pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0082007**
Wastewater Type	**Sewage**	APS ID	**461787**
Facility Type	**SRSTP**	Authorization ID	**1247874**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Kimberly A Browell Jr**	Facility Name	**Browell Residence**
Applicant Address	6827 Bedford Valley Road	Facility Address	6827 Bedford Valley Road
	Bedford, PA 15522		Bedford, PA 15522-6114
Applicant Contact	Kimberly Browell	Facility Contact	Kimberly Browell
Applicant Phone	(814) 505-8507	Facility Phone	(814) 505-8507
Client ID	202649	Site ID	152
SIC Code	8811	Municipality	Cumberland Valley Township
SIC Description	Services - Private Households	County	Bedford
Date Application Received	October 9, 2018	WQM Required	
Date Application Accepted	October 11, 2018	WQM App. No.	

Project Description: This is an application for NPDES renewal.

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	May 17, 2024
x		Daniel W. Martin, P.E. / Environmental Engineer Manager Maria D. Bebenek for	May 22, 2024
x		Maria D. Bebenek, P.E. / Environmental Program Manager Maria D. Bebenek	May 22, 2024

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Browell Residence located at 6827 Bedford Valley Road, Bedford, PA 15522 in Bedford County, municipality of Cumberland Valley Township. The existing permit became effective on January 1, 2007 and expired on December 31, 2011. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on October 9, 2018. Due to the elongated time from 2018 until 2023, a subsequent NPDES application was re-submitted on December 1, 2023. The renewal application was significantly delayed as the applicant was non-responsive to technical deficiency letters.

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 0.0007 MGD treatment facility. The applicant did not mark on the application if the facility shall or shall not anticipate any proposed upgrades to the treatment facility in the next five years. An evaluation of the treatment system was conducted by May 10, 2024 by Lang Septic Service.

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 Bedford County Planning Commission and Cumberland Valley Township and the notice was received by the parties on October 18, 2023. 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 Sand Spring Run. The sequence of receiving streams that Sand Spring Run discharges to are Evitts Creek and the Potomac River which eventually drains into the Chesapeake Bay. Due to the low flow rate generated by the facility, the subject site is not subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for high-quality cold water fishes (HQ-CWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The presence of high quality and/or exceptional value surface waters triggers the need for an additional evaluation of anti-degradation requirements.

The Sand Spring Run is a Category 4c and 5 stream listed in the 2024 Integrated List of All Waters (formerly 303d Listed Streams). This stream is a non-attaining stream that is impaired for aquatic life due to pH from atmospheric deposition. The receiving water is also impaired for aquatic life due to habitat alterations from removal of riparian vegetation. The receiving waters is subject to the Evitts Creek 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:

- **Monitoring for CBOD and TSS have been reduced to 1x/yr.**
- **The effluent limit for fecal coliform shall be 200 MPN on a year-round basis.**
- **pH has been eliminated**

Sludge use and disposal description and location(s): In September 2023, septic solids were pumped by Lang Septic Service

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.

Summary of Review
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:	Browell Residence
NPDES Permit #	PA0082007
Physical Address:	6827 Bedford Valley Road Bedford, PA 15522
Mailing Address:	6827 Bedford Valley Road Bedford, PA 15522
Contact:	Kimberly Browell Homeowner jabrowell@gmail.com (814) 505-8507 Note: Via request from homeowner, submit communication via regular mail by hardcopy
Consultant:	There was not a consultant utilized for this NPDES renewal.

1.2 Permit History

Description of Facility

A NPDES PAG04 was originally issued to the facility with an effective date of December 1, 1996.

On November 1, 2001, the NPDES was changed from PAG04 permit to an individual permit. The permit was also renewed at that time.

On December 1, 2002, the NPDES and the WQM were transferred. The prior permittee was Norman Siegel.

On January 1, 2007 the NPDES permit was renewed with an expiration date of December 31, 2011.

On October 9, 2018, a renewal application was received from the facility. There appeared to be no renewal from December 31, 2011 until the renewal application was received on October 9, 2018.

On December 1, 2023, the applicant re-submitted the NPDES renewal application.

On January 18, 2024, the applicant submitted sampling results.

On May 10, 2024, the homeowner submitted a partially complete AMR documenting inspection by service provider. While the AMR was missing sampling data, evidence of sampling data was available from the January 2024 submittal.

