

Application Type Renewal  
Wastewater Type Sewage  
Facility Type SRSTP

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

Application No. PA0261602  
APS ID 759284  
Authorization ID 1100488

**Applicant, Facility and Project Information**

Applicant Name	<u>John P. McDermott</u>	Facility Name	<u>McDermott Residence</u>
Applicant Address	<u>7269 Union Deposit Road</u> <u>Hummelstown, PA 17036</u>	Facility Address	<u>7269 Union Deposit Road</u> <u>Hummelstown, PA 17036</u>
Applicant Contact	<u>John McDermott</u>	Facility Contact	<u>John McDermott</u>
Applicant Phone	<u></u>	Facility Phone	<u></u>
Client ID	<u>290017</u>	Site ID	<u>738255</u>
SIC Code	<u>6514</u>	Municipality	<u>South Hanover Township</u>
SIC Description	<u>Fin, Ins &amp; Real Est - Dwelling Operators, Except Apartments</u>	County	<u>Dauphin</u>
Date Application Received	<u>December 7, 2015</u>	WQM Required	<u></u>
Date Application Accepted	<u>December 21, 2015</u>	WQM App. No.	<u></u>
Project Description	<u>Permit renewal for discharge of treated sewage</u>		

**Summary of Review**

**1.0 General Discussion**

This facts sheet supports the reissuance of an existing NPDES permit for the discharge of treated domestic sewage from a small flow treatment facility that serve an existing 3-bedroom single family residence. The system has a design capacity of 0.0004 mgd, and discharges to an unnamed tributary to Swatara Creek, which is classified for warm water fishes. A point of first use (POFU) survey conducted on September 9, 2010 confirmed the POFU for the facility is located at the discharge point. Topographical map showing discharge location is presented in attachment A.

**1.1 Public Participation**

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		J. Pascal Kwedza, P.E. / Environmental Engineer	March 1, 2020
X		Daniel Martin, P.E./ Environmental Engineer Manager	May 14,2020
X		Maria D. Bebenek, P.E. / Program Manager	May 14,2020

**Summary of Review**

**1.2 Changes to Existing Permit**

Limits will be annual averages instead of the monthly averages in the existing permit. There will be no more seasonal limit for Fecal Coliform for consistency with DEPs Standard Operating Procedure (SOP) for the Clean Water Program SOP No. BPNPSM-PMT-003 version 1.8. Instantaneous maximum is added for Fecal Coliform

**1.3 Existing Limits**

DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	Concentrations mg/l				
Discharge Parameter	Average Monthly	Maximum Daily	Inst. Maximum	Monitoring Frequency	Sample Type
Flow (mgd)	Report	Report	XXX	2/year	Estimate
pH (S.U.)	From 6.0 to 9.0 inclusive			Upon request	Grab
Total Suspended Solids	30	XXX	60	2/year	Grab
CBOD <sub>5</sub>	25	XXX	50	2/year	Grab
Fecal Coliform (5/1 to 9/30)	200	XXX	XXX	2/year	Grab
Fecal Coliform (10/1 to 4/30)	2000	XXX	XXX	2/year	Grab

**1.4 Treatment Facility**

The plant consists of a two-compartment 1000-gallon septic tank, effluent filter, STB-650 Ecoflo peat filter, a 300-gallon dosing tank and UV for disinfection approved under WQM No. 2210402 and Planning Code No. A3-22930-179-3S.

**1.5 Streamflows:**

Streamflows for the water quality analysis were determined by correlating with the yield of USGS gauging station No. 01573560 on Swatara Creek near Hershey. The Q<sub>7-10</sub> and drainage area at the gage is 67.7ft<sup>3</sup>/s and 483mi<sup>2</sup> respectively. The resulting yields are as follows:

- $Q_{7-10} = (67.7\text{ft}^3/\text{s})/483 \text{ mi}^2 = 0.14\text{ft}^3/\text{s}/ \text{mi}^2$
- $Q_{30-10} / Q_{7-10} = 0.89$
- $Q_{1-10} / Q_{7-10} = 1.23$

The drainage area at discharge calculated by streamStats = 0.164 mi<sup>2</sup>

The Q<sub>7-10</sub> at discharge = 0.164 mi<sup>2</sup> x 0.14 ft<sup>3</sup>/s/mi<sup>2</sup> = 0.023ft<sup>3</sup>/s.

