pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0026905**
Facility Type	**Municipal**	APS ID	**654659**
Major / Minor	**Major**	Authorization ID	**739000**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Connellsville City Municipal Authority Fayette County**	Facility Name	**Connellsville Municipal Authority WWTP**
Applicant Address	PO Box 925	Facility Address	99 Treatment Plant Road
	Connellsville, PA 15425-0925		Connellsville, PA 15425
Applicant Contact	Patrick Duncan	Facility Contact	Jerry Fox
Applicant Phone	(724) 628-6555	Facility Phone	
Client ID	62846	Site ID	253560
Ch 94 Load Status	Existing Hydraulic Overload	Municipality	Connellsville City
Connection Status	No Limitations	County	Fayette
Date Application Received	August 11, 2008	EPA Waived?	No
Date Application Accepted	August 19, 2008	If No, Reason	Major Facility

Purpose of Application: Renewal of NPDES Permit.

Summary of Review

The Connellsville City Municipal Authority (CMA) Fayette County applied for a renewal of an existing NPDES Permit, PA0026905, which was previously issued on January 13, 2004 with expiration on January 31, 2009. The application was initially reviewed by Ray Lattner, who has since retired. On November 3, 2017, the Draft NPDES permit was issued and sent out to public notice. The EPA provided comments via an electronic mail message dated November 22, 2017. The permitting process stalled at this point. Since the original permit writer has retired and the Department's permit language has been updated, new Draft permit will be developed.

A new WQM Permit 2618401 was issued by the Department on April 30, 2019 and approves sequencing batch reactor (SBR) to replace the existing treatment plant. The new treatment plant will consist of a new mechanical screen, four (4) raw sewage headworks pumps, four (4) SBR basins, UV disinfection, a belt filter press, and four (4) aerobic digesters. The plant will handle an average design flow of 4.4 MGD and a peak wet weather flow of 24.0 MGD. The design organic loading is 7,340 lb/day. The existing 4 activated sludge aeration tanks will be converted to aerobic digesters. Structures and equipment related to the peak hydraulic loading are sized to provide a capacity of 24 MGD, while the unit processes used for biological treatment are designed with the proposed average daily permit capacity of 4.4 MGD (LTCP proposed average daily flow design).

The discharge is to the Youghiogheny River. The Youghiogheny River is classified as a warm water fishery (WWF) at the point of discharge and is located in the State Watershed No 19-D.

The CMA LTCP was approved on August 17, 2017. The LTCP proposes to address these CSOs in the following manner:

Approve	Deny	Signatures	Date
X		Curtis Holes, P.E. / Environmental Engineering	March 29, 2023
x		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineer Manager	August 16, 2023

Summary of Review

- Comply with the EPA CSO Policy's Presumption Approach criteria to meet receiving Water Quality Standards (WQS) by capturing no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide average annual basis;
- Addresses the Sensitive Areas recreational swimming and boating requirements within the Yough River Park area by proposing facilities to nearly eliminate CSO discharges at outfalls 004, 005 and 006. CMA proposes to accomplish this by modifying these regulator structures; by upgrading the West Side interceptor to a minimum of 27 inches diameter and by increasing the West Side pump station capacity to 11.4 mgd; by providing variable frequency drives; by installing an emergency generator and; by providing SCADA monitor data for remote real-time control;
- Replace the existing WWTP and expand its capacity to 4.4 mgd average daily flow and provide full biological treatment capacity for 24.0 mgd peak wet weather flow. The WWTP operational process will be converted from a conventional activated sludge to a four (4) unit Sequential Batch Reactor process. It proposes to utilize the existing final clarifiers into aerated wet weather holding tanks whereby flows more than 24 mgd may be diverted for storage and later treatment;
- Permanently seal CSO outfall 007 and eliminate CSO outfall 003 by constructing a new 24-inch diameter parallel interceptor from CSO outfall 017, terminating into a 36-inch diameter interceptor that will convey flow directly into the WWTP influent;
- Provide final interceptor termination capacity improvements sufficient to convey all peak wet weather flow to the WWTP influent without possibility of discharge from CSO outfall 002;
- Provide outfall solids and floatables screening at the Trump Run CSO outfall 016 structure prior to wet weather discharge.

Scheduled Interim Milestones	**Due Date**
a. Receive Part I NPDES Permit Amendment Application for WWTP new design flow	August 30, 2018
b. Receive Water Quality Management (Part II) Construction Permit Application(s) for WWTP expansion and Improvements	April 20, 2019
c. Commence construction for LTCP improvements	March 1, 2020
d. Completion of LTCP Construction Projects and WWTP startup	May 31, 2022
e. Completion of LTCP Construction Project and WWTP Startup	September 30, 2022
f. Submit Post Construction Monitoring Plan Details to DEP	October 30, 2022
g. Begin Post Construction Monitoring approval from PADEP	Within 60 days of PCCM Plan
h. Complete Post Construction Monitoring	January 31, 2028
i. Submission of Post Construction Monitoring Report to DEP	September 30, 2028

Connellsville has experienced delays to the initial LTCP schedule due to COVID-19 and supply chain issues.

Part C.II, Maximizing Treatment at the Existing POTW has been added to the permit. This condition allows for a CSO Related Bypass of secondary treatment at the STP. This is only permitted when the maximum daily flow to the STP exceeds 24.0 MGD. All bypassed flow receives primary treatment and disinfection prior to bypass.

CSO locations summarized below.

