pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Northcentral Regional Office**
**CLEAN WATER PROGRAM**

# NPDES PERMIT FACT SHEET
# INDIVIDUAL SEWAGE

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0032824** |
| Facility Type | **Non-Municipal** | APS ID | **978275** |
| Major / Minor | **Minor** | Authorization ID | **1247250** |

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **PA DOT Bureau of Project Delivery** | Facility Name | **PA DOT Safety Rest 38** |
| Applicant Address | Bureau of Maintenance & Operations PO Box 3060 | Facility Address | I-80 Westbound |
| | Harrisburg, PA 17105-3060 | | Mifflin Twp, PA 17814 |
| Applicant Contact | Nicholaus Sahd | Facility Contact | Theodore Weaver |
| Applicant Phone | (717) 951-8685 | Facility Phone | (570) 752-6712 |
| Client ID | 62162 | Site ID | 263256 |
| Ch 94 Load Status | Not Overloaded | Municipality | Mifflin Township |
| Connection Status | No Limitations | County | Columbia |
| Date Application Received | September 27, 2018 | EPA Waived? | Yes |
| Date Application Accepted | October 11, 2018 | If No, Reason | |

Purpose of Application: Application for the renewal of the existing individual NPDES permit.

## Summary of Review

PA DOT Bureau of Project Delivery has submitted an application for the renewal of the existing NPDES Permit PA0032824 for the Department's review. 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.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | Jonathan P. Peterman / Project Manager | October 3, 2019 |
| | | Nicholas W. Hartranft, P.E. / Environmental Engineer Manager | |

## Discharge, Receiving Waters and Water Supply Information

| | | | |
|---|---|---|---|
| Outfall No. | 001 | Design Flow (MGD) | 0.013 |
| Latitude | 41º 0' 49.76" | Longitude | -76º 15' 8.29" |
| Quad Name | Mifflinville | Quad Code | 1035 |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | Unnamed Tributary to Nescopeck Creek (CWF) | Stream Code | 28103 |
| NHD Com ID | 65639891 | RMI | 2.5 |
| Drainage Area | 1.07 | Yield (cfs/mi$^2$) | 0.0822 |
| $Q_{7-10}$ Flow (cfs) | 0.0879 | $Q_{7-10}$ Basis | Gage No. 1468500 |
| Elevation (ft) | 824 | Slope (ft/ft) | 0.018 |
| Watershed No. | 5-D | Chapter 93 Class. | CWF |
| Existing Use | CWF | Existing Use Qualifier | |
| Exceptions to Use | None | Exceptions to Criteria | None |
| Assessment Status | Impaired. | | |
| Cause(s) of Impairment | Metals, pH. | | |
| Source(s) of Impairment | AMD | | |
| TMDL Status | Final, 09/20/2006 | Name | Little Nescopeck Creek |
| Nearest Downstream Public Water Supply Intake | Danville Municipal Water Authority | | |
| PWS Waters | Susquehanna River | Flow at Intake (cfs) | 1511 |
| PWS RMI | 138.06 | Distance from Outfall (mi) | 27.9 |

**Changes Since Last Permit Issuance:** In order to determine the Q7-10 low flow for UNT to Nescopeck Creek, a comparative stream analysis was previously conducted and the results of which are attached in the Appendix. A comparative stream was determined by using the EcoFlows program. The program indicated that an existing gage on the Wapwallopen Creek had a high correlation (0.911) to UNT to Nescopeck Creek. The analysis indicates that the $Q_{7-10}$ for UNT to Nescopeck Creek is 0.0879 cfs. This estimation of $Q_{7-10}$ is seems appropriate given the known size of the receiving stream.

Other Comments: None.

