



Application Type

Renewal

Facility Type

Non-Municipal

Major / Minor

Minor

Application No.

PA0081981

APS ID

559804

Authorization ID

1464115

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

| Applicant and Facility Information | | | |
|------------------------------------|-----------------------------------|------------------|--------------------------------|
| Applicant Name | <u>Smithville Community, LLC</u> | Facility Name | <u>Smithville MHP</u> |
| Applicant Address | <u>103 Taggart Drive</u> | Facility Address | <u>686 Pennsy Road</u> |
| | <u>Coatesville, PA 19320-1024</u> | | <u>Willow Street, PA 17584</u> |
| Applicant Contact | <u>Ron Taggart</u> | Facility Contact | <u>Ron Taggart</u> |
| Applicant Phone | <u>(610) 384-7011</u> | Facility Phone | <u>(610) 384-7011</u> |
| Client ID | <u>242748</u> | Site ID | <u>443906</u> |
| Ch 94 Load Status | <u>Not Overloaded</u> | Municipality | <u>Providence Township</u> |
| Connection Status | <u>No Limitations</u> | County | <u>Lancaster</u> |
| Date Application Received | <u>December 6, 2023</u> | EPA Waived? | <u>Yes</u> |
| Date Application Accepted | <u>December 15, 2023</u> | If No, Reason | |
| Purpose of Application | <u>NPDES Renewal.</u> | | |

Summary of Review

Smithville Community, Inc. has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The existing permit was issued June 14, 2019, and became effective on July 1, 2019, authorizing discharge of treated sewage from the facility into UNT to Huber Run. The existing permit expiration date was May 31, 2024, and the permit has been administratively extended since that time.

Per the previous fact sheet, the WWTP discharges to a small roadside drainage ditch (<6" wide) which receives a small perennial overflow from the Smithville Community pond. The ditch was checked several times for aquatic life but without success. The WWTP discharges about 60' up from the confluence with Huber Run and includes about 30' of concrete culvert underneath the highway. An aquatic biologist reviewed the situation and determined that the point of first use would be at the confluence with Huber Run.

Changes in this renewal: E. Coli monitoring has been added to the permit.

Sludge use and disposal description and location(s): Sludge holding tank with offsite disposal.

Supplemental information for this facility is provided at the end of this fact sheet.

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

| Approve | Deny | Signatures | Date |
|---------|------|---|--------------------|
| X | | Benjamin R. Lockwood Benjamin R. Lockwood / Environmental Engineering Specialist | September 23, 2024 |
| X | | Maria D. Bebeneck for Daniel W. Martin, P.E. / Environmental Engineer Manager | October 1, 2024 |

Summary of Review

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) | .021 |
| Latitude | 39° 55' 39" | Longitude | 76° 15' 13" |
| Quad Name | | Quad Code | |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | Huber Run (CWF, MF) | Stream Code | 7466 |
| NHD Com ID | 57467441 | RMI | 0.95 |
| Drainage Area | 3.55 mi ² | Yield (cfs/mi ²) | 0.2 |
| Q ₇₋₁₀ Flow (cfs) | 0.709 | Q ₇₋₁₀ Basis | USGS PA StreamStats |
| Elevation (ft) | 326 | Slope (ft/ft) | |
| Watershed No. | 7-K | Chapter 93 Class. | CWF, MF |
| Existing Use | N/A | Existing Use Qualifier | N/A |
| Exceptions to Use | N/A | Exceptions to Criteria | N/A |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | Pathogens | | |
| Source(s) of Impairment | Source Unknown | | |
| TMDL Status | N/A | Name | N/A |
| Nearest Downstream Public Water Supply Intake | Chester Water Authority | | |
| PWS Waters | Susquehanna River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | 28.0 |

Changes Since Last Permit Issuance: USGS PA StreamStats provided a drainage area of 3.55 mi² and a Q₇₋₁₀ flow of 0.709 cfs at the point of discharge.

Other Comments: None

| Treatment Facility Summary | | | | |
|----------------------------|----------------------------|-------------------|---------------------|------------------------|
| Waste Type | Degree of Treatment | Process Type | Disinfection | Avg Annual Flow (MGD) |
| Sewage | Secondary | Extended Aeration | Hypochlorite | 0.021 |
| Hydraulic Capacity (MGD) | Organic Capacity (lbs/day) | Load Status | Biosolids Treatment | Biosolids Use/Disposal |
| 0.021 | | Not Overloaded | Sludge Holding | Other WWTP |

Changes Since Last Permit Issuance: None

Other Comments: The treatment process consists of the following: 1 Bar Screen, 1 Equalization Tank, 1 Aeration Tank, 1 Clarifier, 2 Sand Filters, 1 Chlorine Contact Tank with Tablet Feed, 1 Sludge Holding Tank, Outfall 001 to UNT to Huber Run

| Compliance History | |
|--------------------------------|--|
| Summary of DMRs: | A summary of past DMR effluent data is present on the next page of this fact sheet. |
| Summary of Inspections: | 2/29/2024: A routine inspection was conducted. Some floating solids were observed in the clarifier, the weirs had minimal algae growth and the effluent appeared clear. Flow continues through a chlorine contact tank and an old tablet feeder that is no longer used. Outfall 001 appeared clear at the time of inspection and no concerns were noted. |

Other Comments: There are currently no open violations associated with the Applicant.