Summary of Review

CSO Location Summary

CSO ID#	LOCATION	TYPE	RECEIVING STREAM	LATITUDE/ LONGITUDE
002	Mounts Creek Overflow Chamber (Treatment Plant Controlled Diversion)	Overflow Chamber	Mounts Creek	40°01'25"/79°35'59"
003	Mounts Creek Storm Water Regulator	Storm Water Regulator	Mounts Creek	40°01'27"/79°35'04"
004	Sixth Street Overflow Chamber	Overflow Chamber	Youghiogheny River	40°01'15"/79°35'59"
005	Seventh Street Overflow Chamber	Overflow Chamber	Youghiogheny River	40°01'14"/79°35'02"
006	Third Street Overflow Chamber	Overflow Chamber	Youghiogheny River	40°01'15"/79°35'52"
007	Ninth Street/West Crawford Avenue Diversion MH #411	Diversion Manhole	Opossum Run	40°01'09"/79°35'18"
008	Peach Street/Water Street Diversion Manhole #78	Diversion Manhole	Youghiogheny River	40°01'09"/79°35'35"
009	Grape Street/Water Street Diversion Manhole #97A	Diversion Manhole	Youghiogheny River	40°01'08"/79°35'35"
010	Apple Street/Water Street Diversion Manhole #112	Diversion Manhole	Youghiogheny River	40°01'06"/79°35'34"
011	Apple Street/Water Street Regulator Chamber	Regulator Chamber	Youghiogheny River	40°01'05"/79°35'34"
012	East Crawford Avenue/Water Street Diversion Manhole	Diversion Manhole	Youghiogheny River	40°01'02"/79°35'34"
013	Church Place Diversion Manhole #118A	Diversion Manhole	Youghiogheny River	40°00'58"/79°35'35"
016	Trump Run Diversion Manhole #244A	Diversion Manhole	Trump Run	40°00'29"/79°35'30"
017	North Pittsburgh Street Overflow	Overflow Chamber	Mounts Creek	40°01'31"/79°35'28"
019	Arch Street Diversion Manhole #145 – Connell Run Regulator Chamber - Connell Run Diversion Manhole #123	Diversion Manhole & Regulator Chamber	Youghiogheny River	40°00'58"/79°35'28"

One (1) of the fifteen (15) CSOs consists of the Treatment Plant Controlled Diversion (CSO #002). Eight (8) of the remaining fourteen (14) CSOs (CSOs #008, #009, #010, #011, #012, #013. #016, and #019) are all associated with the East Side

Summary of Review

Interceptor conveys wastewater to the Connellsville Municipal Authority Wastewater Treatment Facility (WWTP). The East Side Interceptor flow, prior to reaching the WWTP, may also overflow from the CSOs at CSO #002-Treatment Plant Controlled Diversion if necessary. The existing 30" interceptor that extends from the manhole located at the plant's entrance gate to the effluent chamber of the WWTP will be replaced with a 42" section of interceptor. The interceptor capacity increase will accommodate the combined flows of the East Side Interceptor along with the CSO discharge originating from CSO #003. CSO #002 is the emergency plant bypass, which should only be activated once the treatment plant's wet weather flow of 24 MGD is exceeded and it is unavoidable to prevent loss of life, personal injury or severe property damage. This specific bypass will be covered by Part B.I.G.2.a of the NPDES permit. Any activations of CSO #002 require Department notification.

The West Side Interceptor passes through four (4) of the fourteen CSOs (CSOs #004, #005, #006, and #007). These four (4) CSOs are reported to be inactive by Connellsville Municipal Authority personnel. All the combined wastewater flow association with the West Side area is conveyed by the West Side Wastewater Pumping Station, which is located along the west side of the Youghiogheny River directly across from the Connellsville Municipal Authority Wastewater Treatment Facility and within the area referred to as Yough Park which has active boating, fishing, and community events. The West Side Wastewater Pumping Station contains two (2) pumps rated at 1,800 GPM each (27' TDH), which far exceeds the average daily dry weather flow to the wastewater pumping station.

The North End Area is located along Mounts Creek. Combined Wastewater flow associated with the North End Interceptor passes through two (2) of the fourteen (14) CSOs (CSOs #003 and #017). CSO #003 is the final CSO of the North End Interceptor prior to being conveyed to the Connellsville Municipal Authority Wastewater Treatment Plant. The existing 12" interceptor that connects the 24" regulator to the plant will be replaced by a new 27" interceptor to provide sufficient capacity to convey all wet weather flows to the WWTP. Combined wastewater flow associated with the North End Interceptor joins with combined wastewater flow associated with the East Side Interceptor at the manhole located at the Connellsville Municipal Authority Wastewater Treatment Facility. The combined North End Interceptor/East Side Interceptor wastewater flow ultimately joins with combined wastewater flow pumped via the West Side Wastewater Pumping Station (West Side Interceptor) at the Connellsville Municipal Authority Wastewater Treatment Facility.

Storm Water Outfalls 020 and 021 will again be permitted for the discharge of un-contaminated storm water runoff from areas in and around the treatment plant. Part C.VI, Requirements Applicable to Storm Water Outfalls, has been added to the permit.

The permit application lists four (4) Industrial Users (Highlands Hospital, Bradley Paint, Anchor Glass and Cap, and Allegheny Power) in the service area, none of which are Categorical Industry Users. The wastewater flows from all the Industrial Users are identified as sanitary. There have been no compliance issues attributed to IW discharges causing NPDES permit effluent violations. Part C language, Pretreatment Program Development, has not been added to the permit.

