Daily	
0.027	= Q discharge (MGD)	0.5	= CV Hourly	
30	= no. samples	1	= AFC_Partial Mix Factor	
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor	
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)	
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)	
0	= % Factor of Safety (FOS)		= Decay Coefficient (K)	
Source	Reference	AFC Calculations		Reference
TRC	1.3.2.iii	WLA_afc = 2.234		1.3.2.iii
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c
PENTOXSD TRG	5.1b	LTA_afc = 0.832		5.1d
				WLA_cfc = 2.170
				LTAMULT_cfc = 0.581
				LTA_cfc = 1.262
Source	Effluent Limit Calculations			
PENTOXSD TRG	5.1f	AML_MULT = 1.231		
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635		
WLA_afc	$(.019/e^{-k \cdot AFC\_tc}) + [(AFC\_Yc \cdot Qs \cdot .019 / Qd \cdot e^{-k \cdot AFC\_tc}) \dots + Xd + (AFC\_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$			
LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$			
LTA_afc	wla_afc * LTAMULT_afc			
WLA_cfc	$(.011/e^{-k \cdot CFC\_tc}) + [(CFC\_Yc \cdot Qs \cdot .011 / Qd \cdot e^{-k \cdot CFC\_tc}) \dots + Xd + (CFC\_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$			
LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no\_samples + 1)) - 2.326 \cdot LN(cvd^2 / no\_samples + 1)^{0.5})$			
LTA_cfc	wla_cfc * LTAMULT_cfc			
AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no\_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no\_samples + 1))$			
AVG MON LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) * AML_MULT)			
INST MAX LIMIT	1.5 * ((av_mon_limit / AML_MULT) / LTAMULT_afc)			



**Existing Effluent Limitations and Monitoring Requirements**

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	Daily Maximum	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	5/week	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	5/week	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	5/week	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	14	XXX	28	2/month	Grab
Total Phosphorus	Monitor & Report	164.48 Total Annual	XXX	2.0	XXX	4.0	2/month	8-Hr Composite
Total Nitrogen	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation

<b>Proposed Effluent Limitations and Monitoring Requirements</b>
--

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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	5/week	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	5/week	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	5/week	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	14	XXX	28	2/month	Grab
Total Phosphorus	Report	164.48 Total Annual	XXX	2.0	XXX	4.0	2/month	8-Hr Composite
Total Nitrogen	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation

Compliance Sampling Location:

Other Comments:

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	PENTOXSD for Windows Model (see Attachment [redacted])
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Toxics Screening Analysis Spreadsheet (see Attachment [redacted])
<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, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 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, 391-2000-002, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 391-2000-006, 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, 391-2000-007, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input checked="" type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 391-2000-023, 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, 391-2000-024, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input checked="" type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP: [redacted]
<input type="checkbox"/>	Other: [redacted]