pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Southcentral Regional Office**
**CLEAN WATER PROGRAM**

# NPDES PERMIT FACT SHEET
# INDIVIDUAL SEWAGE

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0080241** |
| Facility Type | **Non-Municipal** | APS ID | **36558** |
| Major / Minor | **Minor** | Authorization ID | **1365168** |

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **West Perry School District** | Facility Name | **West Perry High School** |
| Applicant Address | 2608 Shermans Valley Road | Facility Address | 2606 Shermans Valley Road |
| | Elliottsburg, PA 17024-9132 | | Elliottsburg, PA 17024-9132 |
| Applicant Contact | Leonard Jumper | Facility Contact | Leonard Jumper |
| Applicant Phone | (717) 497-0013 | Facility Phone | (717) 497-0013 |
| Client ID | 69647 | Site ID | 452732 |
| Ch 94 Load Status | Not Overloaded | Municipality | Spring Township |
| Connection Status | No Limitations | County | Perry |
| Date Application Received | August 11, 2021 | EPA Waived? | Yes |
| Date Application Accepted | August 16, 2021 | If No, Reason | |

Purpose of Application: This is an application for NPDES renewal.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | Nicholas Hong, P.E. / Environmental Engineer<br>Nick Hong (via electronic signature) | September 8, 2021 |
| x | | Daniel W. Martin, P.E. / Environmental Engineer Manager<br>Maria D. Bebenek for Daniel W. Martin | September 16, 2021 |
| x | | Maria Bebenek, P.E. / Environmental Program Manager<br>Maria D. Bebenek | September 16, 2021 |

## Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the West Perry School District (High School) located at 2606 Sherman Valley Road, Elliotsburg, PA 17024 in Perry County, municipality of Spring Township. The existing permit became effective on February 1, 2017 and expires(d) on January 31, 2022. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on August 11, 2021.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.0286 MGD treatment facility. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as a Minor Sewage Facility (Level 1) due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Perry County Commissioner and Spring Township and the notice was received by the parties on August 3, 2021. A planning approval letter was not necessary as the facility is neither new or expanding.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Montour Creek. The sequence of receiving streams that Montour Creek discharges into are Sherman Creek and the Susquehanna River which eventually drains into the Chesapeake Bay. The subject site is subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for cold water fishes (CWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Montour Creek is a Category 4a stream listed in the 2020 Integrated List of All Waters (formerly 303d Listed Streams). This stream is impaired for aquatic life due to siltation/sediment from agriculture. The receiving waters shall be subject to the Montour Run Sediment total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Due to local TMDL, loading rates shall be applicable for TSS.**
- **Ammonia-nitrogen limit has reduced to 6 mg/l.**
- **Monitoring for nitrogen species shall be reduced to 1x/mo.**
- **Monitoring shall be required for UV disinfection**
- **Monitoring shall be required for E. Coli.**

Sludge use and disposal description and location(s): Sewage Sludge/Biosolids disposed at Advanced Septic Service Facility in Perry County, Spring Township

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

## 1.0 Applicant

### 1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

| | |
|---|---|
| Facility Name: | West Perry School District (High School) |
| NPDES Permit # | PA0080241 |
| Physical Address: | 2606 Sherman Valley Road<br>Elliotsburg, PA 17024 |
| Mailing Address: | 2606 Sherman Valley Road<br>Elliotsburg, PA 17024 |
| Contact: | Leonard Jumper<br>Ground Supervisor<br>ljumper@westperry.org |
| Consultant: | Michael Kern<br>Quality Water Resources, Inc.<br>851 Roth Church Rd<br>Spring Grove, PA 17362<br>(717) 225-4555<br>qwr@pa.net |

### 1.2 Permit History

Permit submittal included the following information.

- NPDES Application

## 2.0 Treatment Facility Summary

### 2.1.1 Site location

The physical address for the facility is 2606 Sherman Valley Road, Elliotsburg, PA 17024. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

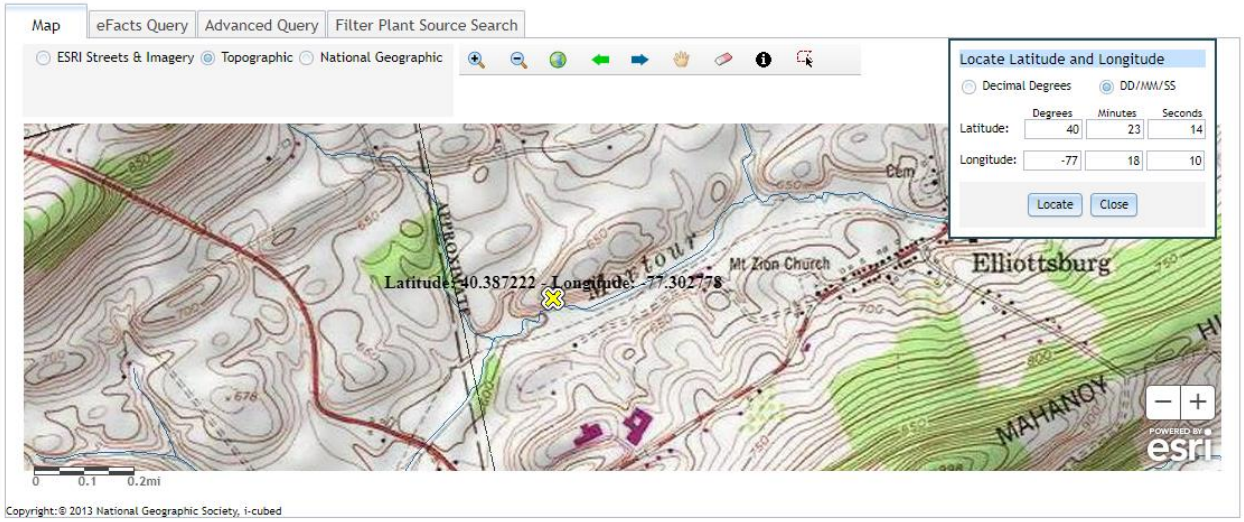
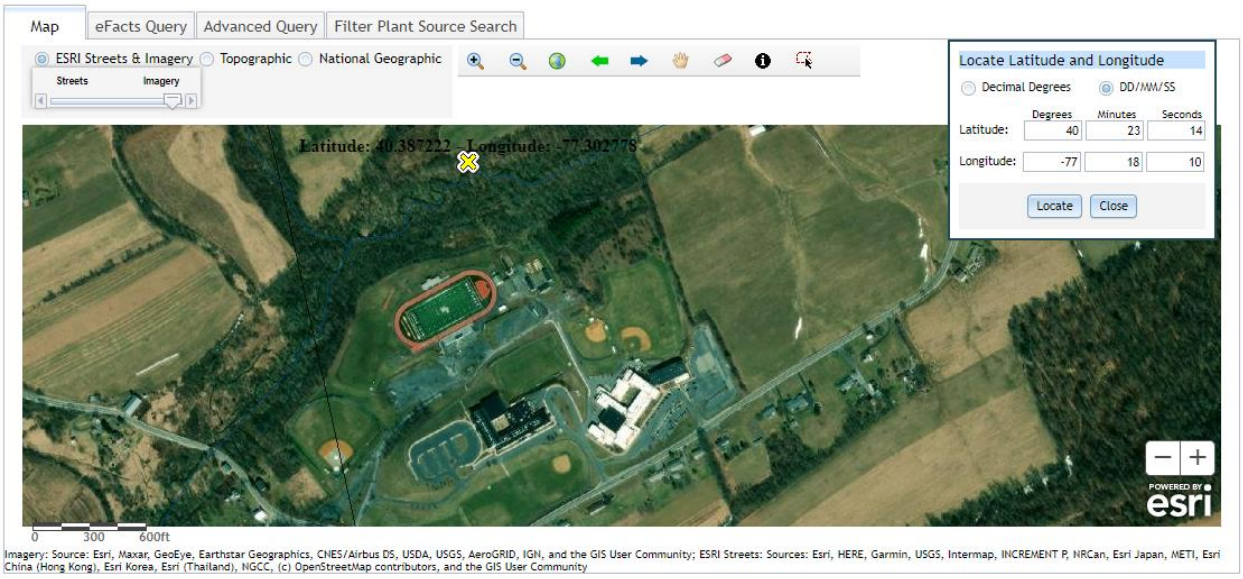



