

Application Type Renewal  
Wastewater Type Sewage  
Facility Type SRSTP

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SFTF/SRSTP**

Application No. PA0261157  
APS ID 1031892  
Authorization ID 1342389

**Applicant, Facility and Project Information**

Applicant Name	<u>Ivan Diem Jr.</u>	Facility Name	<u>Diem Residence</u>
Applicant Address	<u>549 Jones Road</u> <u>Mifflintown, PA 17059</u>	Facility Address	<u>6710 Rte 234</u> <u>McAlisterville, PA 17049</u>
Applicant Contact	<u>Ivan Diem</u>	Facility Contact	<u>Ivan Diem</u>
Applicant Phone	<u></u>	Facility Phone	<u></u>
Client ID	<u>360922</u>	Site ID	<u>704137</u>
SIC Code	<u>6514</u>	Municipality	<u>Delaware Township</u>
SIC Description	<u>Fin, Ins &amp; Real Est - Dwelling Operators, Except Apartments</u>	County	<u>Juniata</u>
Date Application Received	<u>February 8, 2021</u>	WQM Required	<u>No</u>
Date Application Accepted	<u>February 13, 2021</u>	WQM App. No.	<u>3408401 T-1</u>
Project Description	<u>This is an application for NPDES renewal.</u>		

**Summary of Review**

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineering Specialist Nick Hong (via electronic signature)	February 13, 2021
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria Bebenek, P.E./ Environmental Program Manager	

### Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Diem Residence located at 6710 Route 235, McAlisterville, PA 17049 in Juniata County, municipality of Delaware Township. The existing permit became effective on December 1, 2014 and expired on November 30, 2019. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on May 30, 2019. The application for transfer was received on February 8, 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 0.0004 MGD (400 GPD) 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 Small Flow Treatment Facility due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Juniata County Commissioners and Delaware Township Supervisors and the notice was received by the parties on July 1, 2019. 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 the Delaware Creek. The sequence of receiving streams that the Delaware Creek discharges into are the Juniata River and the Susquehanna River which eventually drains into the Chesapeake Bay. Due to the low flow rate generated by this facility, the subject site is not subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for trout stocking fishes (TSF) 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 Delaware Creek is a Category 2 stream listed in the 2020 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attainment stream that supports aquatic life. The receiving waters is not subject to a 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:

- **Flow measurements have been reduced to monitoring 1x/yr.**
- **Dissolved oxygen monitoring requirements have been eliminated.**

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: Ivan Diem

NPDES Permit # PA0261157

Physical Address: 6710 Route 234  
McAlisterville, PA 17049

Mailing Address: 549 Jones Road  
Mifflintown, PA 17059

Contact: Ivan Diem  
Homeowner  
padiems@yahoo.com

Consultant: There was not a consultant utilized for this NPDES renewal.

### **1.2 Permit History**

The NPDES renewal application was submitted by Velma Kerstetter on July 26, 2019.

Via Cory at McAlisterville Area Joint Authority, the permit was requested to be transferred from Velma Kerstetter to Ivan Diem. The transfer application forms were received by DEP Southcentral Regional Office on February 8, 2021.

Permit submittal included the following information.

- NPDES Application
- Transfer Application

## **2.0 Treatment Facility Summary**

### **2.1.1 Site location**

The physical address for the facility is 6710 Route 234, McAlisterville, PA 17049. 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

