

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

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0086312
 APS ID 32779
 Authorization ID 1516458

Applicant and Facility Information

Applicant Name	<u>James P Dorwart</u>	Facility Name	<u>Quaker Station Dorwart Apt</u>
Applicant Address	<u>1375 Old Quaker Road</u> <u>Etters, PA 17319-9116</u>	Facility Address	<u>623 Old Quaker Road</u> <u>Lewisberry, PA 17339-9228</u>
Applicant Contact	<u>Michael Dorwart</u>	Facility Contact	<u>James Dorwart</u>
Applicant Phone	<u>(717) 645-2890</u>	Facility Phone	<u>(717) 645-2890</u>
Client ID	<u>90148</u>	Site ID	<u>255948</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Fairview Township</u>
Connection Status	<u>No Limitations</u>	County	<u>York</u>
Date Application Received	<u>February 18, 2025</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>February 21, 2025</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES Permit Renewal.</u>		

Summary of Review

James P Dorwart has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit for the Quaker Station Dorwart Apartments STP. The permit was last reissued to James P Dorwart on December 16, 2020, and became effective on January 1, 2021. The permit expired on December 31, 2025, but the terms and conditions of the permit have been administratively extended since that time.

James P Dorwart owns and operates the Quaker Station Dorwart Apartments sanitary wastewater treatment facility located in Fairview Township, York County. The facility serves only the Quaker Station Dorwart Apartments, all wastes are residential in nature, and all sewer systems are 100% separated. Having an annual average design flow and a hydraulic design capacity of 0.025 MGD.

Sludge use and disposal description and location(s): N/A because sludge hauling is by facility contractor.

Changes from the previous permit: The E. Coli monitoring and report requirements will be added to the proposed permit. Total KN, Nitrate-Nitrite, TN and TP concentrations (mg/L) quarterly report corrected to average quarter. Total KN, Nitrate-Nitrite, TN and TP mass (lbs/day) quarterly report corrected to average quarter.

Based on the review outline in this fact sheet, it is recommended that the permit be drafted and published in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
X		<i>Hilaryle</i> Hilary H. Le / Environmental Engineering Specialist	February 13, 2026
X		<i>Daniel W. Martin</i> Daniel W. Martin, P.E. / Environmental Engineer Manager	February 18, 2026

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.025
Latitude	40° 9' 2.07"	Longitude	-76° 52' 38.40"
Quad Name	Lemoyne	Quad Code	1730
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary to Bennett Run (WWF)	Stream Code	08494
NHD Com ID	57463747	RMI	1.60
Drainage Area	1.7 mi. ²	Yield (cfs/mi ²)	0.039
Q ₇₋₁₀ Flow (cfs)	0.0414	Q ₇₋₁₀ Basis	USGS StreamStats
Elevation (ft)	469	Slope (ft/ft)	
Watershed No.	7-F	Chapter 93 Class.	WWF
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	Name		
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	28.51 miles	Distance from Outfall (mi)	Approximate 30.71 miles

Changes Since Last Permit Issuance:

Drainage Area

The discharge is to UNT to Bennett Run at RMI 1.60. A drainage area upstream of the discharge point is determined to be 1.07 sq.mi. according to USGS PA StreamStats available at <https://streamstats.usgs.gov/ss/>.

Stream Flow

According to StreamStats, this watershed has a Q₇₋₁₀ of 0.0414 cfs and a drainage area of 1.07 mi², which results in a Low Flow Yield (LFY) of 0.039 cfs/mi².

UNT to Bennett Run

UNT to Bennett Run is classified as a WWF waterway. Effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Public Water Supply Intake

The nearest downstream public water supply intake is the Wrightsville Water Supply Company intake located on the Susquehanna River in York County, approximately 31 miles downstream of this discharge. Considering the distance and nature of the discharge, the discharge is not expected to significantly affect the water supply.

Class A Wild Trout Streams

The receiving stream is not a Class A Wild Trout stream.