Figure 2: Aerial Photograph of the subject facility



### 2.1.2 Sources of Wastewater/Stormwater

The facility treats wastewater from the school and does not receive flow contributions from any municipality.

The facility reported on their NPDES renewal application that there are no industrial/commercial users. They also reported that the facility has not received hauled-in wastes nor anticipate hauled in wastes in the next five years.

### 2.2 Description of Wastewater Treatment Process

The subject facility is a 0.0286 MGD design flow facility. The subject facility treats wastewater using an equalization tank, an aeration tank, a clarifier, a post aeration tank, and a uv disinfection unit prior to discharging through the outfall. The facility is being evaluated for flow, pH, dissolved oxygen, CBOD5, TSS, fecal coliform, nitrogen species, and phosphorus. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

| Treatment Facility Summary | | | | |
|---|---|---|---|---|
| **Treatment Facility Name:** West Perry Hs & Ms | | | | |
| **Waste Type** | **Degree of Treatment** | **Process Type** | **Disinfection** | **Avg Annual Flow (MGD)** |
| Sewage | Tertiary | Extended Aeration With Solids Removal | Hypochlorite | 0.0286 |
| | | | | |
| **Hydraulic Capacity (MGD)** | **Organic Capacity (lbs/day)** | **Load Status** | **Biosolids Treatment** | **Biosolids Use/Disposal** |
| 0.0286 | 57.2 | Not Overloaded | | |

### 2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

**Outfall No.** 001 **Design Flow (MGD)** .0286
**Latitude** 40º 23' 13.80" **Longitude** -77º 18' 10.11"
**Wastewater Description:** Sewage Effluent

### 2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Soda ash for pH adjustment
- Alum for coagulation for enhanced settleability

## 2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

I. A. **For Outfall** 001 , **Latitude** 40° 23' 13.80" , **Longitude** 77° 18' 10.11" , **River Mile Index** 4.39 , **Stream Code** 11157

**Receiving Waters:** Montour Creek

**Type of Effluent:** Sewage Effluent

1. The permittee is authorized to discharge during the period from **February 1, 2017** through **January 31, 2022**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) [1] | | Concentrations (mg/L) | | | | Minimum [2] Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | Continuous | Measured |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | 9.0 | XXX | 1/day | Grab |
| Dissolved Oxygen | XXX | XXX | 5.0 | XXX | XXX | XXX | 1/day | Grab |
| Carbonaceous Biochemical Oxygen Demand (CBOD5) | XXX | XXX | XXX | 25 | XXX | 50 | 2/month | 8-Hr Composite |
| Total Suspended Solids | XXX | XXX | XXX | 30 | XXX | 60 | 2/month | 8-Hr Composite |
| Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2000 Geo Mean | XXX | 10000 | 2/month | Grab |
| Fecal Coliform (CFU/100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | 1000 | 2/month | Grab |
| Nitrate-Nitrite as N | XXX | XXX | XXX | Report | XXX | XXX | 2/month | 8-Hr Composite |
| Total Nitrogen | XXX | XXX | XXX | Report | XXX | XXX | 2/month | Calculation |
| Ammonia-Nitrogen May 1 - Oct 31 | XXX | XXX | XXX | 15 | XXX | 30 | 2/month | 8-Hr Composite |
| Total Kjeldahl Nitrogen | XXX | XXX | XXX | Report | XXX | XXX | 2/month | 8-Hr Composite |
| Total Phosphorus | XXX | XXX | XXX | 2.0 | XXX | 4 | 2/month | 8-Hr Composite |

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at Outfall 001

## 3.0 Facility NPDES Compliance History

### 3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

04/05/2017: The facility was advised to record the time that the sampler is started and finished in the operations log. The cooling fan in the UV unit had failed and the control board overheated and was damaged. A replacement board was ordered. A spare board was also ordered.

05/12/2017: Inspection was completed due to total phosphorus exceedances.

12/20/2019: Additions of aluminum sulfate and caustic soda are delivered to the aeration tank. A carbon supplement is added manually to the aeration tank on a weekly basis. Th exact location of the outfall was not determined. The operator believes the outfall pipe is located in the midstream of Montour Creek.

04/23/2020: An administrative inspection was conducted by telephone and email communications. The purpose of the inspection was to follow-up on the facility during the COVID-19 related restrictions. The wastewater treatment facility is currently operating normal with all treatment units online. No significant operational changes were made to the treatment facility. The operator stated that no recent bypasses,

SSOs, or sampling issues have occurred since the last inspection. The facility has spare parts on hand and no significant maintenance issues since the last inspection. The facility is experiencing reduced flows due to the COVID-19 extended shutdown for schools

**3.2 Summary of DMR Data**

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.01256 MGD in December 2020. The design capacity of the treatment system is 0.0286 MGD.

