

Application Type Renewal  
 Facility Type Non-Municipal  
 Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0030031  
 APS ID 1082268  
 Authorization ID 1429113

**Applicant and Facility Information**

|                           |   |                  |   |
|---------------------------|---|------------------|---|
| Applicant Name            | <u>Keystone Utilities Group Inc.</u>                          | Facility Name    | <u>Keystone Region Industrial Park</u>  |
| Applicant Address         | <u>764 Bessemer Street</u><br><u>Meadville, PA 16335-1862</u> | Facility Address | <u>Keystone Reg Ind Park Autumn Drive</u><br><u>Road</u><br><u>Cochranton, PA 16314</u> |
| Applicant Contact         | <u>James Becker</u>   | Facility Contact | <u>Jeff Kordes</u>  |
| Applicant Phone           | <u>(814) 337-8227</u>   | Facility Phone   | <u>(814) 725-8659</u>   |
| Client ID                 | <u>225090</u>   | Site ID          | <u>263165</u>   |
| Ch 94 Load Status         | <u>Not Overloaded</u>   | Municipality     | <u>Greenwood Township</u>   |
| Connection Status         | <u>No Limitations</u>   | County           | <u>Crawford</u>   |
| Date Application Received | <u>February 23, 2023</u>                                      | EPA Waived?      | <u>Yes</u>  |
| Date Application Accepted | <u>March 16, 2025</u>   | If No, Reason    | <u></u>   |
| Purpose of Application    | <u>NPDES Renewal.</u>   |                  |   |

**Summary of Review**

Keystone Utilities Group Inc. (KUG) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on August 9, 2018; and became effective on September 1, 2018. The permit expired on August 31, 2023; but the terms and conditions have been administratively extended since that time.

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

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

| Approve | Deny | Signatures   | Date                          |
|---------|------|--|-------------------------------|
| X       |      | <i>Jinsu Kim</i><br>Jinsu Kim / Environmental Engineering Specialist | March 19, 2025                |
|         |      | Adam Olesnanik, P.E. / Environmental Engineer Manager                | Okay to Draft<br>JCD 4/4/2025 |

| Discharge, Receiving Waters and Water Supply Information |  |  |                 |
|--|--|--|-----------------|
| Outfall No.  | 001  | Design Flow (MGD)  | 0.3716          |
| Latitude   | 41° 32' 27"                                | Longitude  | -80° 12' 09"    |
| Quad Name  | Geneva                                     | Quad Code  | 02033           |
| Wastewater Description: Treated Sewage                   |  |  |                 |
| Receiving Waters   | UNT to Conneaut Outlet                     | Stream Code  | 52277           |
| NHD Com ID   | 127349025                                  | RMI  | 0.08            |
| Drainage Area  | 0.99 mi <sup>2</sup>                       | Yield (cfs/mi <sup>2</sup> )   | ---             |
| Q <sub>7-10</sub> Flow (cfs)                             | 0  | Q <sub>7-10</sub> Basis  | ---             |
| Elevation (ft)   | 1184 – disch. pt.; 1057 - first pt. of use | Slope (ft/ft)  | 0.0197          |
| Watershed No.  | 16-D                                       | Chapter 93 Class.  | WWF             |
| Existing Use   |  | Existing Use Qualifier   |                 |
| Exceptions to Use  | None                                       | Exceptions to Criteria   | None            |
| Assessment Status  | Impaired                                   |  |                 |
| Cause of Impairment                                      | Nutrients                                  |  |                 |
| Source of Impairment                                     | Grazing Related Agric                      |  |                 |
| TMDL Status  |  | Name   |                 |
| Background/Ambient Data                                  |  | Data Source  |                 |
| pH (SU)  | 7.7  | Median field pH sample from a local spring (Brewer-Black Spring) – used in previous modeling of this discharge |                 |
| Temperature (°C)   | 25   | Default temp. for a WWF stream   |                 |
| CBOD <sub>5</sub> (mg/L)                                 | 2  | Default value  |                 |
| NH <sub>3</sub> -N (mg/L)                                | 0.1  | Default value  |                 |
| Nearest Downstream Public Water Supply Intake            | Aqua PA - Emlenton                         |  |                 |
| PWS Waters   | Allegheny River                            | Flow at Intake (cfs)   | 1,376           |
| PWS RMI  | ---  | Distance from Outfall  | approx. 75 mi.* |