## TMDL Impairment

The Department's Geographic Information System (GIS) shows that the UNT to Nescopek Creek is impaired and a TMDL exists for the stream segment for metals due to acid drainage from abandoned coalmines. The TMDL addresses the three primary metals associated with acid mine drainage (iron, manganese, aluminum), and pH. There is no Waste Load Allocation (WLA) for this facility established in the TMDL. A TMDL for aluminum, manganese and acidity at NESCO1 has been calculated. Because water quality standards were met for iron, a TMDL isn't necessary for this segment. In order to ensure that this discharge does not have reasonable potential to cause, or contributes to an in-stream excursion, monitoring for aluminum and manganese was required at a rate of once per year over the previous permit term. The results are as follows:

**Aluminum and Manganese – Monitoring Results (2014 to 2018)**

| Date (Mo.-Yr.) | Total Aluminum | | Total Manganese | |
|---|---|---|---|---|
| | Average Mo. (mg/L) | Daily Max. (mg/L) | Average Mo. (mg/L) | Daily Max. (mg/L) |
| **Jul-18** | <0.1 | <0.1 | <0.01 | <0.01 |
| **Jun-17** | <0.1 | <0.1 | <0.01 | <0.01 |
| **Jun-16** | <0.1 | <0.1 | <0.01 | <0.01 |
| **Jun-15** | 0.0229 | 0.0229 | <0.01 | <0.01 |
| **Jun-14** | 0.0337 | 0.0337 | 0.0152 | 0.0152 |

The results of this testing indicate that this discharge does not have reasonable potential to cause, or contributes to an in-stream excursion above numerical standards. Therefore, effluent limits and/or further monitoring is not required and will be removed.

## Chesapeake Bay Requirements

Since this facility's annual average design flow is 0.013 MGD, the permittee will be required to monitor and report TN and TP throughout the permit term at a frequency no less than annually in accordance with the Phase II WIP Chesapeake Bay Strategy for Phase V facilities (0.002 MGD to 0.2 MGD) unless 1) the facility has already conducted at least two years of nutrient monitoring and 2) a summary of the monitoring results are included in the next permit's fact sheet. The previous permit contained the Chesapeake Bay Monitoring requirements and the required sampling has been conducted. Since the permittee conducted this monitoring in the previous permit term and the data is summarized in the fact sheet below, the conditions have been met and Chesapeake Bay monitoring will no longer be required.

**Chesapeake Bay – Monitoring Results (2014 to 2018)**

| Date (Mo.-Yr.) | Total Nitrogen | | | Total Phosphorus | | |
|---|---|---|---|---|---|---|
| | Total Annual (lbs/yr) | Average Mo. (lbs/day) | Average Mo. (mg/L) | Total Annual (lbs/yr) | Average Mo. (lbs/day) | Average Mo. (mg/L) |
| **Jul-18** | <1,252 | <111 | <103 | 73 | 6 | 6 |
| **Jun-17** | <1,406 | <126.5 | <125.5 | 63 | 0.2 | 5.64 |
| **Jun-16** | <1735 | <143 | <139.7 | 73 | 5 | 5.04 |
| **Jun-15** | <2,876 | <236 | <140.84 | 177 | 14.58 | 8.69 |
| **Jun-14** | <1,139 | <3.12 | <85.5 | 180 | 0.49 | 13.5 |

## Anti-Backsliding

In accordance with 40 CFR 122.44(l)(1) and (2), this permit does not contain effluent limitations, standards, or conditions that are less stringent than the previous permit.

## Treatment Facility Summary

**Treatment Facility Name:** PA DOT Safety Rest 38

| WQM Permit No. | Issuance Date | Comments |
|---|---|---|
| 1993401 | 4/30/1993 | Construction of a flow equalization tank. |
| 1972401 | 2/8/2007 | Letter amendment for liquid chlorine injection disinfection. |

| Waste Type | Degree of Treatment | Process Type | Disinfection | Avg Annual Flow (MGD) |
|---|---|---|---|---|
| Sewage | Secondary | Extended Aeration | Hypochlorite | 0.013 |
| **Hydraulic Capacity (MGD)** | **Organic Capacity (lbs/day)** | **Load Status** | **Biosolids Treatment** | **Biosolids Use/Disposal** |
| ___0.013 | ___66.7 | Not Overloaded | Holding Tank | Landfill |

**Treatment System Components:**
- One (1) Equalization Tank with Manual Screen.
- One (1) Splitter Box.
- Two (2) Aeration Tanks.
- Two (2) Clarifiers.
- Two (2) Sand Filters.
- One (1) Chlorine Disinfection System.
- One (1) Chlorine Contact Tank.
- One (1) Flow Meter.
- One (1) Outfall 001.

