

Application Type Renewal
Wastewater Type Sewage
Facility Type SFTF

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

Application No. PA0209155
APS ID 999773
Authorization ID 1284531

Applicant, Facility and Project Information

Applicant Name	<u>Sandro Sorge</u>	Facility Name	<u>Sorge Apartments WWTF</u>
Applicant Address	<u>212 W 5th Street</u> <u>Bloomsburg, PA 17815-2107</u>	Facility Address	<u>Spruce Run Road</u> <u>Millville, PA 17846</u>
Applicant Contact	<u>Sandro Sorge</u>	Facility Contact	<u>John L. Bauer</u>
Applicant Phone	<u>570-784-7540</u>	Facility Phone	<u>570-784-1653</u>
Client ID	<u>44761</u>	Site ID	<u>245338</u>
SIC Code	<u>6513</u>	Municipality	<u>Madison Township</u>
SIC Description	<u>Fin, Ins & Real Est - Apartment Building Operators</u>	County	<u>Columbia</u>
Date Application Received	<u>August 14, 2019</u>	WQM Required	<u>Yes</u>
Date Application Accepted	<u>August 26, 2019</u>	WQM Permit No.	<u>1995403</u>
Project Description	<u>Renewal of NPDES Permit</u>		

Summary of Review

INTRODUCTION

Sandro Sorge, property owner, proposes the renewal of the National Pollution Discharge Elimination System (NPDES) permit which authorizes the discharge of treated effluent from the small flow treatment facility (SFTF) serving an apartment building and a trailer in Madison Township, Columbia County.

APPLICATION

John L. Bauer, WWTF Operator and application consultant, submitted the NPDES Application for Individual Permit to Discharge Sewage Effluent from Small Flow Treatment Facilities (DEP #3800-PM-BCW0018b). This application was received by the Department on August 14, 2019 and was considered administratively complete on August 26, 2019. The client contact is Sandro Sorge. His additional contact information is (email) grattacioloinc@gmail.com. The site contact and licensed WWTF operator is John L. Bauer of JLB Systems from Bloomsburg, PA. His contact information is (phone) 570-784-1653, (fax) 570-784-1455 and (email) jlbsystem@ptd.net.

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.

The case file, permit application package and the draft permit will be available for public review at the Department's Northcentral Regional Office. The address is 208 West Third Street, Suite 101, Williamsport, PA 17701. An appointment can be made to review these materials during the comment period by calling the file coordinator at 570-327-3636.

CONTINUED on the next page.

APPROVE	DENY	SIGNATURES		DATE
X		Jeffrey J. Gocek, EIT	<i>Jeffrey J. Gocek</i> Project Manager	08/19/2020
X		Nicholas W. Hartranft, PE	<i>Nicholas W. Hartranft</i> Environmental Engineer Manager	08/19/2020

DISCHARGE, RECEIVING WATERS AND WATER SUPPLY INFORMATION

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.002</u>
Latitude	<u>41° 06' 39.00"</u>	Longitude	<u>-76° 33' 18.30"</u>
Quad Name	<u>Millville</u>	Quad Code	<u>1033</u>
Wastewater Description: <u>Domestic wastewater from apartment building and trailer</u>			
Receiving Waters	<u>Spruce Run</u>	Stream Code	<u>27671</u>
NHD Com ID	<u>65639049</u>	RMI	<u>2.95</u>
Drainage Area	<u>4.78</u>	Yield (cfs/mi ²)	<u>0.051</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.244</u>	Q ₇₋₁₀ Basis	<u>USGS Gage #01552000</u>
Elevation (ft)	<u>674</u>	Slope (ft/ft)	<u>N/A</u>
Watershed No.	<u>5-C</u>	Chapter 93 Class.	<u>CWF, MF</u>
Existing Use	<u>N/A</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>N/A</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u>N/A</u>		
Source(s) of Impairment	<u>N/A</u>		
TMDL Status	<u>N/A</u>	Name	<u>N/A</u>
Nearest Downstream Public Water Supply Intake	<u>United Water PA, Inc.</u>		
PWS Waters	<u>Fishing Creek (27623)</u>	Flow at Intake (cfs)	<u>18.469</u>
PWS RMI	<u>2.539</u>	Distance from Outfall (mi)	<u>10.631</u>

Q_{7,10} DETERMINATION

The Q_{7,10} is the lowest seven consecutive days of flow in a 10 year period and is used for modeling wastewater treatment plant discharges. 25 PA § 96.1 defines Q_{7,10} as “the actual or estimated lowest seven consecutive day average flow that occurs once in 10 years for a stream with unregulated flow or the estimated minimum flow for a stream with regulated flow”.

