pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0247197** |
| Facility Type | **Industrial** | APS ID | **488462** |
| Major / Minor | **Minor** | Authorization ID | **1446038** |

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

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **City of Lancaster** | Facility Name | **Conestoga Water Treatment Plant** |
| Applicant Address | 120 N Duke Street | Facility Address | 150 Pitney Road |
| | Lancaster, PA 17608-1599 | | Lancaster, PA 17601 |
| Applicant Contact | Jeremy Brumbach | Facility Contact | Jeremy Brumbach |
| Applicant Phone | (717) 844-4463 | Facility Phone | (717) 844-4463 |
| Client ID | 210852 | Site ID | 454320 |
| SIC Code | 4952 | Municipality | Lancaster City |
| SIC Description | Trans. & Utilities - Sewerage Systems | County | Lancaster |
| Date Application Received | July 3, 2023 | EPA Waived? | Yes |
| Date Application Accepted | July 25, 2023 | If No, Reason | |

Purpose of Application: NPDES Permit.

## Summary of Review

City of Lancaster 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 December 14, 2018, and became effective on January 1, 2019, authorizing discharge of treated sewage from the Conestoga Water Treatment Plant into the Conestoga River. The existing permit expiration date was December 31, 2023, and the permit has been administratively extended since that time.

The City of Lancaster operates a water treatment plant that withdraws 13.1 million gallons per day (mgd) of water from the Conestoga River. The wastewater portion of the treatment plant was altered previously. The settling tank process was replaced with membranes and ultraviolet (UV) disinfection. Rejected flow from the primary and secondary membranes is concentrated and sent to the sanitary sewer. Flow through the secondary membranes is then treated by a UV system. Effluent is conveyed to the clearwell. If the water quality of the effluent does not meet standards, it is recycled to the primary membranes. The current treatment process does not involve a stream discharge, but Lancaster City wants to renew their permit to use the stream discharge in the event of the current design failing.

Changes in this renewal: No changes were made to 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-

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | Benjamin R. Lockwood<br>Benjamin R. Lockwood / Environmental Engineering Specialist | February 14, 2024 |
| X | | Maria D. Bebenek for<br>Daniel W. Martin, P.E. / Environmental Engineer Manager | March 5, 2024 |

| **Summary of Review** |
| --- |
| 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. |

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

| | | | |
|---|---|---|---|
| Outfall No. | 001 | Design Flow (MGD) | .9 |
| Latitude | 40º 3' 1" | Longitude | 76º 16' 39" |
| Quad Name | | Quad Code | |
| Wastewater Description: | IW Process Effluent without ELG | | |
| Receiving Waters | Conestoga River (WWF) | Stream Code | 7548 |
| NHD Com ID | 57463629 | RMI | 23.51 |
| Drainage Area | 322 $mi^2$ | Yield ($cfs/mi^2$) | 0.124 |
| $Q_{7-10}$ Flow (cfs) | 40 | $Q_{7-10}$ Basis | USGS PA StreamStats |
| Elevation (ft) | 248 | 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 | Organic Enrichment, Siltation, Siltation, Pathogens, Pathogens | | |
| Source(s) of Impairment | Agriculture, Rural (Residential Areas), Dam or Impoundment, Agriculture, Urban Runoff/Storm Sewers | | |
| TMDL Status | N/A | Name | N/A |
| Nearest Downstream Public Water Supply Intake | Holtwood Dam Power Plant | | |
| PWS Waters | Susquehanna River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | 28 |

Changes Since Last Permit Issuance: USGS PA StreamStats provided a drainage area of 248 $mi^2$ and a $Q_{7-10}$ of 40 cfs.