**Drainage Area**

The discharge is to a dry/intermittent stream that is known as an unnamed tributary to Conneaut Outlet. A drainage area upstream of the discharge is estimated to be 0.99 sq.mi according to USGS StreamStats available at <https://streamstats.usgs.gov/ss/>. USGS StreamStats also produced a drainage area at the mouth to be 1.59 sq.mi.

**Streamflow**

Streamflow at the point of discharge is estimated to be 0.0326 cfs and at the mouth to be 0.0531 cfs per USGS StreamStats.

**Unnamed Tributary to Conneaut Outlet**

The discharge is to a stream segment designated as warm water fishes. No special protection water is therefore impacted by this discharge.

**Public Water Supply Intake**

The fact sheet developed for the last permit renewal indicates that the nearest downstream public water supply intake is located approximately 75 miles from the discharge. Given the distance, the discharge is not expected to affect the public water supply intake.

| Treatment Facility Summary                               |                                   |                              |                                |                               |
|--|-----------------------------------|------------------------------|--------------------------------|-------------------------------|
| <b>Treatment Facility Name:</b> Keystone Region Ind Park |                                   |                              |                                |                               |
| <b>WQM Permit No.</b>                                    | <b>Issuance Date</b>              |                              |                                |                               |
| 2069405-A2   | 9/25/13                           |                              |                                |                               |
| <b>Waste Type</b>  | <b>Degree of Treatment</b>        | <b>Process Type</b>          | <b>Disinfection</b>            | <b>Avg Annual Flow (MGD)</b>  |
| Sewage   | Secondary                         | Trickling Filter w/ Settling | Hypochlorite w/ tablet dechlor | 0.3716                        |
| <b>Hydraulic Capacity (MGD)</b>                          | <b>Organic Capacity (lbs/day)</b> | <b>Load Status</b>           | <b>Biosolids Treatment</b>     | <b>Biosolids Use/Disposal</b> |
| 0.5  | 621                               | Not Overloaded               | Anaerobic Digestion            | Other Site                    |

The facility utilizes trickling filter treatment process which includes a comminutor, primary clarifier, trickling filter, secondary clarifier, chlorine contact tank and outfall structure. Dechlorination also occurs via adding sodium bisulfate. Any sludge generated from this facility is removed by a local septic hauler and ultimately sent to a site in West Virginia known as L.A.D (Liquid Asset Disposal).

#2069405: Comminutor, Primary Clarifier, Trickling Filter, Secondary Clarifier, Digester, Sludge Drying Beds and a Chlorine Contact Tank. (issued 1/6/70)

Transfer No. 1: Changing the ownership of the treatment facilities from Kebert Enterprises Inc. to the Keystone Utilities Group Inc. (issued 6/9/04)

Amendment No. 1: Addition of a liquid sodium bisulfite feed system for dechlorination. The applicant also requested an increase in the hydraulic design capacity to 0.5 MGD. This was denied due to inadequate sludge handling and insufficient chlorine contact tank capacity. (issued 6/1/07)

Amendment No. 2: Change the method of dechlorination from liquid sodium bisulfite to tablet dechlor. (issued 9/25/13)

Over time there has been an issue about the hydraulic design capacity of the treatment plant. The NPDES permit limits have been based on a flow of 0.5 MGD but the WQM permit was issued for a 0.3716 MGD facility. The last renewal was based on 0.3716 MGD to make both permits consistent. This renewal will continue to use 0.3716 MGD as the annual average design flow.

