pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0247596**
Facility Type	**Industrial**	APS ID	**540376**
Major / Minor	**Minor**	Authorization ID	**1457380**

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

Applicant and Facility Information

Applicant Name	**Ephrata Area Joint Authority**	Facility Name	**Ephrata Well No. 4 WTP**
Applicant Address	124 S State Street	Facility Address	1124 Steinmetz Road
	Ephrata, PA 17522-2611		Ephrata, PA 17522-2611
Applicant Contact	Scott Mohn	Facility Contact	Scott Mohn
Applicant Phone	(717) 738-9208	Facility Phone	(717) 738-9208
Client ID	80919	Site ID	648134
SIC Code	4941	Municipality	Ephrata Township
SIC Description	Trans. & Utilities - Water Supply	County	Lancaster
Date Application Received	October 5, 2023	EPA Waived?	Yes
Date Application Accepted	October 11, 2023	If No, Reason	

Purpose of Application: New NPDES WTP.

Summary of Review

Ephrata Area Joint Authority 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 on March 21, 2019, and became effective on April 1, 2019, authorizing discharge of treated sewage from the Ephrata Well No. 4 WTP into Cocalico Creek. The existing permit expiration date was March 31, 2024, and the permit has been administratively extended since that time.

Per the previous fact sheet, Ephrata Area Joint Authority discharges a clear water blow down and the reject water from a membrane treatment process for total dissolved solids (TDS) at the Well No. 4 (Steinmetz Road Well) water supply station. The clear water blow down occurs when the well is starting up and lasts for approximately 3.5 minutes. The membrane reject wastewater is discharged during the treatment process.

Changes in this renewal: Monitoring for Sulfate, Chloride, and Bromide has been removed from the permit.

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	April 5, 2024
X		Maria D. Bebenek for Daniel W. Martin, P.E. / Environmental Engineer Manager	April 17, 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)	.184
Latitude	40º 10' 14"	Longitude	76º 12' 11"
Quad Name		Quad Code	
Wastewater Description:	Intermittent Discharge		
Receiving Waters	Cocalico Creek (WWF)	Stream Code	7656
NHD Com ID	57462209	RMI	7.63
Drainage Area	64.1 mi^2	Yield (cfs/mi^2)	0.123
Q_{7-10} Flow (cfs)	7.86	Q_{7-10} Basis	USGS PA StreamStats
Elevation (ft)	316	Slope (ft/ft)	
Watershed No.	7-J	Chapter 93 Class.	WWF
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	Siltation, Habitat Alterations, Nutrients, Siltation, Pathogens		
Source(s) of Impairment	Agriculture, Habitat Modification – Other Than Hydromodification, Agriculture, Urban Runoff/Storm Sewers, Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Lancaster City Water Bureau		
PWS Waters	Conestoga Creek	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	15.4

Changes Since Last Permit Issuance: USGS PA StreamStats provided a drainage area of 64.1 mi^2 and a Q_{7-10} of 7.86 cfs at the point of discharge.

Other Comments: None

Compliance History	
Summary of DMRs:	A summary of the past 12-month DMR effluent data is presented on the next page of this fact sheet.
Summary of Inspections:	4/17/2023: A routine inspection was conducted. Outfall 001 was observed during the inspection, and a small trickle leaving the pipe was noted. A follow-up document review was conducted on 4/25/23, and recommendations were made including maintaining a formal pH calibration sheet that includes weekly pH readings, as well as recommendations for DMR reporting non detect values.

Other Comments: There are no open violations for this Applicant.

Compliance History

DMR Data for Outfall 001 (from March 1, 2023 to February 29, 2024)

Parameter	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23
Flow (MGD) Average Monthly	0.018	0.034	0.044	0.049	0.045	0.024	0.016	0.034	0.022	0.018	0.026	0.015
Flow (MGD) Daily Maximum	0.073	0.151	0.251	1.383	0.146	0.105	0.028	0.134	0.088	0.063	0.175	0.020
pH (S.U.) Instantaneous Minimum	7.6	7.6	7.6	7.6	7.5	7.6	7.5	7.6	7.6	7.6	7.6	7.6
pH (S.U.) Instantaneous Maximum	7.7	7.7	7.7	7.7	7.8	7.6	7.8	7.7	7.7	7.8	7.7	7.7
Total Dissolved Solids (mg/L) Daily Maximum	4730	4760	5040	4940	4980	5290	5150	5300	5010	5560	5130	4940
Sulfate (mg/L) Daily Maximum	2470	2610	2460	2350	2740	2530	2580	2380	2900	2770	2970	2300
Chloride (mg/L) Daily Maximum	336	344	366	374	320	338	288	379	313	342	366	344
Bromide (mg/L) Daily Maximum	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

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	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/week	Grab
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab
Sulfate	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab
Chloride	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab
Bromide	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Grab

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

at Outfall 001

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	.184
Latitude	40º 10' 14"	**Longitude**	76º 12' 11"

Wastewater Description: Intermittent Discharge

pH

PA Code 95.2(1) requires effluent pH limits of not less than 6.0 and not greater than 9.0 at all times in the effluent. The permit will continue to require pH limits of 6.0 to 9.0 SU.