According to 40 CFR 122.21(j)(5)(iv) Effluent monitoring for WET, each applicant is required to submit results from a minimum of four quarterly tests for a year, from the year preceding the permit application or results from four tests performed at least annually in the four and one-half year period prior to the application. The permittee did not meet the WET testing requirements of 40 CFR 122.21(j)(5). While the WET results were all passing, the frequency in which the samples were taken does not meet the regulation at 40 CFR 122.21(j)(5)(iv). The new Part C WET Language used in the renewal permit will meet the federal regulations and that the WET Limits may be established in the next permit cycle if the Applicant fails to follow the new permit requirements. Since the application WET testing is old and from the old treatment plant, conducting quarterly WET testing the first year will allow the Department to properly analysis the existing treatment plant.

The applicant has complied with Act 14 Notifications and no comments were received.

Sludge is hauled by Allied Waste and disposed of at a landfill.

The facility was inspected by Lisa Milsop on December 15, 2021 with no violations noted.

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*,

Summary of Review
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

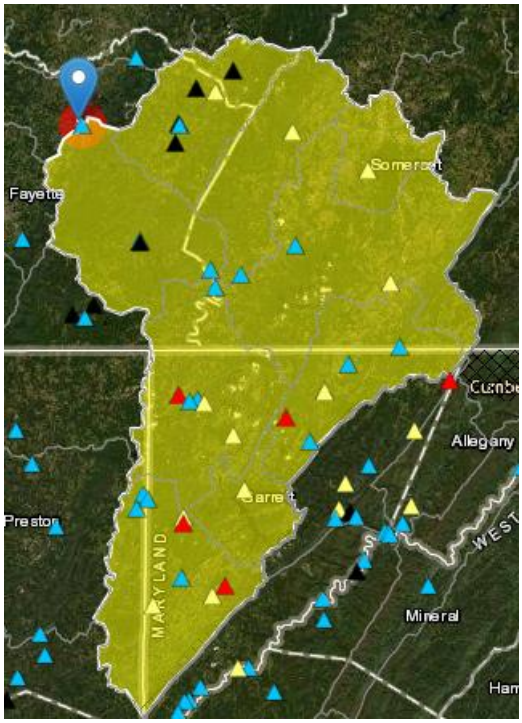
Outfall No.	001	Design Flow (MGD)	4.4
Latitude	40º 01' 17"	Longitude	-79º 35' 55"
Quad Name	Connellsville	Quad Code	1809
Wastewater Description:	Sewage Treatment Plant Effluent		

Receiving Waters	Youghiogheny River (WWF)	Stream Code	37456
NHD Com ID	69917923	RMI	43.9
Drainage Area	1326	Yield (cfs/mi^2)	0.3016
Q_{7-10} Flow (cfs)	400	Q_{7-10} Basis	U.S. Army Corps of Engineers
Elevation (ft)	860	Slope (ft/ft)	
Watershed No.	19-D	Chapter 93 Class.	WWF
Existing Use	**Aquatic Life**	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None

Nearest Downstream Public Water Supply Intake		West County Municipal Authority – McKeesport (10 MGD)	
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	510
PWS RMI	1.25	Distance from Outfall (mi)	42.4

Changes Since Last Permit Issuance: The facility has permitted and constructed a new WWTP designed to handle an average design flow of 4.4 MGD and a peak wet weather flow of 24.0 MGD.

Outfall 001 Drainage Area



Treatment Facility Summary

Treatment Facility Name: Connellsville STP

WQM Permit No.	Issuance Date
2618401	4/30/2019

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	UV	4.4

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
4.4	7,340	Existing Hydraulic Overload*	Combination	Landfill

Changes Since Last Permit Issuance: *The facility has permitted and constructed a new WWTP designed to handle an average design flow of 4.4 MGD and a peak wet weather flow of 24.0 MGD, replacing and repurposing components of the original plant.

Compliance History

DMR Data for Outfall 001 (from January 1, 2021 to December 31, 2021)

Parameter	Limit	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21
Flow (MGD) Average Monthly	**Report**	2.68	2.72	1.62	2.14	1.88	2.12	1.99	2.63	2.45	2.95	2.90	2.56
Flow (MGD) Daily Maximum	**Report**	3.06	3.94	2.64	5.00	3.67	4.22	3.99	4.10	3.54	5.30	4.04	4.05
pH (S.U.) Minimum	**6.0**	6.30	6.3	6.2	6.2	6.2	6.3	6.3	6.3	6.4	6.4	6.5	6.4
pH (S.U.) Maximum	**9.0**	6.8	6.6	6.5	6.7	6.5	6.7	6.7	6.8	6.9	6.8	6.6	6.7
TRC (mg/L) Average Monthly	**1.0**	0.010	0.3	0.40	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.4
CBOD5 (lbs/day) Average Monthly	**676**	63.0	120.0	39.0	54.0	48.0	54.0	61.0	88.0	135.0	138.0	89.0	59.0
CBOD5 (lbs/day) Weekly Average	**1027**	77.0	193.0	53.0	92.0	70.0	87.0	94.0	167.0	325.0	197.0	130.0	73.0
CBOD5 (mg/L) Average Monthly	**25**	3	5	3	3	3	3	4	4	6	5	4	3
CBOD5 (mg/L) Weekly Average	**38**	3	9	3	3	3	4	5	6	11	7	5	3
TSS (lbs/day) Average Monthly	**811**	108.0	134.0	77.0	129.0	109.0	102.0	154.0	193.0	232.0	231.0	190.0	163.0
TSS (lbs/day) Weekly Average	**1216**	140.0	189.0	97.0	234.0	148.0	143.0	195.0	269.0	295.0	311.0	216.0	211.0
TSS (mg/L) Average Monthly	**30**	5	6	6	7	7	6	9	8	11	9	8	8
TSS (mg/L) Weekly Average	**45**	6	10	8	8	8	8	10	10	13	11	10	9
Fecal Coliform (CFU/100 ml) Geometric Mean	**10,000** / **200**	9	66	36	69	52	3	13	60	22	46	26	31