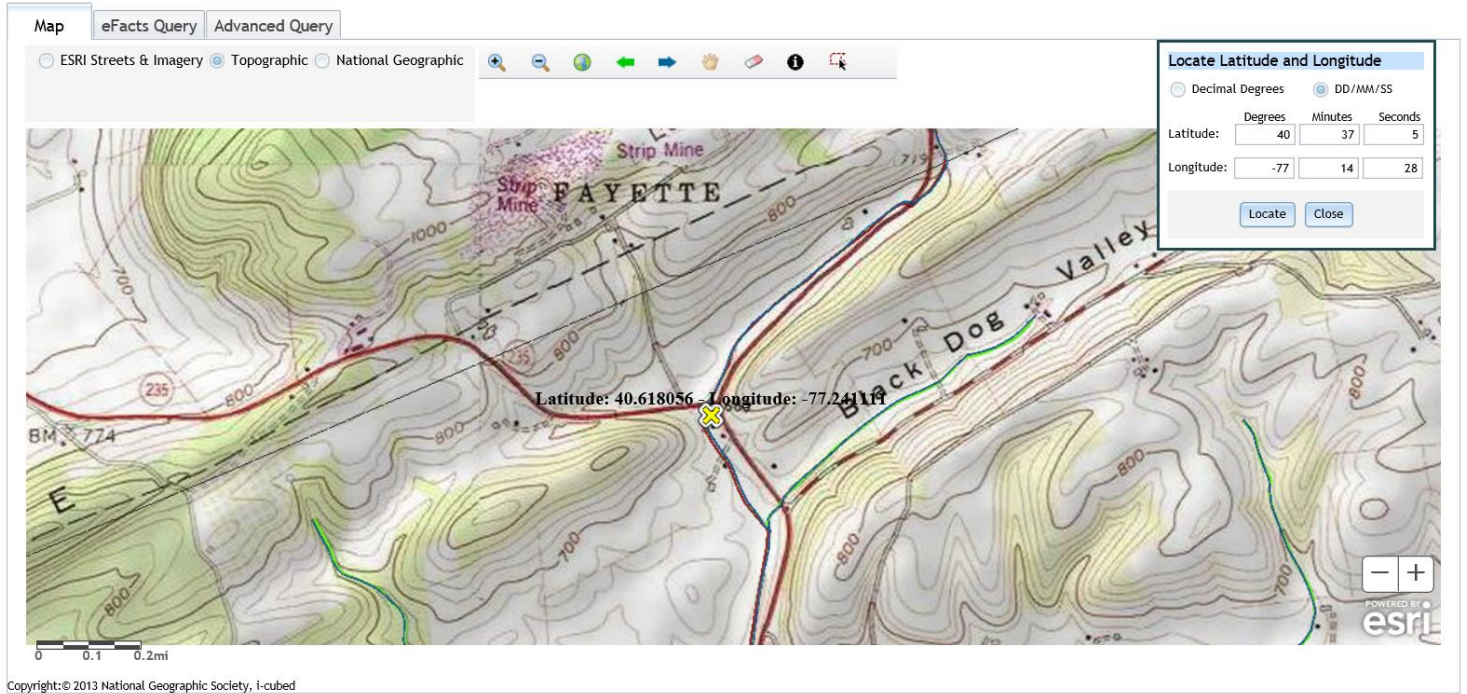
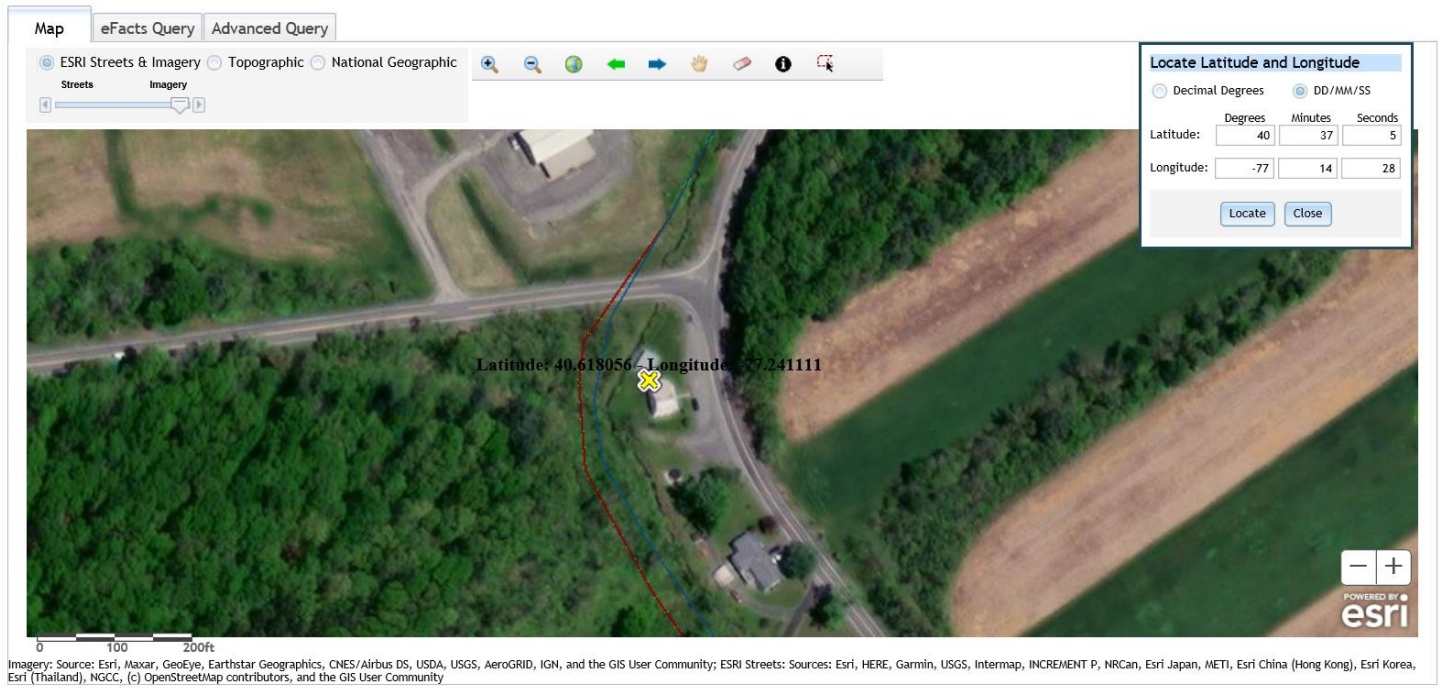


