pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0086550**
Wastewater Type	**Sewage**	APS ID	**506551**
Facility Type	**SRSTP**	Authorization ID	**1244634**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Jeffrey & Rose Siddens**	Facility Name	**SFS Siddens**
Applicant Address	65 Stonewall Lane	Facility Address	18 Michael Lane
	Alburtis, PA 18011-2608		Alburtis, PA 18011-2610
Applicant Contact	Jeffrey & Rose Siddens	Facility Contact	Jeffrey & Rose Siddens
Applicant Phone	(610) 641-8957/ lonewolfsiddens1@windstream.net	Facility Phone	(484) 866-5476
Client ID	216708	Site ID	665
SIC Code	8811	Municipality	Longswamp Township
SIC Description	Services - Private Households	County	Berks
Date Application Received	September 7, 2018	WQM Required	Already have WQM, #0694420
Date Application Accepted	September 17, 2018	WQM App. No.	

Project Description: Renewal of existing permit

Summary of Review

The previous permit was issued June 20, 2014 with an expiration date of June 30, 2019. The permit was administratively extended past the June 30, 2019 date. The facility is not eligible for DEP's general permit for Small Flow Treatment Facilities (SFTFs), known as the PAG-04, because it discharges to a waterway designated as "High Quality (HQ)". The current owners have held the NPDES and WQM permits since February 2004.

The 1994 Protection Report explaining the development of the first NPDES permit states that it was a new sewage system to replace a malfunctioning on-lot such that a "Social or Economic Justification" report was not necessary, consistent with 25 PA Code Chapter 93.4c(c). Modeling was performed in 1994 for the NPDES permit; the source of some of the background concentrations was noted to be Water Quality Network Station (WQN) 178. The modeling indicated that Water Quality Based Effluent Limitations (WQBELs) were not more stringent than secondary treatment standards, as defined in State regulations at 25 Pa Code Chapter 92a.47 (and considered Treatment Based Effluent Limitations, TBELs). The permit limits were all TBELs and were based on State regulations, DRBC requirements, and a DEP Technical Guidance Document used at the time: Special Protection Waters Implementation Handbook, Appendix 1, page A-1-2. The TBELs were imposed and the same TBELs for Carbonaceous Biochemical Oxygen Demand-5 day ($CBOD_5$), Total Suspended Solids (TSS), Fecal Coliform, Ammonia (NH_3-N), Total Residual Chlorine (TRC), and pH have been carried forward ever since, with the addition of an Instantaneous Maximum limit for Fecal Coliform consistent with the regulatory requirement at 25 PA Code Chapter 92a.47. The permittee has been meeting these limits.

DEP's Water Quality Antidegradation Implementation Guidance (391-0300-002) states: "Disinfection should be accomplished using a method that leaves no detectable residual. Disinfection using ultra-violet light or other non-chlorine based systems is encouraged and must be considered." However, this facility was approved by DEP in 1994 with chlorine disinfection and dechlorination and was then installed. The permit limit for TRC since 1994 has been "Non-detect."

Approve	Deny	Signatures	Date
X		*Bonnie Boylan* Bonnie Boylan / Environmental Engineering Specialist	October 16, 2020
x		*Maria D. Bebenek for Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	October 27, 2020

Summary of Review

The previous NPDES permits did not specify any analytical method for TRC but the Protection Reports/Fact Sheets with those permits allowed the continued use of a test kit for measuring TRC without taking samples to a PA-certified lab (common practice for single family residential sewage treatment plants (SRSTPs) and DEP routinely instructed homeowners to do so). While the detection level using a chlorine test kit is not as low as analytical methods used by a laboratory, the facility has been in operation many years, has dechlorination in place, and has consistently reported "0" for TRC. The receiving water is impaired due to pathogens, so adequate disinfection is needed. When the existing SRSTP is replaced or if the permittee requests an increase in their design flow, DEP will strongly encourage the permittee to switch to UV disinfection rather than chlorine or may stipulate an analytical method be used which will verify that TRC concentrations in the discharge are below specified detectable levels.

Modeling to determine WQBELs is not usually done for renewal permits for existing SFTFs (consistent with DEP's Standard Operating Procedure (SOP) for New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications) but because the receiving water is an HQ waterway, updated models were run in this case to be sure the HQ designated water use will be protected and applicable water quality standards [25 Pa Code Chapter 93] will not be violated. Also, DEP's Antidegradation guidance (391-0300-002) requires the more stringent of the best available combination of technologies or treatment technologies that will achieve applicable WQBELs. Updated background concentrations were used in DEP's current models: WQM 7.0 and TRC model. The background concentrations for CBOD5, Dissolved Oxygen, pH, and Temperature were pulled from Water Quality Network station 178, located on an Exceptional Value (EV) water approximately 9 miles away from this location, from historic data (STORET database) between 2010 and the end of 2019. Only the sample results from July, August, and September were used, matching the stream design low-flow period (Q7-10) used in the model. A background stream concentration of 0 mg/l was used for Ammonia. Drainage areas and low-flow yield values were sourced from USGS PA Stream Stats online tools. Default values were used in the WQM 7.0 model for discharge temperature, discharge pH, and fate coefficients. Default values were used in the TRC model for Chlorine Demand of Stream, Chlorine Demand of Discharge, and coefficients of variation. For both models, full mixing was assumed. The updated modeling still indicated that WQBELs were not more stringent than the existing permit limits.

