



Application Type New  
Wastewater Type Sewage  
Facility Type SRSTP

Application No. PA0281921 & WQM 3125401  
APS ID 1130714  
Authorization ID 1515612 & 1515681 WQM

## NPDES & WQM PERMITs FACT SHEET INDIVIDUAL SFTF/SRSTP

### Applicant, Facility and Project Information

|                           |                                      |                  |                                      |
|---------------------------|--------------------------------------|------------------|--------------------------------------|
| Applicant Name            | <u>Jody Friling</u>                  | Facility Name    | <u>3777 Warriors Mark Path SRSTP</u> |
| Applicant Address         | 987 Peg Way Lane                     | Facility Address | 3777 Warriors Mark Path              |
|                           | Warriors Mark, PA 16877-6415         |                  | Warriors Mark, PA 16877-6370         |
| Applicant Contact         | <u>Jody Friling</u>                  | Facility Contact | <u>Jody Friling</u>                  |
| Applicant Phone           | <u>(814) 937-2740</u>                | Facility Phone   | <u>(814) 937-2740</u>                |
| Client ID                 | <u>390762</u>                        | Site ID          | <u>877948</u>                        |
| SIC Code                  | <u>8811</u>                          | Municipality     | <u>Warriors Mark Township</u>        |
| SIC Description           | <u>Services - Private Households</u> | County           | <u>Huntingdon</u>                    |
| Date Application Received | <u>February 8, 2025</u>              | WQM Required     |                                      |
| Date Application Accepted | <u>February 13, 2025</u>             | WQM App. No.     | <u>3125401</u>                       |
| Project Description       | <u>NPDES &amp; WQM new permits.</u>  |                  |                                      |

### Summary of Review

This fact sheet supports the issuance of a new NPDES permit for discharge of treated sewage from the Single Residence Sewage Treatment Plant (SRSTP) located in Warriors Mark Township, Huntingdon County. The annual average design flow is 400 gallons per day.

The discharge will be to Warriors Mark Run which is classified as High Quality-Cold Water & Migratory Fishes (HQ-CWF & MF). Therefore, this project does not qualify for PAG-04 General Permit.

The WQM permit for the construction of the treatment system with permit No. WQM 3215401 is concurrently under review. DEP Planning for the project was approved under Code No. A3-31946-173-3S.

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<br>Hilary H. Le / Environmental Engineering Specialist | March 5, 2025  |
| X       |      | /s/<br>Daniel W. Martin, P.E. / Environmental Engineer Manager  | March 21, 2025 |

**Discharge, Receiving Waters and Water Supply Information**

|                                               |                                |                                       |                                  |
|-----------------------------------------------|--------------------------------|---------------------------------------|----------------------------------|
| Outfall No.                                   | 001                            | Design Flow (MGD)                     | 0.0004                           |
| Latitude                                      | 40° 42' 53.33"                 | Longitude                             | -78° 8' 33.69"                   |
| Quad Name                                     | Tyrone                         | Quad Code                             |                                  |
| Wastewater Description:                       | Sewage Effluent                |                                       |                                  |
| Receiving Waters                              | Warriors Mark Run (HQ-CWF, MF) | Stream Code                           | 15692                            |
| NHD Com ID                                    | 65603520                       | RMI                                   | 1.55                             |
| Drainage Area                                 | 0.5 mi. <sup>2</sup>           | Yield (cfs/mi <sup>2</sup> )          | See comments below               |
| Q <sub>7-10</sub> Flow (cfs)                  | See comments below             | Q <sub>7-10</sub> Basis               | USGS StreamStats                 |
| Elevation (ft)                                | 1277.88                        | Slope (ft/ft)                         |                                  |
| Watershed No.                                 | 11-A                           | Chapter 93 Class.                     | HQ-CWF, MF                       |
| Existing Use                                  |                                | Existing Use Qualifier                |                                  |
| Exceptions to Use                             |                                | Exceptions to Criteria                |                                  |
| Assessment Status                             | Attaining Use(s)               |                                       |                                  |
| Cause(s) of Impairment                        |                                |                                       |                                  |
| Source(s) of Impairment                       |                                |                                       |                                  |
| TMDL Status                                   | Final                          | Name                                  | Warriors Mark Run Warershed TMDL |
| Nearest Downstream Public Water Supply Intake |                                | Huntingdon Boro Water, Juniata County |                                  |
| PWS Waters                                    | Juniata River                  | Flow at Intake (cfs)                  |                                  |
| PWS RMI                                       | 93.22 miles                    | Distance from Outfall (mi)            | Approximate 27.0 miles           |

