pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0036081**
Facility Type	**Municipal**	APS ID	**636715**
Major / Minor	**Minor**	Authorization ID	**1424328**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Lehigh County Authority**	Facility Name	**Wynnewood Wastewater Treatment Plant**
Applicant Address	PO Box 3348, 1053 Spruce Road	Facility Address	1143 Wellington Circle
	Allentown, PA 18106-9408		Laurys Station, PA 18069
Applicant Contact	Andrew D. Moore, Director of Plant Operations	Facility Contact	Adam Lynn, Suburban Plant Operations Manager
Applicant Phone	(610) 597-8100	Facility Phone	(610) 703-7652
Client ID	67774	Site ID	448633
Ch 94 Load Status	Not Overloaded	Municipality	North Whitehall Township
Connection Status	No Limitations	County	Lehigh
Date Application Received	January 19, 2023	EPA Waived?	Yes
Date Application Accepted	January 25, 2023	If No, Reason	-

Purpose of Application: Renewal of NPDES permit for discharge of treated sewage.

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.060 MGD of treated sewage into the Lehigh River, a Trout-Stocking, Migratory Fish (TSF, MF) receiving stream in State Water Plan Basin 2-C (Lower Lehigh River). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. This stream segment is not designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies.

Limitations for pH, $CBOD_5$, Total Suspended Solids (TSS), and Fecal Coliform are technology-based and carried over from the previous permit.

A BPJ-based limitation of 5.0 mg/L for Dissolved Oxygen (DO) has been added to the permit. This is an increase from the existing monitoring/reporting requirement in the previous permit. eDMR data from December 2022 to November 2023 (seen on pages 5-6 of this Fact Sheet) indicates that the facility is consistently above 5.0 mg/L monthly average for DO. Therefore, the new limit will be applied at the permit effective date.

The previous permit had a monthly average limitation of 20 mg/L for Ammonia-Nitrogen. The monthly average limitation has been carried over and an IMAX limitation of 40 mg/L has been added. This IMAX limitation is two times the monthly average limitation. eDMR data discussed above indicates that the facility is always significantly under this limitation. Therefore, the new limit will be applied at the permit effective date.

The 1.2 mg/L monthly average and 2.8 mg/L IMAX limitations for Total Residual Chlorine (TRC) in the previously issued permit were technology-based limitations. As per PA Code 92a.47(a)(8) (which refers to PA Code 92a.48(b)(2)), a monthly average TRC facility-specific BAT effluent limit of 0.5 mg/L and an IMAX limit of 1.6 mg/L has been applied to this permit renewal. eDMR data from December 2022 to November 2023 (seen on pages 5-6 of this Fact Sheet) indicates that the

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried / Project Manager	January 18, 2024
X		/s/ Amy M. Bellanca, P.E. / Program Manager	1-19-24

Summary of Review

facility is consistently under 0.5 mg/L monthly average for TRC. Therefore, the new TRC technology-based limit will be applied at the permit effective date.

Sewage discharges now require monitoring and reporting for E. Coli. A monitoring frequency of 1/month for design flows >= 1 MGD, 1/quarter for design flows >= 0.05 and < 1 MGD, 1/year for design flows of 0.002 – 0.05 MGD will be utilized.

WQM 7.0 modeling did not recommend stricter limits.

Pollutant sampling results for Total Copper, Total Lead, and Total Zinc that were submitted with the permit application were entered into the Toxic Management Spreadsheet (TMS). The TMS did not recommend any limitations or reporting/ monitoring for any of these parameters.

Monitoring frequencies for all parameters with limitations have been updated to the recommended frequencies found in Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations (Document No. 362-0400-001).

Per current Standard Operating Procedures for Publicly Owned Treatment Plants, raw sewage influent TSS monitoring/ reporting shall be added to the permit. A monitoring frequency of 2/month has been applied.

DRBC Docket No. D-2010-001 CP-4 (approved March 14, 2018) does not contain more stringent or additional requirements beyond the NPDES permit. The Total Dissolved Solids limitations and monitoring/reporting for 85% minimum $CBOD_5$ Percent Removal has been carried over. The mass load limitations for TSS, Total Nitrogen, Ammonia-Nitrogen, Nitrate as N, Total Kjeldahl Nitrogen, and Total Phosphorus have also been carried over from the previous permit.