Figure 2: Aerial Photograph of the subject facility



**2.2 Description of Wastewater Treatment Process**

The subject facility is a 0.0004 MGD design flow facility. The subject facility treats wastewater using a 1,000- gal septic tank, a 500-gal pump tank, an Ecoflo peat filter, and UV for disinfection prior to discharge through the outfall. The facility is being evaluated for flow, pH, dissolved oxygen, CBOD5, TSS, TRC, and fecal coliform. 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: Sfs Diem Residence				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	ECOFLOW Peat Filter	Ultraviolet	0.0004
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0004		Not Overloaded		

**2.3 Facility Outfall Information**

The facility has the following outfall information for wastewater.

<b>Outfall No.</b>	<u>001</u>	<b>Design Flow (MGD)</b>	<u>.0004</u>
<b>Latitude</b>	<u>40° 37' 5.00"</u>	<b>Longitude</b>	<u>-77° 14' 28.00"</u>
<b>Wastewater Description:</b>	<u>Sewage Effluent</u>		

**2.4 Existing NPDES Permits Limits**

The existing NPDES permit limits are summarized in the table. Note that the effective date and expiration date in the table were inadvertently left incomplete in the current permit. However, the cover page of the permit included the appropriate effective and expiration dates.

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

I. A. For Outfall 001, Latitude 40° 37' 5.00", Longitude 77° 14' 28.00", River Mile Index 5.32, Stream Code 11754  
 Receiving Waters: Delaware Creek  
 Type of Effluent: Treated Sewage

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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly		Minimum	Average Monthly		Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/year	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/year	Grab
CBOD5	XXX	XXX	XXX	10	XXX	20	1/year	Grab
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	1/year	Grab
Fecal Coliform (CFU/100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/year	Grab

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.

04/18/2019:

There was nothing significant to report.

**3.2 Summary of DMR Data**

Due to residence being transferred from Kerstetter to Diem, the dwelling was believed to be vacant for a period of time. The available sampling data was limited.