| Compliance History             |  |
|--------------------------------|--|
| <b>Summary of DMRs:</b>        | A summary of past 12 month DMR data is presented on the next page.   |
| <b>Summary of Inspections:</b> | 04/03/2019: DEP conducted a routine inspection; and no significant violations were noted at the time of inspection.  |
| <b>Other Comments:</b>         | Since the last permit reissuance, there was one permit violation identified in February 2019 regarding an effluent violation of average monthly concentration of CBOD5 (39.8 mg/L vs 25 mg/L).<br><br>DEP's database shows there is no open violations associated with this permittee or facility. |

Effluent Data

DMR Data for Outfall 001 (from February 1, 2024 to January 31, 2025)

| Parameter  | JAN-25 | DEC-24 | NOV-24 | OCT-24 | SEP-24 | AUG-24 | JUL-24 | JUN-24 | MAY-24 | APR-24 | MAR-24 | FEB-24 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Flow (MGD)<br>Average Monthly                              | 0.052  | 0.082  | 0.038  | 0.026  | 0.037  | 0.057  | 0.053  | 0.076  | 0.079  | 0.119  | 0.136  | 0.065  |
| Flow (MGD)<br>Daily Maximum                                | 0.132  | 0.253  | 0.082  | 0.057  | 0.154  | 0.301  | 0.094  | 0.149  | 0.370  | 0.342  | 0.392  | 0.099  |
| pH (S.U.)<br>Instantaneous<br>Minimum                      | 7.3    | 6.8    | 7.1    | 7.3    | 7.1    | 7.0    | 7.1    | 7.2    | 7.1    | 7.4    | 7.4    | 7.7    |
| pH (S.U.)<br>Instantaneous<br>Maximum                      | 8.0    | 7.8    | 7.8    | 7.7    | 8.1    | 7.7    | 7.7    | 8.0    | 8.1    | 8.4    | 8.3    | 8.3    |
| DO (mg/L)<br>Instantaneous<br>Minimum                      | 5.3    | 5.2    | 6.1    | 5.4    | 5.1    | 5.2    | 5.0    | 5.1    | 7.9    | 7.8    | 9.2    | 7.9    |
| TRC (mg/L)<br>Average Monthly                              | 0.1    | 0.2    | 0.1    | 0.1    | 0.1    | 0.1    | 0.2    | 0.2    | 0.2    | 0.2    | 0.1    | 0.1    |
| CBOD5 (mg/L)<br>Average Monthly                            | 6      | < 2    | 3      | 4      | 11     | 6      | < 2    | < 3    | < 3    | < 3    | < 2    | < 4    |
| TSS (mg/L)<br>Average Monthly                              | < 7    | < 6    | < 5    | 7      | < 8    | 7      | < 5    | < 6    | < 8    | 8      | 7      | 8      |
| Fecal Coliform<br>(No./100 ml)<br>Geometric Mean           | 42     | 220    | 8      | 210    | 49     | 56     | 120    | 20     | 29     | 120    | 66     | < 19   |
| Fecal Coliform<br>(No./100 ml)<br>Instantaneous<br>Maximum | 50     | 2420   | 20     | 2420   | 120    | 155    | 378    | 387    | 64     | 2420   | 2420   | 74     |
| Total Nitrogen (mg/L)<br>Average Monthly                   | 4.4    | 2.58   | 9.73   | 10.1   | 12.4   | 5.4    | 4.9    | 3.0    | 4.31   | 2.52   | 2.4    | 4.0    |
| Ammonia (mg/L)<br>Average Monthly                          | 3      | 1      | 2      | < 1    | < 2    | < 2    | < 2    | 2      | < 1    | < 1    | < 1    | 1      |
| Total Phosphorus<br>(mg/L)<br>Average Monthly              | 0.7    | 0.5    | 1.76   | 2.73   | 1.62   | 1.5    | < 0.1  | 1.1    | 1.37   | 0.5    | 0.55   | 0.61   |