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 4.4
Latitude 40º 01' 19" **Longitude** -79º 35' 56"
Wastewater Description: Sewage Treatment Plant 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	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)
Dissolved Oxygen (D.O.)	4.0	Minimum	-	BPJ
Ammonia-Nitrogen (NH_3-N)	25	Average Monthly	-	BPJ
	50	IMAX		
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)
Total N	Report	Average Monthly	-	92a.61
Total P	Report	Average Monthly	-	92a.61
E. Coli	Report (No./100 ml)	IMAX	-	92a.61

Water Quality-Based Limitations

The effluent was modeled using WQM 7.0 to evaluate the $CBOD_5$, NH_3-N, and DO parameters. Modeling confirmed that technology based effluent limitations for $CBOD_5$, NH_3-N, and DO are adequate to meet in-stream water quality criteria as shown in Attachment A.

For existing discharges (NPDES Renewal Applications), if WQM7.0 modeling results for summer indicates that an average monthly warm period limit of 25 mg/L (default in model) is acceptable for ammonia-nitrogen, a year-round monitoring requirement, at a minimum should be established. The permit will require the reporting of the Average Weekly and Average Monthly NH3-N discharge concentrations.

A “Reasonable Potential Analysis” (Attachment Toxic Management Spreadsheet, Version 1.3) was conducted as presented in Attachment B. The TMS recommended monitoring for total copper. The monitoring of total copper will be imposed and a “Reasonable Potential Analysis” will be conducted during the next permit renewal cycle using this monitoring data along with the renewal application data.

Best Professional Judgment (BPJ) Limitations

A Dissolved Oxygen minimum limitation of 4.0 mg/L will be implemented based on the standard in 25 PA Code Chapter 93 and best professional judgment.

Additional Considerations

When Ultraviolet (UV) disinfection is used, routine monitoring of UV transmittance, UV dosage, or UV intensity at the same monitoring frequency used for TRC should be contained in the permit as per the SOP-Establishing Effluent Limitations for Individual Sewage Permits.

For pH, DO and UV Transmittance, a monitoring frequency 1/day has been imposed.

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/month for facilities with a design flows >= 1 MGD per Chapter 92.a.61.

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). A 1/quarter monitor and report requirement for Total N & Total P has been added to the permit per Chapter 92.a.61.

Mass loading limits are applicable for publicly owned treatment works (POTWs). Current policy requires average monthly mass loading limits be established for $CBOD_5$, TSS, and NH_3-N and average weekly mass loading limits be established for $CBOD_5$ and TSS. Average monthly mass loading limits (lbs/day) are based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

For POTWs with design flows greater than 2,000 GPD, influent BOD_5 and TSS monitoring must be established in the permit, and the monitoring should be consistent with the same frequency and sample type as is used for other effluent parameters.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

The facility is not seeking to revise the previously permitted effluent limits.

Whole Effluent Toxicity (WET)

According to 40 CFR 122.21(j)(5)(iv) Effluent monitoring for WET, each applicant is required to submit results from a minimum of four quarterly tests for a year, from the year preceding the permit application or results from four tests performed at least annually in the four and one-half year period prior to the application. The permittee did not meet the WET testing requirements of 40 CFR 122.21(j)(5). While the WET laboratory results were all passing, the WET Analysis Spreadsheet (refer to Attachment D) has three (3) of the four (4) test passing. The frequency in which the samples were taken does not meet the regulation at 40 CFR 122.21(j)(5)(iv). The new Part C WET Language used in the renewal permit will meet the federal regulations and that the WET Limits may be established in the next permit cycle if the Applicant fails to follow the new permit requirements. Since the application WET testing is old and from the old treatment plant, conducting quarterly WET testing the first year will allow the Department to properly analysis the existing treatment plant.

For Outfall 001, ☒ **Acute** ☐ **Chronic** WET Testing was completed:

☒ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☐ Other:

The dilution series used for the tests was: 100%, 50%, 25%, 12%, and 5%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: Acute 37%.

Summary of Four Most Recent Test Results

(NOTE – Enter results into one table, depending on which data analysis method was used).