- Two (2) Sludge Holding Tanks.

Changes Since Last Permit Issuance: None.

## Existing Effluent Limitations and Monitoring Requirements

**Existing Limits**

| *Discharge Parameter* | Limitations | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Mass (lb/day) | | Concentration (mg/L) | | | | Monitoring Requirements | |
| | Monthly Average | Daily Maximum | Minimum | Average Monthly | Average Weekly | Instantaneous Maximum | Minimum Frequency | Sample Type |
| Flow (MGD) | Report | | | | | | Continuous | Metered |
| C-$BOD_5$ | | | | 25 | | 50 | 2/ Month | Grab |
| TSS | | | | 30 | | 60 | 2/ Month | Grab |
| TRC | | | | 0.9 | | 2.1 | 1/ Day | Grab |
| pH (Std. Units) | | | 6.0 | | | 9.0 | 1/ Day | Grab |
| DO | | | Report | | | | 1/ Day | Grab |
| $NH_3$-N (5/1 – 10/31) | | | | 12 | | 25 | 2/ Month | Grab |
| $NH_3$-N (11/1 – 4/30) | | | | 25 | | 50 | 2/ Month | Grab |
| Fecal Coliforms (5/1-9/30) | 200 colonies/100 ml as a geometric mean and not greater than 1,000 colonies/100 ml in more than 10% of the samples tested | | | | | | 2/ Month | Grab |
| Fecal Coliforms (10/1-4/30) | 2,000 colonies/100 ml as a geometric mean | | | | | | | |
| Total Nitrogen | Report | Report | | Report | | | 1/year | Grab |
| Total Phosphorus | Report | Report | | Report | | | 1/year | Grab |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total Aluminum | | | | Report | Report | | 1/year | Grab |
| Total Manganese | | | | Report | Report | | 1/year | Grab |

*The existing effluent limits for Outfall 001 were based on a design flow of 0.013 MGD.

## Development of Effluent Limitations

**Outfall No.** 001 **Design Flow (MGD)** 0.013
**Latitude** 41° 0' 53.00" **Longitude** 76° 15' 8.00"
**Wastewater Description:** Sewage Effluent

### Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

| Pollutant | Limit (mg/l) | SBC | Federal Regulation | State Regulation |
|---|---|---|---|---|
| $CBOD_5$ | 25 | Average Monthly | 133.102(a)(4)(i) | 92a.47(a)(1) |
| | 40 | Average Weekly | 133.102(a)(4)(ii) | 92a.47(a)(2) |
| Total Suspended Solids | 30 | Average Monthly | 133.102(b)(1) | 92a.47(a)(1) |
| | 45 | Average Weekly | 133.102(b)(2) | 92a.47(a)(2) |
| pH | 6.0 – 9.0 S.U. | Min – Max | 133.102(c) | 95.2(1) |
| Fecal Coliform (5/1 – 9/30) | 200 / 100 ml | Geo Mean | - | 92a.47(a)(4) |
| Fecal Coliform (5/1 – 9/30) | 1,000 / 100 ml | IMAX | - | 92a.47(a)(4) |
| Fecal Coliform (10/1 – 4/30) | 2,000 / 100 ml | Geo Mean | - | 92a.47(a)(5) |
| Fecal Coliform (10/1 – 4/30) | 10,000 / 100 ml | IMAX | - | 92a.47(a)(5) |
| Total Residual Chlorine | 0.5 | Average Monthly | - | 92a.48(b)(2) |

### Water Quality-Based Limitations

To establish whether or not water-quality based effluent limitations (WQBELs) are required, the Department models in-stream conditions. In order to determine limitations for CBOD5, ammonia-N and dissolved oxygen, the Department utilizes the WQM 7.0 v1.0b model and in order to determine limitations for toxics, the Department utilizes the PENTOXSD v2.0d model.