USGS stream gage 01451000 (Lehigh River at Walnutport, PA) is in the vicinity of Outfall 001. The Stream Gage data was obtained from USGS StreamStats and can be observed on pages 10-11 of this fact sheet. A Q_{7-10} Flow of 222.03 cfs was calculated using this gage. However, USGS StreamStats indicates that the Statistic Date Range for the data provided for the stream gage is from 4/1/1946 – 3/31/1960, which is outdated. Therefore, USGS StreamStats and the default Low Flow Yield (LFY) of 0.1 cfs/mi^2 were both used to model the discharge at Outfall 001. Modeling can be observed on pages 9-11 of this fact sheet. Ultimately, the values generated by using USGS StreamStats were used in the WQM 7.0. RMI values were obtained using the "PA Historic Streams" feature of eMapPA, drainage areas were delineated using USGS's StreamStats Interactive Map, and elevations were obtained using the elevation profile feature of StreamStats.

The existing permit expired on July 31, 2023 and the application for renewal was received on time.

A Water Management System Inspection query indicated that on December 11, 2023 a Routine/Partial inspection was performed.

There are currently seven open violations for this client that may need to be resolved before issuance of the final permit:

1. 12/09/2021 - Violation ID 938695 – Violation Code 92A.44 – NPDES - Violation of effluent limits in Part A of permit. (WPC NPDES – PA0034029).

2. 12/09/2021 - Violation ID 938696 – Violation Code 92A.61(C) – NPDES - Failure to monitor pollutants as required by the NPDES permit (WPC NPDES – PA0034029).

3. 12/09/2021 - Violation ID 938698 – Violation Code 92A.47(C) – NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO). (WPC NPDES – PA0034029).

4. 12/13/2022 - Violation ID 978129 – Violation Code 92A.44 – NPDES - Violation of effluent limits in Part A of permit. (WPC NPDES – PA0034029).

5. 3/07/2022 - Violation ID 947817 – Violation Code 92A.41(B) – NPDES - Failure to orally notify DEP within 4 hours of a pollution incident or submit written report within 5 days of incident. (WPC NPDES – PAS902202).

6. 3/07/2022 - Violation ID 947822 – Violation Code 92A.41(A)4 – NPDES – Failure to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of a permit. (WPC NPDES – PAS902202).

Summary of Review

7. 3/07/2022 - Violation ID 947823 – Violation Code 92A.44 – NPDES - Violation of effluent limits in Part A of permit. (WPC NPDES – PAS902202).

A Preliminary Effluent Limitations (PEL Request) was received by Lehigh County Authority for this facility. An expansion of this WWTP may occur and an increase of flow to 0.065 MGD would be expected. Please note that an amendment application must be filed with DEP at least 180 days before you propose to commence any additional discharge of treated wastewater and a WQM permit must be obtained from DEP prior to starting construction of the proposed facilities.

Sludge use and disposal description and location(s): Sludge is hauled to the Lehigh County Authority Pretreatment Plant by Millers Sanitary Service.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.06
Latitude	40º 43' 49.72"	Longitude	-75º 32' 28.77"
Quad Name	Cementon	Quad Code	1341
Wastewater Description:	Sewage Effluent		
Receiving Waters	Lehigh River (TSF, MF)	Stream Code	3335
NHD Com ID	26297467	RMI	28.1
Drainage Area	929 mi^2	Yield (cfs/mi^2)	0.207
Q_{7-10} Flow (cfs)	192	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	313.17	Slope (ft/ft)	-
Watershed No.	2-C	Chapter 93 Class.	TSF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	METALS		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	-	Name	-
Nearest Downstream Public Water Supply Intake	Northampton Borough Municipal Authority		
PWS Waters	Lehigh River	Flow at Intake (cfs)	-
PWS RMI	24.8	Distance from Outfall (mi)	~ 3.3

Treatment Facility Summary

Treatment Facility Name: Wynnewood Wastewater Treatment Plant

WQM Permit No.	Issuance Date
3917403 A-1	3/21/2018
3917403	2/12/2018
3913406	2/07/2014

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	SBR	Ultraviolet	0.03757 (2020-2022)

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.06	108	Not Overloaded	Aerobic Digestion	Other WWTP

Compliance History

DMR Data for Outfall 001 (from December 1, 2022 to November 30, 2023)