Treatment Facility Summary				
Treatment Facility Name: Quaker Station Apartments				
WQM Permit No.		Issuance Date		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration With Solids Removal	Ultraviolet	0.025
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.025		Not Overloaded	Aerobic Digestion	

Changes Since Last Permit Issuance:

Other Comments:

The WWTP train is as follows:

Comminutor (1) ⇒ Aeration Tank (1) ⇒ Clarifiers (2) ⇒ Dosing Tank (1) ⇒ Sand Filters (2) ⇒ Final Tank (1) ⇒ Ultraviolet Disinfection Unit (1) ⇒ Discharge

The system incorporates chemical addition in the form of sodium hypochlorite (for filamentous bacteria control).

Three sludge holding tanks are onsite.

No chemical amendments are identified in the application. Solids are stored in an onsite sludge holding tank for offsite disposal.

Biosolids:

The total sewage sludge/biosolids production within the facility for the previous year was 1.4 dry tons.

Compliance History	
Summary of DMRs:	DMRs reported in the last 12 months are summarized on the next page.
Summary of Inspections:	7/11/2024: Mr. Shawn Lesitsky, DEP Water Quality Specialist, conducted a compliance evaluation inspection. No violations were noted. Effluent appeared clear and well aerated. Recommendations were to replace expired pH buffers, document collection times of grab composite samples, and cap or reroute drain inside of plan building to treatment plant.
Other Comments:	There are no open violations associated with the permittee or the facility.

Other Comments:

Compliance History

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

Parameter	DEC-25	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25
Flow (MGD) Average Monthly	0.011	0.011	0.01	0.010	0.01	0.01	0.010	0.010	0.01	0.011	0.011	0.011
Flow (MGD) Daily Maximum	0.015	0.013	0.013	0.013	0.013	0.013	0.013	0.012	0.013	0.013	0.013	0.018
pH (S.U.) Instantaneous Minimum	7.0	7.15	7.18	7.24	7.39	7.14	7.27	7.37	7.17	7.21	7.1	7.03
pH (S.U.) Instantaneous Maximum	7.31	7.55	7.62	7.59	7.6	7.67	7.69	7.71	7.65	7.54	7.46	7.87
DO (mg/L) Instantaneous Minimum	9.35	7.37	7.52	7.81	7.12	7.2	7.63	7.44	7.45	6.67	8.9	9.71
CBOD5 (mg/L) Average Monthly	5.8	< 2.5	< 2.4	< 2.5	< 2.4	< 2.5	< 2.4	< 2.5	< 2.4	< 2.4	< 2.4	< 2.4
TSS (mg/L) Average Monthly	3	6	2	3	1	4	1	1	5	3	3	2
Fecal Coliform (No./100 ml) Geometric Mean	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
UV Transmittance (%) Instantaneous Minimum	100	100	100	100	100	100	100	100	100	100	100	100
UV Transmittance (%) Average Monthly	100	100	100	100	100	100	100	100	100	100	100	100
Nitrate-Nitrite (mg/L) Average Monthly	15			11			< 0.4			16		
Nitrate-Nitrite (lbs) Total Quarterly	126			76			63			132		
Total Nitrogen (mg/L) Average Monthly	16.2			11			9.8			16		
Total Nitrogen (lbs) Total Quarterly	137			76			67			132		
Ammonia (mg/L) Average Monthly	< 0.1	0.32	< 0.1	< 0.11	< 0.1	< 0.1	< 0.1	0.26	< 0.1	< 0.14	< 0.1	< 0.1

**NPDES Permit Fact Sheet
Quaker Station Dorwart Apt**

NPDES Permit No. PA0086312

TKN (mg/L) Average Monthly	1.2		< 0.5			1		< 0.5		
TKN (lbs) Total Quarterly	10		4			7		4		
Total Phosphorus (mg/L) Average Monthly	2.7		2.5			5.5		2.8		
Total Phosphorus (lbs) Total Quarterly	23		17			38		23		