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:** | 5/18/23: A routine inspection was conducted. The current wastewater treatment activities do not include the use of the permitted outfall. The original design included the treatment of process wastewater via a settling tank with an effluent discharge. The design was altered and the settling tank to serve Outfall 001 was never installed. Currently, drinking water is treated with membrane filter systems. Wastewater generated from backwashing the membrane systems is directed to two tanks prior to disposal to the Lancaster City sanitary sewer system. This operation does not include any discharges to the Conestoga River. There are currently no plans to implement the original design and use of Outfall 001.No issues at the facility were noted. |

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

**Existing Effluent Limitations and Monitoring Requirements**

**Outfall 001**

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) | | Concentrations (mg/L) | | | | Minimum Measurement Frequency | Required Sample Type |
| | Average Monthly | Daily Maximum | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report | XXX | XXX | XXX | XXX | Continuous | Measured |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | XXX | 9.0 | 1/day | Grab |
| Total Residual Chlorine (TRC) | Report | XXX | XXX | 0.5 | XXX | 1.6 | 1/day | Grab |
| Total Suspended Solids | Report | Report | XXX | 30 | 60 | 75 | 1/week | 8-Hr Composite |
| Aluminum, Total | Report | Report | XXX | 4.0 | 8.0 | 10 | 1/week | 8-Hr Composite |
| Iron, Total | Report | Report | XXX | 2.0 | 4.0 | 5.0 | 1/week | 8-Hr Composite |
| Manganese, Total | Report | Report | XXX | 1.0 | 2.0 | 2.5 | 1/week | 8-Hr Composite |

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

at discharge from facility

**Development of Effluent Limitations**

| | | | |
|---|---|---|---|
| **Outfall No.** | 001 | **Design Flow (MGD)** | .9 |
| **Latitude** | 40º 3' 1" | **Longitude** | 76º 16' 39" |

**Wastewater Description:** IW Process Effluent without ELG

**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.

**Toxics**

There has not been any discharge from this facility, as there currently is no means to discharge through Outfall 001. Therefore, toxics were not evaluated as part of this permit renewal. The existing limits for Total Aluminum, Total Iron, and Total Manganese will remain in this renewal.

**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 will be required at this time.

**Total Residual Chlorine**

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

**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 agriculture and urban runoff/storm sewers. There is an aquatic life impairment due to organic enrichment from agriculture, and siltation from rural (residential areas) and dam or impoundment.

**Class A Wild Trout Fisheries**

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

**Anti-Backsliding**

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions addressed by DEP in this fact sheet.

## Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

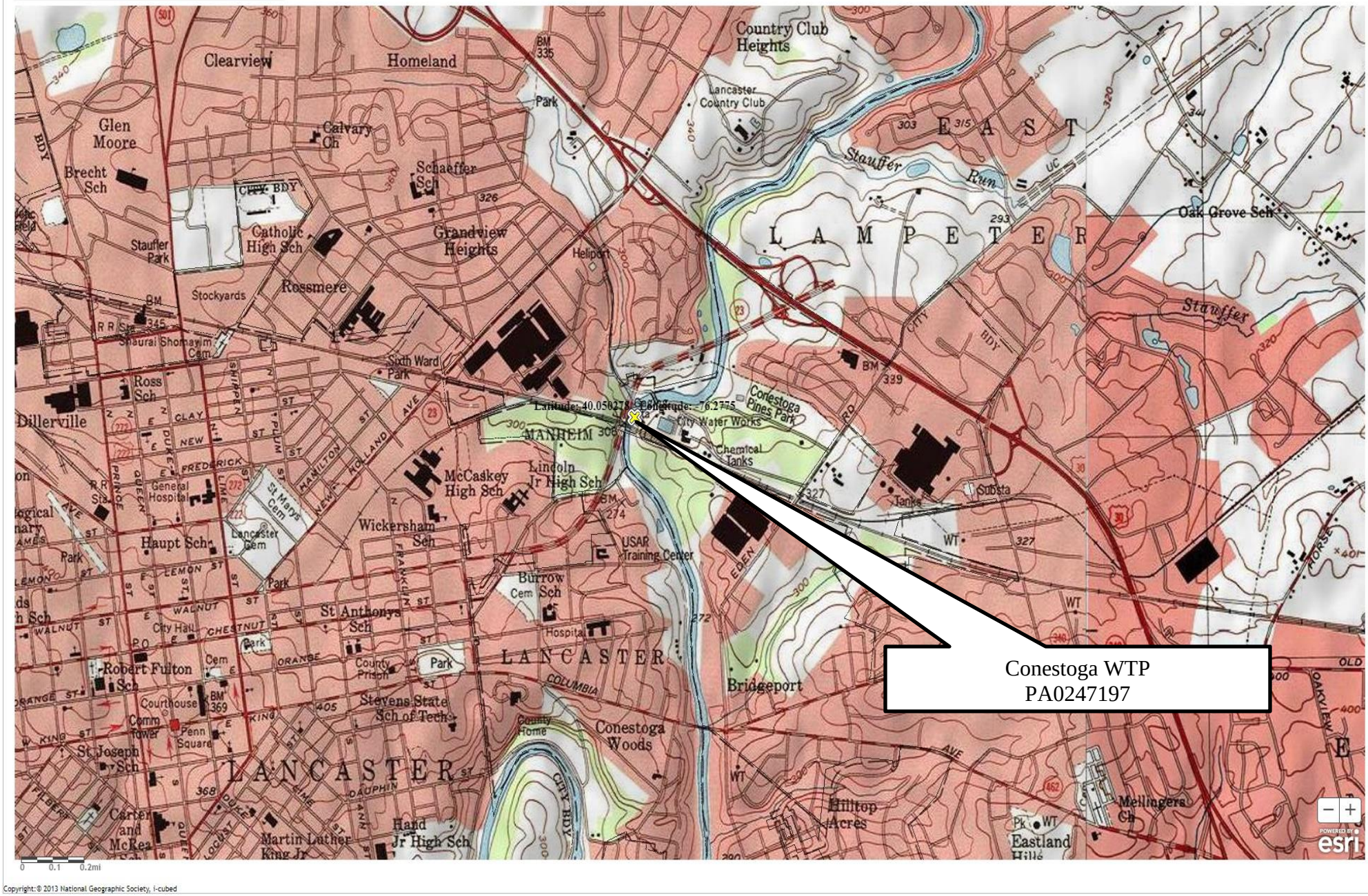
**Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date**.