Compliance History

DMR Data for Outfall 001 (from August 1, 2023 to July 31, 2024)

| Parameter | JUL-24 | JUN-24 | MAY-24 | APR-24 | MAR-24 | FEB-24 | JAN-24 | DEC-23 | NOV-23 | OCT-23 | SEP-23 | AUG-23 |
|--|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|
| Flow (MGD) Average Monthly | 0.00744 | 0.00754 | 0.00726 | 0.00648 | 0.00655 | 0.00692 | 0.00717 | 0.00661 | 0.00731 | 0.00725 | 0.00656 | 0.00701 |
| Flow (MGD) Daily Maximum | 0.01091 | 0.00874 | 0.01005 | 0.00886 | 0.01201 | 0.0099 | 0.01032 | 0.01109 | 0.01105 | 0.01299 | 0.00794 | 0.01235 |
| pH (S.U.) Instantaneous Minimum | 6.7 | 6.7 | 6.5 | 6.8 | 7.0 | 6.6 | 6.7 | 6.7 | 6.7 | 6.8 | 6.6 | 6.6 |
| pH (S.U.) Instantaneous Maximum | 7.8 | 7.9 | 7.4 | 7.3 | 7.53 | 7.2 | 7.3 | 7.1 | 7.2 | 7.7 | 7.4 | 7.4 |
| DO (mg/L) Instantaneous Minimum | 8.99 | 8.0 | 8.4 | 10.0 | 11.03 | 10.35 | 9.8 | 10.03 | 9.35 | 9.05 | 8.24 | 8.18 |
| TRC (mg/L) Average Monthly | 0.37 | 0.39 | 0.36 | 0.37 | 0.35 | 0.35 | 0.33 | 0.34 | 0.35 | 0.37 | 0.36 | 0.33 |
| TRC (mg/L) Instantaneous Maximum | 0.46 | 0.5 | 0.43 | 0.42 | 0.44 | 0.48 | 0.43 | 0.42 | 0.45 | 0.47 | 0.5 | 0.46 |
| CBOD5 (mg/L) Average Monthly | < 2 | < 2 | 2.8 | < 2 | < 2.3 | < 2 | < 4.4 | < 9.9 | < 2 | < 2 | < 2 | < 3 |
| TSS (mg/L) Average Monthly | 13 | 8 | < 11 | < 5 | < 5 | < 18 | < 6 | < 7 | 10 | < 5 | 12 | < 5 |
| Fecal Coliform (No./100 ml) Geometric Mean | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 |
| Fecal Coliform (No./100 ml) Instantaneous Maximum | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | 1 | < 1 | < 1 | 2 | < 1 | < 1 |
| Nitrate-Nitrite (lbs/day) Total Annual | | | | | | | | 653.35 | | | | |
| Nitrate-Nitrite (mg/L) Annual Average | | | | | | | | 34.3 | | | | |
| Total Nitrogen (lbs/day) Total Annual | | | | | | | | < 675.25 | | | | |
| Total Nitrogen (mg/L) Annual Average | | | | | | | | < 35.3 | | | | |

NPDES Permit Fact Sheet
Smithville MHP

NPDES Permit No. PA0081981

| | | | | | | | | | | | | |
|-----------------------------------|------|------|------|-------|-------|--------|------|---------|------|-------|-------|---------|
| Ammonia (mg/L) Average Monthly | 0.4 | 0.44 | 0.7 | < 0.1 | < 0.1 | < 0.13 | 0.39 | 0.2 | 0.16 | 0.226 | 0.844 | < 0.214 |
| TKN (lbs/day) Total Annual | | | | | | | | < 18.98 | | | | |
| TKN (mg/L) Annual Average | | | | | | | | < 1.0 | | | | |
| Total Phosphorus (lbs/day) | | | | | | | | | | | | |
| Total Monthly | 2 | 2 | 0.9 | 0.5 | 0.7 | 2 | 0.8 | 2 | 3 | 1 | 3 | 1 |
| Total Phosphorus (lbs/day) | | | | | | | | | | | | |
| Total Annual | | | | | | | | 25.2 | | | | |
| Total Phosphorus (mg/L) | | | | | | | | | | | | |
| Average Monthly | 0.93 | 1.0 | 0.48 | 0.33 | 0.41 | 1.51 | 0.34 | 0.93 | 1.5 | 0.72 | 1.98 | 0.67 |

Existing Effluent Limitations and Monitoring Requirements

Outfall 001

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|--|----------------------|------------------|-----------------------|--------------------|---------|------------------|-------------------------------|----------------------|
| | Mass Units (lbs/day) | | Concentrations (mg/L) | | | | Minimum Measurement Frequency | Required Sample Type |
| | Total Monthly | Total Annual | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Flow (MGD) | Report Avg. Mo. | Report Daily Max | XXX | XXX | XXX | XXX | 1/week | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Inst Min | XXX | XXX | 9.0 | 1/day | Grab |
| Dissolved Oxygen | XXX | XXX | 5.0 Inst Min | XXX | XXX | XXX | 1/day | Grab |
| Total Residual Chlorine (TRC) | XXX | XXX | XXX | 0.5 | XXX | 1.6 | 1/day | Grab |
| Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30 | XXX | XXX | XXX | 25 | XXX | 50 | 2/month | 8-Hr Composite |
| Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31 | XXX | XXX | XXX | 20 | XXX | 40 | 2/month | 8-Hr Composite |
| Total Suspended Solids | XXX | XXX | XXX | 30 | XXX | 60 | 2/month | 8-Hr Composite |
| Fecal Coliform (No./100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2,000 Geo Mean | XXX | 10,000 | 2/month | Grab |
| Fecal Coliform (No./100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | 1,000 | 2/month | Grab |
| Ammonia-Nitrogen | XXX | XXX | XXX | Report | XXX | XXX | 2/month | 8-Hr Composite |
| Nitrate-Nitrite as N | XXX | Report | XXX | Report Annl Avg | XXX | XXX | 1/year | 8-Hr Composite |
| Total Nitrogen | XXX | Report | XXX | Report Annl Avg | XXX | XXX | 1/year | Calculation |
| Total Kjeldahl Nitrogen | XXX | Report | XXX | Report Annl Avg | XXX | XXX | 1/year | 8-Hr Composite |
| Total Phosphorus | Report | Report | XXX | 2.0 | XXX | 4.0 | 2/month | 8-Hr Composite |

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

at Outfall 001

| Development of Effluent Limitations | | | | |
|-------------------------------------|-----------------|-------------------|-------------|--|
| Outfall No. | 001 | Design Flow (MGD) | .021 | |
| Latitude | 39° 55' 39" | Longitude | 76° 15' 13" | |
| Wastewater Description: | Sewage Effluent | | | |