The following laboratory sampling data was available for the current renewal cycle.

Summary of Monitoring Data				
Sample Collection Date	CBOD (mg/l)	TSS (mg/l)	Fecal (CFU/100 mL)	pH (S.U.)
6/16/2015	3.35	<4	510	7.05
8/16/2016	<3	3	14	7
Notes:				
Highlighted results are non-compliance with NPDES effluent limits				

**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.

With limited sampling data available, the facility was meeting CBOD and TSS effluent limits in 2015 and 2016. There was an elevated level of fecal coliform in June 2015.

The facility should comply with NPDES monitoring requirements for sampling at least 1x/yr.

**3.3.2 Non-Compliance- Enforcement Actions**

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

No enforcement actions were taken from December 1, 2014 and ending February 12, 2021.

**3.4 Summary of Biosolids Disposal**

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

On July 19, 2018, the septic tanks were pumped by William Kemp Septic Tank Cleaning.

On July 23, 2019, the Ecoflo unit was serviced by Walter Environmental.

**3.5 Open Violations**

No open violations existed as of February 2021.

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

**4.1 Receiving Waters**

The receiving waters has been determined to be the Delaware Creek. The sequence of receiving streams that the Delaware Creek discharges into are the Juniata River 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 Newport Borough Water Authority (PWS ID #7500022) located approximately 15 miles downstream of the subject facility on the Juniata 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 2 waterbody. The surface waters is an attaining stream that supports aquatic life. The designated use has been classified as protected waters for trout stocking fishes (TSF) 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 low flow yield and the Q710 for the subject facility was estimated using StreamStats.

The low flow yield is 0.063 ft<sup>3</sup>/s/mi<sup>2</sup> and the Q710 is 0.0736 ft<sup>3</sup>/sec using a drainage area of 1.16 mi<sup>2</sup>.



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

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.0004</u>
Latitude	<u>40° 37' 5.76"</u>	Longitude	<u>-77° 14' 28.84"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary to Delaware Creek (TSF)</u>	Stream Code	<u>11754</u>
NHD Com ID	<u>66204091</u>	RMI	<u>5.31</u>
Drainage Area	<u>1.16</u>	Yield (cfs/mi <sup>2</sup> )	<u>0.063</u>
Q <sub>7-10</sub> Flow (cfs)	<u>0.0736</u>	Q <sub>7-10</sub> Basis	<u>StreamStats</u>
Elevation (ft)	<u>656</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>12B</u>	Chapter 93 Class.	<u>TSF/ MF</u>
Existing Use	<u>Same as Chapter 93 class.</u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s) supports aquatic life.</u>		
Cause(s) of Impairment	<u>Not appl.</u>		
Source(s) of Impairment	<u>Not appl.</u>		
TMDL Status	<u>Not appl.</u>	Name	<u></u>
Background/Ambient Data		Data Source	
pH (SU)	<u>Not appl.</u>	<u></u>	
Temperature (°F)	<u>Not appl.</u>	<u></u>	
Hardness (mg/L)	<u>Not appl.</u>	<u></u>	
Other:	<u></u>	<u></u>	
Nearest Downstream Public Water Supply Intake	<u>Newport Borough Water Authority</u>		
PWS Waters	<u>Juniata River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>12</u>	Distance from Outfall (mi)	<u>15</u>

**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).

Small flow treatment facilities are confined to permit limitations promulgated by the Small Flow Treatment Facilities Manual (Document # 36-0300-002) and the SOP- New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Application (Revised May 17, 2019).

<b>Parameter</b>	<b>Avg Mo</b>	<b>IMAX</b>	<b>Sample Type</b>	<b>Frequency: SRSTPs</b>
Flow (GPD)	Report	XXX	Estimate	1/year
BOD5 (mg/l)	10	20	Grab	1/year
TSS (mg/l)	10	20	Grab	1/year
TRC (mg/l)	Report for SRSTPs		Grab	1/month
Fecal Coliform (No/100 ml)	200 Geometric Mean		Grab	1/year

**5.3 Water Quality-Based Limitations**

The facility is not subject to water quality based effluent limits.