Changes Since Last Permit Issuance: new

**Drainage Area**

The discharge is to Warriors Mark Run (Left Branch) at RMI 1.55 miles. A drainage area upstream of the discharge is estimated to be 0.5 mi.<sup>2</sup>, according to USGS StreamStats available at <https://streamstats.usgs.gov/ss/>.

**Streamflow**

Streamflow will be correlated with past streamflow records taken from the nearby USGS gage station 01559000 on the Juniata River at Huntingdon County. The Q<sub>7-10</sub> is 131 cfs and the drainage area is 817 mi.<sup>2</sup> (according to USGS PA StreamStats available at <https://streamstats.usgs.gov/ss/>) which results in a Q<sub>7-10</sub> low flow yield of 0.16 cfs/mi.<sup>2</sup>. This information is used to obtain a chronic or 30-day (Q<sub>30-10</sub>), and an acute or 1-day (Q<sub>1-10</sub>) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

$$\begin{aligned}
 \text{Low Flow Yield} &= Q_{7-10\text{gage}} / \text{Drainage Area}_{\text{gage}} = 131 \text{ cfs} / 817 \text{ mi.}^2 = 0.16 \text{ cfs/mi.}^2 \\
 Q_{7-10\text{discharge}} &= 0.16 \text{ cfs/mi.}^2 * \text{Drainage Area}_{\text{discharge}} = 0.16 \text{ cfs/mi.}^2 * 0.5 \text{ mi.}^2 = 0.08 \text{ cfs} \\
 Q_{30-10} &= 1.36 * Q_{7-10\text{discharge}} = 1.36 * 0.08 \text{ cfs} = 0.11 \text{ cfs} \\
 Q_{1-10} &= 0.64 * Q_{7-10\text{discharge}} = 0.64 * 0.08 \text{ cfs} = 0.05 \text{ cfs}
 \end{aligned}$$

**Warriors Mark Run (Left Branch)**

Under 25 Pa Code §93.9n, Warriors Mark Run (Left Branch) is designated as High Quality Cold-Water and Migratory Fishes (HQ-CWF & MF) and attaining its uses. Additionally, the dilution ratio of >100/1 is sufficient to assimilate an effluent without impact (dilution ratio is Q<sub>stream</sub> / Q<sub>discharge</sub> = 0.08 cfs / [0.0004 MGD \* (1.55 cfs/MGD)] = 129:1) [Water Quality Antidegradation Implementation Guidance No. 391-0300-002/November 29, 2003/Page 60]. Therefore, HQ limits do not apply to the discharge.

Based on integrated report 2024, Warriors Mark Run (Left Branch), assessment ID 277, is not impaired, & impaired cause by algae, nutrient, siltation.

This discharge is not into a watershed that has proposed or final TMDL. No Exceptional Value Waters are impacted by this discharge.

Warriors Mark Run (Left Branch) 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 Huntingdon Boro Water, Juniata County located on Juniata river, approximately 26.5 miles. Given the nature and distance, the proposed discharge is not expected to impact the water supply.

### **Anti-Degradation Requirements (25 Pa Code § 93.4a)**

The site-specific anti-degradation analysis was prepared as part of Act 537 planning module. In accordance with 25 Pa Code § 93.4c.(b)(1)(i)(A) and (B), this analysis included possible non-discharge alternatives (i.e., on-site sewage disposal, individual residential spray irrigation, connection to public sewer). However, the applicant indicated that these alternatives are not environmentally sound and cost-effective due to unsuitable soils, season high water table, and unavailable local wastewater treatment facilities nearby the property.