Technology-Based Limitations

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

| Pollutant | Limit (mg/l) | SBC | Federal Regulation | State Regulation |
|------------------------------|-----------------|-----------------|--------------------|------------------|
| CBOD ₅ | 25 | Average Monthly | 133.102(a)(4)(i) | 92a.47(a)(1) |
| | 40 | Average Weekly | 133.102(a)(4)(ii) | 92a.47(a)(2) |
| Total Suspended Solids | 30 | Average Monthly | 133.102(b)(1) | 92a.47(a)(1) |
| | 45 | Average Weekly | 133.102(b)(2) | 92a.47(a)(2) |
| pH | 6.0 – 9.0 S.U. | Min – Max | 133.102(c) | 95.2(1) |
| Fecal Coliform (5/1 – 9/30) | 200 / 100 ml | Geo Mean | - | 92a.47(a)(4) |
| Fecal Coliform (5/1 – 9/30) | 1,000 / 100 ml | IMAX | - | 92a.47(a)(4) |
| Fecal Coliform (10/1 – 4/30) | 2,000 / 100 ml | Geo Mean | - | 92a.47(a)(5) |
| Fecal Coliform (10/1 – 4/30) | 10,000 / 100 ml | IMAX | - | 92a.47(a)(5) |
| Total Residual Chlorine | 0.5 | Average Monthly | - | 92a.48(b)(2) |

Water Quality-Based Limitations

CBOD₅, NH₃-N

Pursuant to 40 CFR § 122.44(d)(1)(i), more stringent requirements should be considered when pollutants are discharged at the levels which have the reasonable potential to cause or contribute to excursions above water quality standards.

WQM 7.0 ver. 1.1b is a water quality model designed to assist DEP in determining appropriate water quality based effluent limits (WQBELs) for carbonaceous biochemical oxygen demand (CBOD₅), ammonia (NH₃-N) and dissolved oxygen (D.O.). DEP's Technical Guidance No. 391-2000-007 provides the technical methods contained in WQM 7.0 for determining wasteload allocations and for determining recommended NPDES effluent limits for point source discharges. The model was utilized for this permit renewal. The model output indicated a CBOD₅ average monthly limit of 25 mg/l, an NH₃-N average monthly limit of 25 mg/l, and a D.O. minimum limit of 5.0 mg/l were protective of water quality. The flow data used to run the model was acquired from USGS PA StreamStats and is included as an attachment. SOP No. BPNPSM-PMT-033 (Establishing Effluent Limitations for Individual Sewage Permits) recommends, for existing discharges, a year-round monitoring requirement for ammonia-nitrogen at a minimum when WQM modeling results for summer indicates that an average monthly limit of 25 mg/L is acceptable. This is consistent with the existing monitoring requirements. A more stringent CBOD₅ summertime limit is included in the existing permit, and will remain in the renewal permit.

There are no industrial/commercial users contributing industrial wastewater to the system and Smithville MHP does not currently have an EPA-approved pretreatment program. Accordingly, evaluating reasonable potential of toxic pollutants is not necessary as effluent levels of toxic pollutants are expected to be insignificant.

Additional Considerations

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the *Pennsylvania Chesapeake Watershed Implementation Plan* (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a *Phase 2 Watershed Implementation Plan Wastewater Supplement* (Phase 2

Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. A new update to the WIP was published as the Phase 3 WIP in August 2019. As part of the Phase 3 WIP, a *Phase 3 Watershed Implementation Plan Wastewater Supplement* (Phase 3 Supplement) was developed, and was most recently revised on December 17, 2019, and is the basis for the development of any Chesapeake Bay related permit parameters. Sewage discharges have been prioritized based on their design flow to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual Cap Loads based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. For Phase 4 and 5 facilities, Cap Loads are not currently being implemented for renewed or amended permits for facilities that do not increase design flow.

This facility is considered a Phase 5 non-significant facility with a design flow less than 0.2 MGD but greater than 0.002 MGD. According to the Phase 3 WIP, TN and TP monitoring is recommended for this facility, which is consistent with the existing permit.

Dissolved Oxygen

A minimum D.O. limit of 5.0 mg/L is a D.O. water quality criterion found in 25 Pa. Code § 93.7(a). This limit is included in the existing NPDES permit based BPJ. It is still recommended to include this limit in the draft permit to ensure that the facility continues to achieve compliance with DEP water quality standards.

Fecal Coliform

PA Code § 92a.47.(a)(4) requires a monthly average limit of 200/100 mL as a geometric mean and an instantaneous maximum limit not greater than 1,000/100 mL from May through September for fecal coliform. PA Code § 92a.47.(a)(5) requires a monthly average limit of 2,000/100 mL as a geometric mean and an instantaneous maximum limit not greater than 10,000/100 mL from October through April for fecal coliform. This is consistent with the existing permit limits.

E. Coli

PA Code § 92a.61 requires IMAX reporting of E. Coli. Per DEP's SOP No. BCW-PMT-033, sewage dischargers with a design flow of 0.002 – 0.05 mgd will include E. Coli monitoring with a frequency of 1/year. This parameter has been added to the renewal permit.

Total Residual Chlorine

The attached computer printout utilizes the equations and calculations as presented in the Department's May 1, 2003 Implementation Guidance for Total Residual Chlorine (TRC) (ID No. 391-2000-015) for developing chlorine limitations. The Guidance references Chapter 92, Section 92.2d (3) which establishes a standard BAT limit of 0.5 mg/l unless a facility-specific BAT has been developed. The attached printout indicates that a water quality limit of 0.5 mg/l would be needed to prevent toxicity concerns. This is the same as the existing permit limit; therefore, a TRC limit of 0.5 mg/l monthly average and 1.6 mg/l instantaneous maximum will remain in the permit.

Total Phosphorus

A TP average monthly limit of 2.0 mg/l and an instantaneous maximum limit of 4.0 mg/l were included in the existing permit. These limits will remain in the renewal.