1.6 Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.0004</u>
Latitude	<u>40° 17' 28.89"</u>	Longitude	<u>-76° 41' 26.96"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary of Swatara Creek</u>	Stream Code	<u>09502</u>
NHD Com ID	<u>56400881</u>	RMI	<u>0.33</u>
Drainage Area	<u>0.164</u>	Yield (cfs/mi <sup>2</sup> )	<u></u>
Q <sub>7-10</sub> Flow (cfs)	<u>0.023</u>	Q <sub>7-10</sub> Basis	<u></u>
Elevation (ft)	<u></u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>07D</u>	Chapter 93 Class.	<u>Warm Water Fishes</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u></u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u></u>	Name	<u></u>
Background/Ambient Data		Data Source	
pH (SU)	<u></u>		<u></u>
Temperature (°F)	<u></u>		<u></u>
Hardness (mg/L)	<u></u>		<u></u>
Other:	<u></u>		<u></u>
Nearest Downstream Public Water Supply Intake	<u>Wrightsville Borough Municipal Authority</u>		
PWS Waters	<u>Susquehanna River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u></u>	Distance from Outfall (mi)	<u></u>

Changes Since Last Permit Issuance: None

**1.7 Water Supply Intake**

The nearest water supply intake is 36 miles downstream at Wrightsville Borough, York County on the Susquehanna River by Wrightsville Borough Municipal Authority. No impact is expected from this discharge.

**1.8 Compliance History**

The permittee has not been submitting the required monitoring reports regularly. TSS and CBOD5 results submitted with the application are higher than the permitted limits. The facility inspection revealed the sampling location might be impacted by influence from the stream. The Department is working with the permittee to identify a sampling location without the influence from the stream. UV appeared to be working well. The permittee was requested to start submitting annual maintenance reports as required in the NPDES permit. The permittee is in the process of working with service providers

address operation, maintenance and sampling issues at the site to ensure the treatment system complies with design and limitations. The discharge does not appear to be having negative impact on the receiving stream currently. The permit will be renewed as the permittee work on addressing necessary tweaks needed to bring the plant to compliance with permit requirements. The facility was inspected by the Department on 11/25/2019.

### **1.9 Development of Permit Limits**

The existing permit require secondary treatment and monitoring requirements of 2/year. The existing limits are less stringent than the technology limits recommended in the general permit for small flow treatment facilities and DEPs Standard Operating Procedure (SOP) for the Clean Water Program SOP No. BPNPSM-PMT-003 version 1.8 but the facility is not be able to meet the more stringent technology limits at this time therefore, the exiting limits and monitoring requirements will remain the permit and revisited at the next permit cycle. The treatment system is a Septic tank/ Premier Tech's Ecoflo Peat biofilter which is capable of meeting an average monthly CBOD5 – 10 mg/L, IMAX CBOD5– 20 mg/L and average monthly TSS – 10 mg/L, IMAX TSS– 20 mg/L. but the facility is unable to consistently meet the secondary limits in the existing permit. It appears the sampling location is being impacted by the stream and affecting the sampling results. The permittee is working with service providers to address the high TSS and CBOD in the effluent. Water quality modeling using PentoxSD and/or WQM models was not conducted. UV disinfection is utilized at the site: TRC limitation or monitoring is not required. An annual average limitation for fecal coliform of 200/100 mL as a geometric mean and 1000/100mL IMAX are required. The technology limit of 6.0 to 9.0 for pH shall be maintained at all time in accordance to 25 PA Code 95.2(1) with 2/year monitoring frequency. Flow estimation once a 2/year is required.

### **2.0 Chesapeake Bay**

The facility will discharge less than 2000 gpd and is exempt from Bay nutrient evaluations and requirements.

### **2.1 Color Evaluation**

Peat filters discharge color that is an esthetics issue for a long period of time, up to several years. To address color, the Department is requiring a streamflow to discharge ratio of at least 6:1. The ratio is 0.023:0.0006 resulting 38:1

### **2.2 Anti-Degradation (93.4)**

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

### **2.3 Class A Wild Trout Fisheries**

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

### **2.4 303d Listed Streams**

The discharge is not located on a 303d listed stream.

### **2.5 The following conditions are listed in Part C of the permit:**

- Annual Maintenance Report Requirement
- Measurement requirement of depth of septage and scum in all treatment units
- Septic & Treatment tank pumping requirement
- Chlorine Minimization
- Prohibition of Stormwater Discharges
- Collected screenings and solids Handling
- Abandonment of the treatment facility for public sewers

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Annual Average	Maximum	Instant. Maximum		
Flow (MGD)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	2/year	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/year	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/year	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60	2/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	1000	2/year	Grab

Compliance Sampling Location: Outfall 001

Attachments

A. Topographical MAP