Parameter	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22
Flow (MGD) Average Monthly	0.03207	0.03058	0.03020	0.03006	0.03891	0.03190	0.03542	0.03056	0.03166	0.02879	0.03220	0.03731
Flow (MGD) Daily Maximum	0.04353	0.04265	0.05038	0.04408	0.08155	0.04563	0.09016	0.04148	0.04748	0.03117	0.04744	0.06221
pH (S.U.) Instantaneous Minimum	6.34	6.46	6.6	6.68	6.18	6.01	6.04	6.24	6.1	6.04	6.08	6.05
pH (S.U.) Instantaneous Maximum	7.66	7.53	7.54	7.88	7.52	7.3	7.12	7.70	7.08	6.97	6.99	6.73
DO (mg/L) Average Monthly	6.89	6.88	6.48	6.62	6.59	6.72	6.82	6.98	7.5	7.76	7.33	7.21
TRC (mg/L) Average Monthly	0.02	0.01	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.02	0.02
TRC (mg/L) Instantaneous Maximum	0.05	0.03	0.03	0.04	0.03	0.09	0.07	0.04	0.05	0.03	0.03	0.04
CBOD5 (lbs/day) Average Monthly	< 0.5	< 0.4	< 0.3	< 0.3	< 0.6	0.8	< 0.8	0.7	< 2.1	1.0	0.7	< 0.5
CBOD5 (lbs/day) Weekly Average	0.8	0.5	0.4	< 0.5	0.6	0.8	0.9	0.8	3.5	1.2	1.0	0.6
CBOD5 (mg/L) Average Monthly	< 2.0	< 2.0	< 1.0	< 1.0	< 2.0	3.0	< 2.0	3.0	< 8.0	4.0	3.0	< 2.0
CBOD5 (mg/L) Intake Average Monthly	1332	378	863	232	135	242	91	328	206	657	278	323
CBOD5 (mg/L) Weekly Average	3.0	2.0	1.0	< 2.0	2.0	3.0	3.0	3.0	14.0	4.0	4.0	2.0
CBOD5 % Removal (%) Intake Minimum Monthly Average	100	100	100	100	99	99	99	99	99	100	99	99
TSS (lbs/day) Average Monthly	0.6	0.3	0.6	0.5	1.3	1.1	1.1	0.9	5.1	2.4	3.7	2.2
TSS (mg/L) Average Monthly	2.5	1.0	1.5	2.0	3.5	4.0	2.0	3.0	20.3	8.5	15.0	7.0
TSS (mg/L) Weekly Average	3.0	1.0	2.0	3.0	5.0	5.0	2.0	3.0	29.0	10.0	23.0	8.0

Total Dissolved Solids (mg/L) Average Quarterly			632.0			515.0			440.0			639.0
Fecal Coliform (No./100 ml) Geometric Mean	< 2	< 110	< 3	< 1	> 49	< 1	< 1	< 5	< 5	< 15	< 7	< 5
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 5	12100	12	< 1	> 2420	1	1	< 5	5	45	10	< 5
Nitrate-Nitrite (mg/L) Average Monthly	< 19.6	17.2	14.3	13.3	< 10.2	< 16.4	< 14.1	15.9	16.8	< 27.8	12.3	23.7
Total Nitrogen (lbs/day) Average Monthly	5.1	5.1	8.7	3.6	4.0	5.9	9.9	5.9	5.5	6.9	3.8	8.0
Total Nitrogen (mg/L) Average Monthly	20.4	18.2	20.6	15.6	12.4	22.6	13.1	18.5	18.8	30	14.5	25.9
Ammonia (lbs/day) Average Monthly	< 0.02	< 0.03	0.9	0.02	0.03	1.1	0.5	0.06	0.06	0.5	0.1	0.1
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	2.2	0.1	0.1	4.4	0.6	0.2	0.2	2.3	0.5	0.5
Nitrate (lbs/day) Average Monthly	4.9	4.7	6.0	3.0	3.2	4.2	6.6	5.1	4.9	6.4	3.2	6.9
TKN (lbs/day) Average Monthly	0.2	< 0.3	3.0	0.5	0.7	2	1	0.8	0.6	0.5	0.6	0.6
TKN (mg/L) Average Monthly	0.8	< 1	6.3	2.3	2.2	6.2	1.7	2.6	2	2.2	2.2	2.2
Total Phosphorus (lbs/day) Average Monthly	0.7	0.8	0.2	0.04	0.09	0.1	2.1	2.2	0.9	1.2	0.5	1.5
Total Phosphorus (mg/L) Average Monthly	2.91	3.06	0.54	0.18	0.28	0.43	4.5	6.76	3.06	5.34	1.72	5.01