**WQM 7.0 for Windows, Version 1.0b, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen**
Since there have been no changes to the watershed or the facility, the previous modeling results shall be utilized. The model was previously run using the Q7-10 stream flow, background water quality, average annual design flow, and other discharge characteristics. The previously existing technology-based effluent limits for $CBOD_5$ (25 mg/l) and NH3-N (17 mg/l; existing limit) were used as inputs for the modeling. The DO minimum daily average criterion from §93.7 (6.0 mg/L for CWF) was used for the in-stream objective for the model. The summary of the output is as follows:

| Parameter | Effluent Limit | | |
|---|---|---|---|
| | 30 Day Average | Maximum | Minimum |
| **CBOD5** | 25 | N/A | N/A |
| **Ammonia-N** | 12.88 | 25.76 | N/A |
| **Dissolved Oxygen** | N/A | N/A | 3 |

The previous model did not recommend water-quality based effluent limitations with regards to CBOD5 and dissolved oxygen. Refer to the Appendix for the WQM 7.0 inputs and results. However, the model did recommend more stringent water quality-based effluent limits for ammonia-nitrogen as shown above. These effluent limits were previously implemented and will remain. Refer to Appendix B for the WQM 7.0 inputs and results.

Comments: None.

**PENTOXSD v2.0d model / Reasonable Potential Analysis**
A "Reasonable Potential Analysis" and PENTOXSD v2.0d modeling were not utilized in this review.

**Best Professional Judgment (BPJ) Limitations**
See Dissolved Oxygen section below.

**Additional Considerations**
None

## 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 the abovementioned 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) and/or BPJ.

**Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date**

| ***Discharge Parameter*** | Limitations | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Mass (lb/day) | | Concentration (mg/L) | | | | Monitoring Requirements | |
| | Monthly Average | Daily Maximum | Minimum | Average Monthly | Average Weekly | Instantaneous Maximum | Minimum Frequency | Sample Type |
| Flow (MGD) | Report | | | | | | Continuous | Meter |
| C-$BOD_5$ | | | | 25 | | 50 | 2/ Month | Grab |
| TSS | | | | 30 | | 60 | 2/ Month | Grab |
| TRC | | | | 0.5 | | 1.6 | 1/ Day | Grab |
| NH3-N (5/1-9/30) | | | | 12.0 | | 25.0 | 2/ Month | Grab |
| NH3-N (10/1-4/30) | | | | 25.0 | | 50.0 | 2/ Month | Grab |
| D.O. | | | | Report | | | 1/ Day | Grab |
| pH (Std. Units) | | | 6.0 | | | 9.0 | 1/ Day | Grab |
| Fecal Coliforms (5/1-9/30) | 200 colonies/100 ml as a geometric mean | | | | | 1,000 | 2/ Month | Grab |
| Fecal Coliforms (10/1-4/30) | 2,000 colonies/100 ml as a geometric mean | | | | | 10,000 | | |

*The proposed effluent limits for Outfall 001 were based on a design flow of 0.013 MGD.

**Flow**
The existing monitoring frequency (Continuous) and sample type (Meter) for Flow correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3.

**Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)**
The results of the WQM 7.0 model showed that the previously applied secondary treatment standards (25 PA Code §92a.47 (a) (1&2)) for $CBOD_5$ were protective of water quality. The existing monitoring frequency (2/ Month) and sample type (Grab) for $CBOD_5$ correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

**Total Suspended Solids (TSS)**
The previously applied technology based secondary treatment standards (25 PA Code §92a.47 (a) (1&2)) for TSS will remain as well. The existing monitoring frequency (2/ Month) and sample type (Grab) for TSS correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

**pH**
CFR Title 40 §133.102(c) and 25 PA Code §95.2(1) provide the basis of effluent limitations for pH. The existing monitoring sample type (Grab) and monitoring frequency of (1/ Day) for pH corresponds with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

**Fecal Coliforms**
The existing fecal coliform limits with I-max limits were updated from the previous Chapter 92 code to correspond with what is specified in the updated 25 PA Code § 92a.47 (a)(4)&(5). The existing monitoring frequency (2/ Month) and sample type (Grab) for Fecal Coliforms correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

**Total Residual Chlorine (TRC)**
In accordance with 25 Pa. Code 92a.48(b)(2), a best available technology (BAT) value of 0.5 mg/l was used in lieu of the existing effluent limit (0.9 mg/L) in the TRC Spreadsheet. The attached TRC model indicates that the technology based effluent limit of 0.5 mg/L (Average Monthly) and 1.6 mg/L (Instantaneous Maximum) are protective of water quality. The facility currently utilizes tablet chlorination as a disinfection method. It has been proven that this method, if operated properly and maintained, can effectively and consistently meet these effluent requirements. The existing sample type (grab) and monitoring frequency of (1/ Day) for TRC correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