The applicant, according to social or economic justification (SEJ), determined that there is no other long term solution to the failure of the existing on-site sewage disposal system and the proposed facility is the best available and cost-effective technology to achieve water quality-based effluent limitations (WQBELs) specified in the Department's guidance, Water Quality Antidegradation Implementation Guidance-Appendix B (391-0300-002). The planning module with this SEJ and alternate analysis was approved by the Department. Based on the review, the permit will contain WQBELs specified in the Department's guidance to maintain and protect the existing water quality of the receiving stream. Therefore, no High-Quality Water are impacted by this discharge.

### **Treatment Facility Summary**

The facility is proposed to serve the existing three-bedroom single family residence (400 GPD) located at 3777 Warriors Mark Path Road, Huntingdon, PA 16877. The facility will be owned and maintained by Jody M. Friling. The proposed treatment process, according to the application, is as follows:

One (1) 1000-gallon dual compartment concrete septic tank (or equivalent) → Premier Tech ECP-450-P-P-PACK Coco filter → DiUV disinfection unit → Outfall.

The proposed septic tank 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. "A" Biotube effluent filters will be provided, which has been demonstrated to produce effluent that does not exceed 10 mg/L BOD<sub>5</sub> 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 surface filter will be inspected annually. 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 January 21, 2025, DEP approved the Act 537 planning as a revision to the Act 537 official sewage facilities plan of Warriors Mark Township (DEP Code No. A3-31946-173-3S).