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous 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	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded
CBOD ₅	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	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 Nov 1 - Apr 30	XXX	XXX	XXX	3.0	XXX	6.0	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.0	XXX	2.0	2/month	8-Hr Composite
TKN	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
TKN (lbs)	Report Total Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	Calculation
Total Nitrogen (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/quarter	Calculation
Total Nitrogen (lbs)	Report Total Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite
Total Phosphorus (lbs)	Report Total Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Total Phosphorus (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/quarter	Calculation

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) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous 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	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded
CBOD ₅	XXX	XXX	XXX	25.0	XXX	50.0	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	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
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	3.0	XXX	6.0	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.0	XXX	2.0	2/month	8-Hr Composite
TKN	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
TKN (lbs)	Report Avg Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Nitrate-Nitrite	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Nitrate-Nitrite (lbs)	Report Avg Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Calculation
Total Nitrogen (lbs)	Report Avg Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Total Nitrogen (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Total Phosphorus (lbs)	Report Avg Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Total Phosphorus (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation

Compliance Sampling Location:

Other Comments:

Development of Effluent Limitations

Outfall No. 001
 Latitude 40° 9' 2.07"
 Wastewater Description: Sewage Effluent

Design Flow (MGD) .025
 Longitude -76° 52' 38.40"

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)

Comments: utilizes UV disinfection.

Water Quality-Based Limitations

Ammonia (NH₃-N):

NH₃N calculations are based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the in-stream NH₃-N criteria used in the attached WQM 7.0 computer model of the stream:

- * Discharge pH = 7.0 (Default)
- * Discharge Temperature = 25°C (Default)
- * Stream pH = 7.0 (Default)
- * Stream Temperature = 25°C (Default)
- * Background NH₃-N = 0 mg/L (Default)

The screenshot shows the 'Effluent Limitations' tab in the WQM 7.0 software. The interface includes a header with tabs for Hydrodynamics, NH₃-N Allocations, D.O. Allocations, D.O. Simulation, and Effluent Limitations. The main area displays a table with the following data:

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD ₅	25		
NH ₃ -N	3.42	6.84	
Dissolved Oxygen			5

At the bottom of the window, there are buttons for 'Print', '< Back', 'Next >', 'Archive', and 'Cancel'. The status bar at the bottom indicates 'Record: 1 of 1' and 'No Filter'.

The detailed model results are attached. The above method indicates that at a discharge of 0.025 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 3.42 mg/L NH₃-N as a monthly average and 6.84 mg/L NH₃-N instantaneous maximum are necessary to protect the aquatic life from toxicity effects. However, these limits are slightly less stringent than those in the existing permit. Due to anti-backsliding policy, the existing summer NH₃-N limits of 1.0 mg/L monthly average and 2.0 mg/L instantaneous maximum more stringent and will remain in the permit. The winter effluent limit will be set three-times the summer limits and remain in place. Recent DMR and inspection data indicate that the facility is consistently meeting these limits.

Dissolved Oxygen (D.O.):

A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit renewal and current Department criteria.

Carbonaceous Biochemical Oxygen Demand (CBOD₅):

The attached WQM 7.0 modeling results show that secondary treatment is adequate to protect the water quality of the stream. Recent DMRs and inspection reports show that the facility has been consistently achieving concentrations below this existing limit. The WQM 7.0 model suggests a monthly average CBOD₅ limit may be 25.0 mg/L, however, the existing limit of 25.0 mg/L as monthly average, and 50.0 mg/L as IMAX will remain in place. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

Fecal Coliform:

The recent coliform guidance in 25 Pa. Code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and 25 Pa. Code § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml. Therefore, instantaneous maximum limits for summer and winter seasons will be introduced in this renewal to be consistent with regulations. Inspection reports are showing that the permittee is capable of meeting this requirement.