The off-site laboratory used for the analysis of the parameters was ALS Environmental located at 301 Fulling Mill Road, Middletown, PA 17057

**DMR Data for Outfall 001 (from July 1, 2020 to June 30, 2021)**

| Parameter | JUN-21 | MAY-21 | APR-21 | MAR-21 | FEB-21 | JAN-21 | DEC-20 | NOV-20 | OCT-20 | SEP-20 | AUG-20 | JUL-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.00350 7 | 0.00835 | 0.00856 | 0.01159 | 0.00844 | 0.00743 | 0.01256 | 0.0061 | 0.008 | 0.00608 | 0.00374 | 0.0029 |
| Flow (MGD) Daily Maximum | 0.01469 | 0.02007 | 0.02639 | 0.0405 | 0.01345 | 0.02117 | 0.07166 | 0.01605 | 0.01614 | 0.01256 | 0.009 | 0.00772 |
| pH (S.U.) Minimum | 6.87 | 6.58 | 6.57 | 6.92 | 7.35 | 7.26 | 7.64 | 7.02 | 7.1 | 7.21 | 7.45 | 7.52 |
| pH (S.U.) Maximum | 7.95 | 8.33 | 7.95 | 7.87 | 7.94 | 8.47 | 8.34 | 7.96 | 8.45 | 8.11 | 8.13 | 8.31 |
| DO (mg/L) Minimum | 5.22 | 6.53 | 6.25 | 7.25 | 7.21 | 6.84 | 7.94 | 6.83 | 6.99 | 5.35 | 5.81 | 5.93 |
| CBOD5 (mg/L) Average Monthly | 2 | < 2 | 2 | < 3 | < 2 | < 2 | < 2 | < 2 | < 2 | 2 | < 2 | < 2 |
| TSS (mg/L) Average Monthly | < 5 | < 5 | 9 | 5 | 9 | < 5 | < 5 | < 8 | 18 | 9 | 20 | 19 |
| Fecal Coliform (CFU/100 ml) Geometric Mean | 9 | 16 | 4 | < 1 | < 2 | < 1 | < 1 | < 1 | 26 | 35 | 211 | < 19 |
| Fecal Coliform (CFU/100 ml) Instantaneous Maximum | 11 | 21 | 16 | < 1 | 3 | 1 | < 1 | 2 | 39 | 63 | 855 | 360 |
| Nitrate-Nitrite (mg/L) Average Monthly | 43 | 40.7 | 30.8 | 27.7 | 29 | 15.58 | 23.9 | 32.5 | 31 | 29.9 | 12.5 | 10.53 |
| Total Nitrogen (mg/L) Average Monthly | < 44 | < 41.7 | < 31.8 | < 28.7 | < 30 | < 17.08 | < 24.9 | < 33.5 | < 32 | < 30.9 | 13.6 | 11.9 |
| Ammonia (mg/L) Average Monthly | 0.485 | 1 | | | | | | | < 0.1 | < 0.1 | 0.191 | < 0.1715 |
| TKN (mg/L) Average Monthly | < 1 | < 1 | < 1 | < 1 | < 1 | < 2 | < 1 | < 1 | < 1 | < 1 | 1.2 | 1.4 |
| Total Phosphorus (mg/L) Average Monthly | 1.6 | 1.9 | 0.9 | 1.0 | 0.7 | 0.6 | 0.7 | 0.8 | 0.9 | 0.6 | 1.2 | 1.6 |

## 3.3 Non-Compliance

### 3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in February 1, 2017 to August 18, 2021, the following were observed effluent non-compliances.

**Summary of Non-Compliance with NPDES Effluent Limits**
**Beginning 2/1/17 and Ending 8/18/2021**

| NON COMPLIANCE DATE | PARAMETER | SAMPLE VALUE | VIOLATION CONDITION | PERMIT VALUE | UNIT OF MEASURE | STATISTICAL BASE CODE |
|---|---|---|---|---|---|---|
| 06/25/2018 | Total Phosphorus | 3.2 | > | 2.0 | mg/L | Average Monthly |
| 08/28/2018 | Fecal Coliform | 3900 | > | 1000 | CFU/100 ml | Instantaneous Maximum |
| 06/28/2019 | Total Phosphorus | 2.5 | > | 2.0 | mg/L | Average Monthly |
| 07/22/2019 | Fecal Coliform | 1240 | > | 1000 | CFU/100 ml | Instantaneous Maximum |
| 11/21/2019 | Total Phosphorus | 2.4 | > | 2.0 | mg/L | Average Monthly |
| 01/20/2020 | Total Phosphorus | 2.1 | > | 2.0 | mg/L | Average Monthly |
| 03/19/2020 | Total Phosphorus | 3.2 | > | 2.0 | mg/L | Average Monthly |
| 09/15/2020 | Fecal Coliform | 211 | > | 200 | CFU/100 ml | Geometric Mean |

### 3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning February 1, 2017 to August 18, 2021, the following were observed enforcement actions.

**Summary of Enforcement Actions**
**Beginning 2/1/17 and Ending 8/18/2021**

| ENF ID | ENF TYPE | ENF TYPE DESC | ENF CREATION DATE | EXECUTED DATE | VIOLATIONS | ENF FINAL STATUS | ENF CLOSED DATE |
|---|---|---|---|---|---|---|---|
| 352839 | NOV | Notice of Violation | 04/26/2017 | 04/13/2017 | 92A.44 | Comply/Closed | 05/12/2017 |

### 3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

| 2020/2021 | | | |
|---|---|---|---|
| **Sewage Sludge / Biosolids Production Information** | | | |
| | | | |
| Hauled Off-Site | | | |
| Date (YEAR) | Gallons | % Solids | Dry Tons |
| July | 0 | | |
| August | 0 | | |
| September | 0 | | |
| October | 4000 | 0.8 | 0.133 |
| November | 0 | | |
| December | 0 | | |
| January | 0 | | |
| February | 0 | | |
| March | 0 | | |
| April | 0 | | |
| May | 0 | | |
| June | 0 | | |
| | | | |
| Notes: | | | |
| Sewage Sludge/Biosolids disposed at Advanced Septic Service Facility in Perry County, Spring Township | | | |

### 3.5 Open Violations

No open violations existed as of August 2021.

### 4.0 Receiving Waters and Water Supply Information Detail Summary

### 4.1 Receiving Waters

The receiving waters has been determined to be Montour Creek. The sequence of receiving streams that Montour Creek discharges into are Sherman Creek and the Susquehanna River which eventually drains into the Chesapeake Bay.

### 4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Suez Water (PWS ID #7220015) located approximately 37 miles downstream of the subject facility on the Susquehanna River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

### 4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

## 4.4 2020 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

**The receiving waters is listed in the 2020 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 4a waterbody. The surface waters is impaired for aquatic life due to siltation/sediment from agriculture. The designated use has been classified as protected waters for cold water fishes (CWF) and migratory fishes (MF).**

## 4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Sherman Creek station (WQN243). This WQN station is located approximately 13 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Shermans Creek at Shermans Dale, PA (USGS station number 1568000). This gauge station is located approximately 15 miles downstream of the subject facility.

For WQM modeling, pH and stream water temperature data from the water quality network station was used. pH was estimated to be 8.15 and the stream water temperature was estimated to be 23.3 C.

The hardness of the stream was estimated from the water quality network to be 79 mg/l $CaCO_3$.

