pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES/WQM PERMITS FACT SHEET INDIVIDUAL SFTF/SRSTP

Application Type	**New**	Application No.	**PA0281743 & WQM 0119402**
Wastewater Type	**Sewage**	APS ID	**1015107**
Facility Type	**SFTF**	Authorization ID	**1315202 & 1315156 WQM**

Applicant, Facility and Project Information

Applicant Name	**Nell Road Homeowners Assoc**	Facility Name	**Nell Road Home Owners' Association SFTF**
Applicant Address	315 Forest Drive	Facility Address	Nell Road
	New Oxford, PA 17350		East Berlin, PA 17316
Applicant Contact	Jeffery Seibert	Facility Contact	Jeffery Seibert
Applicant Phone	(717) 378-9538	Facility Phone	(717) 378-9538
Client ID	356137	Site ID	836588
SIC Code	6514	Municipality	Reading Township
SIC Description	Fin, Ins & Real Est - Dwelling Operators, Except Apartments	County	Adams
Date Application Received	April 9, 2020	WQM Required	
Date Application Accepted	May 20, 2020	WQM App. No.	0119402

Project Description: NPDES & WQM permits applications for a new SFTF.

Summary of Review

This fact sheet supports the issuance of new NPDES and WQM permits for discharge of treated sewage from the small flow treatment facility (SFTF) located in Reading Township, Adams County. The SFTF for lots 2, 3, 4, 5, and 6 proposed discharge to a dry channel tributary to Mud Run to Bermudian Creek, which combined sewage flow of 2,000-gallon per day (0.002 MGD). The SFTF is owned and operated by the Nell Road Home Owners' Association.

The WQM permit for the construction of the treatment system with permit No. 0119402 is concurrently under review. DEP Planning for the project was approved under Code No. C3-01928-238-2/3S.

DEP has prepared this report for the applications for both NPDES and WQM permits. Based on the review outlined in this report, it is recommended that the NPDES permit be drafted and publish in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	May 26, 2020
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Clean Water Program Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.002
Latitude	39º 59' 41.88"	Longitude	-77º 1' 18.11""
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Trib. 08626 to Mud Run (WWF, MF)	Stream Code	08626
NHD Com ID	57468693	RMI	0.60
Drainage Area	0.05 mi.^{2}	Yield (cfs/mi^2)	0.06 cfs/mi.^{2}
Q_{7-10} Flow (cfs)	0.003	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	500	Slope (ft/ft)	
Watershed No.	07F	Chapter 93 Class.	Warm Water Fishes, Migratory Fishes
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	ALGAE, SILTATION		
Source(s) of Impairment	AGRICULTURE, URBAN RUNOFF/STORM SEWERS		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Co., York County		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	28.52 miles	Distance from Outfall (mi)	Approximate 50 miles

Changes Since Last Permit Issuance: New

Drainage Area/Stream Flows
The discharge is to Unnamed Tributary 08626 to Mud Run at RMI 0.6 mile. A drainage area upstream of the discharge is estimated to be 0.05 mi.^{2}, according to USGS StreamStats available at https://streamstats.usgs.gov/ss/. USGS StreamStats also produced a Q7-10 flow of 0.003 cfs at the point of proposed discharge.

Unnamed Tributary to Mud Run to Bermudian Creek
Under 25 Pa Code §93.9o, Unnamed Tributary to Mud Run to Bermudian Creek is designated as Warm-Water & Migratory Fishes (WWF & MF). The Tributary 08626 to Mud Run is currently impaired for algae & siltation as a result of agriculture & urban runoff/storm sewers. TMDLs have not been developed to address these impairments. Bermudian Creek does not support a Class A Wild Trout fishery. Therefore, no Class A Wild Trout fishery is impacted by this discharge.

Public Water Supply Intake
According to DEP's eMapPA available at http://www.depgis.state.pa.us/emappa/, the nearest downstream public water supply intake is Wrightsville Borough Municipal Authority, York County located on Susquehanna River, approximately 50 miles from the point of proposed discharge. Given the nature and distance, the proposed discharge is not expected to impact the water supply.