Sampling Frequency & Sample Type

The monitoring requirements were established based on BPJ and/or Table 6-3 of DEP's Technical Guidance No. 362-0400-001.

Anti-Degradation

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303(d) Listed Streams

The discharge is located on a stream segment that is designated on the 303(d) list as impaired. There is a recreational impairment due to pathogens from an unknown source.

Class A Wild Trout Fisheries

No Class A Wild Trout Fisheries are impacted by this discharge.

Anti-Backsliding

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions are addressed by DEP in this fact 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" (386-0400-001), SOPs and/or BPJ.

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

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|----------------------|---------------------|-----------------------|------------------|---------|------------------|-------------------------------|----------------------|
| | Mass Units (lbs/day) | | Concentrations (mg/L) | | | | Minimum Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | 1/week | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Inst Min | XXX | XXX | 9.0 | 1/day | Grab |
| DO | XXX | XXX | 5.0 Inst Min | XXX | XXX | XXX | 1/day | Grab |
| TRC | XXX | XXX | XXX | 0.5 | XXX | 1.6 | 1/day | Grab |
| CBOD5 Nov 1 - Apr 30 | XXX | XXX | XXX | 25 | XXX | 50 | 2/month | 8-Hr Composite |
| CBOD5 May 1 - Oct 31 | XXX | XXX | XXX | 20 | XXX | 40 | 2/month | 8-Hr Composite |
| TSS | XXX | XXX | XXX | 30 | XXX | 60 | 2/month | 8-Hr Composite |
| Fecal Coliform (No./100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2000 Geo Mean | XXX | 10000 | 2/month | Grab |
| Fecal Coliform (No./100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | 1000 | 2/month | Grab |
| E. Coli (No./100 ml) | XXX | XXX | XXX | XXX | XXX | Report | 1/year | Grab |
| Nitrate-Nitrite | XXX | Report Total Annual | XXX | Report Annl Avg | XXX | XXX | 1/year | 8-Hr Composite |
| Total Nitrogen | XXX | Report Total Annual | XXX | Report Annl Avg | XXX | XXX | 1/year | Calculation |
| Ammonia | XXX | XXX | XXX | Report | XXX | XXX | 2/month | 8-Hr Composite |
| TKN | XXX | Report Total Annual | XXX | Report Annl Avg | XXX | XXX | 1/year | 8-Hr Composite |

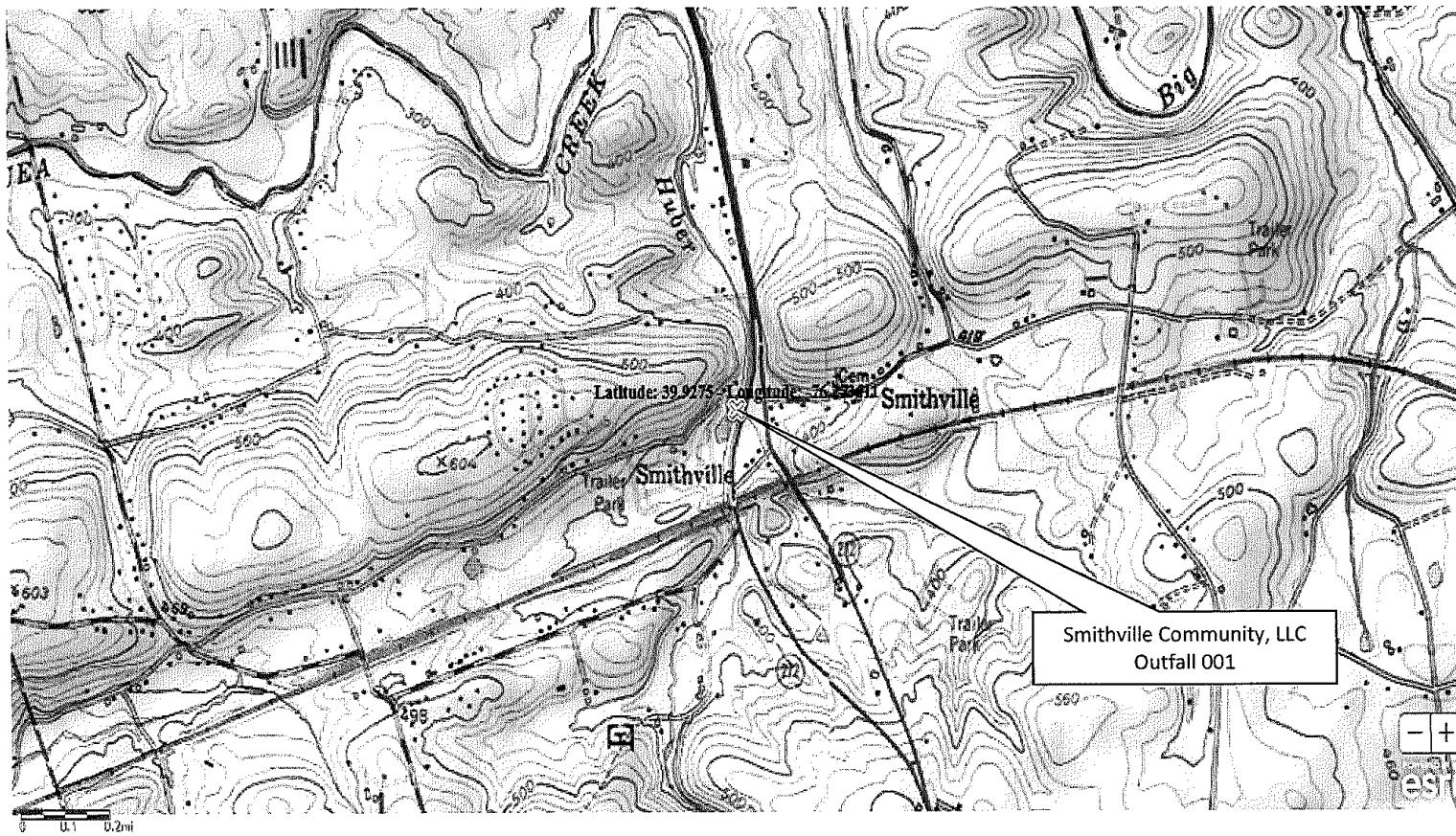
Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|------------------|----------------------|---------------------|-----------------------|-----------------|---------|------------------|-------------------------------|----------------------|
| | Mass Units (lbs/day) | | Concentrations (mg/L) | | | | Minimum Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Total Phosphorus | Report Total Mo | XXX | XXX | 2.0 | XXX | 4.0 | 2/month | 8-Hr Composite |
| Total Phosphorus | XXX | Report Total Annual | XXX | XXX | XXX | XXX | 1/year | 8-Hr Composite |