The low flow yield and the Q710 for the subject facility was estimated as shown below.

| Gauge Station Data | | | |
|---|---|---|---|
| USGS Station Number | 1568000 | | |
| Station Name | Shermans Creek at Shermans Dale, PA | | |
| Q710 | 15.5 | $ft^3/sec$ | |
| Drainage Area (DA) | 207 | $mi^2$ | |
| | | | |
| ***Calculations*** | | | |
| The low flow yield of the gauge station is: | | | |
| Low Flow Yield (LFY) = Q710 / DA | | | |
| LFY = | ( 15.5 $ft^3/sec$ / 207 $mi^2$) | | |
| LFY = | 0.0749 | $ft^3/sec/mi^2$ | |
| | | | |
| The low flow at the subject site is based upon the DA of | | 4.27 | $mi^2$ |
| | | | |
| Q710 = (LFY@gauge station)(DA@Subject Site) | | | |
| Q710 = (0.0749 $ft^3/sec/mi^2$)(4.27 $mi^2$) | | | |
| Q710 = | 0.320 | $ft^3/sec$ | |

## 4.6 Summary of Discharge, Receiving Waters and Water Supply Information

| | | | |
|---|---|---|---|
| Outfall No. | 001 | Design Flow (MGD) | .0286 |
| Latitude | 40º 23' 13.32" | Longitude | -77º 18' 9.86" |
| Quad Name | | Quad Code | |
| Wastewater Description: | Sewage Effluent | | |

| | | | |
|---|---|---|---|
| Receiving Waters | Montour Creek (CWF) | Stream Code | 11157 |
| NHD Com ID | 56400811 | RMI | 4.24 |
| Drainage Area | 4.27 | Yield (cfs/mi$^2$) | 0.0749 |
| $Q_{7-10}$ Flow (cfs) | 0.320 | $Q_{7-10}$ Basis | StreamStats/Streamgauge |
| Elevation (ft) | 638 | Slope (ft/ft) | |
| Watershed No. | 7-A | Chapter 93 Class. | CWF, MF |
| Existing Use | Same as chapter 93 class. | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | SILTATION | | |
| Source(s) of Impairment | GRAZING IN RIPARIAN OR SHORELINE ZONES | | |
| TMDL Status | Pending | Name | Montour Run Sediment |

| Background/Ambient Data | | Data Source |
|---|---|---|
| pH (SU) | 8.15 | WQN243; Median July to Sept |
| Temperature (°C) | 22.3 | WQN243; Median July to Sept |
| Hardness (mg/L) | 79 | WQN243; Median historical |
| Other: | | |

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | | Suez Water | |
| PWS Waters | Susquehanna River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | 37 |

## 5.0: Overview of Presiding Water Quality Standards

### 5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

### 5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

| Parameter | 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) |

### 5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

### 5.3.1 Water Quality Modeling 7.0

The WQM Model is a computer model that is used to determine NPDES discharge effluent limitations for Carbonaceous BOD (CBOD5), Ammonia Nitrogen (NH3-N), and Dissolved Oxygen (DO) for single and multiple point source discharges scenarios. WQM Model is a complete-mix model which means that the discharge flow and the stream flow are assumed to instantly and completely mixed at the discharge node.

WQM recommends effluent limits for DO, CBOD5, and $NH_3$-N in mg/l for the discharge(s) in the simulation.

Four types of limits may be recommended. The limits are

*(a)* a *minimum concentration for DO in the discharge as 30-day average;*
*(b) a 30-day average concentration for CBOD5 in the discharge;*
*(c) a 30-day average concentration for the $NH_3$-N in the discharge;*
(d) *24-hour average concentration for $NH_3$-N in the discharge*.

The WQM Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

The input values utilized for the modeling are summarized in the table which can be found in Attachment B.

**The applicable WQM Effluent Limit Type are discussed in Section 6 under the corresponding parameter which is either DO, CBOD, or ammonia-nitrogen.**

### 5.3.2 Toxics Modeling

The facility is not subject to toxics modeling.

### 5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

## 5.4 Total Maximum Daily Loading (TMDL)

### 5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

#### 5.4.1.1 Local TMDL

The subject facility discharges into a local TMDL- Montour Run Sediment TMDL.

An updated Montour Creek Sediment TMDL was developed in September 2018.

A Total Maximum Daily Load (TMDL) was developed to address aquatic life use impairments in Montour Creek as noted in 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report initially listed in 1999. Montour Creek is a tributary of Shermans Creek and the greater Susquehanna River basin. The watershed lies near the town of Loysville (and Northwest of Landisville), in Tyrone and Spring Townships, Perry County.

The source of degradation is related to agricultural activities, including grazing, which effect the Coldwater Fishery (CWF) attributes of Montour Creek. The TMDL sets allowable sediment loadings within the specifically impaired stream segments of the Montour Creek watershed. The loading was allocated among the land uses of cropland, hay/pasture land, and associated stream banks present in the watershed.

**The TMDL requires a maximum loading rate of 7.52 lbs/day and a maximum loading 2,744.29 lbs/yr of TSS annually. By concentration, the TMDL shall not exceed 30 mg/l.**

**5.4.1.2 Chesapeake Bay TMDL Requirement**

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was December 17, 2019.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant discharger that includes sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 850 Phase 4 and 5 sewage facilities, approximately 715 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 300 non-significant IW facilities.

For Phase 5 sewage facilities with individual permits (average annual design flow on August 29, 2005 > 0.002 MGD and < 0.2 MGD), DEP will issue individual permits with monitoring and reporting for TN and TP throughout the permit term at a frequency no less than annually, 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. If, however, Phase 5 facilities choose to

expand, the renewed or amended permits will contain Cap Loads based on the lesser of a) existing TN/TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

If no data are available to determine existing concentrations for expanding Phase 4 or 5 facilities, default concentrations of 25 mg/l TN and 4 mg/l TP may be used (these are the average estimated concentrations of all non-significant sewage facilities).

DEP will not issue permits to existing Phase 4 and 5 facilities containing Cap Loads unless it is done on a broad scale or unless the facilities are expanding.

For new Phase 4 and 5 sewage discharges, in general DEP will issue new permits containing Cap Loads of "0" and new facilities will be expected to purchase credits and/or apply offsets to achieve compliance, with the exception of small flow and single residence facilities.