Available AMRs were reviewed and found to be satisfactory. Pumping records were provided.

Delaware River Basin Commission

This facility discharges to a waterway within the Delaware River watershed. The fact sheet and draft permit will therefore be forwarded to the Delaware River Basin Commission (DRBC) in accordance with State regulations and an interagency agreement. Any comments by the DRBC will be considered.

Outstanding Violations

None per eFacts and WMS databases.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0004
Latitude	40º 29' 23"	Longitude	-75º 36' 37""
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Swabia Creek (HQ-CWF)	Stream Code	03590
NHD Com ID	26297099, Reach 02040106000365	RMI	0.4
Drainage Area	1.14	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.1	Q_{7-10} Basis	0.1
Elevation (ft)	510 approx.	Slope (ft/ft)	
Watershed No.	02C	Chapter 93 Class.	High Quality Waters - Cold Water Fishes
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired for Recreational Use (Assessment ID 16903)		
Cause(s) of Impairment	Pathogens		
Source(s) of Impairment	Source Unknown		
TMDL Status	None	Name	-

Secondary Waters: UNT empties into Swabia Creek (Stream Code 03579) at RMI 6.0 approximately, also HQ-CWF, also impaired due to pathogens, classified as Trout Natural Reproduction Reach 02040106000361

Background/Ambient Data:		Data Source WQN 178 (9 miles away, EV water)
pH (SU)	7.9	July, Aug, Sept 2010-2019
Temperature (°C)	19.6	July, Aug, Sept 2010-2019
Hardness (mg/L)		
Other:	1.0 mg/l	CBOD, estimated from background BOD data July, Aug, Sept 2010-2019

Nearest Downstream Public Water Supply Intake		Allentown City East	
PWS Waters	Little Lehigh Creek	Flow at Intake (cfs)	
PWS RMI	Approx 2	Distance from Outfall (mi)	Approx. 16 miles

Other Comments:

NOT a Class A wild trout water; UNT is NOT a Trout Natural Reproduction Water

Compliance History	
Summary of AMRs:	8/2/2018 – Administrative File Review – No Violations noted
Summary of Most Recent Inspections:	5/23/2013 – No Violations noted. Chlorine Contact Tank and Dechlor Tank appeared clear but some solids observed at outfall. 8/13/2003 – No Violations noted 6/14/2002 – No Violations noted 3/16/2001 – No Violations noted 3/30/2000 – No Violations noted

Other Comments:

Original NPDES permit was issued in 1994, before DEP's SFTF Manual 362-0300-002

Previous permit limits**:**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Monthly Average	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	2/year	Estimate
pH (s.u.)	XXX	XXX	6.0	XXX	XXX	9.0	1/month	Grab
Total Residual Chlorine	XXX	XXX	XXX	Non-Detectable	XXX	Non-Detectable	1/month	Grab
CBOD5	XXX	XXX	XXX	10	XXX	20	2/year	Grab
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	2/year	Grab
NH3-N (5/1 to 10/31)	XXX	XXX	XXX	1.5	XXX	3.0	2/year	Grab
NH3-N (11/1 to 4/30)	XXX	XXX	XXX	4.5	XXX	9.0	2/year	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	Report	2/year	Grab
Fecal Coliform (3) (CFU/100mL)	XXX	XXX	XXX	200 Geo.Mean	XXX	1000	2/year	Grab

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 as needed and BPJ. Instantaneous Maximum (IMAX) limits are generally 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: _____through _____.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Annual Average	Average Weekly	Instant. Minimum	Annual Average		Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	2/year	Estimate
pH (s.u.)	XXX	XXX	6.0	XXX	XXX	9.0	1/month	Grag
TRC	XXX	XXX	XXX	Non-detect Avg Monthly	XXX	Non-detect	1/month	Grab
$CBOD_5$	XXX	XXX	XXX	10.0	XXX	20.0	2/year *	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20.0	2/year *	Grab
Fecal Coliform (No./100 mL)	XXX	XXX	XXX	200	XXX	1000	2/year *	Grab
Ammonia Nov 1 – Apr 30	XXX	XXX	XXX	4.5	XXX	9.0	1/year	Grab
Ammonia May 1 – Oct 31	XXX	XXX	XXX	1.5	XXX	3.0	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	Report	2/year *	Grab

*The twice per year samples must be spaced during the year, with one sample collected during the months of May-Oct and one sample collected during Nov-Apr.

Compliance Sampling Location: at discharge from facility