Compliance Sampling Location: Outfall 001

Other Comments: None

| Tools and References Used to Develop Permit | |
|---|--|
| <input checked="" type="checkbox"/> | WQM for Windows Model (see Attachment [REDACTED]) |
| <input type="checkbox"/> | Toxics Management Spreadsheet (see Attachment [REDACTED]) |
| <input type="checkbox"/> | TRC Model Spreadsheet (see Attachment [REDACTED]) |
| <input type="checkbox"/> | Temperature Model Spreadsheet (see Attachment [REDACTED]) |
| <input type="checkbox"/> | Water Quality Toxics Management Strategy, 361-0100-003, 4/06. |
| <input checked="" type="checkbox"/> | Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97. |
| <input type="checkbox"/> | Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98. |
| <input type="checkbox"/> | Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96. |
| <input type="checkbox"/> | Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97. |
| <input type="checkbox"/> | Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97. |
| <input type="checkbox"/> | Pennsylvania CSO Policy, 386-2000-002, 9/08. |
| <input type="checkbox"/> | Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03. |
| <input type="checkbox"/> | Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97. |
| <input checked="" type="checkbox"/> | Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97. |
| <input type="checkbox"/> | Implementation Guidance Design Conditions, 386-2000-007, 9/97. |
| <input checked="" type="checkbox"/> | Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004. |
| <input type="checkbox"/> | Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997. |
| <input type="checkbox"/> | Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99. |
| <input type="checkbox"/> | Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004. |
| <input type="checkbox"/> | Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97. |
| <input type="checkbox"/> | Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008. |
| <input type="checkbox"/> | Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994. |
| <input type="checkbox"/> | Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09. |
| <input type="checkbox"/> | Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97. |
| <input type="checkbox"/> | Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97. |
| <input type="checkbox"/> | Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99. |
| <input type="checkbox"/> | Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999. |
| <input type="checkbox"/> | Design Stream Flows, 386-2000-003, 9/98. |
| <input type="checkbox"/> | Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98. |
| <input type="checkbox"/> | Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97. |
| <input type="checkbox"/> | Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07. |
| <input checked="" type="checkbox"/> | SOP: BCW-PMT-033 |
| <input type="checkbox"/> | Other: [REDACTED] |



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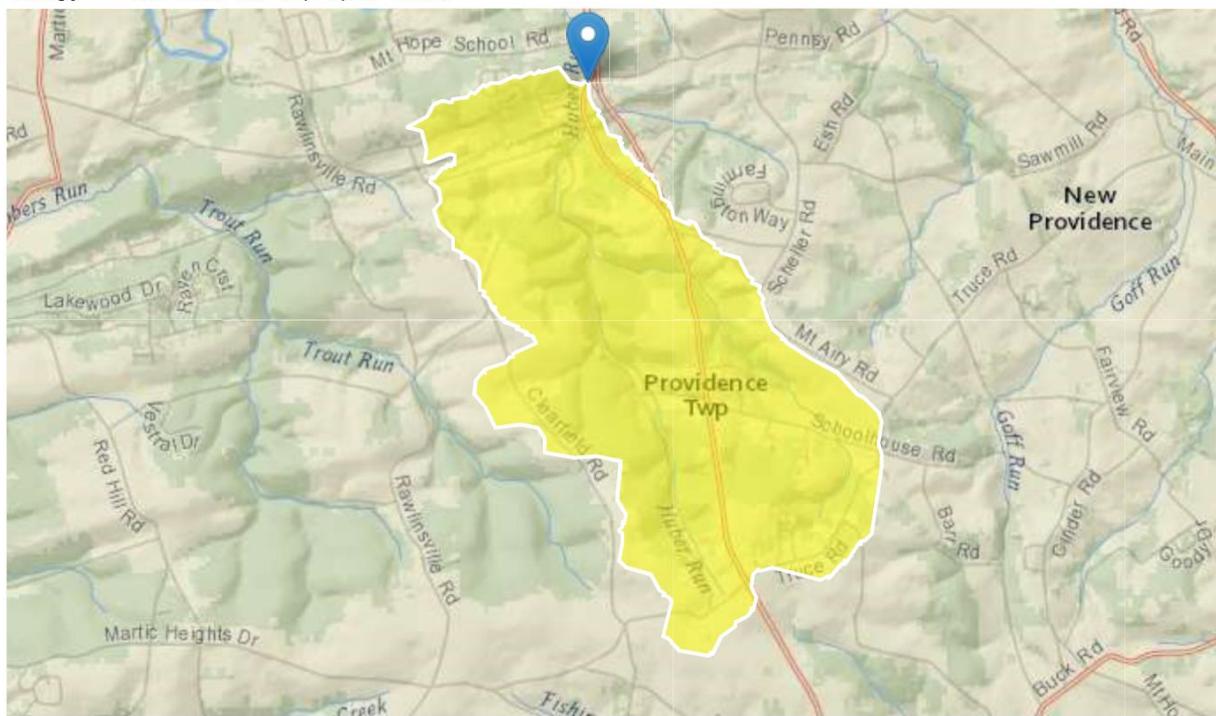
Smithville Community, LLC PA0081981 Outfall 001

Region ID: PA

Workspace ID: PA20240923164002795000

Clicked Point (Latitude, Longitude): 39.92735, -76.25359

Time: 2024-09-23 12:40:25 -0400



 [Collapse All](#)

