pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Southcentral Regional Office**
**CLEAN WATER PROGRAM**

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| Application Type | **New** | Application No. | **PA0267031** |
| Facility Type | **Industrial** | APS ID | **1004176** |
| Major / Minor | **Minor** | Authorization ID | **1292791** |

# NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

## Applicant and Facility Information

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|---|---|---|---|
| Applicant Name | **Quincy Township** | Facility Name | **Quincy Township Water Well 7** |
| Applicant Address | 7575 Mentzer Gap Road | Facility Address | 8754 Tomstown Road |
| | Waynesboro, PA 17268-8946 | | Waynesboro, PA 17268-8927 |
| Applicant Contact | Robert Gunder | Facility Contact | Travis Schooley |
| Applicant Phone | (717) 762-5679 | Facility Phone | (717) 762-5679 |
| Client ID | 34864 | Site ID | 839567 |
| SIC Code | 1623 | Municipality | Quincy Township |
| SIC Description | Construction - Water, Sewer, And Utility Lines | County | Franklin |
| Date Application Received | October 17, 2019 | EPA Waived? | Yes |
| Date Application Accepted | October 23, 2019 | If No, Reason | |
| Purpose of Application | New NPDES Permit. | | |

## Summary of Review

Quincy Township has applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of an NPDES permit. The Township proposes to discharge groundwater (well water) from a backup water supply well for the Quincy Township Water System.

Based on the review, it is recommended that the permit be drafted.

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.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| | | Jinsu Kim / Environmental Engineering Specialist | November 6, 2019 |
| | | Daniel W. Martin, P.E. / Environmental Engineer Manager | |
| | | Maria D. Bebenek, P.E. / Program Manager | |

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

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| Outfall No. | 001 | Design Flow (MGD) | .216 |
| Latitude | 39º 48' 43.31" | Longitude | -77º 33' 24.02" |
| Quad Name | Waynesboro | Quad Code | 2025 |
| Wastewater Description: | Groundwater Discharge | | |
| Receiving Waters | Unnamed Tributary to West Branch Antietam Creek (CWF, MF) | Stream Code | 59280 |
| NHD Com ID | 49481314 | RMI | 1.07 |
| Drainage Area | 0.61 sq.mi. | Yield (cfs/mi$^2$) | |
| $Q_{7-10}$ Flow (cfs) | 0.0408 | $Q_{7-10}$ Basis | |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 13-C | Chapter 93 Class. | 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 | West Branch Antietam Creek TMDL |
| Nearest Downstream Public Water Supply Intake | PA-MD State Border | | |
| PWS Waters | Antietam Creek | Flow at Intake (cfs) | |
| PWS RMI | 0.0 | Distance from Outfall (mi) | 9.0 |

Drainage Area
The discharge will be to an existing roadie swale that runs along Tomstown Road and then discharge into Unnamed Tributary to West Branch Antietam Creek at RM 1.07. A drainage area upstream of the confluence of this swale and surface water is estimated to be 0.61 sq.mi. using USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q7-10 flow of 0.0408 cfs at the confluence of this swale and surface water.

Unnamed Tributary to West Branch Antietam Creek
Under 25 Pa Code §93.9z, the West Branch Antietam Creek basin including all tributaries from SR 997 bridge to confluence with East Branch is designated as cold water fishes and supports migratory fishes. No special protection water will be impacted by this discharge. No Class A Wild Trout fishery will be impacted by this discharge. DEP's latest integrated water quality report in 2016 indicates that the proposed discharge will be located in a stream segment of the Unnamed Tributary to West Branch Antietam Creek listed as attaining use(s).

Public Water Supply Intake
DEP's eMapPA available at http://www.depgis.state.pa.us/emappa/ does not indicate any public water supply intake system located downstream of the proposed discharge within the Commonwealth of PA. The PA-MD state border is located approximately 9 miles from the proposed discharge point. Given the distance, the proposed discharge is not expected to impact any downstream water supply intake.

## Treatment Facility Summary

No treatment facility has been proposed for this discharge. The Township will utilize Well no. 7 as a backup water supply well for its water system about 2 days per week based on the demand. An aquifer testing of this well has been completed and DEP issued a temporary discharge approval on June 8, 2016 for any discharge occurred during this testing. Raw water from Well no. 7 will be used for water supply based on a turbidity level tested by an on-site turbidimeter. The discharge will occur if the turbidity level of raw water is 4.5 NTU or higher. If the turbidity level of raw water is below 4.5 NTU, then, the Township will pump the raw water from Well no. 7 to the water plant for potable water supply. A valve is available to control the raw water supply line based on the turbidity level. According to the application, when the well first turns on, the raw water will most likely be sent for a stream discharge until the turbidity level becomes below 4.5 NTU. Based on a phone conversation with the project engineer, this could generally take about two to three hours; therefore, the discharge will be intermittent. The application reports the design flow or maximum flow during operation is expected to be 0.216 MGD in which according to the project engineer, this value is still a conservative estimate. For the proposed stream discharge, raw water will be pumped through 4-inch wasteline to a manhole and then discharged via 6-inch gravity line to a vegetated swale. There will be a riprap placed at the end of Outfall 001 for E&S control. No chemical is used during this operation.

| Compliance History | |
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| **Summary of DMRs:** | This is a new discharge; therefore, DMR data is not available for review. |
| **Summary of Inspections:** | This is a new discharge; therefore, no discharge inspection has been performed. |
| **Other Comments:** | DEP's database revealed that there is no pending violation associated with this permittee. |