Basin characteristics, for a watershed based on the discharge location, were obtained from the USGS Stream Stats webpage. Based on those characteristics, as appropriate reference gage was selected utilizing the USGS Pennsylvania Baseline Streamflow Estimator (BaSE). This reference gage is USGS #01552000 (Loyalsock Creek at Loyalsockville, PA). A Q_{7,10} flow for that gage and drainage area were obtained from *Selected Streamflow Statistics for Streamflow Locations in and near Pennsylvania* (USGS Open Files Report 2011-1070). Knowing the drainage area at the discharge (4.78 mi²) and both the drainage area (435 mi²) and the Q_{7,10} (22.2 CFS) at the reference gage, the Q_{7,10} at the discharge was calculated to be 0.244 CFS.

See Attachment 01 for the Q_{7,10} determination.

TREATMENT FACILITY SUMMARY

As indicated above, this small flow treatment facility (SFTF) treats domestic wastewater from 4 apartments and a trailer.

See Attachment 02 for a map of the facility location.

The existing treatment facility consists of a dual compartment, baffled septic tank (serving only the apartment building), a Nayadic Model M2000A aerobic treatment unit, a pump station containing a Zabel effluent filter, an intermittent free-access sand filter (400 square foot), and a Nayadic chlorine contact tank (300 gallon) containing a Sanuril erosion chlorinator. The Nayadic treatment unit provides a combination of activated sludge and extended aeration treatment. The free-access filter was originally constructed with limestone screenings, which is not currently an approvable filter media.

Flow metering is estimated from data provided by the meter serving the onsite water well. The month of highest flow during that year prior to application submission (2018) was January with 0.0003 MGD.

WWTP characteristics are as follows.

Waste Type	Degree of Treatment	Process Type	Disinfection	Annual Average Design Flow (MGD)
Sewage	Tertiary	Aerobic Treatment	Erosion Chlorination	0.002
Hydraulic Capacity (MGD)	Organic Capacity (lb/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.002	Unknown	N/A	Storage	Hauled Away

The above design was first approved by Water Quality Management (WQM) permit #1995403, issued May 02, 1995 to Sandro Sorge. The initial design included another Nayadic unit (Model 8A) which served the trailer(s). The use of this additional treatment unit was last documented in a Department inspection report, written in 2009. The next, and subsequent, report(s) make no mention of this treatment unit.

See Attachment 03 for a treatment process schematic.

COMPLIANCE HISTORY

The WMS Query *Open Violations for Client by Permit Number* revealed no open violations for Sandro Sorge.

The most recent Department inspection, a compliance evaluation inspection (CEI), was conducted January 23, 2020. At the time of the inspection, all required treatment units appeared online and operational. No sample was collected since no discharge was occurring during the inspection. No violations were noted during this inspection.

Recent Discharge Monitoring Report (DMR) data, from July 2019 to June 2020, is presented in the table below.

Parameter	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19
Flow (MGD) Average Monthly	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002
pH (S.U.) Minimum	6.9	6.9	6.9	6.7	6.8	6.8	6.9	6.9	6.7	6.7	6.7	6.7
pH (S.U.) Maximum	6.9	6.9	6.9	6.7	6.8	6.8	6.9	6.9	6.9	6.7	6.7	6.7
TRC (mg/L) Average Monthly	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.21	0.20	0.20	0.20
TRC (mg/L) Instantaneous Maximum	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.22	0.20	0.20	0.20
BOD5 (mg/L) Average Monthly	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	8.59	8.01	< 6.0	< 6.0
TSS (mg/L) Average Monthly	6.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.7	< 5.0	< 8.0	7.6	< 5.0	< 5.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0
Ammonia (mg/L) Average Monthly	0.200			4.41			< 0.2			< 0.2		

CONTINUED on the next page.

EXISTING PERMIT LIMITATIONS

The following limitations were established at the last renewal issuance which occurred July 20, 2015.

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/Month	Estimate
pH (SU)	XXX	XXX	6.0	XXX	XXX	9.0	1/Month	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	0.75	1/Month	Grab
BOD ₅	XXX	XXX	XXX	10	XXX	20	1/Month	Grab
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	1/Month	Grab
Fecal Coliform (CFU/100mL)	XXX	XXX	XXX	200 Geometric Mean	XXX	XXX	1/Month	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/Quarter	Grab

DEVELOPMENT OF EFFLUENT LIMITATIONS

Technology-Based Limitations

The following technology-based limitations apply to SFTFs, subject to water quality analysis and BPJ where applicable:

Parameter	Average	IMAX	Sample Type	Frequency
Flow (GPD)	Report	XXX	Measured	1/Month
BOD ₅ (mg/L)	10	20	Grab	1/Month
TSS (mg/L)	10	20	Grab	1/Month
TRC (mg/L)	Use TRC Spreadsheet to determine WQBELs		Grab	1/Month
Fecal Coliform (No./100 mL)	200 (Geometric Mean)		Grab	1/Month

Water Quality-Based Limitations

In accordance with Department policy, water quality modeling using the PENTOXSD and WQM models is not performed for SFTFs.