**Existing Effluent Limits and Monitoring Requirements**

A table below summarizes effluent limits and monitoring requirements specified in the existing permit:

| Parameter   | Effluent Limitations                |                     |                       |                    |         |                     | Monitoring Requirements                            |                            |
|---|-------------------------------------|---------------------|-----------------------|--------------------|---------|---------------------|--|----------------------------|
|   | Mass Units (lbs/day) <sup>(1)</sup> |                     | Concentrations (mg/L) |                    |         |                     | Minimum <sup>(2)</sup><br>Measurement<br>Frequency | Required<br>Sample<br>Type |
|   | Average<br>Monthly                  | Average<br>Weekly   | Minimum               | Average<br>Monthly | Maximum | Instant.<br>Maximum |  |                            |
| Flow (MGD)  | Report                              | Report<br>Daily Max | XXX                   | XXX                | XXX     | XXX                 | Continuous   | Measured                   |
| pH (S.U.)   | XXX                                 | XXX                 | 6.0<br>Inst Min       | XXX                | XXX     | 9.0                 | 1/day  | Grab                       |
| Dissolved Oxygen                                  | XXX                                 | XXX                 | 5.0<br>Inst Min       | XXX                | XXX     | XXX                 | 1/day  | Grab                       |
| Total Residual Chlorine (TRC)                     | XXX                                 | XXX                 | XXX                   | 0.2                | XXX     | 0.6                 | 1/day  | Grab                       |
| Carbonaceous Biochemical<br>Oxygen Demand (CBOD5) | XXX                                 | XXX                 | XXX                   | 25                 | XXX     | 50                  | 1/week   | 8-Hr<br>Composite          |
| Total Suspended Solids                            | XXX                                 | XXX                 | XXX                   | 30                 | XXX     | 60                  | 1/week   | 8-Hr<br>Composite          |
| Fecal Coliform (No./100 ml)<br>Oct 1 - Apr 30     | XXX                                 | XXX                 | XXX                   | 2000<br>Geo Mean   | XXX     | 10000               | 2/month  | Grab                       |
| Fecal Coliform (No./100 ml)<br>May 1 - Sep 30     | XXX                                 | XXX                 | XXX                   | 200<br>Geo Mean    | XXX     | 1000                | 2/month  | Grab                       |
| Total Nitrogen                                    | XXX                                 | XXX                 | XXX                   | Report             | XXX     | XXX                 | 2/month  | 8-Hr<br>Composite          |
| Ammonia-Nitrogen<br>Nov 1 - Apr 30                | XXX                                 | XXX                 | XXX                   | 6                  | XXX     | 12                  | 2/month  | 8-Hr<br>Composite          |
| Ammonia-Nitrogen<br>May 1 - Oct 31                | XXX                                 | XXX                 | XXX                   | 2                  | XXX     | 4                   | 2/month  | 8-Hr<br>Composite          |
| Total Phosphorus                                  | XXX                                 | XXX                 | XXX                   | Report             | XXX     | XXX                 | 2/month  | 8-Hr<br>Composite          |

**Development of Effluent Limitations**

|   |  |
|---|--|
| <b>Outfall No.</b> <u>001</u>                         | <b>Design Flow (MGD)</b> <u>0.3716</u> |
| <b>Latitude</b> <u>41° 32' 26.29"</u>                 | <b>Longitude</b> <u>-80° 12' 8.60"</u> |
| <b>Wastewater Description:</b> <u>Sewage Effluent</u> |  |

**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 <sub>5</sub>            | 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**

*CBOD<sub>5</sub>, NH<sub>3</sub>-N and Dissolved Oxygen*

According to the fact sheet developed for the last permit renewal, the discharge is to a dry/intermittent stream and the secondary stream is more a marsh/open water area (Geneva Swamp); in situations like this, where you cannot define mixing (like a lake discharge), no further modeling is done other than showing the dry stream DO goal of 2 mg/l is maintained. WQM 7.0 model has been utilized and the output shows that existing effluent limits are still adequate for water quality protection. The modeling efforts are attached to this fact sheet.