NOEC/LC50 Data Analysis

	***Ceriodaphnia* Results (% Effluent)**			***Pimephales* Results (% Effluent)**			
Test Date	**NOEC Survival**	**NOEC Reproduction**	**LC50**	**NOEC Survival**	**NOEC Growth**	**LC50**	**Pass? ***
02/02/08	NA	NA	44.6	NA	NA	100	Pass
02/23/08	NA	NA	100	NA	NA	100	Pass
03/22/08	NA	NA	100	NA	NA	100	Pass
04/26/08	NA	NA	100	NA	NA	100	Fail

***** *A "passing" result is that which is greater than or equal to the TIWC value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests).*

☐ **YES** ☒ **NO**

Comments: None

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): **0.104** Chronic Partial Mix Factor (PMFc): **0.718**

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

[(4.4 MGD x 1.547) / ((400 cfs x 0.104) + (4.4 MGD x 1.547))] x 100 = **14%**

Is IWCa < 1%? ☐ **YES** ☒ **NO (YES - Acute Tests Required OR NO - Chronic Tests Required)**

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined:

NA

Type of Test for Permit Renewal: **Chronic**

2a. Determine Target IWCa (If Acute Tests Required)

TIWCa = IWCa / 0.3 = **%**

2b. Determine Target IWCc (If Chronic Tests Required)

$(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

[(4.4 MGD x 1.547) / ((400 cfs x 0.718) + (4.4 MGD x 1.547))] x 100 = **2%**

3. Determine Dilution Series

(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).

Dilution Series = 100%, 60%, 30%, 2%, and 1%.

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO

If WET limits will be established, identify the species and the limit values for the permit (TU).

N/A

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits:

N/A

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" (362-0400-001), 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)	Required
	Average Monthly	Average Weekly	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	4.4 Annl Avg	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Record
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0	XXX	XXX	XXX	1/day	Grab
$CBOD_5$	917.4	1,467.8	XXX	25.0	40.0 Wkly Avg	50.0	2/week	24-Hr Composite
TSS	1,100.9	1,651.3	XXX	30.0	45.0 Wkly Avg	60.0	2/week	24-Hr Composite
TSS – Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report	XXX	2/week	24-Hr Composite
BOD_5 – Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report	XXX	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) (5/1 – 9/30)	XXX	XXX	XXX	200 Geo Mean	XXX	1,000 Geo Mean	2/week	Grab
Fecal Coliform (No./100 ml) (10/1 – 4/30)	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000 Geo Mean	2/week	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Ammonia-Nitrogen	Report	Report	XXX	Report	Report	XXX	2/week	24-Hr Composite
E. Coli	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Copper, Total (µg/L)	XXX	XXX	XXX	Report	Report Wkly Avg	XXX	2/week	Grab

Outfall 001, Continued (from 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	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ultraviolet Light Transmittance (%)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded

Compliance Sampling Location: Outfall 001

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **A**)
☒	Toxics Management Spreadsheet (see Attachment **B**)
☐	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, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

Attachment A – WQM 7.0 Model

Attachment B – Toxics Management Spreadsheet Version 1.3

Attachment C – Schematic of Wastewater Flow

Attachment D – WET Analysis Spreadsheet

Attachment A – WQM 7.0 Model

Cold Weather Model

Warm Weather Model

Cold Weather Model

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19D	37456	YOUGHIOGHENY RIVER	43.900	860.00	1326.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.300	400.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Connellsville	PA0026905	4.4000	0.0000	0.0000	0.000	15.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

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WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19D	37456	YOUGHIOGHENY RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
43.900	400.00	0.00	400.00	6.8068	0.00095	1.136	332.57	292.85	1.08	0.023	5.17	7.00
Q1-10 Flow												
43.900	256.00	0.00	256.00	6.8068	0.00095	NA	NA	NA	0.84	0.029	5.26	7.00
Q30-10 Flow												
43.900	544.00	0.00	544.00	6.8068	0.00095	NA	NA	NA	1.28	0.019	5.12	7.00

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WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19D	37456	YOUGHIOGHENY RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
43.900	4.400	5.167	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
332.566	1.136	292.854	1.077
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.38	0.261	0.42	0.224
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.155	3.347	Tsivoglou	6
Reach Travel Time (days)			
0.023			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.002	2.38	0.42	8.19
0.005	2.38	0.42	8.22
0.007	2.38	0.42	8.24
0.009	2.38	0.42	8.24
0.011	2.38	0.42	8.24
0.014	2.38	0.42	8.24
0.016	2.38	0.42	8.24
0.018	2.38	0.42	8.24
0.020	2.38	0.42	8.24
0.023	2.38	0.42	8.24

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19D	37456	YOUGHIOGHENY RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
43.900	Connellsville	24.1	50	24.1	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
43.900	Connellsville	4.36	25	4.36	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
43.90	Connellsville	25	25	25	25	3	3	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19D	37456	YOUGHIOGHENY 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)
43.900	Connellsville	PA0026905	4.400	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

Warm Weather Model

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19D	37456	YOUGHIOGHENY RIVER	43.900	860.00	1326.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.300	400.00	0.00	0.000	0.000	10.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Connellsville	PA0026905	4.4000	0.0000	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19D	37456	YOUGHIOGHENY RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
43.900	400.00	0.00	400.00	6.8068	0.00095	1.136	332.57	292.85	1.08	0.023	24.92	7.00
Q1-10 Flow												
43.900	256.00	0.00	256.00	6.8068	0.00095	NA	NA	NA	0.84	0.029	24.87	7.00
Q30-10 Flow												
43.900	544.00	0.00	544.00	6.8068	0.00095	NA	NA	NA	1.28	0.019	24.94	7.00

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19D	37456	YOUGHIOGHENY RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
43.900	4.400	24.916	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
332.566	1.136	292.854	1.077
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.38	0.259	0.42	1.022
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.155	5.346	Tsivoglou	6
Reach Travel Time (days)			
0.023			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.002	2.38	0.42	7.55
0.005	2.38	0.42	7.55
0.007	2.38	0.42	7.55
0.009	2.38	0.41	7.55
0.011	2.38	0.41	7.55
0.014	2.37	0.41	7.55
0.016	2.37	0.41	7.55
0.018	2.37	0.41	7.55
0.020	2.37	0.41	7.55
0.023	2.37	0.41	7.55