Total Residual Chlorine

The Department's *TRC_CALC spreadsheet* is a model used to evaluate Total Residual Chlorine (TRC) effluent limitations for non-residential SFTFs. This model determines applicable acute and chronic wasteload allocations (WLAs) for TRC based on the data supplied by the user and then compares the WLAs to the technology-based average monthly limit using the procedures described in the EPA Technical Support Document (for Water Quality-based Toxics Control).

Parameter	Effluent Limitations (mg/L)	
	Monthly Average	IMAX
Total Residual Chlorine	0.50	0.75

See Attachment 04 for the TRC_CALC output.

CONTINUED on the next page.

Best Professional Judgment (BPJ) Limitations

In the absence of applicable effluent guidelines for the discharge or pollutant, permit writers must identify and/or develop needed technology-based effluent limitations (TBELs) TBELs on a case-by-case basis, in accordance with the statutory factors specified in the Clean Water Act.

Pollutant	Limit	SBC	Basis
pH (SU)	6.0-9.0	Minimum-IMAX	§ 92a.47, 95.2

Anti-Backsliding

In order to comply with 40 CFR § 122.44(l) (anti-backsliding requirements), the Department must issue a renewed permit with limitations as stringent as that the of the previous permit.

No less stringent limitations have been proposed.

REMOVAL OF EFFLUENT MONITORING

Ammonia-Nitrogen

At the last renewal in 2015, the Department concluded that earlier water quality analyses for ammonia nitrogen resulting in limitations had been done in error. Recent modeling did not recommend limitations more stringent than technology-based. With 1. current guidance not requiring modeling, 2. recent model results not recommending water quality based effluent limitations and 3. recent sample results not showing elevated levels of ammonia in the effluent, the Department has decided there is no reasonable potential for detrimental ammonia nitrogen levels in the receiving stream.

RECEIVING STREAM

Stream Characteristics

The receiving stream is Spruce Run, a tributary to Little Fishing Creek. This stream, according to 25 PA § 93.9L, is protected for *Cold Water Fishes (CWF)* and *Migratory Fishes (MF)*. These are the streams *Designated Uses*, which is defined in 25 PA § 93.1 as “those uses specified in §§ 93.9a – 93.9z for each waterbody or segment whether or not the use is being attained”. Designated uses are regulations promulgated by the Environmental Quality Board (EQB) throughout the rulemaking process. This stream currently has no *Existing Use*. Existing Use is defined in 25 PA § 93.1 as “those uses actually attained in the waterbody on or after November 28, 1975 whether or not they are included in the water quality standards”.

Spruce Run is identified by stream code 27671. This stream is located in (Chapter 93) drainage list K and State Water Plan watershed 5C (Fishing Creek).

Impairment

Spruce Run is not impaired and is attaining its designated uses for *Aquatic Life*. No TMDL has been calculated for this stream.

CHESAPEAKE BAY TMDL

Nutrient monitoring requirements associated with the Chesapeake Bay TMDL do not apply to SFTFs, which have a hydraulic design flow equal to or less than 2,000 gallons per day.

DISCHARGE MONITORING REPORTS

For this permit, the operative compliance mechanism will be the Discharge Monitoring Report (DMR), which is to be submitted monthly. The Annual Maintenance Report (AMR), to be submitted annually, will be utilized to document maintenance activities which occur in the period between June 01 and May 31 of each year.

SPECIAL PERMIT CONDITIONS

- Annual Maintenance Form
- Discharge Monitoring Report Form
- Tank Monitoring
- Pumping Requirement
- Total Residual Chlorine Minimization
- Stormwater Prohibition
- Approval Contingencies
- Proper Waste Disposal
- Municipal Treatment Availability

SUPPLEMENTAL DISCHARGE MONITORING REPORTS

- Annual Maintenance Report
- Non-Compliance Report Form
- Laboratory Accreditation Sheet

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) and/or BPJ.

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

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/Month	Estimate
pH (SU)	XXX	XXX	6.0 Instant. Min.	XXX	XXX	9.0	1/Month	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	0.75	1/Month	Grab
BOD ₅	XXX	XXX	XXX	10	XXX	20	1/Month	Grab
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	1/Month	Grab
Fecal Coliform (No./100mL)	XXX	XXX	XXX	200 Geometric Mean	XXX	XXX	1/Month	Grab

END of Fact Sheet.