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**

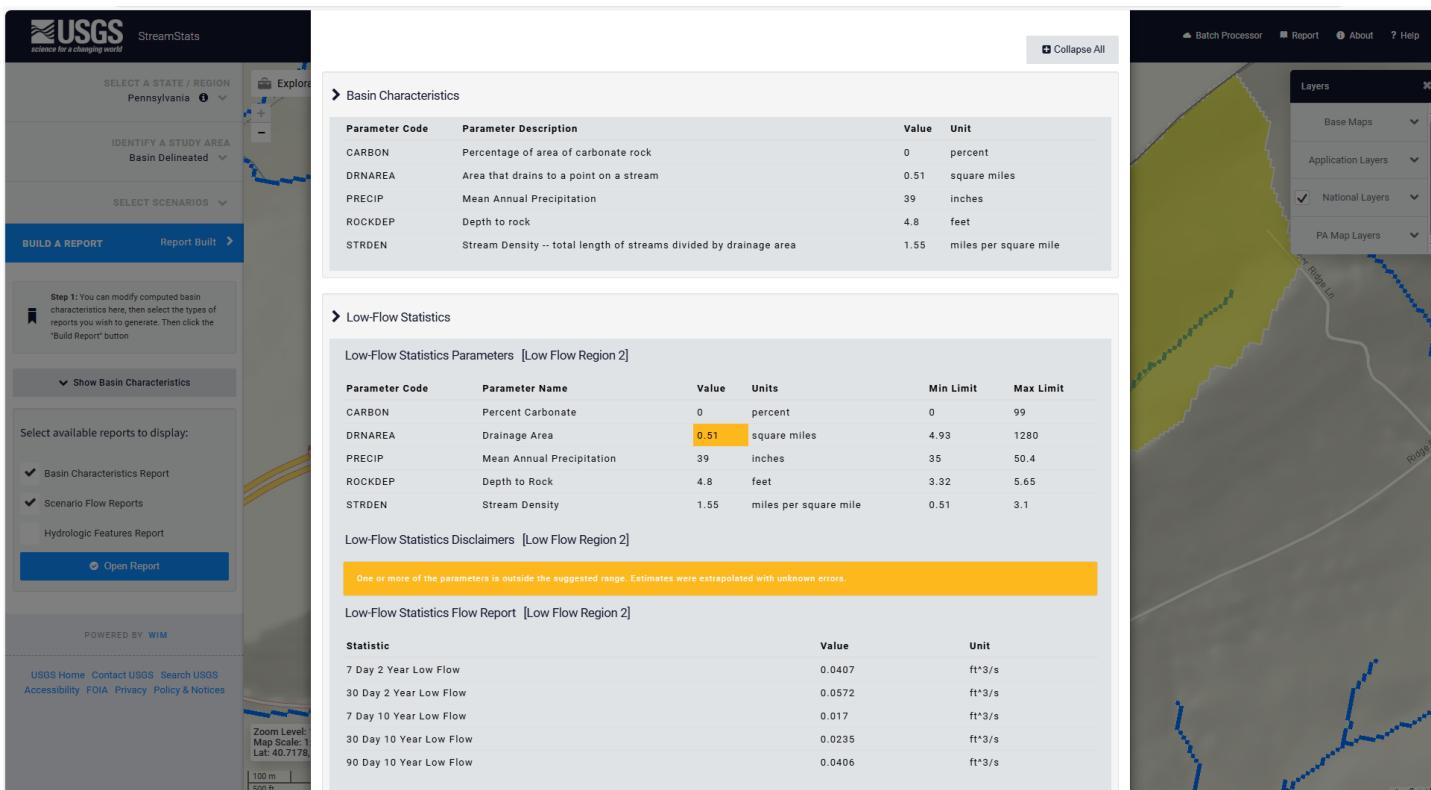
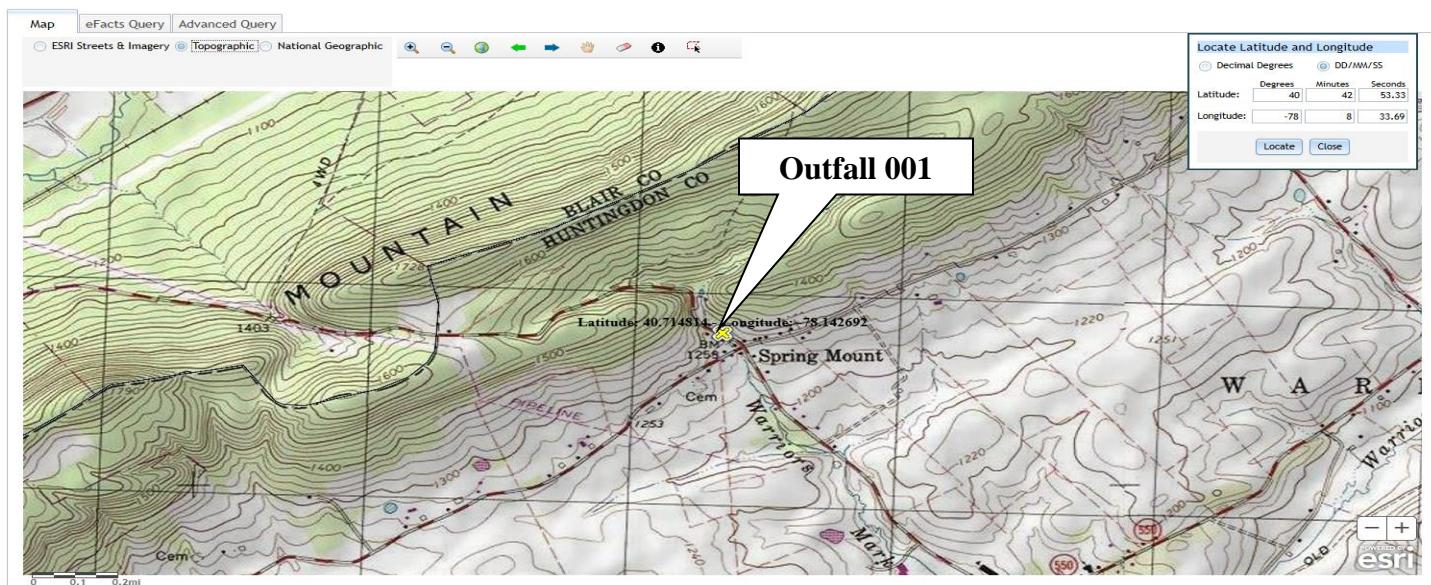
The effluent limitations and monitoring requirements are derived from DEP's Standard Operating Procedure (SOP) for New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications (SOP No. BPNPSM-PMT-003, revised November 9, 2023). Since the facility will utilize ultraviolet (UV) disinfection, monitoring requirements for total residual chlorine are not applicable.