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19D	37456	YOUGHIOGHENY RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
43.900	Connellsville	11.19	50	11.19	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
43.900	Connellsville	1.37	25	1.37	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
43.90	Connellsville	25	25	25	25	3	3	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19D	37456	YOUGHIOGHENY 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)
43.900	Connellsville	PA0026905	4.400	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

Attachment B – Toxics Management Spreadsheet Version 1.3

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Connellsville WWTP** NPDES Permit No.: **PA0026905** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Sewage Treatment Plant Effleunt**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
4.4	139	6.55						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		340									
	Chloride (PWS)	mg/L		72									
	Bromide	mg/L		0.049									
	Sulfate (PWS)	mg/L		48.6									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		12									
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L		36									
	Total Beryllium	µg/L	<	0.3									
	Total Boron	µg/L		179									
	Total Cadmium	µg/L		0.2									
	Total Chromium (III)	µg/L	<	0.4									
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L		0.7									
	Total Copper	µg/L		7									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		4									
	Dissolved Iron	µg/L		46									
	Total Iron	µg/L		80									
	Total Lead	µg/L											
	Total Manganese	µg/L		16									
	Total Mercury	µg/L		0.07									
	Total Nickel	µg/L		3									
	Total Phenols (Phenolics) (PWS)	µg/L	<	75									
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L		23									
	Total Molybdenum	µg/L	<	0.2									
	Acrolein	µg/L	<	1.9									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	1.2									
	Benzene	µg/L	<	0.23									
	Bromoform	µg/L	<	0.4									

Group 3	Carbon Tetrachloride	µg/L	<	0.31										
	Chlorobenzene	µg/L		0.24										
	Chlorodibromomethane	µg/L	<	0.45										
	Chloroethane	µg/L	<	0.33										
	2-Chloroethyl Vinyl Ether	µg/L	<	0.38										
	Chloroform	µg/L	<	0.21										
	Dichlorobromomethane	µg/L	<											
	1,1-Dichloroethane	µg/L	<	0.28										
	1,2-Dichloroethane	µg/L	<	0.32										
	1,1-Dichloroethylene	µg/L	<	0.27										
	1,2-Dichloropropane	µg/L	<	0.24										
	1,3-Dichloropropylene	µg/L	<											
	1,4-Dioxane	µg/L	<	58.9										
	Ethylbenzene	µg/L	<	0.34										
	Methyl Bromide	µg/L	<											
	Methyl Chloride	µg/L	<											
	Methylene Chloride	µg/L	<	0.45										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.34										
	Tetrachloroethylene	µg/L	<	0.35										
	Toluene	µg/L	<	0.123										
	1,2-trans-Dichloroethylene	µg/L	<	0.26										
	1,1,1-Trichloroethane	µg/L	<	0.22										
	1,1,2-Trichloroethane	µg/L	<	0.33										
	Trichloroethylene	µg/L	<	0.33										
	Vinyl Chloride	µg/L	<	0.3										
Group 4	2-Chlorophenol	µg/L	<	1.74										
	2,4-Dichlorophenol	µg/L	<	1.35										
	2,4-Dimethylphenol	µg/L	<	2.14										
	4,6-Dinitro-o-Cresol	µg/L	<											
	2,4-Dinitrophenol	µg/L	<	5.85										
	2-Nitrophenol	µg/L	<	2.12										
	4-Nitrophenol	µg/L	<	5.09										
	p-Chloro-m-Cresol	µg/L	<	0.25										
	Pentachlorophenol	µg/L	<	2.57										
	Phenol	µg/L	<	4.11										
	2,4,6-Trichlorophenol	µg/L	<	2.95										
Group 5	Acenaphthene	µg/L	<	1.65										
	Acenaphthylene	µg/L	<	1.97										
	Anthracene	µg/L	<	2.06										
	Benzidine	µg/L	<	12.1										
	Benzo(a)Anthracene	µg/L	<	2.44										
	Benzo(a)Pyrene	µg/L	<	0.23										
	3,4-Benzofluoranthene	µg/L	<	0.13										
	Benzo(ghi)Perylene	µg/L	<	2.44										
	Benzo(k)Fluoranthene	µg/L	<	0.2										
	Bis(2-Chloroethoxy)Methane	µg/L	<	2.25										
	Bis(2-Chloroethyl)Ether	µg/L	<	2.03										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	2.17										
	Bis(2-Ethylhexyl)Phthalate	µg/L		3.38										
	4-Bromophenyl Phenyl Ether	µg/L	<	1.83										
	Butyl Benzyl Phthalate	µg/L	<	3.08										
	2-Chloronaphthalene	µg/L	<	2.42										
	4-Chlorophenyl Phenyl Ether	µg/L	<	2.49										
	Chrysene	µg/L	<	2.42										
	Dibenzo(a,h)Anthrancene	µg/L	<	0.22										
	1,2-Dichlorobenzene	µg/L	<	2.36										
	1,3-Dichlorobenzene	µg/L	<	3.3										
	1,4-Dichlorobenzene	µg/L	<	3.16										
	3,3-Dichlorobenzidine	µg/L	<	2.08										
	Diethyl Phthalate	µg/L	<	2.26										
	Dimethyl Phthalate	µg/L	<	2.68										
	Di-n-Butyl Phthalate	µg/L	<	2.73										
	2,4-Dinitrotoluene	µg/L	<	2.32										