TDS & Constituents

The existing permit has monitoring requirements for TDS, Chloride, Bromide, and Sulfate. The SOP for Individual Sewage Permits no longer requires monitoring for special parameters. It also states that a monitoring requirement for TDS should be established for TDS if the discharge exceeds 1,000 mg/l. The past year of data shows that this value is consistently exceeded; therefore, TDS monitoring will remain in the permit.

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 July 29, 2022, 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 classified as a non-significant discharger with little or no potential to introduce nutrients to the receiving stream; therefore, no monitoring for TP and TN series will be required at this time.

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. There is an aquatic life impairment due to siltation from agriculture, habitat alterations from habitat modification – other than hydromodification, nutrients from agriculture, and siltation from urban runoff/storm sewers.

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

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	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/day	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/week	Grab
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab

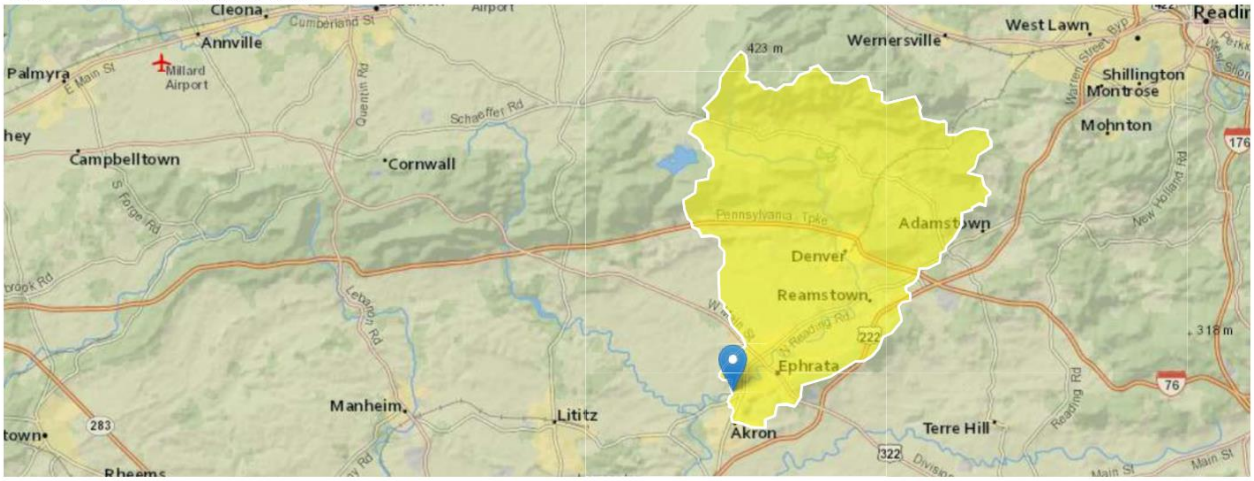
Compliance Sampling Location: Outfall 001

Other Comments: None

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☒	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	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.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☒	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	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.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: BCW-PMT-032
☐	Other:

Ephrata Area Joint Authority PA0247596 Outfall 001

Region ID: PA
Workspace ID: PA20240403135347825000
Clicked Point (Latitude, Longitude): 40.17027, -76.20321
Time: 2024-04-03 09:54:10 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	5.0299	degrees
DRNAREA	Area that drains to a point on a stream	64.1	square miles
ROCKDEP	Depth to rock	4.6	feet
URBAN	Percentage of basin with urban development	9.6163	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	64.1	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	5.0299	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.6	feet	4.13	5.21
URBAN	Percent Urban	9.6163	percent	0	89

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	14.9	ft^3/s	46	46
30 Day 2 Year Low Flow	19	ft^3/s	38	38
7 Day 10 Year Low Flow	7.86	ft^3/s	51	51
30 Day 10 Year Low Flow	10.1	ft^3/s	46	46

Statistic	Value	Unit	SE	ASEp
90 Day 10 Year Low Flow	14.8	ft^3/s	41	41

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/)

Application Version: 4.19.4
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Ephrata Area Joint Authority PA0247596 RMI = 6.46

Region ID: PA
Workspace ID: PA20240403135607803000
Clicked Point (Latitude, Longitude): 40.16948, -76.22029
Time: 2024-04-03 09:56:29 -0400

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	5.0334	degrees
DRNAREA	Area that drains to a point on a stream	64.7	square miles
ROCKDEP	Depth to rock	4.5	feet
URBAN	Percentage of basin with urban development	9.8273	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	64.7	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	5.0334	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.5	feet	4.13	5.21
URBAN	Percent Urban	9.8273	percent	0	89

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	13.7	ft^3/s	46	46
30 Day 2 Year Low Flow	17.8	ft^3/s	38	38
7 Day 10 Year Low Flow	7.12	ft^3/s	51	51
30 Day 10 Year Low Flow	9.29	ft^3/s	46	46

Statistic	Value	Unit	SE	ASEp
90 Day 10 Year Low Flow	13.8	ft^3/s	41	41

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/)

Application Version: 4.19.4
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1