The 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 6827 Bedford Valley Road, Bedford, PA 15522. 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

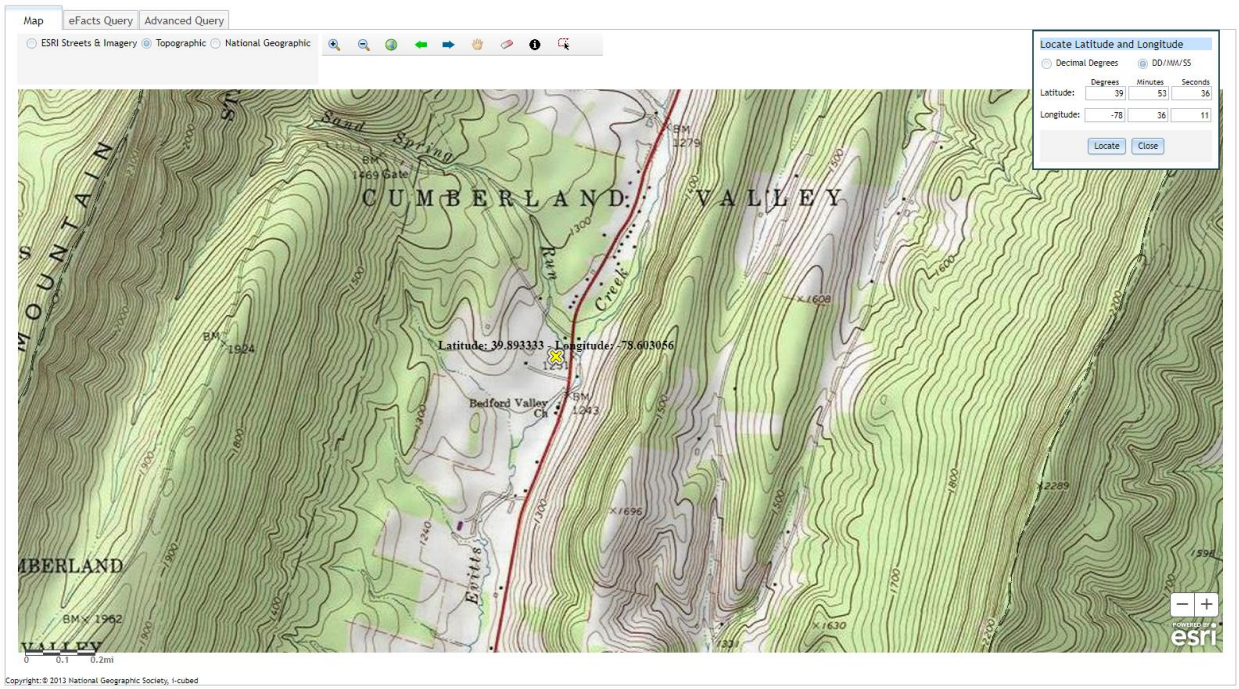
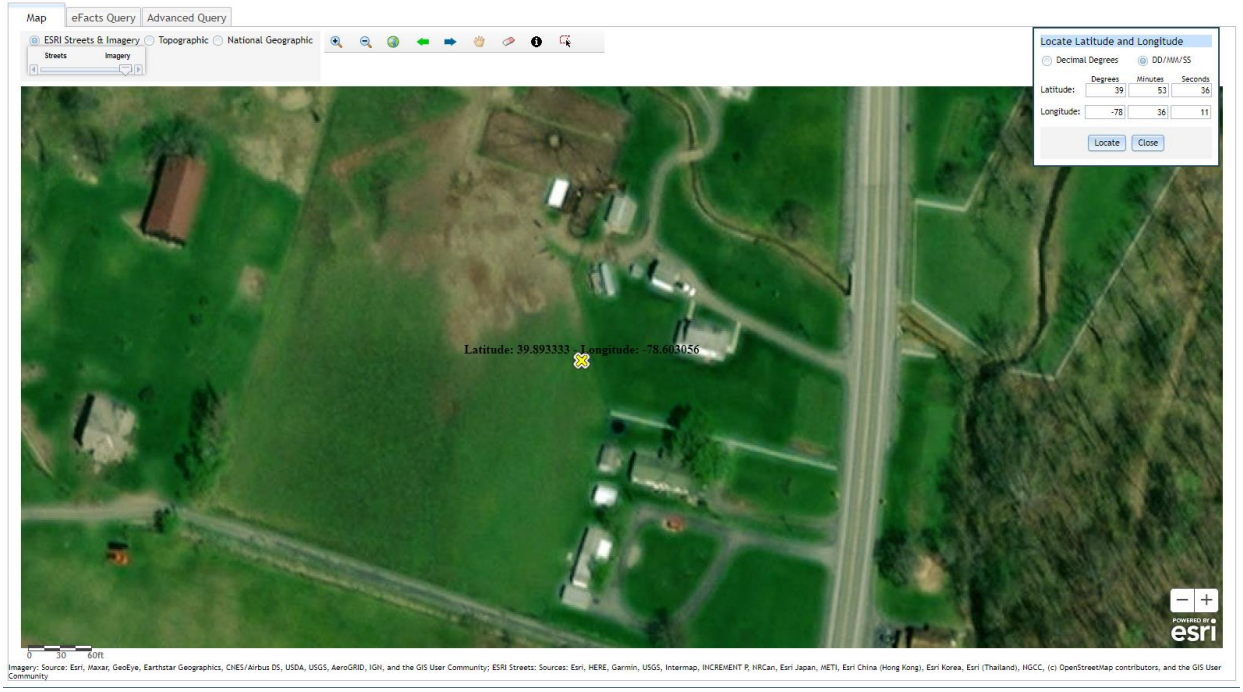