*Toxics*

Toxics modeling is not performed for a dry stream and since we cannot effectively model the discharge impact at the first point of use then no evaluation of the toxic parameters will be done. This approach is consistent with the fact sheet developed for the last permit renewal.

**Best Professional Judgment (BPJ) Limitations**

*Total Residual Chlorine*

It appears that existing Total Residual Chlorine (TRC) effluent limits of 0.2 mg/L (Average Monthly) and 0.6 mg/L (IMAX) have been developed as BPJ as the discharge is to a dry stream and the secondary stream is a marsh/open water area. DEP has determined to continue to use this approach for this permit renewal and maintain these existing effluent limits in the permit. No change is therefore recommended.

**Additional Considerations**

*Flow Monitoring*

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

*Total Phosphorus & Total Nitrogen Monitoring Requirement*

DEP's SOP no. BPNPSM-PMT-033 recommends monitoring requirements for Total Phosphorus and Total Nitrogen for all sewage facilities. Therefore, a routine monitoring for Total Phosphorus and Total Nitrogen will continue to be included in the permit.

*E. Coli Monitoring Requirement*

DEP's SOP no. BPNPSM-PMT-033 recommends a quarterly routine monitoring of E. Coli for all sewage facilities that have design flow less than 1.0 MGD but greater than 0.05 MGD. A quarterly monitoring for E. Coli will therefore be included in the permit.

*Monitoring Frequency and Sample Type*

All monitoring frequencies and sample types will remain unchanged in the permit.

*Antidegradation Requirements*

All effluent limitations and monitoring requirements 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.