Compliance History

Effluent Violations for Outfall 001, from: January 1, 2023 To: November 30, 2023

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	07/31/23	Geo Mean	> 49	No./100 ml	200	No./100 ml
Fecal Coliform	10/31/23	IMAX	12100	No./100 ml	10000	No./100 ml
Fecal Coliform	07/31/23	IMAX	> 2420	No./100 ml	1000	No./100 ml
Total Phosphorus	04/30/23	Avg Mo	2.2	lbs/day	2.1	lbs/day

Development of Effluent Limitations			
Outfall No.	001	**Design Flow (MGD)**	0.06
Latitude	40º 43' 50.00"	**Longitude**	-75º 32' 30.00"
Wastewater Description:	Sewage Effluent		

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
$CBOD_5$	25.0	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40.0	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
	50.0	IMAX		
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45.0	Average Weekly	133.102(b)(2)	92a.47(a)(2)
	60.0	IMAX		
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)
	1.6	IMAX	-	
E. Coli	Report	IMAX	-	BPJ
Dissolved Oxygen	5.0	Minimum	-	BPJ

Water Quality-Based Limitations
The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
Total Suspended Solids Raw Sewage Influent	Report	Average Monthly	POTW Requirement
Nitrate-Nitrite as N	Report	Average Monthly	Previous Permit
Total Kjeldahl Nitrogen	Report	Average Monthly	
CBOD5 Raw Sewage Influent	Report	Average Monthly	DRBC Docket
CBOD5 Minimum % Removal (%) Raw Sewage Influent	85%	Minimum Monthly Average	
Ammonia-Nitrogen Oct 1 - Apr 30	2.1 (lbs/day)	Average Monthly	
	20.0	Average Monthly	
	40.0	IMAX	
Ammonia-Nitrogen May 1 - Sep 30	1.5 (lbs/day)	Average Monthly	
	20.0	Average Monthly	
	40.0	IMAX	
Total Dissolved Solids	1,000	Average Quarterly	
	2,000	IMAX	
Total Nitrogen	10.4 (lbs/day)	Average Monthly	
Nitrate as N	8.1 (lbs/day)	Average Monthly	
Total Phosphorus	2.1 (lbs/day)	Average Monthly	

Anti-Backsliding
No limitations were made less stringent.

Modeling with State-Wide default LFY of 0.1 cfs/mi²:

$$\frac{0.1\ ft^3/sec}{mi^2} \times 929\ mi^2 = \frac{\mathbf{92.9\ ft^3}}{\mathbf{sec}}$$

Modeling Using StreamStats:

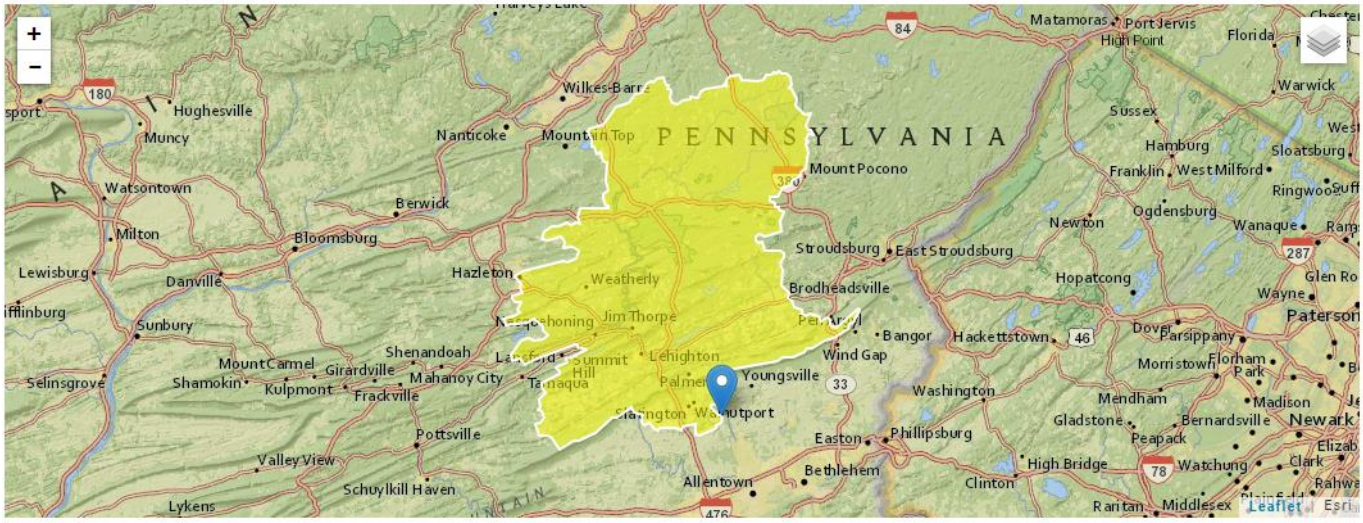
At Outfall 001 on Lehigh River:

RMI	Elevation (ft)	Drainage Area (mi²)	$Q_{7\text{-}10}$ Flow (cfs)
28.1	313.17	929	192

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{192\ ft^3/sec}{929\ mi^2} = \mathbf{0.207}\ \frac{\mathbf{ft^3/sec}}{\mathbf{mi^2}}$$

StreamStats Report

Region ID:	PA
Workspace ID:	PA20240117144202229000
Clicked Point (Latitude, Longitude):	40.73223, -75.54116
Time:	2024-01-17 09:42:25 -0500



Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	929	square miles	4.93	1280

Low-Flow Statistics Flow Report [Low Flow Region 2]

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	301	ft^3/s	38	38
30 Day 2 Year Low Flow	364	ft^3/s	33	33
7 Day 10 Year Low Flow	192	ft^3/s	51	51

At confluence with Unnamed Tributary 3721 to Lehigh River:

RMI	Elevation (ft)	Drainage Area (mi^2)
27.989	311.05	930

StreamStats Report

Region ID:	PA
Workspace ID:	PA20240117145257887000
Clicked Point (Latitude, Longitude):	40.73514, -75.54070
Time:	2024-01-17 09:53:23 -0500

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0.7	percent
DRNAREA	Area that drains to a point on a stream	930	square miles

Modeling Using USGS Stream Gage

Stream Gage: 1451000 Leigh River at Walnutport, PA

Gage Information

Name	Value
USGS Station Number	01451000
Station Name	Lehigh River at Walnutport, Pa.
Station Type	Gaging Station, continuous record
Latitude	40.75704
Longitude	-75.60297

Characteristic Name	Value	Units
Drainage Area	889	square miles

Statistic Name	Value	Units	Preferred?	Years of Record	Standard Error, percent	Citation	Comments
1 Day 10 Year Low Flow	203	cubic feet per second	✓	13		49	Statistic Date Range 4/1/1947 - 3/31/1960
7 Day 2 Year Low Flow	311	cubic feet per second	✓	13		49	Statistic Date Range 4/1/1947 - 3/31/1960
7 Day 10 Year Low Flow	213	cubic feet per second	✓	13		49	Statistic Date Range 4/1/1947 - 3/31/1960

$$Low\ Flow\ Yield\ using\ StreamStats\ Gage\ Data = \frac{213\ ft^3/sec}{889\ mi^2} = \mathbf{0.239}\ \boldsymbol{\frac{ft^3/sec}{mi^2}}$$

$$Q_{7-10}\ at\ Outfall\ 001\ using\ StreamStats\ Gage\ Data = 0.239\ \frac{ft^3/sec}{mi^2} \times 929\ mi^2 = \mathbf{222.03}\ \boldsymbol{cfs}$$

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
02C	3335	LEHIGH RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
28.100	LCA - Wynnewood	PA0036081	0.060	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

192	= Q stream (cfs)	0.5	= CV Daily
0.06	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 659.877	1.3.2.iii	WLA cfc = 643.321
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 245.886	5.1d	LTA_cfc = 373.996

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		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)

Combined WQM 7.0 - Existing.pdf

DRBC Docket D-2010-001 CP-4 Wy

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried / Project Manager	January 18, 2024
X		/s/ Amy M. Bellanca, P.E. / Program Manager	1-19-24