As stated above, 25 PA Code § 92a.48(b)(2) provides a BAT limit of 0.5 mg/L unless a site-specific study has been conducted. Given that a site-specific TRC study has not been provided for this facility, the BAT limit will be established. Historical DMR data provided from the previous year was reviewed to determine if the facility will require a compliance schedule to comply with the proposed effluent limits. The DMR results are listed in the compliance review below. Based on the data, it appears that the facility cannot currently meet the proposed TRC effluent limits (0.50 mg/L and 1.6 mg/l) on a majority basis. Therefore, the permit will require a 2-year compliance schedule in order for the facility to comply with the decreased limits.

**Ammonia-Nitrogen (NH3-N)**
The previous WQM 7.0 model indicated that the existing technology-based limits for ammonia were not sufficient and a more stringent water quality-based limit was required. These limits were assigned in accordance with the *Implementation Guidance of Section 93.7 Ammonia Criteria* (391-2000-013) which states that a multiplier of 2.0 times the average monthly concentration limit (12.88 mg/L) was used to establish the I-max concentration limit (25.76 mg/L). These limits were then rounded down to the nearest 1.0 (12.0 and 25.0) in accordance with the rounding rules established in the *Technical Guidance for the Development and Specification of Effluent Limitations (362-0400-001)*, Chapter 5 - Specifying Effluent Limitations in NPDES Permits. The Implementation Guidance also states that the winter seasonal limits shall be 3.0 times the summer limits. Given that the previously assigned winter limits will be higher than conventional influent levels, a BPJ value of 25.0 mg/l and 50 mg/l were assigned. Since there have been no changes to the watershed or the facility, the previous modeling results shall be utilized, and the existing effluent limits will remain. The existing monitoring frequency (2/ Month) and sample type (Grab) for NH3-N correspond with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

**Dissolved Oxygen (DO)**
Given results of the WQM 7.0 model, a discharge of effluent from this facility with a DO concentration of 3 mg/l would not result in an exceedance of water quality requirements for this stream. It is anticipated, based on similar technology, that the DO concentration in the effluent would be greater than 3.0 mg/l. Therefore, based on BPJ, only monitoring will be required for this facility. A sample type (Grab) and monitoring frequency (1/ Day) for DO corresponds with the *Technical Guidance for the Development and Specification of Effluent Limitations* (362-0400-001) Table 6-3 and will remain.

Other Comments: None.

## Compliance History

**Summary of Inspections** -The last inspection of the facility was conducted on 6/13/19 by the Department. This inspection revealed no issues with the facility.
**WMS Query Summary** - A WMS Query was run at *Reports - Violations & Enforcements – Open Violations for Client Report* to determine whether there are any unresolved violations associated with the client that will affect issuance of the permit (per CSL Section 609). This query revealed no open violations.
**eDMRs Summary** - Upon review of the eDMR results the facility has been operating within the required effluent limits.