**This facility is subject to Sector C monitoring requirements. Monitoring shall be required for nitrogen species on a 1x/month basis.**

## 5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

**The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.**

## 5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

## 6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and
c) a summary of the proposed NPDES effluent limits.

## 6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection and (b) Nitrogen Species and Phosphorus.

## 6.1.1 Conventional Pollutants and Disinfection

**Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection**
**West Perry School District, PA0080241**

| Parameter | Permit Limitation Required by[1]: | Recommendation | |
|---|---|---|---|
| **pH (S.U.)** | TBEL | Monitoring: | The monitoring frequency shall be daily as a grab sample (Table 6-3). |
| | | Effluent Limit: | Effluent limits may range from pH = 6.0 to 9.0 |
| | | Rationale: | The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1). |
| **Dissolved Oxygen** | BPJ | Monitoring: | The monitoring frequency shall be daily as a grab sample (Table 6-3). |
| | | Effluent Limit: | Effluent limits shall be greater than 5.0 mg/l. |
| | | Rationale: | The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by best professional judgement. |
| **CBOD** | TBEL | Monitoring: | The monitoring frequency shall be 2x/month as an 8-hr composite sample (Table 6-3). |
| | | Effluent Limit: | Effluent limits shall not exceed 25 mg/l as an average monthly. |
| | | Rationale: | The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). WQM modeling indicates that the TBEL is more stringent than the WQBEL. Thus, the permit limit is confined to TBEL. |
| **TSS** | TBEL | Monitoring: | The monitoring frequency shall be 2x/month as an 8-hr composite sample (Table 6-3). |
| | | Effluent Limit: | Effluent limits shall not exceed 7.52 lbs/day, 2,744.29 lbs/yr, and 30 mg/l as an average monthly. |
| | | Rationale: | The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). Effluent limits and loading rate are subject to the Montour Creek Sediment TMDL. |
| **UV disinfection** | SOP | Monitoring: | The monitoring frequency is 1/day. The facility will be required to record the UV transmittance. |
| | | Effluent Limit: | No effluent requirement. |
| | | Rationale: | Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised January 10, 2019), the facility will be required to have routine monitoring for UV transmittance, UV dosage, or UV intensity. |
| **Fecal Coliform** | TBEL | Monitoring: | The monitoring frequency shall be 2x/month as a grab sample (Table 6-3). |
| | | Effluent Limit: | Summer effluent limits shall not exceed 200 No./100 mL as a geometric mean. Winter effluent limits shall not exceed 2000 No./100 mL as a geometric mean. |
| | | Rationale: | The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(4) and 92a.47(a)(5). |
| **E. Coli** | SOP; Chapter 92a.61 | Monitoring: | The monitoring frequency shall be 1x/yr as a grab sample (SOP). |
| | | Effluent Limit: | No effluent requirements. |
| | | Rationale: | Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised March 22, 2019) and under the authority of Chapter 92a.61, the facility will be required to monitor for E.Coli. |

**Notes:**

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.0286 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

## 6.1.2 Nitrogen Species and Phosphorus

**Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus**

**West Perry School District, PA0080241**

| Parameter | Permit Limitation Required by[1]: | Recommendation | |
|---|---|---|---|
| **Ammonia-Nitrogen** | WQBEL | Monitoring: | The monitoring frequency shall be 2x/mo as an 8-hr composite sample (Table 6-3) |
| | | Effluent Limit: | Effluent limits shall not exceed of 15 mg/l as an average monthly during the months of May 1 to October 31. During the months of November 1 to April 30 there shall be no effluent requirement. |
| | | Rationale: | Water quality management modeling recommends effluent limits. |
| **Nitrate-Nitrite as N** | Chesapeake Bay TMDL | Monitoring: | The monitoring frequency shall be 1x/mo as an 8-hr composite sample |
| | | Effluent Limit: | No effluent requirements. |
| | | Rationale: | Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/mo. |
| **Total Nitrogen** | Chesapeake Bay TMDL | Monitoring: | The monitoring frequency shall be 1x/mo as an 8-hr composite sample |
| | | Effluent Limit: | No effluent requirements. |
| | | Rationale: | Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/mo. |
| **TKN** | Chesapeake Bay TMDL | Monitoring: | The monitoring frequency shall be 1x/mo as an 8-hr composite sample |
| | | Effluent Limit: | No effluent requirements. |
| | | Rationale: | Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/mo. |
| **Total Phosphorus** | Antibacksliding | Monitoring: | The monitoring frequency shall be 2x/mo as an 8-hr composite sample |
| | | Effluent Limit: | Effluent limits shall not exceed 2 mg/l as an average monthly. |
| | | Rationale: | DEP has Fact Sheets dating backing to February 1993 requiring a phosphorus limit of 2 mg/l. Due to anti-backsliding, the current permit limit of 2 mg/l shall continue to the proposed permit. |
| **Notes:** | | | |

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.0286 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

## 6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

**Changes in Permit Monitoring or Effluent Quality**

| Parameter | Existing Permit | Draft Permit |
|---|---|---|
| TSS | Monitoring is required 2x/mo and the effluent requirement is 30 mg/l | Monitoring shall be 2x/mo. Effluent limits and loading rate are subject to the Montour Creek Sediment TMDL. Effluent limits shall not exceed 7.52 lbs/day, 2,744.29 lbs/yr, and 30 mg/l as an average monthly. |
| Ammonia-Nitrogen | Monitoring is required 2x/mo and the effluent requirement is 15 mg/l during the months of May 1 to October 31 | Monitoring shall be required 2x/mo and the effluent requirement shall be reduced to 6 mg/l during the months of May 1 to October 31. The current NPDES permit limits utilized default values for pH and temperature. Utilizing data from the water quality network and sampling DMR data lead to a reduced ammonia-nitrogen limit. Based upon the DMR data, the facility should be able to meet the reduced limit. |
| Nitrate-Nitrite as N | Monitoring is required 2x/mo | Due to the Chesapeake Bay WIP, monitoring shall be required. Monitoring shall be reduced to 1x/mo |
| Total Nitrogen | Monitoring is required 2x/mo | Due to the Chesapeake Bay WIP, monitoring shall be required. Monitoring shall be reduced to 1x/mo |
| TKN | Monitoring is required 2x/mo | Due to the Chesapeake Bay WIP, monitoring shall be required. Monitoring shall be reduced to 1x/mo |
| UV disinfection | No effluent limits | Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised January 10, 2019), the facility will be required to have routine monitoring for UV transmittance on a 1x/day basis. |
| E. Coli | No effluent limits | Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised March 22, 2019) and under the authority of Chapter 92a.61, the facility will be required to monitor for E.Coli on a 1x/yr basis. |

### 6.3.1 Summary of Proposed NPDES Effluent Limits

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.

The proposed NPDES effluent limitations are summarized in the table below.

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

**I. A. For Outfall** 001 , **Latitude** 40° 23' 13.80" , **Longitude** 77° 18' 10.11" , **River Mile Index** 4.24 , **Stream Code** 11157

**Receiving Waters:** Montour Creek (CWF)

**Type of Effluent:** Sewage Effluent

1. The permittee is authorized to discharge during the period from Permit Effective Date through Permit Expiration Date.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Total Monthly | Daily Maximum | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Flow (MGD) | Report Avg Mo | Report | XXX | XXX | XXX | XXX | Continuous | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Inst Min | XXX | XXX | 9.0 | 1/day | Grab |
| Dissolved Oxygen | XXX | XXX | 5.0 Inst Min | XXX | XXX | XXX | 1/day | Grab |
| Carbonaceous Biochemical Oxygen Demand (CBOD5) | XXX | XXX | XXX | 25 | XXX | 50 | 2/month | 8-Hr Composite |
| Total Suspended Solids (lbs/year) | 2744.29 | 7.52 | 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 |
| Nitrate-Nitrite as N | XXX | XXX | XXX | Report | XXX | XXX | 1/month | 8-Hr Composite |
| Total Nitrogen | XXX | XXX | XXX | Report | XXX | XXX | 1/month | Calculation |
| Ammonia-Nitrogen May 1 - Oct 31 | XXX | XXX | XXX | 6.0 | XXX | 12 | 2/month | 8-Hr Composite |
| Total Kjeldahl Nitrogen | XXX | XXX | XXX | Report | XXX | XXX | 1/month | 8-Hr Composite |