## 3777 Warriors Mark Path SRSTP

According to the SOP referenced above, water quality monitoring using Toxic Management Spreadsheet and/or WQM are not required for SRSTPs. 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:

- 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.
- Stormwater Prohibition
- Property Rights
- 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) <sup>(1)</sup> |                   | Concentrations (mg/L) |                   |         |                     | Minimum <sup>(2)</sup><br>Measurement | Required<br>Sample<br>Frequency |
|                             | Average<br>Monthly                  | Average<br>Weekly | Minimum               | Annual<br>Average | Maximum | Instant.<br>Maximum |                                       |                                 |
| Flow (MGD)                  | Report<br>Annl Avg                  | XXX               | XXX                   | XXX               | XXX     | XXX                 | XXX                                   | 1/year                          |
| CBOD5                       | XXX                                 | XXX               | XXX                   | 10.0              | XXX     | 20.0                | 1/year                                | Grab                            |
| TSS                         | XXX                                 | XXX               | XXX                   | 10.0              | XXX     | 20.0                | 1/year                                | Grab                            |
| Fecal Coliform (No./100 ml) | XXX                                 | XXX               | XXX                   | 200               | XXX     | XXX                 | 1/year                                | Grab                            |

Compliance Sampling Location: 

Other Comments: 

**USGS StreamStats**

SELECT A STATE / REGION Pennsylvania

IDENTIFY A STUDY AREA Basin Delineated

SELECT SCENARIOS

**BUILD A REPORT** Report Built

Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button.

Show Basin Characteristics

Select available reports to display:

- ✓ Basin Characteristics Report
- ✓ Scenario Flow Reports
- Hydrologic Features Report

Open Report

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Zoom Level: Map Scale: Lat: 40.448000 Long: -77.048000 10 km 5 mi

**Basin Characteristics**

| Parameter Code | Parameter Description                                              | Value | Unit                  |
|----------------|--------------------------------------------------------------------|-------|-----------------------|
| CARBON         | Percentage of area of carbonate rock                               | 34.57 | percent               |
| DRNAREA        | Area that drains to a point on a stream                            | 817   | square miles          |
| PRECIP         | Mean Annual Precipitation                                          | 39    | inches                |
| ROCKDEP        | Depth to rock                                                      | 4.8   | feet                  |
| STRDEN         | Stream Density -- total length of streams divided by drainage area | 1.79  | miles per square mile |

**Low-Flow Statistics**

Low-Flow Statistics Parameters [Low Flow Region 2]

| Parameter Code | Parameter Name            | Value | Units                 | Min Limit | Max Limit |
|----------------|---------------------------|-------|-----------------------|-----------|-----------|
| CARBON         | Percent Carbonate         | 34.57 | percent               | 0         | 99        |
| DRNAREA        | Drainage Area             | 817   | square miles          | 4.93      | 1280      |
| PRECIP         | Mean Annual Precipitation | 39    | inches                | 35        | 50.4      |
| ROCKDEP        | Depth to Rock             | 4.8   | feet                  | 3.32      | 5.65      |
| STRDEN         | Stream Density            | 1.79  | miles per square mile | 0.51      | 3.1       |

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR<sup>2</sup>: Pseudo R Squared (other -- see report)

| Statistic               | Value | Unit               | SE | ASEp |
|-------------------------|-------|--------------------|----|------|
| 7 Day 2 Year Low Flow   | 185   | ft <sup>3</sup> /s | 38 | 38   |
| 30 Day 2 Year Low Flow  | 215   | ft <sup>3</sup> /s | 33 | 33   |
| 7 Day 10 Year Low Flow  | 131   | ft <sup>3</sup> /s | 51 | 51   |
| 30 Day 10 Year Low Flow | 151   | ft <sup>3</sup> /s | 46 | 46   |
| 90 Day 10 Year Low Flow | 181   | ft <sup>3</sup> /s | 36 | 36   |