	2,6-Dinitrotoluene	µg/L	<	2.69										
	Di-n-Octyl Phthalate	µg/L	<	3.63										
	1,2-Diphenylhydrazine	µg/L	<	0.26										
	Fluoranthene	µg/L	<	2.62										
	Fluorene	µg/L	<	2.3										
	Hexachlorobenzene	µg/L	<	1.86										
	Hexachlorobutadiene	µg/L	<	0.19										
	Hexachlorocyclopentadiene	µg/L	<	2.71										
	Hexachloroethane	µg/L	<	3.29										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.12										
	Isophorone	µg/L	<	2.99										
	Naphthalene	µg/L	<	1.73										
	Nitrobenzene	µg/L	<	3.57										
	n-Nitrosodimethylamine	µg/L	<	2.04										
	n-Nitrosodi-n-Propylamine	µg/L	<	2.24										
	n-Nitrosodiphenylamine	µg/L	<	2.24										
	Phenanthrene	µg/L	<	2.02										
	Pyrene	µg/L	<	3.1										
	1,2,4-Trichlorobenzene	µg/L	<	0.16										
Group 6	Aldrin	µg/L	<	0.0049										
	alpha-BHC	µg/L	<	0.002										
	beta-BHC	µg/L	<	0.0078										
	gamma-BHC	µg/L	<	0.0029										
	delta BHC	µg/L	<	0.0029										
	Chlordane	µg/L	<	0.034										
	4,4-DDT	µg/L	<	0.0069										
	4,4-DDE	µg/L	<	0.0069										
	4,4-DDD	µg/L	<	0.0059										
	Dieldrin	µg/L	<	0.0029										
	alpha-Endosulfan	µg/L	<	0.0029										
	beta-Endosulfan	µg/L	<	0.0059										
	Endosulfan Sulfate	µg/L	<	0.0039										
	Endrin	µg/L	<	0.0078										
	Endrin Aldehyde	µg/L	<	0.0098										
	Heptachlor	µg/L	<	0.0029										
	Heptachlor Epoxide	µg/L	<	0.0039										
	PCB-1016	µg/L	<	0.31										
	PCB-1221	µg/L	<	0.32										
	PCB-1232	µg/L	<	0.23										
	PCB-1242	µg/L	<	0.24										
	PCB-1248	µg/L	<	0.15										
	PCB-1254	µg/L	<	0.14										
	PCB-1260	µg/L	<	0.25										
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Connellsville WWTP, NPDES Permit No. PA0026905, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Youghiogheny River**

No. Reaches to Model: **1**

(●) Statewide Criteria
( ) Great Lakes Criteria
( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	037456	43.9	860	1326			Yes
End of Reach 1	037456	43.5	858	1330			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	43.9	0.1										100	7		
End of Reach 1	43.5	0.1													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	43.9														
End of Reach 1	43.5														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Connellsville WWTP, NPDES Permit No. PA0026905, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.104 Analysis Hardness (mg/l): 112.92 Analysis pH: 6.80

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	2,265	
Total Barium	0	0		0	21,000	21,000	63,409	
Total Boron	0	0		0	8,100	8,100	24,458	
Total Cadmium	0	0		0	2.266	2.41	7.29	Chem Translator of 0.939 applied
Total Chromium (III)	0	0		0	629.364	1,992	6,014	Chem Translator of 0.316 applied
Total Cobalt	0	0		0	95	95.0	287	
Total Copper	0	0		0	15.069	15.7	47.4	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	4.97	Chem Translator of 0.85 applied
Total Nickel	0	0		0	518.915	520	1,570	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	129.884	133	401	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	9.06	
Acrylonitrile	0	0		0	650	650	1,963	
Benzene	0	0		0	640	640	1,932	
Bromoform	0	0		0	1,800	1,800	5,435	
Carbon Tetrachloride	0	0		0	2,800	2,800	8,455	
Chlorobenzene	0	0		0	1,200	1,200	3,623	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	54,350	
Chloroform	0	0		0	1,900	1,900	5,737	

1,2-Dichloroethane	0	0		0	15,000	15,000	45,292	
1,1-Dichloroethylene	0	0		0	7,500	7,500	22,646	
1,2-Dichloropropane	0	0		0	11,000	11,000	33,214	
Ethylbenzene	0	0		0	2,900	2,900	8,756	
Methylene Chloride	0	0		0	12,000	12,000	36,234	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	3,019	
Tetrachloroethylene	0	0		0	700	700	2,114	
Toluene	0	0		0	1,700	1,700	5,133	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	20,532	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	9,058	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	10,266	
Trichloroethylene	0	0		0	2,300	2,300	6,945	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	1,691	
2,4-Dichlorophenol	0	0		0	1,700	1,700	5,133	
2,4-Dimethylphenol	0	0		0	660	660	1,993	
2,4-Dinitrophenol	0	0		0	660	660	1,993	
2-Nitrophenol	0	0		0	8,000	8,000	24,156	
4-Nitrophenol	0	0		0	2,300	2,300	6,945	
p-Chloro-m-Cresol	0	0		0	160	160	483	
Pentachlorophenol	0	0		0	7.101	7.1	21.4	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	1,389	
Acenaphthene	0	0		0	83	83.0	251	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	906	
Benzo(a)Anthracene	0	0		0	0.5	0.5	1.51	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	90,584	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	13,588	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	815	
Butyl Benzyl Phthalate	0	0		0	140	140	423	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	2,476	
1,3-Dichlorobenzene	0	0		0	350	350	1,057	
1,4-Dichlorobenzene	0	0		0	730	730	2,204	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	12,078	
Dimethyl Phthalate	0	0		0	2,500	2,500	7,549	
Di-n-Butyl Phthalate	0	0		0	110	110	332	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	4,831	
2,6-Dinitrotoluene	0	0		0	990	990	2,989	
1,2-Diphenylhydrazine	0	0		0	15	15.0	45.3	