## Development of Effluent Limitations and Monitoring Requirements

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|---|---|---|---|
| **Outfall No.** | 001 | **Design Flow (MGD)** | 0.216 |
| **Latitude** | 39º 48' 43.31" | **Longitude** | -77º 33' 24.02" |

**Wastewater Description:** Groundwater Discharge

This raw water, or groundwater, is non-processed and uncontaminated. There is no federal effluent limitations and guidelines (ELGs) available for this type of discharge and effluent BPT requirements listed in DEP's technical guidance no. are not applicable given that the proposed discharge is not a water treatment waste. However, groundwater pulled from this well may contain certain pollutants at levels different from those typically identified in surface waters, potentially leading to a measurable change in water quality of the receiving stream. As a result, the development of effluent limits and monitoring requirements would be necessary for this discharge to ensure the protection of water quality in the receiving stream.

pH effluent limits of 6.0 (minimum) and 9.0 (maximum) are needed as per 25 Pa Code §95.2(1). The requirement to monitor for the volume of effluent discharged from Outfall 001 will also be included in the permit in accordance with 40 CFR §122.44(1)(ii). Sample results of groundwater pulled from Well no. 7 were provided as part of the application package. Most of pollutants analyzed in these samples were non-detected, except for Total Dissolved Solids with its constituents and certain heavy metals including aluminum, iron, lead and zinc but none of these pollutants were detected at levels higher than the current water quality criteria. Therefore, no instream water quality modeling is needed. However, since there is a limited data available, a routine monitoring of these detected pollutants is recommended during the upcoming permit term, in the opinion of DEP, to determine if they are truly pollutants of concern.

For Total Suspended Solids, while there is no effluent sample data, the Township collected upstream and downstream data for this pollutant and demonstrated that the downstream TSS level is typically higher than the upstream TSS level. Based on this and the fact that the discharge will occur when the turbidity of raw water is high, the requirement to monitor for Total Suspended Solids is recommended for the upcoming permit term. The data will further assist DEP to properly assess the discharge and determine if any additional permit requirement is needed to prevent the discharge to cause or contribute to adverse water quality impacts in the receiving stream.

DEP developed a Total Maximum Daily Load (TMDL) to address sediment and phosphorus impairments identified in the West Branch Antietam Creek watershed. The receiving stream is not however a part of this TMDL as the entire watershed of this receiving stream is attaining its designated use. Accordingly, no TMDL has been taken into consideration for this review.

Given the expected duration of discharge (i.e., 2 to 3 hours), it is not reasonable to require composite samples. During a phone conversation with the project engineer, the Township may install an alarm system to alert the operator in ato prepare for sampling in advance when this well will be utilized. A semi-monthly monitoring of the pollutants mentioned above are recommended given the nature of the discharge (i.e., it is untreated/uncontaminated groundwater and is not process wastewater, cooling water, or water treatment waste). This proposed monitoring frequency is subject to change based on the monitoring data obtained during the upcoming permit term, compliance history and any other factors that are necessary to be considered by DEP to ensure the protection of the receiving stream in accordance with 25 Pa Code §92a.61.

## 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 | Instant Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | 2/month | Measured |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | XXX | 9.0 | 2/month | Grab |
| Total Suspended Solids | Report | Report | XXX | Report | Report | XXX | 2/month | Grab |
| Total Dissolved Solids | Report | Report | XXX | Report | Report | XXX | 2/month | Grab |
| Total Aluminum | Report | Report | XXX | Report | Report | XXX | 2/month | Grab |
| Total Lead | Report | Report | XXX | Report | Report | XXX | 2/month | Grab |
| Total Zinc | Report | Report | XXX | Report | Report | XXX | 2/month | Grab |
| Total Iron | Report | Report | XXX | Report | Report | XXX | 2/month | Grab |

| Tools and References Used to Develop Permit | |
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| ☐ | WQM for Windows Model (see Attachment ) |
| ☐ | PENTOXSD for Windows Model (see Attachment ) |
| ☐ | TRC Model Spreadsheet (see Attachment ) |
| ☐ | Temperature Model Spreadsheet (see Attachment ) |
| ☐ | Toxics Screening Analysis Spreadsheet (see Attachment ) |
| ☐ | Water Quality Toxics Management Strategy, 361-0100-003, 4/06. |
| ☐ | Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97. |
| ☐ | Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98. |
| ☐ | Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96. |
| ☐ | Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97. |
| ☐ | Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97. |
| ☐ | Pennsylvania CSO Policy, 385-2000-011, 9/08. |
| ☐ | Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03. |
| ☐ | Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97. |
| ☐ | Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97. |
| ☐ | Implementation Guidance Design Conditions, 391-2000-006, 9/97. |
| ☐ | Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004. |
| ☐ | Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997. |
| ☐ | Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99. |
| ☐ | Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004. |
| ☐ | Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97. |
| ☐ | Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008. |
| ☐ | Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994. |
| ☐ | Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09. |
| ☐ | Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97. |
| ☐ | 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, 391-2000-019, 10/97. |
| ☐ | Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99. |
| ☐ | 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, 391-2000-022, 3/1999. |
| ☐ | Design Stream Flows, 391-2000-023, 9/98. |
| ☐ | Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98. |
| ☐ | Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97. |
| ☐ | Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07. |
| ☐ | SOP: |
| ☐ | Other: |