Treatment Facility Summary

The facility is proposed to serve the five (5) 3-bedroom single family residences and will discharge 2,000 gallons per day of treated effluent to Unnamed Tributary 08626 to Mud Run to Bermudian Creek, located at Nell Road, East Berlin, PA 17316. The facilities will be owned and maintained by Nell Road Home Owners' Association. The proposed treatment process, according to the application, is as follows:

Two (2) 2,000-gallon two (2)-compartment septic tanks → a 1,500-gallon dosing tank → two (2) Ecoflo (EC7-1350-G/P-DV) filters (by gravity flow divider GFD-200/A) → UV disinfection system → outfall 001 to dry stream channel Unnamed Tributary 08626 to Mud Run to Bermudian Creek.

Dry stream channel discharge from the SFTF evaluations are as follows [25 Pa Code §§ 74.64c(2) – 74.64c(3)]:

- The design flow of discharge will be 0.002 MGD, it will flow evenly throughout the year with no seasonal variations.
- There are no water supplies or groundwater uses within 200 feet on either side of the proposed discharge channel to the receiving stream.
- The discharge point of the SFTF will be located 750 feet from the western property line, 550 feet from the eastern property line, 350 feet to the southern property line, north 950 feet to the point of discharge of the channel into Mud Run. The closest water supply would be from the south to the existing well of proposed Lot 3 which is 300 feet from the SFTF discharge point into the existing channel and the surface area at the well site is 36 feet above the discharge point elevation.
- The discharge channel for the SFTF will be located on the same Lot as SFTF is located on and there will not be any nuisance or adverse impact created from the channel as the surrounding land condition will remain undisturbed or uninhabited.

The proposed septic tanks will have enough capacity to handle the proposed design flow. An effluent filter will be provided at the end of the septic tank to reduce settleable and floatable solids in the effluent. The Ecoflo EC7-1350-G/P-DV filters will be provided, which has been demonstrated to produce effluent that does not exceed 10 mg/L BOD_5 and 10 mg/L TSS. The proposed UV disinfection system will be able to provide an effluent fecal coliform concentration less than or equal to 200 No./100 mL.

The primary treatment tank sludge levels will be monitored yearly and pumped out no longer than 3-year intervals. The outlet of the tank will have an effluent filter, preventing solids from leaving the tank. The UV unit will be accessible from the ground surface, allowing the UV bulb to be replaced or cleaned. The UV unit has an alarm-light system to alert for a treatment malfunction, and one or more spare bulbs will be kept on site for emergency replacement.

Compliance History

On May 29, 2015, DEP approved the Act 537 planning as a revision to the Act 537 official sewage facilities plan of Reading Township (DEP Code No. C3-01928-238-2/3S).

This is a new facility; therefore, there are no effluent sample results / inspection reports associated with this facility. The Department's database indicates that there is currently no open violation associated with the facility or the applicant.

Development of Effluent Limitations and Monitoring Requirements

The effluent limitations and monitoring requirements are derived from DEP's Standard Operating Procedure (SOP) for New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications (SOP No. BPNPSM-PMT-003, revised May 17, 2019). Since the facility will utilize ultraviolet (UV) disinfection, monitoring requirements for total residual chlorine are not applicable. According to the SOP referenced above, water quality monitoring using PentoxSD and/or WQG-01 are not required for SFTFs. The permittee will be required to submit a completed Annual Maintenance Report (AMR) as part of the permit requirements. No DMR is necessary for any facilities that are required to report effluent monitoring results on AMRs annually.

The draft permit will include the following Part C conditions:

a. Small Flow Treatment Facility Maintenance, including measurement of the depth of septage and scum, 3-year septic tank pumping requirement, reporting requirement of a completed Annual Maintenance Form.
b. Stormwater Prohibition
c. Property Rights
d. Proper Disposal of Solids

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.