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Average Monthly | Daily Maximum | Minimum | Average Monthly | Daily Maximum | Instant. Maximum | | |
| Flow (MGD) | Report | Report | XXX | XXX | XXX | XXX | Continuous | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Inst Min | XXX | XXX | 9.0 | 1/day | Grab |
| TRC | Report | XXX | XXX | 0.5 | XXX | 1.6 | 1/day | Grab |
| TSS | Report | Report | XXX | 30 | 60 | 75 | 1/week | 8-Hr Composite |
| Total Aluminum | Report | Report | XXX | 4.0 | 8.0 | 10 | 1/week | 8-Hr Composite |
| Total Iron | Report | Report | XXX | 2.0 | 4.0 | 5.0 | 1/week | 8-Hr Composite |
| Total Manganese | Report | Report | XXX | 1.0 | 2.0 | 2.5 | 1/week | 8-Hr Composite |

Compliance Sampling Location: At discharge from facility

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-001, BCW-PMT-032 |
| ☐ | Other: |


Conestoga WTP
PA0247197
Latitude: 40.050278
Longitude: -76.2775
Country Club Heights
Clearview
Homeland
Lancaster Country Club
Glen Moore
Brecht Sch
Calvary Ch
Schaeffer Sch
Stauffer Run
EAST LAMPETER
Oak Grove Sch
Catholic High Sch
Grandview Heights
Stauffer Park
Stockyards
Rossmere
Heliport
Stauffers
Sinai Shomayim Cem
Sixth Ward Park
Ross Sch
Dillerville
MANHEIM
Conestoga Pines Park
City Water Works
Chemical Tanks
McCaskey High Sch
Lincoln Jr High Sch
Wickersham Sch
USAR Training Center
Haupt Sch
General Hospital
St Mary's Cem
Lancaster Cem
Burrow Cem Sch
St Anthonys Sch
City Hall
Robert Fulton Sch
Courthouse
Stevens State Sch of Tech
LANCASTER
Bridgeport
Conestoga Woods
County Home
County Prison
St Joseph Sch
Carter and McKee
Martin Luther King Jr
Hand Jr High Sch
Hilltop Acres
Eastland
Mellingers Ch
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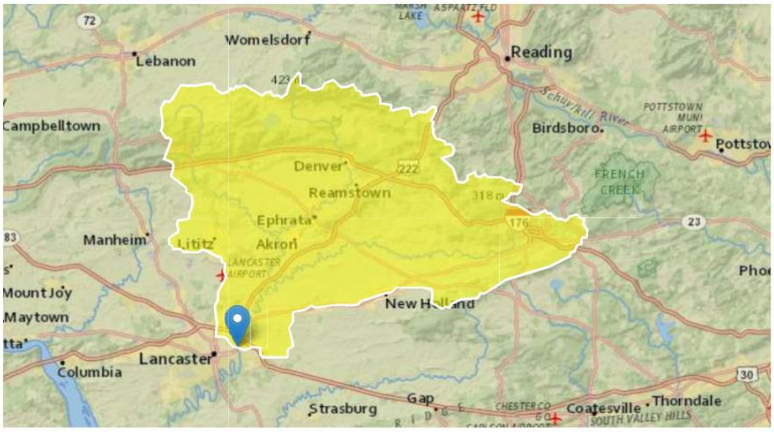
## Conestoga Water Treatment Plant PA0247197 Outfall 001