E. Coli:

As recommended by DEP's SOP No. BCW-PMT-033, version 2.0 revised February 5, 2024, a routine monitoring for E. Coli will be included in the proposed permit under 25 Pa. Code § 92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 1/year will be included in the permit to be consistent with the recommendation from this SOP.

Total Suspended Solids (TSS):

The existing technology-based limits of 30.0 mg/L average monthly, and 60.0 mg/L instantaneous maximum will remain in the permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47 47 and 40CFR 133.102(b). Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

UV Disinfection:

The UV system daily monitor and report the UV light transmittance (%) will remain in the proposed permit.

Toxics:

There are no industrial contributions to this facility. DEP's NPDES permit application for minor sewages (less than 1.0 MGD) does not require sampling for heavy metals including Total Copper, Total Lead, and Total Zinc.

Total Phosphorus & Total Nitrogen:

DEP's SOP No. BPNPSM-PMT-033 recommends monitoring requirements for Total Phosphorus and Total Nitrogen for all sewage facilities. Total annual mass (lbs/day) report for these parameters will remain in the proposed permit.

Chesapeake Bay Strategy:

The Department formulated 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). Sewage discharges have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases I, II, and III) dischargers will receive annual loading caps 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. Phase IV (0.2 - 0.4 MGD) will be required to monitor and report TN and TP during permit renewal monthly and Phase V (below 0.2 MGD) will monitor during current permit renewal once a year. However, any facility in Phases IV and V that undergoes expansion is subjected to cap load right away. This plant is classified as a phase V and will be required to monitor and report Total Kjeldahl Nitrogen, Nitrate-Nitrite as N, TN and TP once a quarter. The average quarterly monitor & report concentrate, and mass of those pollutants will remain in the proposed permit.

303(d) Listed Streams

This discharge is not located on a 303(d) listed stream segment.

Antidegradation (93.4)

The effluent limits for this discharge have been developed to ensure that existing in-stream 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.

WQM 7.0 Data:

- * Discharge pH 7.0 (Default per 391-2000-007)
- * Discharge Temperature 25°C (Default per 391-2000-007)
- * Stream pH 7.0 (Default per 391-2000-006)
- * Stream Temperature 25°C (Default for WWF per 391-2000-003)
- * Background NH3-N 0 mg/L (Assumed since no upstream WWTPs)

Node 1 Just after confluence with UNT Bennett Run (08494)
 Elevation: 469 ft (USGS National Map Viewer)
 Drainage Area: 1.07 mi² (USGS PA StreamStats)
 River Mile Index: 1.60 (PA DEP eMapPA)
 Low Flow Yield: 0.04 cfs/mi²
 Discharge Flow: 0.025 MGD

Node 2: Just before Silver Lake
 Elevation: 432 ft (USGS National Map Viewer)
 Drainage Area: 1.7 mi² (USGS PA StreamStats)
 River Mile Index: 0.37 (PA DEP eMapPA)
 Low Flow Yield: 0.04 cfs/mi²
 Discharge Flow: 0.0 MGD

The screenshot shows the 'Analysis Results WQM 7.0' application window. The 'Effluent Limitations' tab is selected. The main display area contains a table with the following data:

RMI	Discharge Name	Permit Number	Disc Flow (mgd)
1.60	Quaker Station	PA0086312	0.0250

Below this table is another table showing effluent limits:

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	25		
NH3-N	3.42	6.84	
Dissolved Oxygen			5

At the bottom of the window, there are several buttons: 'Print', '< Back', 'Next >', 'Archive', and 'Cancel'. A status bar at the very bottom shows 'Record: 1 of 1' and 'No Filter'.

rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name	Trib 0694 to Bennett Run				
03F	0494						
R#	Name	Permit Number	Dis. Flow (mgd)	Parameter	25 Limit 30-day Av. (mg/L)	25 Limit Maximum (mg/L)	5 Limit Minimum (mg/L)
1.000	Quaker Station	PA0086312	0.025	CBOD5	25	3.42	0.64
				NH3-N			5
				Disolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name	Trib 0694 to Bennett Run						
03F	0494								
NH3-N Acute Allocations									
R#	Discharge Name	Baseline CBOD5 (mg/L)	Baseline WLA (mg/L)	Multiple CBOD5 (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction		
1.000	Quaker Station	11.07	16.92	11.07	16.92	0	0		
NH3-N Chronic Allocations									
R#	Discharge Name	Baseline CBOD5 (mg/L)	Baseline WLA (mg/L)	Multiple CBOD5 (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction		
1.000	Quaker Station	1.27	3.42	1.27	3.42	0	0		
Disolved Oxygen Allocations									
R#	Discharge Name	CBOD5 Baseline (mg/L)	Multiple (mg/L)	NH3-N Baseline (mg/L)	Multiple (mg/L)	Disolved Oxygen Baseline (mg/L)	Multiple (mg/L)	Critical Reach	Percent Reduction
1.000	Quaker Station	25	25	3.42	3.42	5	5	0	0

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rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name	Trib 0694 to Bennett Run			
03F	0494					
R#	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH			
1.000	0.025	25.000	7.000			
Reach Depth (ft)	Reach Depth (ft)	Reach WDRatio	Reach Velocity (ft/s)			
4.661	0.340	0.702	0.057			
Reach CBOD5 (mg/L)	Reach K1 (1/day)	Reach NH3-N (mg/L)	Reach K2 (1/day)			
12.82	1.014	1.00	1.029			
Reach DO (mg/L)	Reach K2 (1/day)	K1 Equation	Reach DO Goal (mg/L)			
0.704	26.900	Oven	5			
Reach Travel Time (days)	Subreach Results					
1.663	TranTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)		
	0.160	0.20	1.00	7.25		
	0.260	0.40	1.20	7.41		
	0.430	1.38	1.08	7.59		
	0.580	0.10	0.98	7.59		
	0.724	0.08	0.77	7.59		
	0.876	4.22	0.66	7.59		
	1.029	3.00	0.57	7.59		
	1.170	2.40	0.49	7.59		
	1.317	2.41	0.42	7.59		
	1.460	2.00	0.36	7.59		

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rptModelSpecs

WQM 7.0 Modeling Specifications

Parameter	Value	Use Inputted 05-10 and 020-10 Flow	<input checked="" type="checkbox"/>
WLA Method	EMRR	Use Inputted WDRatio	<input type="checkbox"/>
05-10/07-10 Ratio	0.66	Use Inputted Reach Travel Times	<input type="checkbox"/>
020-10/07-10 Ratio	1.30	Temperature Adjust K1	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin		Stream Code		Stream Name		Trib 0594 to Bennett Run					
RSS	Stream Flow	PWS With	Net Steam Flow	Disc. Flow	Reach Slope	Depth	W/D Ratio	W/D	Velocity	Reach Tow. Time	Atmos. Temp
(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(ft)	(ft)	(%)	(%)	(ft/s)	(days)	(°C)
1.000	0.04	0.00	0.04	0.00	0.0020	3.0	4.66	13.7	0.05	1.40	25.00
1.000	0.03	0.00	0.03	0.00	0.0020	NA	NA	NA	0.05	1.05	25.00
1.000	0.06	0.00	0.06	0.00	0.0020	NA	NA	NA	0.06	1.30	25.00

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RSS	Elevation	Drainage Area	Slope	PWS Withdrawal	Apply FC
(cfs)	(cfs)	(ft)	(sq mi)	(ft/ft)	(ft)	(%)	(mgd)	
0594	Trib 0594 to Bennett Run		1.000	432.00	1.70	0.0000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch. Trav. Time	Rch. Velocity	W/D Ratio	Rch. Width	Rch. Depth	Trib. Temp	Stream Temp	pH
(cfs)	(cfs)	(cfs)	(days)	(ft/s)	(%)	(ft)	(ft)	(°C)	(°C)		
Q1-10	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	25.00	7.00	0.00
Q1-16	0.00	0.00	0.00	0.00	0.00						
Q30-10	0.00	0.00	0.00	0.00	0.00						