**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.**

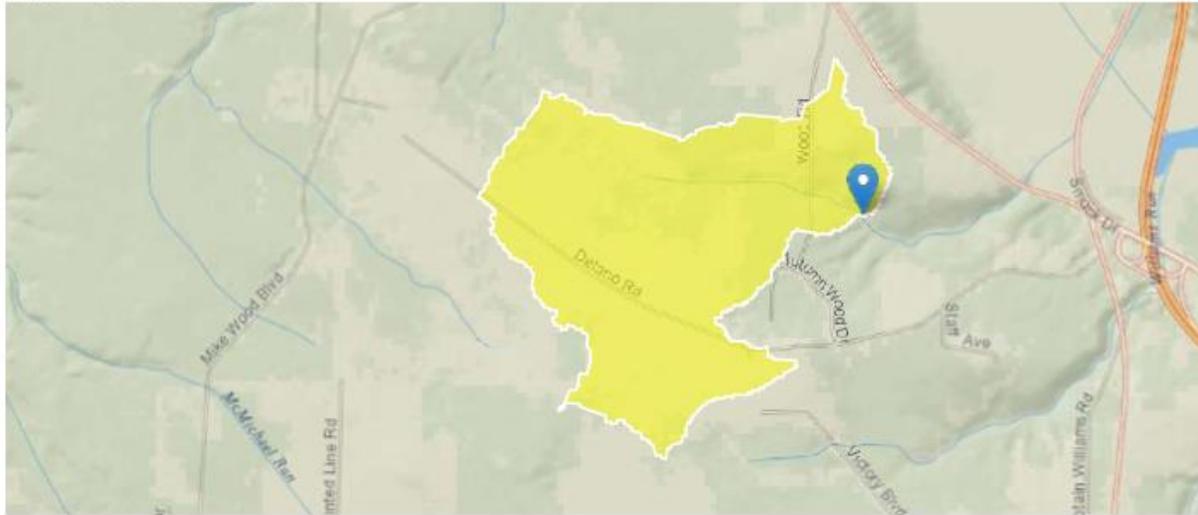
| Parameter                                     | Effluent Limitations                |                  |                       |                  |         |                  | Monitoring Requirements                      |                      |
|---|-------------------------------------|------------------|-----------------------|------------------|---------|------------------|--|----------------------|
|   | Mass Units (lbs/day) <sup>(1)</sup> |                  | Concentrations (mg/L) |                  |         |                  | Minimum <sup>(2)</sup> 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              | Continuous                                   | Measured             |
| pH (S.U.)                                     | XXX                                 | XXX              | 6.0<br>Inst Min       | XXX              | XXX     | 9.0              | 1/day  | Grab                 |
| DO  | XXX                                 | XXX              | 5.0<br>Inst Min       | XXX              | XXX     | XXX              | 1/day  | Grab                 |
| TRC   | XXX                                 | XXX              | XXX                   | 0.2              | XXX     | 0.6              | 1/day  | Grab                 |
| CBOD5   | XXX                                 | XXX              | XXX                   | 25               | XXX     | 50               | 1/week                                       | 8-Hr Composite       |
| TSS   | XXX                                 | XXX              | XXX                   | 30               | XXX     | 60               | 1/week                                       | 8-Hr Composite       |
| Fecal Coliform (No./100 ml)<br>Oct 1 - Apr 30 | XXX                                 | XXX              | XXX                   | 2000<br>Geo Mean | XXX     | 10000            | 2/month                                      | Grab                 |
| Fecal Coliform (No./100 ml)<br>May 1 - Sep 30 | XXX                                 | XXX              | XXX                   | 200<br>Geo Mean  | XXX     | 1000             | 2/month                                      | Grab                 |
| Total Nitrogen                                | XXX                                 | XXX              | XXX                   | Report           | XXX     | XXX              | 2/month                                      | 8-Hr Composite       |
| Ammonia<br>Nov 1 - Apr 30                     | XXX                                 | XXX              | XXX                   | 6                | XXX     | 12               | 2/month                                      | 8-Hr Composite       |
| Ammonia<br>May 1 - Oct 31                     | XXX                                 | XXX              | XXX                   | 2                | XXX     | 4                | 2/month                                      | 8-Hr Composite       |
| Total Phosphorus                              | XXX                                 | XXX              | XXX                   | Report           | XXX     | XXX              | 2/month                                      | 8-Hr Composite       |
| E. Coli (No. / 100 ml)                        | XXX                                 | XXX              | XXX                   | XXX              | XXX     | Report           | 1/quarter                                    | Grab                 |

| Tools and References Used to Develop Permit |  |
|---|--|
| <input 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 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 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 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 type="checkbox"/>                    | SOP: [redacted]  |
| <input type="checkbox"/>                    | Other: [redacted]  |

Attachments

### StreamStats Report

Region ID: PA  
 Workspace ID: PA20250318011406045000  
 Clicked Point (Latitude, Longitude): 41.54080, -80.20238  
 Time: 2025-03-17 21:14:31 -0400



Collapse All

#### Basin Characteristics

| Parameter Code | Parameter Description                   | Value | Unit         |
|----------------|---|-------|--------------|
| DRNAREA        | Area that drains to a point on a stream | 0.99  | square miles |
| ELEV           | Mean Basin Elevation                    | 1266  | feet         |
| PRECIP         | Mean Annual Precipitation               | 43    | inches       |

#### Low-Flow Statistics

##### Low-Flow Statistics Parameters [Low Flow Region 3]

| Parameter Code | Parameter Name            | Value | Units        | Min Limit | Max Limit |
|----------------|---------------------------|-------|--------------|-----------|-----------|
| DRNAREA        | Drainage Area             | 0.99  | square miles | 2.33      | 1720      |
| ELEV           | Mean Basin Elevation      | 1266  | feet         | 898       | 2700      |
| PRECIP         | Mean Annual Precipitation | 43    | inches       | 38.7      | 47.9      |