➤ Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|----------------|--|--------|--------------|
| BSLOPD | Mean basin slope measured in degrees | 6.3645 | degrees |
| DRNAREA | Area that drains to a point on a stream | 3.55 | square miles |
| ROCKDEP | Depth to rock | 5 | feet |
| URBAN | Percentage of basin with urban development | 2.2454 | percent |

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|----------------|--------------------------|--------|--------------|-----------|-----------|
| DRNAREA | Drainage Area | 3.55 | square miles | 4.78 | 1150 |
| BSLOPD | Mean Basin Slope degrees | 6.3645 | degrees | 1.7 | 6.4 |
| ROCKDEP | Depth to Rock | 5 | feet | 4.13 | 5.21 |
| URBAN | Percent Urban | 2.2454 | 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 | 1.35 | ft^3/s |
| 30 Day 2 Year Low Flow | 1.59 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.709 | ft^3/s |
| 30 Day 10 Year Low Flow | 0.858 | ft^3/s |
| 90 Day 10 Year Low Flow | 1.12 | 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: 4.24.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

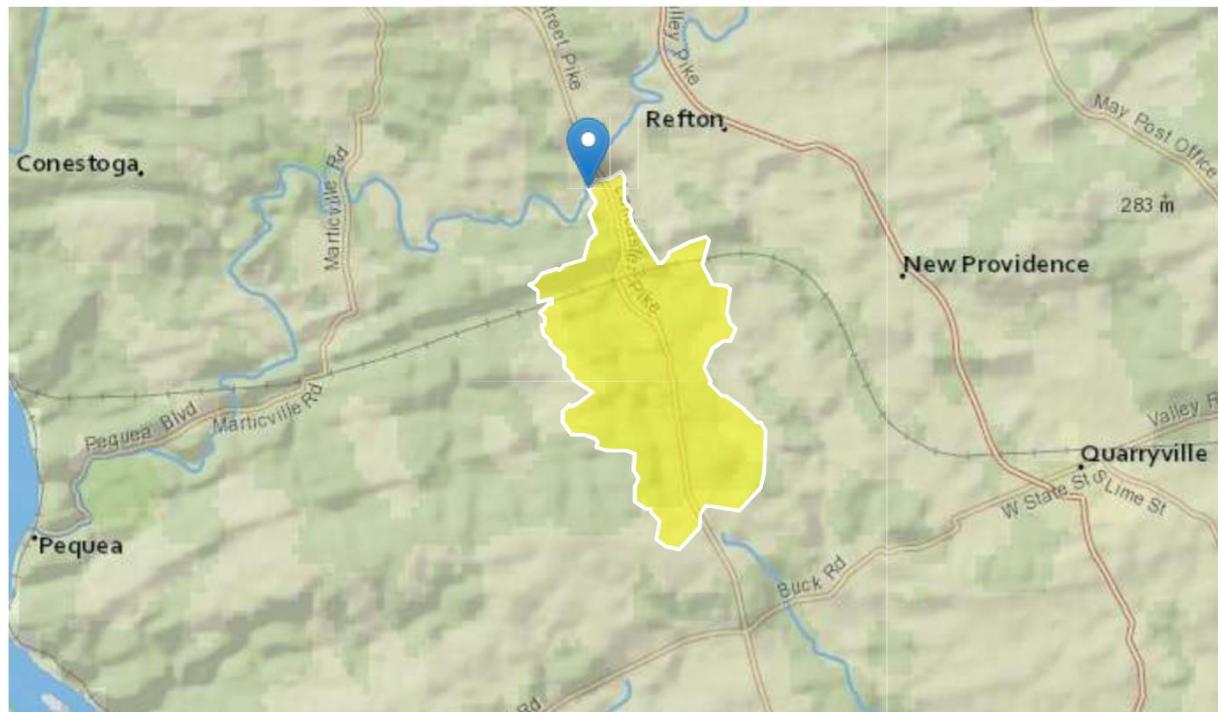
Smithville Community, LLC PA0081981 RMI = 0.0

Region ID: PA

Workspace ID: PA20240923164652055000

Clicked Point (Latitude, Longitude): 39.93853, -76.25937

Time: 2024-09-23 12:47:18 -0400



+ [Collapse All](#)

➤ Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|----------------|--|--------|--------------|
| BSLOPD | Mean basin slope measured in degrees | 6.2104 | degrees |
| DRNAREA | Area that drains to a point on a stream | 4.73 | square miles |
| ROCKDEP | Depth to rock | 5.1 | feet |
| URBAN | Percentage of basin with urban development | 2.6059 | percent |

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|----------------|--------------------------|--------|--------------|-----------|-----------|
| DRNAREA | Drainage Area | 3.55 | square miles | 4.78 | 1150 |
| BSLOPD | Mean Basin Slope degrees | 6.3645 | degrees | 1.7 | 6.4 |
| ROCKDEP | Depth to Rock | 5 | feet | 4.13 | 5.21 |
| URBAN | Percent Urban | 2.2454 | 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 | 1.35 | ft^3/s |
| 30 Day 2 Year Low Flow | 1.59 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.709 | ft^3/s |
| 30 Day 10 Year Low Flow | 0.858 | ft^3/s |
| 90 Day 10 Year Low Flow | 1.12 | 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: 4.24.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