**Region ID:** PA
**Workspace ID:** PA20240213190638767000
**Clicked Point (Latitude, Longitude):** 40.05014, -76.27780
**Time:** 2024-02-13 14:07:01 -0500




Collapse All

### Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| BSLOPD | Mean basin slope measured in degrees | 4.2974 | degrees |
| DRNAREA | Area that drains to a point on a stream | 322 | square miles |
| ROCKDEP | Depth to rock | 4.8 | feet |
| URBAN | Percentage of basin with urban development | 8.0058 | 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 | 322 | square miles | 4.78 | 1150 |
| BSLOPD | Mean Basin Slope degrees | 4.2974 | degrees | 1.7 | 6.4 |
| ROCKDEP | Depth to Rock | 4.8 | feet | 4.13 | 5.21 |
| URBAN | Percent Urban | 8.0058 | 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 | 72.2 | ft^3/s | 46 | 46 |
| 30 Day 2 Year Low Flow | 91.9 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 40 | ft^3/s | 51 | 51 |
| 30 Day 10 Year Low Flow | 50.4 | ft^3/s | 46 | 46 |
| 90 Day 10 Year Low Flow | 75.2 | ft^3/s | 41 | 41 |

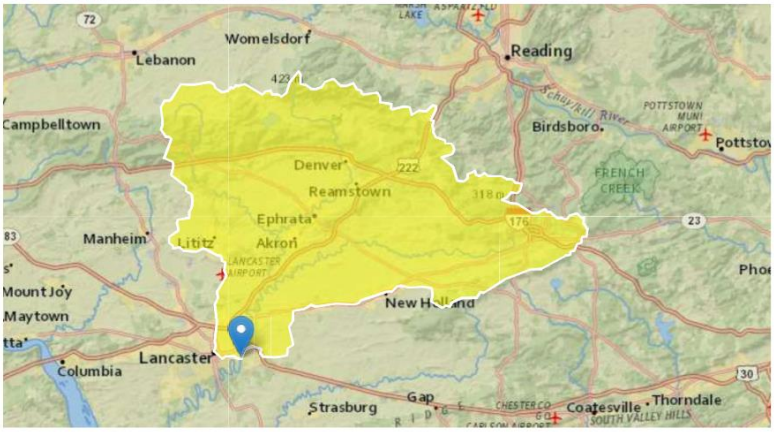
*Low-Flow Statistics Citations*

**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

## Conestoga Water Treatment Plant PA0247197 Downstream Pt.

**Region ID:** PA
**Workspace ID:** PA20240213191300036000
**Clicked Point (Latitude, Longitude):** 40.03800, -76.27336
**Time:** 2024-02-13 14:13:23 -0500




Collapse All

### Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| BSLOPD | Mean basin slope measured in degrees | 4.2827 | degrees |
| DRNAREA | Area that drains to a point on a stream | 324 | square miles |
| ROCKDEP | Depth to rock | 4.8 | feet |
| URBAN | Percentage of basin with urban development | 8.5154 | 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 | 324 | square miles | 4.78 | 1150 |
| BSLOPD | Mean Basin Slope degrees | 4.2827 | degrees | 1.7 | 6.4 |
| ROCKDEP | Depth to Rock | 4.8 | feet | 4.13 | 5.21 |
| URBAN | Percent Urban | 8.5154 | 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 | 73 | ft^3/s | 46 | 46 |
| 30 Day 2 Year Low Flow | 93 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 40.6 | ft^3/s | 51 | 51 |
| 30 Day 10 Year Low Flow | 51.1 | ft^3/s | 46 | 46 |
| 90 Day 10 Year Low Flow | 76.3 | 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