##### Low-Flow Statistics Disclaimers [Low Flow Region 3]

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 3]

| Statistic               | Value  | Unit               |
|-------------------------|--------|--------------------|
| 7 Day 2 Year Low Flow   | 0.0849 | ft <sup>3</sup> /s |
| 30 Day 2 Year Low Flow  | 0.128  | ft <sup>3</sup> /s |
| 7 Day 10 Year Low Flow  | 0.0326 | ft <sup>3</sup> /s |
| 30 Day 10 Year Low Flow | 0.0494 | ft <sup>3</sup> /s |
| 90 Day 10 Year Low Flow | 0.0748 | ft <sup>3</sup> /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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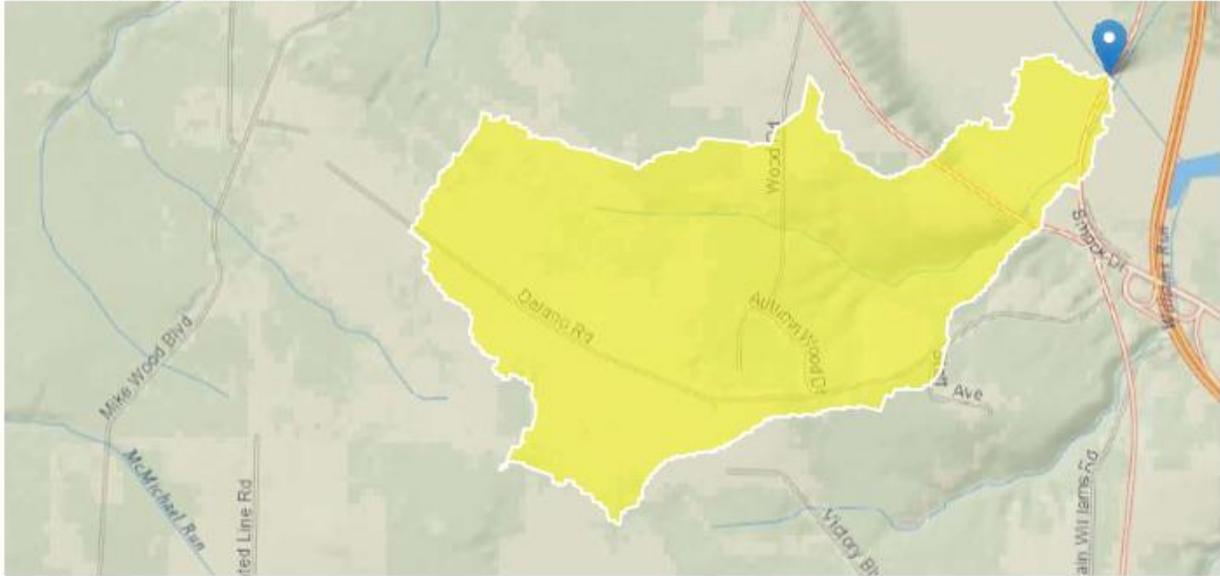
Application Version: 4.28.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

## StreamStats Report

Region ID: PA  
 Workspace ID: PA20250318011908125000  
 Clicked Point (Latitude, Longitude): 41.54861, -80.18620  
 Time: 2025-03-17 21:19:33 -0400



Collapse All

### > Basin Characteristics

| Parameter Code | Parameter Description                   | Value | Unit         |
|----------------|---|-------|--------------|
| DRNAREA        | Area that drains to a point on a stream | 1.59  | square miles |
| ELEV           | Mean Basin Elevation                    | 1236  | feet         |
| PRECIP         | Mean Annual Precipitation               | 43    | inches       |

### > Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

| Parameter Code | Parameter Name            | Value | Units        | Min Limit | Max Limit |
|----------------|---------------------------|-------|--------------|-----------|-----------|
| DRNAREA        | Drainage Area             | 1.59  | square miles | 2.33      | 1720      |
| ELEV           | Mean Basin Elevation      | 1236  | feet         | 898       | 2700      |
| PRECIP         | Mean Annual Precipitation | 43    | inches       | 38.7      | 47.9      |

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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 3]

| Statistic               | Value  | Unit               |
|-------------------------|--------|--------------------|
| 7 Day 2 Year Low Flow   | 0.135  | ft <sup>3</sup> /s |
| 30 Day 2 Year Low Flow  | 0.203  | ft <sup>3</sup> /s |
| 7 Day 10 Year Low Flow  | 0.0531 | ft <sup>3</sup> /s |
| 30 Day 10 Year Low Flow | 0.0801 | ft <sup>3</sup> /s |
| 90 Day 10 Year Low Flow | 0.121  | ft <sup>3</sup> /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: 4.28.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

**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                            |
|-----------|-------------|-------------------------------|-------|----------------|-----------------------|---------------|----------------------|-------------------------------------|
| 16D       | 52277       | Trib 52277 of Conneaut Outlet | 1.219 | 1184.00        | 0.99                  | 0.00000       | 0.00                 | <input checked="" type="checkbox"/> |

**Stream Data**

| Design Cond. | LFY    | Trib Flow | Stream Flow | Rch Trav Time | Rch Velocity | WD Ratio | Rch Width | Rch Depth | Tributary Temp | Tributary pH | Stream Temp | Stream pH |
|--------------|--------|-----------|-------------|---------------|--------------|----------|-----------|-----------|----------------|--------------|-------------|-----------|
|              | (cfsm) | (cfs)     | (cfs)       | (days)        | (fps)        |          | (ft)      | (ft)      | (°C)           |              | (°C)        |           |
| Q7-10        | 0.100  | 0.00      | 0.00        | 0.000         | 0.000        | 0.0      | 0.00      | 0.00      | 20.00          | 7.40         | 0.00        | 0.00      |
| 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 |
|---------------|---------------|--------------------------|---------------------------|------------------------|----------------|----------------|---------|
| Keystone Park | PA0030031D    | 0.3716                   | 0.3716                    | 0.3716                 | 0.000          | 20.00          | 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 | 4.00             | 7.54             | 0.00               | 0.00               |
| NH3-N            | 2.00             | 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                            |
|-----------|-------------|-------------------------------|-------|----------------|-----------------------|---------------|----------------------|-------------------------------------|
| 16D       | 52277       | Trib 52277 of Conneaut Outlet | 0.001 | 1057.00        | 1.59                  | 0.00000       | 0.00                 | <input checked="" type="checkbox"/> |

**Stream Data**

| Design Cond. | LFY    | Trib Flow | Stream Flow | Rch Trav Time | Rch Velocity | WD Ratio | Rch Width | Rch Depth | Tributary Temp | Tributary pH | Stream Temp | Stream pH |
|--------------|--------|-----------|-------------|---------------|--------------|----------|-----------|-----------|----------------|--------------|-------------|-----------|
|              | (cfsm) | (cfs)     | (cfs)       | (days)        | (fps)        |          | (ft)      | (ft)      | (°C)           |              | (°C)        |           |
| Q7-10        | 0.100  | 0.00      | 0.00        | 0.000         | 0.000        | 0.0      | 0.00      | 0.00      | 20.00          | 7.00         | 0.00        | 0.00      |
| 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 |
|------|---------------|--------------------------|---------------------------|------------------------|----------------|----------------|---------|
|      |               | 0.0000                   | 0.0000                    | 0.0000                 | 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 | 3.00             | 8.24             | 0.00               | 0.00               |
| NH3-N            | 25.00            | 0.00             | 0.00               | 0.70               |







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