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

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Total Monthly | Daily Maximum | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Total Phosphorus | XXX | XXX | XXX | 2.0 | XXX | 4 | 2/month | 8-Hr Composite |

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

### 6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chesapeake Bay Nutrient Definitions
- Solids Management for Non-Lagoon Treatment Systems

| Tools and References Used to Develop Permit | |
|---|---|
| | |
| ☒ | WQM for Windows Model (see Attachment ) |
| ☐ | Toxics Management Spreadsheet (see Attachment ) |
| ☐ | TRC Model Spreadsheet (see Attachment ) |
| ☐ | Temperature Model Spreadsheet (see Attachment ) |
| ☐ | 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. |
| ☐ | Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99. |
| ☐ | Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004. |
| ☐ | Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97. |
| ☐ | Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008. |
| ☐ | Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994. |
| ☐ | Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09. |
| ☐ | Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97. |
| ☐ | 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. |
| ☐ | Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99. |
| ☐ | 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. |
| ☐ | Design Stream Flows, 391-2000-023, 9/98. |
| ☐ | 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. |
| ☐ | Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97. |
| ☐ | Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07. |
| ☒ | SOP: New and Reissuance Sewage Individual NPDES Permit Applications, revised October 11, 2013 |
| ☐ | Other: |

# Attachment A

# Stream Stats/Gauge Data

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

| Streamgage number | Streamgage name | Latitude | Longitude | Drainage area (mi²) | Regulated[1] |
|---|---|---|---|---|---|
| 01561000 | Brush Creek at Gapsville, Pa. | 39.956 | -78.254 | 36.8 | N |
| 01562000 | Raystown Branch Juniata River at Saxton, Pa. | 40.216 | -78.265 | 756 | N |
| 01562500 | Great Trough Creek near Marklesburg, Pa. | 40.350 | -78.130 | 84.6 | N |
| 01563200 | Raystown Branch Juniata River below Rays Dam nr Huntingdon, Pa. | 40.429 | -77.991 | 960 | Y |
| 01563500 | Juniata River at Mapleton Depot, Pa. | 40.392 | -77.935 | 2,030 | Y |
| 01564500 | Aughwick Creek near Three Springs, Pa. | 40.213 | -77.925 | 205 | N |
| 01565000 | Kishacoquillas Creek at Reedsville, Pa. | 40.655 | -77.583 | 164 | N |
| 01565700 | Little Lost Creek at Oakland Mills, Pa. | 40.605 | -77.311 | 6.52 | N |
| 01566000 | Tuscarora Creek near Port Royal, Pa. | 40.515 | -77.419 | 214 | N |
| 01566500 | Cocolamus Creek near Millerstown, Pa. | 40.566 | -77.118 | 57.2 | N |
| 01567000 | Juniata River at Newport, Pa. | 40.478 | -77.129 | 3,354 | Y |
| 01567500 | Buffer Run near Loysville, Pa. | 40.371 | -77.402 | 15.0 | N |
| 01568000 | Sherman Creek at Shermans Dale, Pa. | 40.323 | -77.169 | 207 | N |
| 01568500 | Clark Creek near Carsonville, Pa. | 40.460 | -76.751 | 22.5 | LF |
| 01569000 | Stony Creek nr Dauphin, Pa. | 40.380 | -76.907 | 33.2 | N |
| 01569800 | Letort Spring Run near Carlisle, Pa. | 40.235 | -77.139 | 21.6 | N |
| 01570000 | Conodoguinet Creek near Hogestown, Pa. | 40.252 | -77.021 | 470 | LF |
| 01570500 | Susquehanna River at Harrisburg, Pa. | 40.253 | -76.886 | 24,100 | Y |
| 01571000 | Paxton Creek near Penbrook, Pa. | 40.308 | -76.850 | 11.2 | N |
| 01571500 | Yellow Breeches Creek near Camp Hill, Pa. | 40.225 | -76.898 | 213 | N |
| 01572000 | Lower Little Swatara Creek at Pine Grove, Pa. | 40.538 | -76.377 | 34.3 | N |
| 01572025 | Swatara Creek near Pine Grove, Pa. | 40.533 | -76.402 | 116 | N |
| 01572190 | Swatara Creek near Inwood, Pa. | 40.479 | -76.531 | 167 | N |
| 01573000 | Swatara Creek at Harper Tavern, Pa. | 40.403 | -76.577 | 337 | N |
| 01573086 | Beck Creek near Cleona, Pa. | 40.323 | -76.483 | 7.87 | N |
| 01573160 | Quittapahilla Creek near Bellegrove, Pa. | 40.343 | -76.562 | 74.2 | N |
| 01573500 | Manada Creek at Manada Gap, Pa. | 40.397 | -76.709 | 13.5 | N |
| 01573560 | Swatara Creek near Hershey, Pa. | 40.298 | -76.668 | 483 | N |
| 01574000 | West Conewago Creek near Manchester, Pa. | 40.082 | -76.720 | 510 | N |
| 01574500 | Codorus Creek at Spring Grove, Pa. | 39.879 | -76.853 | 75.5 | Y |
| 01575000 | South Branch Codorus Creek near York, Pa. | 39.921 | -76.749 | 117 | Y |
| 01575500 | Codorus Creek near York, Pa. | 39.946 | -76.755 | 222 | Y |
| 01576000 | Susquehanna River at Marietta, Pa. | 40.055 | -76.531 | 25,990 | Y |
| 01576085 | Little Conestoga Creek near Churchtown, Pa. | 40.145 | -75.989 | 5.82 | N |
| 01576500 | Conestoga River at Lancaster, Pa. | 40.050 | -76.277 | 324 | N |
| 01576754 | Conestoga River at Conestoga, Pa. | 39.946 | -76.368 | 470 | N |
| 01578310 | Susquehanna River at Conowingo, Md. | 39.658 | -76.174 | 27,100 | Y |
| 01578400 | Bowery Run near Quarryville, Pa. | 39.895 | -76.114 | 5.98 | N |
| 01580000 | Deer Creek at Rocks, Md. | 39.630 | -76.403 | 94.4 | N |
| 01581500 | Bynum Run at Bel Air, Md. | 39.541 | -76.330 | 8.52 | N |
| 01581700 | Winters Run near Benson, Md. | 39.520 | -76.373 | 34.8 | N |
| 01582000 | Little Falls at Blue Mount, Md. | 39.604 | -76.620 | 52.9 | N |
| 01582500 | Gunpowder Falls at Glencoe, Md. | 39.550 | -76.636 | 160 | Y |
| 01583000 | Slade Run near Glyndon, Md. | 39.495 | -76.795 | 2.09 | N |
| 01583100 | Piney Run at Dover, Md. | 39.521 | -76.767 | 12.3 | N |

Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft³/s, cubic feet per second; —, statistic not computed; <, less than]

| Streamgage number | Period of record used in analysis[1] | Number of years used in analysis | 1-day, 10-year (ft³/s) | 7-day, 10-year (ft³/s) | 7-day, 2-year (ft³/s) | 30-day, 10-year (ft³/s) | 30-day, 2-year (ft³/s) | 90-day, 10-year (ft³/s) |
|---|---|---|---|---|---|---|---|---|
| 01565000 | 1941–2008 | 37 | 17.6 | 18.6 | 28.6 | 20.3 | 32.4 | 24.4 |
| 01565700 | 1965–1981 | 17 | .4 | .4 | .9 | .5 | 1.1 | .8 |
| 01566000 | 1913–2008 | 52 | 4.3 | 7.9 | 18.8 | 12.4 | 25.6 | 19.2 |
| 01566500 | 1932–1958 | 27 | 1.7 | 2.4 | 4.0 | 3.2 | 5.7 | 4.9 |
| 01567000 | [2]1974–2008 | 35 | 504 | 534 | 725 | 589 | 857 | 727 |
| 01567000 | [3]1901–1972 | 72 | 311 | 367 | 571 | 439 | 704 | 547 |
| 01567500 | 1955–2008 | 54 | 2.0 | 2.2 | 3.3 | 2.6 | 3.8 | 3.1 |
| 01568000 | 1931–2008 | 78 | 12.7 | 15.5 | 25.5 | 19.2 | 32.0 | 26.0 |
| 01568500 | [2]1943–1997 | 55 | 1.8 | 2.3 | 4.3 | 2.7 | 5.0 | 3.1 |
| 01569000 | 1939–1974 | 14 | 2.6 | 4.0 | 7.4 | 5.1 | 9.4 | 7.8 |
| 01569800 | 1978–2008 | 31 | 15.9 | 17.0 | 24.4 | 18.4 | 26.1 | 20.3 |
| 01570000 | [3]1913–1969 | 35 | — | 63.1 | 110 | 76.1 | 124 | 95.3 |
| 01570000 | [2]1971–2008 | 38 | 63.1 | 69.3 | 109 | 78.3 | 125 | 97.8 |
| 01570500 | [3]1901–1972 | 72 | 2,310 | 2,440 | 4,000 | 2,830 | 4,950 | 3,850 |
| 01570500 | [2]1974–2008 | 35 | 3,020 | 3,200 | 5,180 | 3,690 | 6,490 | 4,960 |
| 01571000 | 1941–1995 | 16 | .1 | .2 | .6 | .3 | 1.2 | .8 |
| 01571500 | 1911–2008 | 62 | 81.6 | 86.8 | 115 | 94.0 | 124 | 105 |
| 01572000 | 1921–1984 | 14 | 2.1 | 2.3 | 4.8 | 3.0 | 6.5 | 4.5 |
| 01572025 | 1990–2008 | 17 | 15.2 | 16.4 | 26.7 | 18.5 | 34.6 | 27.7 |
| 01572190 | 1990–2008 | 17 | 19.1 | 20.5 | 36.2 | 23.9 | 45.8 | 35.3 |
| 01573000 | 1920–2008 | 89 | 18.0 | 22.0 | 52.0 | 30.8 | 69.2 | 50.9 |
| 01573086 | 1965–1981 | 17 | .5 | .6 | 2.6 | .8 | 3.3 | 1.1 |
| 01573160 | 1977–1994 | 18 | 26.9 | 29.6 | 46.4 | 33.6 | 51.9 | 39.5 |
| 01573500 | 1939–1958 | 20 | 1.3 | 1.4 | 2.5 | 1.8 | 3.2 | 2.6 |
| 01573560 | 1977–2008 | 30 | 50.3 | 62.0 | 104 | 76.9 | 131 | 108 |
| 01574000 | 1930–2008 | 79 | 8.0 | 11.1 | 32.0 | 17.7 | 47.0 | 33.9 |
| 01574500 | [2]1968–2008 | 41 | 14.2 | 24.0 | 35.9 | 29.4 | 42.0 | 33.3 |
| 01574500 | [3]1930–1966 | 34 | 2.3 | 7.1 | 11.5 | 9.3 | 14.8 | 12.7 |
| 01575000 | [2]1973–1995 | 23 | .7 | 1.4 | 6.7 | 3.2 | 12.0 | 9.3 |
| 01575000 | [3]1929–1971 | 43 | .1 | .6 | 10.3 | 2.3 | 15.0 | 6.1 |
| 01575500 | [2]1948–1996 | 49 | 12.1 | 18.7 | 41.3 | 23.9 | 50.0 | 33.8 |
| 01576000 | [3]1933–1972 | 40 | 2,100 | 2,420 | 4,160 | 2,960 | 5,130 | 4,100 |
| 01576000 | [2]1974–2008 | 35 | 2,990 | 3,270 | 5,680 | 3,980 | 7,180 | 5,540 |
| 01576085 | 1984–1995 | 12 | .4 | .5 | .8 | .7 | 1.2 | 1.2 |
| 01576500 | 1931–2008 | 78 | 27.2 | 38.6 | 79.4 | 49.1 | 97.3 | 66.1 |
| 01576754 | 1986–2008 | 23 | 74.2 | 84.9 | 151 | 106 | 189 | 147 |
| [4]01578310 | 1969–2008 | 40 | 549 | 2,820 | 5,650 | 4,190 | 7,380 | 6,140 |
| 01578400 | 1964–1981 | 18 | 1.4 | 1.5 | 2.7 | 1.9 | 3.2 | 2.5 |
| [4]01580000 | 1928–2008 | 81 | 19.7 | 22.8 | 48.1 | 28.1 | 51.8 | 35.4 |
| [4]01581500 | 1946–2008 | 28 | .2 | .3 | 1.2 | .8 | 1.7 | 1.5 |
| [4]01581700 | 1969–2008 | 40 | 4.7 | 5.5 | 17.5 | 8.1 | 18.3 | 12.0 |
| [4]01582000 | 1946–2008 | 63 | 11.3 | 12.5 | 25.0 | 15.5 | 28.0 | 20.3 |
| [4]01582500 | 1979–2008 | 27 | 41.2 | 43.9 | 78.8 | 53.8 | 90.6 | 74.1 |
| [4]01583000 | 1949–1981 | 33 | .3 | .3 | .7 | .3 | 1.0 | .6 |
| [4]01583100 | 1984–2008 | 15 | 2.1 | 2.4 | 5.5 | 3.2 | 6.0 | 4.2 |