TRC_CALC

| 1A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| 2 | **TRC EVALUATION** | | | | | |
| 3 | Input appropriate values in B4:B8 and E4:E7 | | | | | |
| 4 | 40 | = Q stream (cfs) | | 0.5 | = CV Daily | |
| 5 | 0.9 | = Q discharge (MGD) | | 0.5 | = CV Hourly | |
| 6 | 30 | = no. samples | | 1 | = AFC_Partial Mix Factor | |
| 7 | 0.3 | = Chlorine Demand of Stream | | 1 | = CFC_Partial Mix Factor | |
| 8 | 0 | = Chlorine Demand of Discharge | | 15 | = AFC_Criteria Compliance Time (min) | |
| 9 | 0.5 | = BAT/BPJ Value | | 720 | = CFC_Criteria Compliance Time (min) | |
| | 0 | = % Factor of Safety (FOS) | | | =Decay Coefficient (K) | |
| 10 | Source | Reference | AFC Calculations | | Reference | CFC Calculations |
| 11 | TRC | 1.3.2.iii | WLA afc = 9.184 | | 1.3.2.iii | WLA cfc = 8.946 |
| 12 | PENTOXSD TRG | 5.1a | LTAMULT afc = 0.373 | | 5.1c | LTAMULT cfc = 0.581 |
| 13 | PENTOXSD TRG | 5.1b | LTA_afc= 3.422 | | 5.1d | LTA_cfc = 5.201 |
| 14 | | | | | | |
| 15 | Source | | Effluent Limit Calculations | | | |
| 16 | PENTOXSD TRG | 5.1f | AML MULT = 1.231 | | | |
| 17 | PENTOXSD TRG | 5.1g | AVG MON LIMIT (mg/l) = 0.500 | | BAT/BPJ | |
| 18 | | | INST MAX LIMIT (mg/l) = 1.635 | | | |

| | |
|---|---|
| WLA afc | **(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)** |
| LTAMULT afc | EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5) |
| LTA_afc | wla_afc*LTAMULT_afc |
| **WLA_cfc** | **(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc) )...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)** |
| LTAMULT_cfc | EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5) |
| **LTA_cfc** | wla_cfc*LTAMULT_cfc |
| AML MULT | EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1)) |
| AVG MON LIMIT | MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT) |
| INST MAX LIMIT | **1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)** |

## Lockwood, Benjamin

**From:** Lockwood, Benjamin
**Sent:** Friday, June 16, 2023 2:07 PM
**To:** Volkay_Hilditch, Christine M
**Cc:** Brumbach, Jeremy
**Subject:** RE: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal #PA0247197

Christine/Jeremy,

I was looking into permitting for these outfalls further and talked to Pat. As the withdrawals are just water transfers to the same body of water, and are not used as part of any treatment process, they do not need to be included in the NPDES permit. Sorry for the confusion.

With that being the case, let me know if you are still interested with proceeding with terminating the permit. If you terminate the permit and would apply for a new one in the future, the PDG timeline for new industrial NPDES permits is 188 business days, so you would need to keep that in mind. There is also the potential for the permitting requirements/limits to change. The annual fee for your permit is $1,500, while the application fee for a new minor IW permit is $3,000; this could be a significant difference if you do not use the outfall for another 10 years. Please let me know if you have any further questions.

Thanks,
Ben

**Benjamin Lockwood** | Environmental Engineering Specialist
Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue | Hbg, PA 17110
Phone: 717.705.4782 | Fax: 717.705.4760
www.depweb.state.pa.us

**24-hour toll free Emergency Response number for SCRO: 1-800-541-2050.**

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**From:** Volkay_Hilditch, Christine M <CHilditch@cityoflancasterpa.gov>
**Sent:** Wednesday, June 14, 2023 3:34 PM
**To:** Lockwood, Benjamin <blockwood@pa.gov>
**Cc:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Subject:** Re: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal #PA0247197

Good Afternoon

I was just concerned about how any future limits would be handled.

Jeremy is working on the application material and we will send in ASAP.

1

Thanks again.