Discharge Data

Name	Permit Number	Existing Disc. Flow	Permitted Disc. Flow	Design Disc. Flow	Reserve Factor	Disc. Temp	Disc. pH
		(mgd)	(mgd)	(mgd)		(°C)	
Quaker Station	PA0086312	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc. Conc.	Trib. Conc.	Stream Conc.	File Coef.
	(mg/l)	(mg/l)	(mg/l)	(1/day)
CRD5	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

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RSS	Elevation	Drainage Area	Slope	PWS Withdrawal	Apply FC
(cfs)	(cfs)	(ft)	(sq mi)	(ft/ft)	(ft)	(%)	(mgd)	
0594	Trib 0594 to Bennett Run		0.370	432.00	1.70	0.0000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch. Trav. Time	Rch. Velocity	W/D Ratio	Rch. Width	Rch. Depth	Trib. Temp	Stream Temp	pH
(cfs)	(cfs)	(cfs)	(days)	(ft/s)	(%)	(ft)	(ft)	(°C)	(°C)		
Q1-10	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	25.00	7.00	0.00
Q1-16	0.00	0.00	0.00	0.00	0.00						
Q30-10	0.00	0.00	0.00	0.00	0.00						

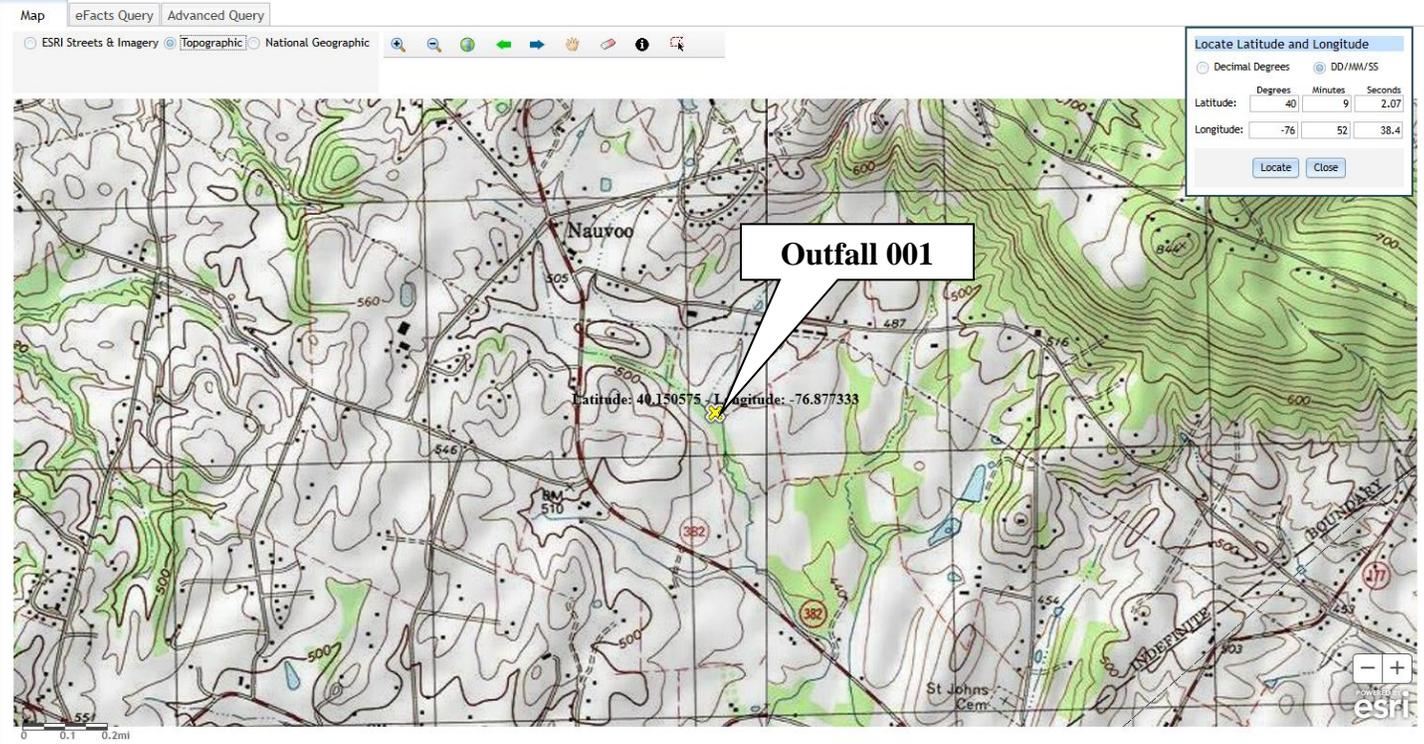
Discharge Data

Name	Permit Number	Existing Disc. Flow	Permitted Disc. Flow	Design Disc. Flow	Reserve Factor	Disc. Temp	Disc. pH
		(mgd)	(mgd)	(mgd)		(°C)	
Quaker Station	PA0086312	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc. Conc.	Trib. Conc.	Stream Conc.	File Coef.
	(mg/l)	(mg/l)	(mg/l)	(1/day)
CRD5	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

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USGS StreamStats interface showing Basin Characteristics. The parameters and their values are:

Parameter	Value
DRNAREA	1.07
BSLOPD	4.3533
ROCKDEP	4.2
URBAN	0.1298

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	4.3533	degrees
DRNAREA	Area that drains to a point on a stream	1.07	square miles
ROCKDEP	Depth to rock	4.2	feet
URBAN	Percentage of basin with urban development	0.1298	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	4.3533	degrees	1.7	6.4
DRNAREA	Drainage Area	1.07	square miles	4.78	1150