## Attachments

Appendices

## 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 (MGD) Average Monthly | 0.00764 0 | 0.00688 | 0.00665 | 0.00502 | 0.00403 0 | 0.00341 0 | 0.00385 0 | 0.00536 0 | 0.00646 0 | 0.00634 | 0.00706 0 | 0.00835 0 |
| pH (S.U.) Minimum | 6.9 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.1 | 7.0 | 6.8 | 7.0 | 6.8 | 7.0 |
| pH (S.U.) Maximum | 1.36 | 7.5 | 7.6 | 7.7 | 7.6 | 7.5 | 7.7 | 7.7 | 7.7 | 7.6 | 8.0 | 8.0 |
| DO (mg/L) Minimum | 5.0 | 5.0 | 6.0 | 6 | 6.0 | 6.0 | 7 | 6.0 | 5.0 | 6.0 | 6.0 | 6.0 |
| TRC (mg/L) Average Monthly | 0.7 | 0.7 | 0.6 | 0.6 | 0.7 | 0.6 | 0.5 | 0.62 | 0.79 | 0.6 | 0.64 | 0.63 |
| TRC (mg/L) Instantaneous Maximum | 1.36 | 1.07 | 1.0 | 1.05 | 1.0 | 1.0 | 1.1 | 1.24 | 1.6 | 1.23 | 1.48 | 1.15 |
| CBOD5 (mg/L) Average Monthly | < 3 | < 3 | < 3 | < 3.0 | < 3.0 | < 3.0 | < 3.0 | < 3 | < 3 | < 3.0 | < 3.0 | < 3 |
| CBOD5 (mg/L) Instantaneous Maximum | < 3 | < 3 | < 3 | < 3.0 | < 3.0 | < 3.0 | < 3.0 | < 3 | < 3 | < 3.0 | < 3.0 | < 3 |
| TSS (mg/L) Average Monthly | < 2 | 3 | < 1.0 | < 2 | < 2.0 | 2.0 | < 4 | < 1 | < 1.6 | < 2.4 | < 3.8 | < 1.2 |
| TSS (mg/L) Instantaneous Maximum | 3.2 | 3.2 | < 1.6 | < 1.6 | 2.0 | 1.8 | 6.2 | 1.2 | 1.6 | 3.2 | 6 | 1.6 |
| Fecal Coliform (CFU/100 ml) Geometric Mean | < 1 | < 0.1 | < 6 | < 1.0 | < 1 | < 1.0 | < 2 | < 2 | < 1 | < 1 | 3 | < 1 |
| Fecal Coliform (CFU/100 ml) Instantaneous Maximum | < 1 | < 0.1 | 33.6 | 8.5 | < 1 | < 1.0 | 4.1 | 3.1 | 1 | 1 | 8.6 | 2 |
| Total Nitrogen (lbs/day) Average Monthly | | | | | | | | < 111 | | | | |
| Total Nitrogen (mg/L) Average Monthly | | | | | | | | < 103 | | | | |
| Total Nitrogen (lbs) Total Annual | | | | | | | | < 1252 | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ammonia (mg/L) Average Monthly | < 0.1 | < 4.227 | < 0.1 | < 7.9 | < 1.474 | < 0.1 | < 0.446 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Ammonia (mg/L) Instantaneous Maximum | < 0.1 | 8.353 | 0.1 | 15.2 | 2.848 | < 0.1 | 0.792 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Total Phosphorus (lbs/day) Average Monthly | | | | | | | | 6 | | | | |
| Total Phosphorus (mg/L) Average Monthly | | | | | | | | 6 | | | | |
| Total Phosphorus (lbs) Total Annual | | | | | | | | 73 | | | | |
| Total Aluminum (mg/L) Average Monthly | | | | | | | | < 0.1 | | | | |
| Total Aluminum (mg/L) Daily Maximum | | | | | | | | < 0.1 | | | | |
| Total Manganese (mg/L) Average Monthly | | | | | | | | < 0.01 | | | | |
| Total Manganese (mg/L) Daily Maximum | | | | | | | | < 0.01 | | | | |

| Tools and References Used to Develop Permit | |
|---|---|
| | |
| ☒ | Q7-10 Analysis and Stream Data (see Appendix **A**) |
| ☒ | WQM 7.0 Model Input/Output (see Appendix **B**) |
| ☐ | Toxics Screening Analysis v2.4 (see Appendix ) |
| ☐ | PENTOXSD v2.0d Model Input/Output (see Appendix ) |
| ☒ | Facility Map and Schematic (see Appendix **D**) |
| ☒ | TRC Evaluation Spreadsheet (see Appendix **C**) |
| ☐ | Lake Model Output (see Appendix ) |
| ☐ | WETT Spreadsheet (see Appendix ) |
| ☒ | Water Quality Toxics Management Strategy, 361-0100-003, 4/06. |
| ☒ | Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97. |
| ☐ | Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98. |
| ☐ | Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96. |
| ☐ | Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97. |
| ☐ | Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97. |
| ☐ | Pennsylvania CSO Policy, 385-2000-011, 9/08. |
| ☐ | Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03. |
| ☐ | Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97. |
| ☒ | Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97. |
| ☐ | Implementation Guidance Design Conditions, 391-2000-006, 9/97. |
| ☒ | 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. |
| ☐ | Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997. |
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