**Christine Volkay-Hilditch, P.E., BCEE, LO** | Deputy Director of Public Works
Utilities Division

Department of Public Works

1220 New Danville Pike, Lancaster, PA 17603
Office (717) 293-5531 | Mobile (717) 989-3707 | Fax (717) 293-5545
childitch@cityoflancasterpa.gov | cityoflancasterpa.gov


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**From:** Lockwood, Benjamin <blockwood@pa.gov>
**Sent:** Wednesday, June 14, 2023 2:13 PM
**To:** Volkay_Hilditch, Christine M <CHilditch@cityoflancasterpa.gov>
**Cc:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Subject:** RE: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal #PA0247197

Christine,

I am aware of at least one other similar facility off the top of my head, for Elizabethtown Area Water System. They have a diversion of creek water; the only permit requirement is for flow monitoring. I believe these discharges would be handled similarly. Let me know if you would like to discuss this in any more depth.

Thanks,
Ben

**Benjamin Lockwood** | Environmental Engineering Specialist
Department of Environmental Protection

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www.depweb.state.pa.us

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**From:** Volkay_Hilditch, Christine M <CHilditch@cityoflancasterpa.gov>
**Sent:** Tuesday, June 13, 2023 3:30 PM
**To:** Lockwood, Benjamin <blockwood@pa.gov>
**Cc:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Subject:** Re: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal #PA0247197

Good Afternoon Ben

Jeremy forwarded your email concerning the Conestoga NPDES permit process.

This may be a premature question, but will PADEP require limits or testing for the water returned to the river? How have other water utilities been regulated in PA for such discharges?

Lancaster only screens the water and returns what was taken out of the river, as Jeremy described. No chemicals are added. I am concerned that if you place a 30 mg/L TSS limit on the returns it will be a major issue. I was a permit writer in a former life, and I was thinking about the FDF and net/gross federal regulations. I attached some information from the EPA Permit Writer's Guidance. I have not researched if this is still the latest Guidance Document from EPA or of there are other PADEP resources to consult.

Thanks

**Christine Volkay-Hilditch, P.E., BCEE, LO** | Deputy Director of Public Works
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**From:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Sent:** Thursday, June 8, 2023 8:14 PM
**To:** Volkay_Hilditch, Christine M <CHilditch@cityoflancasterpa.gov>
**Subject:** Fwd: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal #PA0247197

FYI see below on the cwtp npdes. We can talk Monday but based on this we need to add the pump station discharges.

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**From:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Sent:** Thursday, June 8, 2023 8:09 PM
**To:** Lockwood, Benjamin <blockwood@pa.gov>
**Cc:** Henninger, Douglas <DHenninger@cityoflancasterpa.gov>
**Subject:** Re: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal #PA0247197

Thanks Ben,

Our assumption had been that a determination had been made on these discharges that they didn't need to be permitted because they were simply untreated river water that was a byproduct of initial screening, but we wanted to be sure. One was constructed as part of the upgrade project as recently as 2008.

I'll look to add these to the renewal and will reach out if I have more questions

Thanks again

-Jeremy

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**From:** Lockwood, Benjamin <blockwood@pa.gov>
**Sent:** Thursday, June 8, 2023 4:57:35 PM
**To:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Cc:** Henninger, Douglas <DHenninger@cityoflancasterpa.gov>
**Subject:** RE: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal #PA0247197

Hi Jeremy,

You can find the forms and instructions for the renewal at this link to DEP's website: - DEP eLibrary (state.pa.us).

The discharge from the new filtration process, as well as the two existing discharges, would need to be added to the permit using an amendment. Since the renewal is due, this information can be included as part of the renewal. All discharges that are part of your facility need to be included in the NPDES permit.

It sounds like you will not be able to terminate the permit since there are existing discharges at the facility. If you would still like to know specifics about this route, if all outfalls are indeed removed, then I can provide some more information.

If you have any questions, or would like me to expand on anything, please let me know.