TRC_CALC

| 1A | B | C | D | E | F | G | | | |
|--|--------------|--------------------------------|-------------------------------|-----------|--------------------------------------|---|--|--|--|
| 2 TRC EVALUATION | | | | | | | | | |
| 3 Input appropriate values in B4:B8 and E4:E7 | | | | | | | | | |
| 4 | 0.709 | = Q stream (cfs) | | 0.5 | = CV Daily | | | | |
| 5 | 0.021 | = Q discharge (MGD) | | 0.5 | = CV Hourly | | | | |
| 6 | 30 | = no. samples | | 1 | = AFC_Partial Mix Factor | | | | |
| 7 | 0.3 | = Chlorine Demand of Stream | | 1 | = CFC_Partial Mix Factor | | | | |
| 8 | 0 | = Chlorine Demand of Discharge | | 15 | = AFC_Criteria Compliance Time (min) | | | | |
| 9 | 0.5 | = BAT/BPJ Value | | 720 | = CFC_Criteria Compliance Time (min) | | | | |
| | 0 | = % Factor of Safety (FOS) | | | = Decay Coefficient (K) | | | | |
| 10 | Source | Reference | AFC Calculations | Reference | CFC Calculations | | | | |
| 11 | TRC | 1.3.2.iii | WLA_afc = 6.981 | 1.3.2.iii | WLA_cfc = 6.798 | | | | |
| 12 | PENTOXSD TRG | 5.1a | LTAMULT_afc = 0.373 | 5.1c | LTAMULT_cfc = 0.581 | | | | |
| 13 | PENTOXSD TRG | 5.1b | LTA_afc = 2.601 | 5.1d | LTA_cfc = 3.952 | | | | |
| 14 | | | | | | | | | |
| 15 | Source | Effluent Limit Calculations | | | | | | | |
| 16 | PENTOXSD TRG | 5.1f | AML MULT = 1.231 | | | | | | |
| 17 | PENTOXSD TRG | 5.1g | AVG MON LIMIT (mg/l) = 0.500 | BAT/BPJ | | | | | |
| 18 | | | INST MAX LIMIT (mg/l) = 1.635 | | | | | | |
| | | | | | | | | | |
| <p>WLA_afc $(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd)*e(-k*AFC_tc)]... + Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)$</p> <p>LTAMULT_afc $EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)$</p> <p>LTA_afc $wla_afc*LTAMULT_afc$</p> <p>WLA_cfc $(.011/e(-k*CFC_tc)) + [(CFC_Yc*Qs*.011/Qd)*e(-k*CFC_tc)]... + Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)$</p> <p>LTAMULT_cfc $EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)$</p> <p>LTA_cfc $wla_cfc*LTAMULT_cfc$</p> <p>AML MULT $EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))$</p> <p>AVG MON LIMIT $MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)$</p> <p>INST MAX LIMIT $1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)$</p> | | | | | | | | | |

Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | | | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC |
|-----------------------|------------------|--------------------|-----------------------------|------------------------------|---------------------------|-----------------------|--------------------------|-------------------|-------------------------|-------------------------------------|
| 07K | 7466 HUBER RUN | | | | 0.950 | 326.00 | 3.55 | 0.00000 | 0.00 | <input checked="" type="checkbox"/> |
| Stream Data | | | | | | | | | | |
| Design Cond. | | | | | | | | | | |
| | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Stream Temp (°C) |
| Q7-10 | 0.100 | 0.00 | 0.71 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 20.00 | 7.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | |
| Discharge Data | | | | | | | | | | |
| | Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH | | |
| | Smithville MHP | PA0081981 | 0.0210 | 0.0210 | 0.0210 | 0.000 | 25.00 | 7.00 | | |
| Parameter Data | | | | | | | | | | |
| | Parameter Name | | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) | | | | |
| | CBOD5 | | 25.00 | 2.00 | 0.00 | 1.50 | | | | |
| | Dissolved Oxygen | | 5.00 | 8.24 | 0.00 | 0.00 | | | | |
| | NH3-N | | 25.00 | 0.00 | 0.00 | 0.70 | | | | |

Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | | | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------|--------------------|----------------------|--|-----------------------|-----------------------------|------------------------------|---------------------------|-------------------------|-------------------------------------|------------------|-------|------|------|-------|-------|-------|------|------|-------|------|-------|--|------|------|-------|--|-------|--|--|--|--|--------|--|------|------|-------|--|-------|--|--|--|--|
| 07K | | 7466 HUBER RUN | | | 0.000 | 284.00 | 4.73 | 0.00000 | 0.00 | <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stream Data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Stream Temp (°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table> <tr> <td>Q7-10</td><td>0.100</td><td>0.00</td><td>1.03</td><td>0.000</td><td>0.000</td><td>0.0</td><td>0.00</td><td>0.00</td><td>20.00</td><td>7.00</td></tr> <tr> <td>Q1-10</td><td></td><td>0.00</td><td>0.00</td><td>0.000</td><td></td><td>0.000</td><td></td><td></td><td></td><td></td></tr> <tr> <td>Q30-10</td><td></td><td>0.00</td><td>0.00</td><td>0.000</td><td></td><td>0.000</td><td></td><td></td><td></td><td></td></tr> </table> | | | | | | | | | | | Q7-10 | 0.100 | 0.00 | 1.03 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 20.00 | 7.00 | Q1-10 | | 0.00 | 0.00 | 0.000 | | 0.000 | | | | | Q30-10 | | 0.00 | 0.00 | 0.000 | | 0.000 | | | | |
| Q7-10 | 0.100 | 0.00 | 1.03 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 20.00 | 7.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Q1-10 | | 0.00 | 0.00 | 0.000 | | 0.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | | 0.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Discharge Data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 0.0000 | 0.0000 | 0.0000 | 0.000 | 25.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parameter Data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table> <tr> <td>CBOD5</td><td>25.00</td><td>2.00</td><td>0.00</td><td>1.50</td></tr> <tr> <td>Dissolved Oxygen</td><td>3.00</td><td>8.24</td><td>0.00</td><td>0.00</td></tr> <tr> <td>NH3-N</td><td>25.00</td><td>0.00</td><td>0.00</td><td>0.70</td></tr> </table> | | CBOD5 | 25.00 | 2.00 | 0.00 | 1.50 | Dissolved Oxygen | 3.00 | 8.24 | 0.00 | 0.00 | NH3-N | 25.00 | 0.00 | 0.00 | 0.70 | | | | | | | | | | | | | | | | | | | | | | | |
| CBOD5 | 25.00 | 2.00 | 0.00 | 1.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dissolved Oxygen | 3.00 | 8.24 | 0.00 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