Figure 2: Aerial Photograph of the subject facility



2.2 Description of Wastewater Treatment Process

The subject facility is a 0.0007 MGD design flow facility. The treatment system receives wastewater from two dwellings. One of the dwellings is vacant while the other is occupied by the Browell family. DEP file room and past fact sheet support the 0.0007 MGD flow rate. DEP SCRO management did verbally confirm with homeowner the treatment facility receives wastewater from two dwellings. The subject facility treats wastewater using a septic tank, an ATU, a sand filter, and a chlorine contact tank prior to discharge through the outfall. The facility is being evaluated for flow, pH, TRC, CBOD5, TSS, 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 Kimberly A Browell

WQM Permit No.	Issuance Date
0586402	11/18/2002

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Septic Tank Sand Filter W/Sol Removal	Hypochlorite	0.0007

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0007		Not Overloaded	Combination	Combination of methods

2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No. 001 **Design Flow (MGD)** .0007
Latitude 39º 53' 36.00" **Longitude** -78º 36' 11.00"
Wastewater Description: Sewage Effluent

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. **For Outfall** 001, **Latitude** 39°53'36", **Longitude** 78°36'11",

which receives wastewater from a single family residence sewage treatment facility.

a. 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, Footnotes, and Supplemental Information).

	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	Mass Units (lbs/day)		Concentrations (mg/l)				Minimum[2]	Required
Discharge Parameter	Monthly Average	Daily Maximum	Inst. Minimum	Monthly Average	Daily Maximum	Inst.[1] Maximum	Measurement Frequency	Sample Type
Flow (mgd)	Monitor & Report	Monitor & Report	XXX	XXX	XXX	XXX	2/year	Estimate
pH (S.U.)	XXX	XXX	From 6.0 to 9.0 inclusive				1/month	Grab
Total Residual Chlorine	XXX	XXX	Monitor & Report	XXX	XXX	XXX	1/month	Grab
Total Suspended Solids	XXX	XXX	XXX	20	XXX	40	2/year	Grab
$CBOD_5$	XXX	XXX	XXX	10	XXX	20	2/year	Grab
Fecal Coliform (5/1 to 9/30)	XXX	XXX	XXX	200	XXX	XXX	1/year	Grab
Fecal Coliform (10/1 to 4/30)	XXX	XXX	XXX	2,000	XXX	XXX	1/year	Grab

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.

10/18/2018:

- Power source for the aerator was disconnected from the aerobic treatment unit
- As there was three dwellings within the vicinity of the treatment unit, the source and quantity of the wastewater was questioned.

08/11/2021:

- The permit expired in 2011 and renewal application was received in 2018.
- The NPDES permit for this facility requires the homeowner to (a) check and record the pH and total residual chlorine (TRC) level of the discharge once per month (b) Sample and analyze the discharge for TSS & CBOD5 twice per year and fecal coliform once per year (c) have the treatment system inspected once per year (d) submit an Annual Maintenance Report (AMR) by June 30 of each year. DEP had no record of receiving AMRs for this facility. Please be advised that failure to comply with conditions of your permit constitutes violations of sections 201 and 202 of the Pennsylvania Clean Streams Law and subjects you to appropriate enforcement action.