Thanks,
Ben

**Benjamin Lockwood** | Environmental Engineering Specialist
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**24-hour toll free Emergency Response number for SCRO: 1-800-541-2050.**

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**From:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Sent:** Thursday, June 8, 2023 1:22 PM
**To:** Lockwood, Benjamin <blockwood@pa.gov>
**Cc:** Henninger, Douglas <DHenninger@cityoflancasterpa.gov>
**Subject:** FW: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal #PA0247197

Hi Ben,

The City has an upcoming renewal deadline for the above referenced NPDES permit of July 4, 2023. The City has never constructed the outfall associated with this NPDES Permit. I believe this permit was first applied for in 2008, and I understand that it was permitted with the expectation that the City was going to use it to dispose of waste from the membrane filtration process used at the Conestoga Water Treatment Plant. This permit was subsequently renewed with the explanation that even though the City had constructed the plant and was wasting to the sanitary sewer system, there was a fear that the existing process was not going to be feasible long term. The plant has been operating this way since 2009.

We are currently trying to assess the usefulness of continuing to renew this NPDES permit, which I hope you can help with. Here are some questions I have:

1. Can you provide the required forms to renew this permit? Since the outfall was never constructed and there is no waste stream I am not sure exactly what is needed
2. We currently have plans in our 5-10 year capital plan to construct a solids dewatering station on site to process the waste from the filtration process. At that time we would look to discharge the centrate from that process back to the Conestoga. Provided we meet the current effluent limitations, would we be able to discharge that under this permit or would we need to amend this since the upstream process changed?
3. During a site inspection by Patrick McGee we asked him about two existing discharges that we have on site that are not currently permitted. They are both related to the intake and involve untreated raw water. Both were

constructed after 1972. Will these need to be permitted in the future? If so, can they be amended onto this permit?

4. I know this may be a big ask for you to be able to answer, but we have concern that if we do not renew this permit and then we find we need one in the future, that it may be harder for us to get a new NPDES permit approved. Do you have any knowledge of that being the case with any other Owners/Operators in the past?

Thanks for the help in advance. Please feel free to email or give me a call on my cell with any questions or concerns

Regards,

Jeremy Brumbach, PE
Senior Project Manager
City of Lancaster Public Works
Bureau of Water
150 Pitney Rd. Lancaster PA 17601
Cell: 717-844-4463
www.cityoflancasterpa.com

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**From:** McGee, Patrick <patrmcgee@pa.gov>
**Sent:** Friday, June 2, 2023 9:48 AM
**To:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Cc:** Henninger, Douglas <DHenninger@cityoflancasterpa.gov>
**Subject:** RE: [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal

Good Morning Jeremy,

I was able to pass along your concerns regarding the existing permit and your pending renewal coming in July, but was still waiting on some responses. However, I was able to speak with the Lancaster County Reviewing Engineer Ben Lockwood this morning and he said he would be willing to speak with you and provide some guidance. His email is

blockwood@pa.gov and his phone number is 717-705-4782. Please reach out to Ben and if you have any additional questions please let me know.

Best Regards,

**Patrick McGee** | Environmental Trainee
Department of Environmental Protection| Clean Water Program
Southcentral Regional Office
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717-756-5220
www.depweb.state.pa.us
**24-hour Emergency Response Number for SCRO: 1-800-541-2050.**

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**From:** Brumbach, Jeremy <JBrumbach@cityoflancasterpa.gov>
**Sent:** Friday, June 2, 2023 8:45 AM
**To:** McGee, Patrick <patrmcgee@pa.gov>
**Cc:** Henninger, Douglas <DHenninger@cityoflancasterpa.gov>
**Subject:** [External] City of Lancaster, Conestoga Water Treatment Plant NPDES Renewal

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Hey Patrick,

I wanted to follow up on the site visit from 5/11. We discussed the existing NPDES permit and our pending renewal in July and whether or not it made sense to renew it. We had concerns that we may need an outfall in the future (5-10 year timeline) when we construct a dewatering facility and wanted to make sure that the department would be able to provide a permitted outfall at that time, and also our concerns with the existing raw water outfalls from the screens and strainers (the small open channel at the river, and the larger concrete pipe at the river) that were not permitted under any NPDES permit.

I believe you mentioned looking into this and possibly discussing or putting us in contact with someone who could provide some direction. Our main concern at this time is the timeline for renewal on the existing NPDES and whether we should let it expire or renew it. And, if we do renew it some more technical questions of how to fill out the required forms (sampling forms etc…)

Thanks for any help you can provide!

Jeremy Brumbach, PE
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