# Attachment B

# WQM 7.0 Modeling Output Values

# WQM 7.0 Modeling Specifications

| | | | |
|---|---|---|---|
| Parameters | Both | Use Inputted Q1-10 and Q30-10 Flows | ☐ |
| WLA Method | EMPR | Use Inputted W/D Ratio | ☐ |
| Q1-10/Q7-10 Ratio | 0.82 | Use Inputted Reach Travel Times | ☐ |
| Q30-10/Q7-10 Ratio | 1.24 | Temperature Adjust Kr | ☑ |
| D.O. Saturation | 90.00% | Use Balanced Technology | ☑ |
| D.O. Goal | 5 | | |

# WQM 7.0 Hydrodynamic Outputs

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 07A | 11157 | MONTOUR CREEK |

| RMI | Stream Flow (cfs) | PWS With (cfs) | Net Stream Flow (cfs) | Disc Analysis Flow (cfs) | Reach Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Reach Trav Time (days) | Analysis Temp (°C) | Analysis pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10 Flow** | | | | | | | | | | | | |
| 4.240 | 0.32 | 0.00 | 0.32 | .0442 | 0.00727 | .433 | 9.41 | 21.75 | 0.09 | 1.531 | 22.63 | 8.05 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 4.240 | 0.26 | 0.00 | 0.26 | .0442 | 0.00727 | NA | NA | NA | 0.08 | 1.686 | 22.69 | 8.03 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 4.240 | 0.40 | 0.00 | 0.40 | .0442 | 0.00727 | NA | NA | NA | 0.10 | 1.375 | 22.57 | 8.06 |

# Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC |
|---|---|---|---|---|---|---|---|---|
| 07A | 11157 | MONTOUR CREEK | **4.240** | 638.00 | 4.27 | 0.00000 | 0.00 | ☑ |

## Stream Data

| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10** | 0.075 | 0.00 | 0.00 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 22.30 | 8.15 | 0.00 | 0.00 |
| **Q1-10** | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| **Q30-10** | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

## Discharge Data

| Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH |
|---|---|---|---|---|---|---|---|
| West Perry SD | PA0080241 | 0.0286 | 0.0286 | 0.0286 | 0.000 | 25.00 | 7.64 |

## Parameter Data

| Parameter Name | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) |
|---|---|---|---|---|
| CBOD5 | 25.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 5.00 | 8.24 | 0.00 | 0.00 |
| NH3-N | 15.00 | 0.00 | 0.00 | 0.70 |

## Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC |
|---|---|---|---|---|---|---|---|---|
| 07A | 11157 | MONTOUR CREEK | 2.000 | 552.00 | 10.80 | 0.00000 | 0.00 | ☑ |

### Stream Data

| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q7-10 | 0.075 | 0.00 | 0.00 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 22.30 | 8.15 | 0.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

### Discharge Data

| Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH |
|---|---|---|---|---|---|---|---|
| | | 0.0000 | 0.0000 | 0.0000 | 0.000 | 0.00 | 7.00 |

### Parameter Data

| Parameter Name | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) |
|---|---|---|---|---|
| CBOD5 | 25.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 3.00 | 8.24 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 |

# WQM 7.0 Wasteload Allocations

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 07A | 11167 | MONTOUR CREEK |

## NH3-N Acute Allocations

| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|
| 4.240 | West Perry SD | 2.96 | 20.5 | 2.96 | 20.5 | 0 | 0 |

## NH3-N Chronic Allocations

| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|
| 4.240 | West Perry SD | .6 | 5.99 | .6 | 5.99 | 0 | 0 |

## Dissolved Oxygen Allocations

| RMI | Discharge Name | CBOD5 | | NH3-N | | Dissolved Oxygen | | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|---|---|
| | | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | | |
| 4.24 | West Perry SD | 25 | 25 | 5.99 | 5.99 | 5 | 5 | 0 | 0 |

# WQM 7.0 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 07A | 11157 | MONTOUR CREEK |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 4.240 | 0.029 | 22.628 | 8.046 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 9.409 | 0.433 | 21.747 | 0.089 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 4.80 | 0.506 | 0.73 | 0.857 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 7.849 | 21.585 | Owens | 5 |
| **Reach Travel Time (days)** | | | |
| 1.531 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.153 | 4.39 | 0.64 | 7.86 |
| 0.306 | 4.03 | 0.56 | 7.86 |
| 0.459 | 3.69 | 0.49 | 7.86 |
| 0.612 | 3.38 | 0.43 | 7.86 |
| 0.765 | 3.10 | 0.38 | 7.86 |
| 0.918 | 2.84 | 0.33 | 7.86 |
| 1.071 | 2.60 | 0.29 | 7.86 |
| 1.225 | 2.38 | 0.25 | 7.86 |
| 1.378 | 2.18 | 0.22 | 7.86 |
| 1.531 | 2.00 | 0.20 | 7.86 |

# WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 07A | 11157 | MONTOUR CREEK |

| RMI | Name | Permit Number | Disc Flow (mgd) | Parameter | Effl. Limit 30-day Ave. (mg/L) | Effl. Limit Maximum (mg/L) | Effl. Limit Minimum (mg/L) |
|---|---|---|---|---|---|---|---|
| 4.240 | West Perry SD | PA0080241 | 0.029 | CBOD5 | 25 | | |
| | | | | NH3-N | 5.99 | 11.98 | |
| | | | | Dissolved Oxygen | | | 5 |

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION III**
**1650 Arch Street**
**Philadelphia, Pennsylvania 19103-2029**

**SEP 27 2018**

Mr. Lee McDonnell, P.E., Director
Bureau of Clean Water
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
Post Office Box 8774
Harrisburg, Pennsylvania 17105-8774

Dear Mr. McDonnell:

The U.S. Environmental Protection Agency, Region III (EPA) is pleased to approve the sediment Total Maximum Daily Load (TMDL) for the Montour Creek Watershed. The Pennsylvania Department of Environmental Protection submitted the report, *Montour Creek Sediment TMDL, Tributary to Shermans Creek and the Greater Susquehanna Basin, Perry County, Pennsylvania* (September 2018), to EPA for final review and action on August 30, 2018. The submittal was supplemented on September 20, 2018. The TMDL addresses the aquatic life use impairment, as identified on Pennsylvania's 2002 Section 303(d) List.

The TMDL was established and submitted in accordance with Sections 303(d)(1)(C) and 303(d)(2) of the Clean Water Act. Our review indicates that the load and wasteload allocations in the TMDL have been established at levels necessary that, when fully implemented, will lead to the attainment of the water quality standard addressed by this TMDL. A copy of EPA's rationale for approval is enclosed.

As you are aware, any new or revised National Pollutant Discharge Elimination System permits must be consistent with the assumptions and requirements of applicable TMDL wasteload allocations pursuant to 40 CFR §122.44 (d)(1)(vii)(B). Please continue to submit all such permits to EPA for review as per our letter dated October 1, 1998.

If you have any questions regarding EPA's action, please contact Ms. Ashley Toy, Pennsylvania TMDL Coordinator, at 215-814-2774.

Sincerely,

Catherine A. Libertz

Catherine A. Libertz, Director
Water Protection Division