3.2 Summary of DMR Data

The DEP central files did not include recent DMR data. Phone conversations with the homeowner confirmed sampling was not being completed.

DEP requested that the resubmission of the NPDES renewal application to include sampling results. The following summarizes the applicants monitoring data from December 2023.

pH	5.93
TRC	<0.05 mg/l
BOD	<3.00 mg/l
TSS	<1.60 mg/l
Fecal Coliform	6.2 MPN/100 mL

Per the requirements of the NPDES permit, efforts by DEP Operations Section to enforce the proposed sampling requirements shall occur. Further non-compliance with NPDES permit conditions may lead to fines and penalties.

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.

The DEP central files did not include extensive history of DMR data.

The December 2023 sampling showed that the pH was in non-compliance. The sample value was 5.93 while the permit limits range between 6 and 9 standard units.

3.3.2 Non-Compliance- Enforcement Actions

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

Beginning in January 1, 2007 to May 15, 2024, the following were observed enforcement actions.

Summary of Enforcement Actions
Beginning January 1, 2007 and ending May 14, 2024

ENF ID	ENF TYPE	ENF TYPE DESC	ENF CREATION DATE	EXECUTED DATE	INITIATED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
413557	NOV	Notice of Violation	03/01/2023	03/01/2023		92A.62	Comply/Closed	10/30/2023
404818	ADORD	Administrative Order	06/23/2022	04/08/2022		92A.62	Comply/Closed	05/24/2022
404819	ADORD	Administrative Order	06/23/2022	05/06/2022		92A.62	Comply/Closed	05/24/2022
301370	NOV	Notice of Violation	08/30/2013	08/06/2013		92A.75NOAPPL	Comply/Closed	08/06/2013
404765	NOV	Notice of Violation	06/22/2022	06/14/2022	06/14/2022	92A.41(A)12B; 92A.41(A)8; 92A.61(C)		
417302	ADORD	Administrative Order	06/29/2023	06/29/2023		92A.41(A)12B; 92A.41(A)8; 92A.61(C)		

3.4 Summary of Biosolids Disposal

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

A receipt from Lang Septic Service in September 2023 indicated that septic tank was pumped of solids.

3.5 Open Violations

No open violations existed as of May 2024.

4.1 Receiving Waters

The receiving waters has been determined to be Sand Spring Run. The sequence of receiving streams that Sand Spring Run discharges to are Evitts Creek and the Potomac River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

eMap did not show any public water supply intake from the subject facility to the Maryland border.

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 2024 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 2024 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 4c and 5 waterbody. This stream is a non-attaining stream that is impaired for aquatic life due to pH from atmospheric deposition. The receiving water is also impaired for aquatic life due to habitat alterations from removal of riparian vegetation. The designated use has been classified as protected waters for high quality cold water fishes (HQ-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 low flow yield and the Q710 for the subject facility was estimated using StreamStats.

The low flow yield was 0.0289 $ft^3/s/mi^2$ and the Q710 was 0.0513 ft^3/s.

4.0 Receiving Waters and Water Supply Information Detail Summary

Outfall No.	001	Design Flow (MGD)	.0007
Latitude	39º 53' 37.97"	Longitude	-78º 36' 9.54"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Sand Spring Run (HQ-CWF)	Stream Code	61854
NHD Com ID	45641781	RMI	0.05
Drainage Area	1.77	Yield (cfs/mi^2)	0.0289
Q_{7-10} Flow (cfs)	0.0513	Q_{7-10} Basis	StreamStats
Elevation (ft)	1248	Slope (ft/ft)	
Watershed No.	13-A	Chapter 93 Class.	HQ-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	HABITAT ALTERATIONS, pH,		
Source(s) of Impairment	ATMOSPHERIC DEPOSITION, REMOVAL OF RIPARIAN VEGETATION		
TMDL Status	Final- 10/31/2019	Name	Evitts Creek TDML

Background/Ambient Data		Data Source
pH (SU)	Not appl	
Temperature (°C)	Not appl	
Hardness (mg/L)	Not appl	
Other:		

Nearest Downstream Public Water Supply Intake	No public water intake from facility to Maryland border		
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

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).

Parameter	Avg Mo	IMAX	Sample Type	Frequency: SRSTPs
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

The existing permit limit for TSS has been established at 20 mg/l in 1996. The facility likely predates the NPDES effluent requirements in the Small Flows Treatment Facility Manual. Given the treatment components, this TSS concentration shall continue to the proposed permit.

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 water quality modeling.