WQM 7.0 Hydrodynamic Outputs

| <u>SWP Basin</u> | | | <u>Stream Code</u> | | | <u>Stream Name</u> | | | | | | |
|--------------------|-------------|---------|--------------------|--------------------|-------------|--------------------|-------|-----------|----------|-----------------|---------------|-------------|
| 07K | | | 7466 | | | HUBER RUN | | | | | | |
| RMI | Stream Flow | PWS Wth | Net Stream Flow | Disc Analysis Flow | Reach Slope | Depth | Width | W/D Ratio | Velocity | Reach Trav Time | Analysis Temp | Analysis pH |
| | (cfs) | (cfs) | (cfs) | (cfs) | (ft/ft) | (ft) | (ft) | | (fps) | (days) | (°C) | |
| Q7-10 Flow | | | | | | | | | | | | |
| 0.950 | 0.71 | 0.00 | 0.71 | .0325 0.00837 | .479 | 11.03 | 23.04 | 0.14 | 0.414 | 20.22 | 7.00 | |
| Q1-10 Flow | | | | | | | | | | | | |
| 0.950 | 0.45 | 0.00 | 0.45 | .0325 0.00837 | NA | NA | NA | 0.11 | 0.524 | 20.33 | 7.00 | |
| Q30-10 Flow | | | | | | | | | | | | |
| 0.950 | 0.96 | 0.00 | 0.96 | .0325 0.00837 | NA | NA | NA | 0.17 | 0.351 | 20.16 | 7.00 | |

WQM 7.0 Modeling Specifications

| | | | |
|--------------------|--------|-------------------------------------|-------------------------------------|
| Parameters | Both | Use Inputted Q1-10 and Q30-10 Flows | <input checked="" type="checkbox"/> |
| WLA Method | EMPR | Use Inputted W/D Ratio | <input type="checkbox"/> |
| Q1-10/Q7-10 Ratio | 0.64 | Use Inputted Reach Travel Times | <input type="checkbox"/> |
| Q30-10/Q7-10 Ratio | 1.36 | Temperature Adjust Kr | <input checked="" type="checkbox"/> |
| D.O. Saturation | 90.00% | Use Balanced Technology | <input checked="" type="checkbox"/> |
| D.O. Goal | 5 | | |

WQM 7.0 Wasteload Allocations

| <u>SWP Basin</u> | <u>Stream Code</u> | <u>Stream Name</u> | | | | | |
|-------------------------------------|--------------------|---------------------------|---------------------|---------------------------|---------------------|-------------------------|-------------------|
| 07K | 7466 | HUBER RUN | | | | | |
| NH3-N Acute Allocations | | | | | | | |
| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
| 0.950 | Smithville MHP | 16.3 | 50 | 16.3 | 50 | 0 | 0 |
| NH3-N Chronic Allocations | | | | | | | |
| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction |
| 0.950 | Smithville MHP | 1.87 | 25 | 1.87 | 25 | 0 | 0 |
| Dissolved Oxygen Allocations | | | | | | | |
| RMI | Discharge Name | <u>CBOD5</u> | | <u>NH3-N</u> | | <u>Dissolved Oxygen</u> | |
| 0.95 | Smithville MHP | 25 | 25 | 25 | 25 | 5 | 5 |
| | | | | | | 0 | 0 |

WQM 7.0 D.O.Simulation

| <u>SWP Basin</u> | <u>Stream Code</u> | <u>Stream Name</u> | | |
|---------------------------------|-----------------------------------|----------------------------------|-----------------------------|----------------|
| 07K | 7466 | HUBER RUN | | |
| <u>RMI</u> | <u>Total Discharge Flow (mgd)</u> | <u>Analysis Temperature (°C)</u> | <u>Analysis pH</u> | |
| 0.950 | 0.021 | 20.219 | 7.000 | |
| <u>Reach Width (ft)</u> | <u>Reach Depth (ft)</u> | <u>Reach WDRatio</u> | <u>Reach Velocity (fps)</u> | |
| 11.034 | 0.479 | 23.043 | 0.140 | |
| <u>Reach CBOD5 (mg/L)</u> | <u>Reach Kc (1/days)</u> | <u>Reach NH3-N (mg/L)</u> | <u>Reach Kn (1/days)</u> | |
| 3.01 | 0.445 | 1.10 | 0.712 | |
| <u>Reach DO (mg/L)</u> | <u>Reach Kr (1/days)</u> | <u>Kr Equation</u> | <u>Reach DO Goal (mg/L)</u> | |
| 8.101 | 22.857 | Owens | 5 | |
| <u>Reach Travel Time (days)</u> | Subreach Results | | | |
| 0.414 | TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
| | 0.041 | 2.95 | 1.06 | 8.21 |
| | 0.083 | 2.90 | 1.03 | 8.21 |
| | 0.124 | 2.84 | 1.00 | 8.21 |
| | 0.165 | 2.79 | 0.97 | 8.21 |
| | 0.207 | 2.74 | 0.95 | 8.21 |
| | 0.248 | 2.69 | 0.92 | 8.21 |
| | 0.290 | 2.64 | 0.89 | 8.21 |
| | 0.331 | 2.59 | 0.87 | 8.21 |
| | 0.372 | 2.54 | 0.84 | 8.21 |
| | 0.414 | 2.50 | 0.82 | 8.21 |

WQM 7.0 Effluent Limits

| <u>SWP Basin</u> | <u>Stream Code</u> | <u>Stream Name</u> | | | | | |
|------------------|--------------------|--------------------|-----------------|------------------|--------------------------------|----------------------------|----------------------------|
| 07K | 7466 | HUBER RUN | | | | | |
| RMI | Name | Permit Number | Disc Flow (mgd) | Parameter | Effl. Limit 30-day Ave. (mg/L) | Effl. Limit Maximum (mg/L) | Effl. Limit Minimum (mg/L) |
| 0.950 | Smithville MHP | PA0081981 | 0.021 | CBOD5 | 25 | | |
| | | | | NH3-N | 25 | 50 | |
| | | | | Dissolved Oxygen | | | 5 |