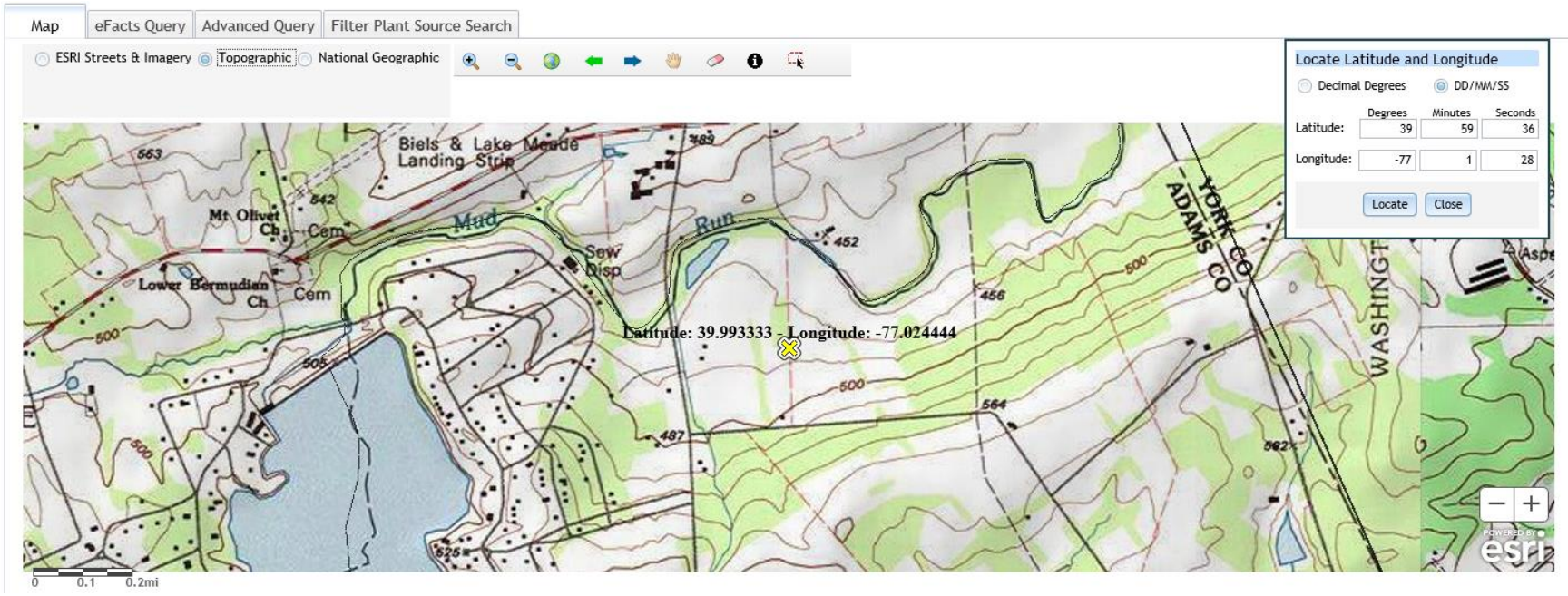
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/month	Grab
BOD5	XXX	XXX	XXX	10.0	XXX	20.0	1/month	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20.0	1/month	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	XXX	1/month	Grab

Compliance Sampling Location:

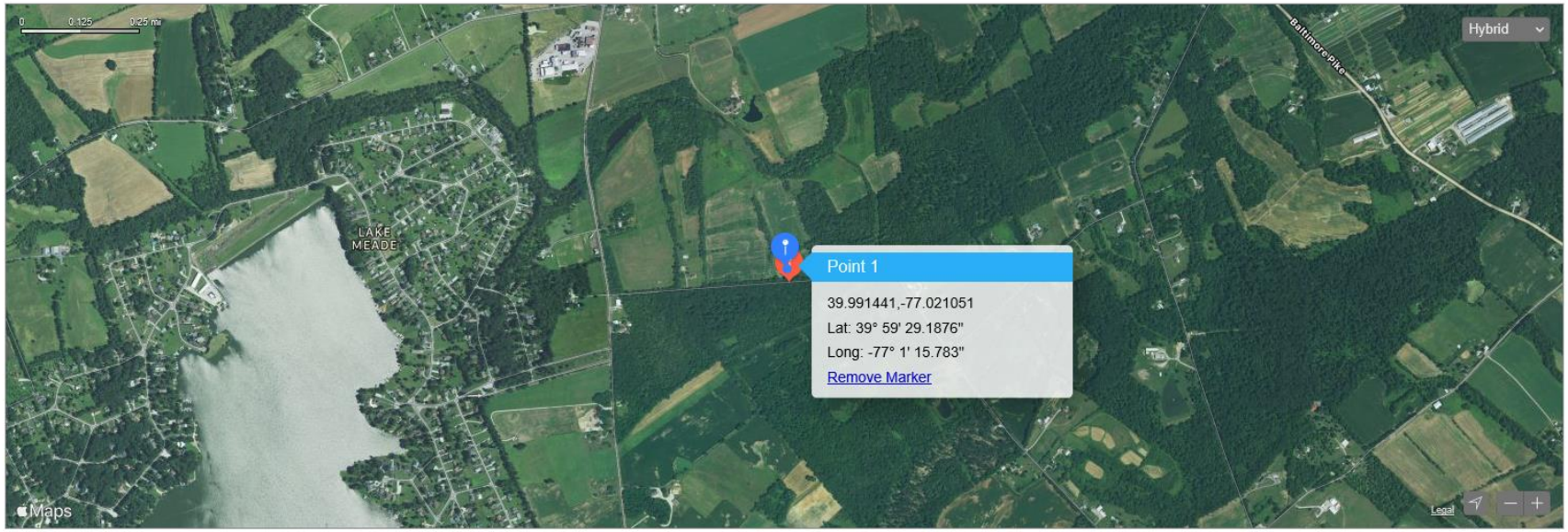
Other Comments:

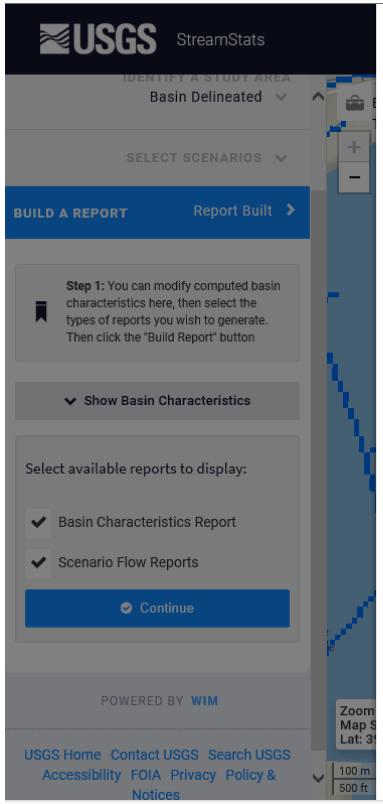
Topographic of the facility



1. **Press and Hold** the **Shift Key** then **Click** on the point on the map.
2. **Drag** the red marker (Press and Hold the mouse button until the marker pops up) .
3. Enter the **Address** Nell Road, East Berlin, PA 17316 GO

Latitude and Longitude of a Point





Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.05	square miles
BSLOPD	Mean basin slope measured in degrees	3.6	degrees
ROCKDEP	Depth to rock	4.9	feet
URBAN	Percentage of basin with urban development	1	percent

Low-Flow Statistics Parameters[Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.05	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.6	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.9	feet	4.13	5.21
URBAN	Percent Urban	1	percent	0	89

Low-Flow Statistics Disclaimers[Low Flow Region 1]

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 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00804	ft^3/s
30 Day 2 Year Low Flow	0.0113	ft^3/s
7 Day 10 Year Low Flow	0.00276	ft^3/s
30 Day 10 Year Low Flow	0.00419	ft^3/s
90 Day 10 Year Low Flow	0.00789	ft^3/s