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 called the Headwaters of Evitts Creek TMDL published on March 2019.

Total Maximum Daily Loads (TMDLs) for sediment and nutrients (total phosphorus) were developed to address impairments in the Headwaters of Evitts Creek Subwatershed as noted in Pennsylvania's 2016 Integrated Water Quality Monitoring and Assessment Report (Integrated List). Stream segments were added to this list of impaired waters of the Commonwealth in 2002 and 2008. Headwaters of Evitts Creek is a High Quality, Cold-Water Fishery (HQ-CWF) in Cumberland Valley Township, Bedford County.

The impairments were documented during biological surveys of the aquatic life present in the watershed. Excessive siltation and nutrient loading from agriculture has been identified as the cause of these impairments in the Headwaters of Evitts Creek Subwatershed.

The TMDL developed for Headwaters of Evitts Creek subwatershed established a reduction in the current sediment loading of 30% and a 51% reduction in the current total phosphorus loading.

Table 9 from the Headwater of Evitts Creek TMDL summarizes one permittee with sediment and total phosphorus limits within the Headwaters of Evitts Creek. Bill Brown of DEP Central Office confirmed that while sediment and TSS are similar, they are different parameters. Yet, agreements with EPA allows sediment to analyzed by TSS.

Table 9. NPDES Permits in Headwaters of Evitts Creek and Headwaters Town Creek

Headwaters Evitts Creek Permits				
Number	Sediment Load (lbs)		Total Phosphorus Load (lbs)	
	Annual	Daily	Annual	Daily
PA0082007	1,133.1	3.1	227.0	0.62

SCRO management was consulted. We believe with the low flow rate generated by the facility that the TMDL was developed in error by DEP Central Office. Management recommends that we do not include the sediment and phosphorus limits in the NPDES permit. DEP SCRO will continue to work with DEP Central Office. Should the permit limits be necessary, the permit shall be re-opened as a DEP initiated amendment.

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.

Due to the low flow rate generated by the 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 special protection waters. The receiving waters was designated as a special protection watershed prior to 1985. The facility was established in 1985. The facility conforms with permit limits itemized by Antidegradation Best Available Combination of Technologies for Wastewater Discharges (ABACT) for special protection waters protection (Appendix B ABACT for Wastewater Dischargers).

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 table is categorized by Conventional Pollutants and Disinfection.

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Browell Residence, PA0082007

Parameter	Permit Limitation Required by[1]:	Recommendation	
CBOD	ABACT	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample.
		Effluent Limit:	Effluent limits shall not exceed 10 mg/l as an average monthly.
		Rationale:	The effluent limits likely predates the Small Flow Treatment Facilities Manual. The existing limit for this parameter is also consistent with ABACT.
TSS	ABACT	Monitoring:	The monitoring frequency shall be 1x/yr as a grab sample.
		Effluent Limit:	Effluent limits shall not exceed 20 mg/l as an average monthly.
		Rationale:	The effluent limits likely predates the Small Flow Treatment Facilities Manual. The existing limit for this parameter is also consistent with ABACT.
TRC	TBEL	Monitoring:	The monitoring frequency shall be on a 1x/mo basis as a grab sample (SOP)
		Effluent Limit:	A performance effluent limit is not required. However, the optimum TRC is 0.3 mg/l to 0.5 mg/l.
		Rationale: Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1).	
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.

Notes:

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 0.0007 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.

Changes in Permit Monitoring or Effluent Quality

Parameter	Existing Permit	Draft Permit
CBOD and TSS	Monitoring is required 2x/yr.	Consistent with SOP, monitoring has been reduced to 1x/yr
Fecal Coliform (No./100 ml)	During the months of May 1 to September 30, effluent limits shall not exceed 200 MPN as a geometric mean. During the months of October 1 to April 30, effluent limits shall not exceed 2000 MPN as a geometric mean. Monitoring is 1x/yr.	Effluent limits shall not exceed 200 MPN as a geometric mean (SOP). Monitoring shall be 1x/yr.
pH	Effluent limits ranging between 6 to 9. Monitoring is 1x/month	SOP does not require pH. Monitoring has 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** 39º 53' 36.00" , **Longitude** 78º 36' 11.00" , **River Mile Index** 0.05 , **Stream Code** 61854