ROCKDEP	Depth to Rock	4.2	feet	4.13	5.21
URBAN	Percent Urban	0.1298	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.114	ft ³ /s
30 Day 2 Year Low Flow	0.163	ft ³ /s
7 Day 10 Year Low Flow	0.0414	ft ³ /s
30 Day 10 Year Low Flow	0.0636	ft ³ /s
90 Day 10 Year Low Flow	0.116	ft ³ /s



USGS StreamStats
 science for a changing world

characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button

Hide Basin Characteristics

Basin Characteristics can be edited here

Parameter	Value
DRNAREA	1.7
BSLOPD	3.5142
ROCKDEP	4.2
URBAN	0.1637

Select available reports to display:

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

[Open Report](#)

Zoom Level: 12
 Map Scale: 1:100,000
 Lat: 40.1385
 500 m
 2000 ft

POWERED BY WIM

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	3.5142	degrees
DRNAREA	Area that drains to a point on a stream	1.7	square miles
ROCKDEP	Depth to rock	4.2	feet
URBAN	Percentage of basin with urban development	0.1637	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	3.5142	degrees	1.7	6.4
DRNAREA	Drainage Area	1.7	square miles	4.78	1150
ROCKDEP	Depth to Rock	4.2	feet	4.13	5.21
URBAN	Percent Urban	0.1637	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.138	ft ³ /s
30 Day 2 Year Low Flow	0.208	ft ³ /s
7 Day 10 Year Low Flow	0.0477	ft ³ /s
30 Day 10 Year Low Flow	0.0764	ft ³ /s
90 Day 10 Year Low Flow	0.153	ft ³ /s

Batch Processor Report About Help

Layers

- Base Maps
- Application Layers
- National Layers
- NID Regulation Points
- PA Map Layers

Map showing Fishing Creek, Pleasant View Rd, Windermere Rd, Old Forge Ave, and other roads. Includes a legend and navigation controls.

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 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 checked="" 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 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 checked="" 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]