**5.3.1 Water Quality Modeling 7.0**

The facility is not subject to WQM.

**5.3.2 PENTOXSD Modeling**

The facility is not subject to PENTOXSD.

**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 does not discharge into a local TMDL.

### **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:  $\geq 0.2$  MGD and  $< 0.4$  MGD and Phase 5 facilities:  $> 0.002$  MGD and  $< 0.2$  MGD), small flow/single residence sewage treatment facilities ( $\leq 0.002$  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.

**Due to the low flow rate generated by this facility, this facility is not subject to Sector C monitoring requirements.**

### **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 122.1.1 and 40 CFR 122.1.2). 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 Conventional Pollutants and Disinfection.

**6.1.1 Conventional Pollutants and Disinfection**

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection			
Kerstetter Residence, PA0261157			
Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
CBOD	TBEL	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample (SOP)
		Effluent Limit:	Effluent limits shall not exceed 10 mg/l as an average monthly (SOP)
		Rationale:	The monitoring frequency and the effluent limits assigned by the SOP.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample (SOP).
		Effluent Limit:	Effluent limits shall not exceed 10 mg/l as an average monthly (SOP)
		Rationale:	The monitoring frequency and the effluent limits assigned by the SOP.
pH	Antibacksliding	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample.
		Effluent Limit:	Effluent limits shall range between 6.0 to 9.0.
		Rationale:	Due to anti-backsliding regulations, the effluent limit will remain in the proposed permit.
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample (SOP).
		Effluent Limit:	Effluent limits shall not exceed 200 MPN as a geometric mean (SOP).
		Rationale:	The monitoring frequency and the effluent limits assigned by the SOP.
<b>Notes:</b>			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, or (g) WET			
2 Monitoring frequency based on flow rate of 0.0004 MGD.			
3 SOP, New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications, Revised January 13, 2015			
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.

- Flow measurements have been reduced to monitoring 1x/yr.
- Dissolved oxygen monitoring requirements have been eliminated.

**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° 37' 5.00", Longitude 77° 14' 28.00", River Mile Index 5.31, Stream Code 11754

Receiving Waters: Unnamed Tributary to Delaware Creek (TSF)

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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Annual Average	Maximum	Instant. Maximum		
Flow (MGD)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9	1/year	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20	1/year	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	1000	1/year	Grab

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.

- SFTF Maintenance

# Attachment A

## Stream Stats/Gauge Data

## StreamStats Report

Region ID: PA  
 Workspace ID: PA20200715134020628000  
 Clicked Point (Latitude, Longitude): 40.61785, -77.24137  
 Time: 2020-07-15 09:40:39 -0400



Kerstetter Residence PA0261157 Modeling Point #1 July 2020

Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.16	square miles
PRECIP	Mean Annual Precipitation	41	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	1.79	miles per square mile



Parameter Code	Parameter Description	Value	Unit
ROCKDEP	Depth to rock	5	feet
CARBON	Percentage of area of carbonate rock	21	percent

Low-Flow Statistics Parameters<sup>[Low Flow Region 2]</sup>

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.16	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	1.79	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
CARBON	Percent Carbonate	21	percent	0	99

Low-Flow Statistics Disclaimers<sup>[Low Flow Region 2]</sup>

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report<sup>[Low Flow Region 2]</sup>

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.151	ft <sup>3</sup> /s
30 Day 2 Year Low Flow	0.196	ft <sup>3</sup> /s
7 Day 10 Year Low Flow	0.0736	ft <sup>3</sup> /s
30 Day 10 Year Low Flow	0.0937	ft <sup>3</sup> /s
90 Day 10 Year Low Flow	0.137	ft <sup>3</sup> /s

*Low-Flow Statistics Citations*

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

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Application Version: 4.3.11