Receiving Waters: Sand Spring Run (HQ-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
	Average Monthly	Average Weekly	Minimum	Annual Average	Maximum	Instant. Maximum		
Flow (MGD)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Estimate
TRC	XXX	XXX	XXX	Report Avg Mo	XXX	Report	1/month	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20.0	1/year	Grab
TSS	XXX	XXX	XXX	20.0	XXX	40.0	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	XXX	1/year	Grab

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

at Outfall 001

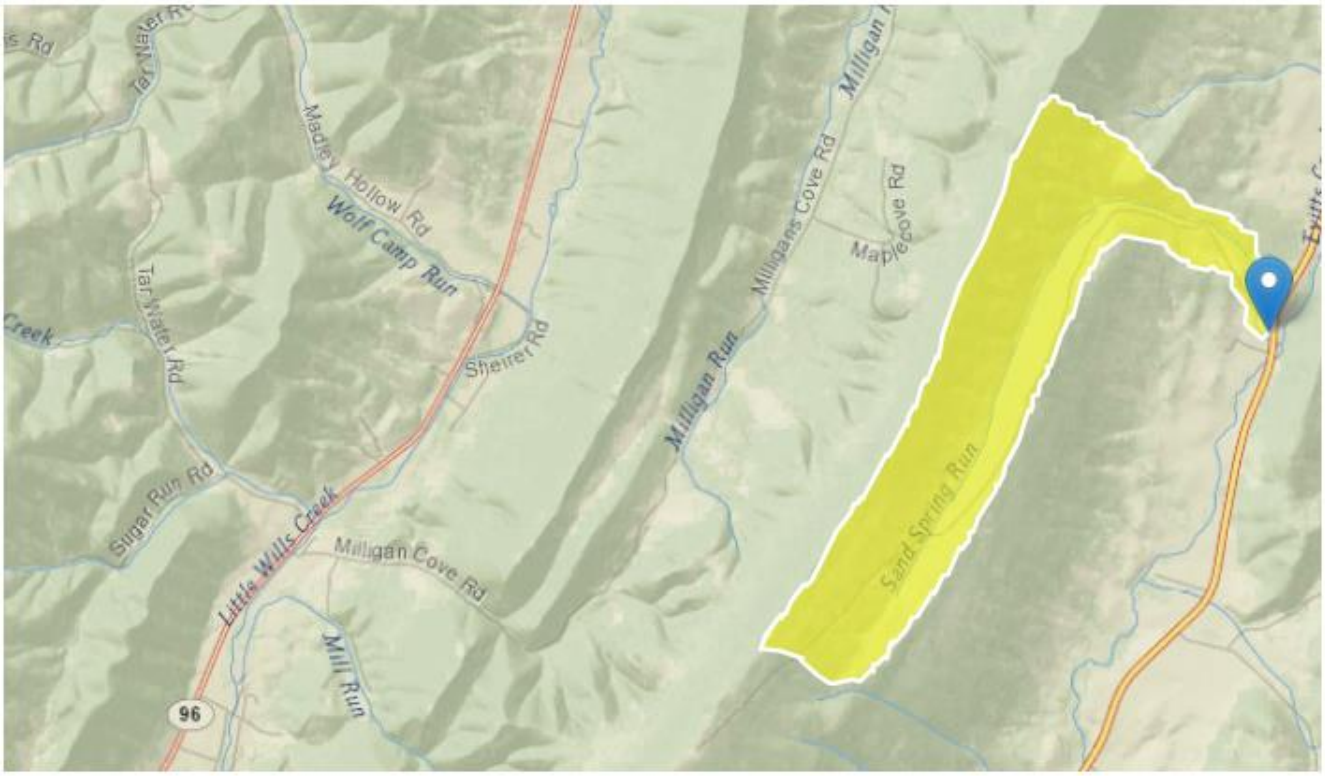
6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- SFTF Maintenance
- Chlorine Minimization

StreamStats Report

Region ID: PA
Workspace ID: PA20210727124821178000
Clicked Point (Latitude, Longitude): 39.89372, -78.60259
Time: 2021-07-27 08:48:36 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.77	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	2.17	miles per square mile
ROCKDEP	Depth to rock	4.8	feet
CARBON	Percentage of area of carbonate rock	0	percent

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.77	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	2.17	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.8	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers [Low Flow Region 2]

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

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.118	ft^3/s
30 Day 2 Year Low Flow	0.165	ft^3/s
7 Day 10 Year Low Flow	0.0513	ft^3/s
30 Day 10 Year Low Flow	0.0705	ft^3/s
90 Day 10 Year Low Flow	0.117	ft^3/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: 4.6.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2