Fluoranthene	0	0		0	200	200	604	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	30.2	
Hexachlorocyclopentadiene	0	0		0	5	5.0	15.1	
Hexachloroethane	0	0		0	60	60.0	181	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	30,195	
Naphthalene	0	0		0	140	140	423	
Nitrobenzene	0	0		0	4,000	4,000	12,078	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	51,331	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	906	
Phenanthrene	0	0		0	5	5.0	15.1	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	393	
Aldrin	0	0		0	3	3.0	9.06	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	0.95	0.95	2.87	
Chlordane	0	0		0	2.4	2.4	7.25	
4,4-DDT	0	0		0	1.1	1.1	3.32	
4,4-DDE	0	0		0	1.1	1.1	3.32	
4,4-DDD	0	0		0	1.1	1.1	3.32	
Dieldrin	0	0		0	0.24	0.24	0.72	
alpha-Endosulfan	0	0		0	0.22	0.22	0.66	
beta-Endosulfan	0	0		0	0.22	0.22	0.66	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.26	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	1.57	
Heptachlor Epoxide	0	0		0	0.5	0.5	1.51	

☑ *CFC* CCT (min): 720 PMF: 0.718 Analysis Hardness (mg/l): 102.6 Analysis pH: 6.95

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	4,100	4,100	61,464	
Total Boron	0	0		0	1,600	1,600	23,986	
Total Cadmium	0	0		0	0.250	0.28	4.13	Chem Translator of 0.908 applied
Total Chromium (III)	0	0		0	75.690	88.0	1,319	Chem Translator of 0.86 applied
Total Cobalt	0	0		0	19	19.0	285	
Total Copper	0	0		0	9.154	9.54	143	Chem Translator of 0.96 applied

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	30,721	WQC = 30 day average; PMF = 1
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	13.6	Chem Translator of 0.85 applied
Total Nickel	0	0		0	53.149	53.3	799	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	120.738	122	1,836	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	45.0	
Acrylonitrile	0	0		0	130	130	1,949	
Benzene	0	0		0	130	130	1,949	
Bromoform	0	0		0	370	370	5,547	
Carbon Tetrachloride	0	0		0	560	560	8,395	
Chlorobenzene	0	0		0	240	240	3,598	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	52,470	
Chloroform	0	0		0	390	390	5,847	
1,2-Dichloroethane	0	0		0	3,100	3,100	46,473	
1,1-Dichloroethylene	0	0		0	1,500	1,500	22,487	
1,2-Dichloropropane	0	0		0	2,200	2,200	32,981	
Ethylbenzene	0	0		0	580	580	8,695	
Methylene Chloride	0	0		0	2,400	2,400	35,979	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	3,148	
Tetrachloroethylene	0	0		0	140	140	2,099	
Toluene	0	0		0	330	330	4,947	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	20,988	
1,1,1-Trichloroethane	0	0		0	610	610	9,145	
1,1,2-Trichloroethane	0	0		0	680	680	10,194	
Trichloroethylene	0	0		0	450	450	6,746	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	1,649	
2,4-Dichlorophenol	0	0		0	340	340	5,097	
2,4-Dimethylphenol	0	0		0	130	130	1,949	
2,4-Dinitrophenol	0	0		0	130	130	1,949	
2-Nitrophenol	0	0		0	1,600	1,600	23,986	
4-Nitrophenol	0	0		0	470	470	7,046	
p-Chloro-m-Cresol	0	0		0	500	500	7,496	
Pentachlorophenol	0	0		0	5.448	5.45	81.7	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	1,364	
Acenaphthene	0	0		0	17	17.0	255	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	884	
Benzo(a)Anthracene	0	0		0	0.1	0.1	1.5	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	

Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	89,948	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	13,642	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	810	
Butyl Benzyl Phthalate	0	0		0	35	35.0	525	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	2,399	
1,3-Dichlorobenzene	0	0		0	69	69.0	1,034	
1,4-Dichlorobenzene	0	0		0	150	150	2,249	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	11,993	
Dimethyl Phthalate	0	0		0	500	500	7,496	
Di-n-Butyl Phthalate	0	0		0	21	21.0	315	
2,4-Dinitrotoluene	0	0		0	320	320	4,797	
2,6-Dinitrotoluene	0	0		0	200	200	2,998	
1,2-Diphenylhydrazine	0	0		0	3	3.0	45.0	
Fluoranthene	0	0		0	40	40.0	600	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	30.0	
Hexachlorocyclopentadiene	0	0		0	1	1.0	15.0	
Hexachloroethane	0	0		0	12	12.0	180	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	31,482	
Naphthalene	0	0		0	43	43.0	645	
Nitrobenzene	0	0		0	810	810	12,143	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	50,970	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	884	
Phenanthrene	0	0		0	1	1.0	15.0	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	390	
Aldrin	0	0		0	0.1	0.1	1.5	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.064	
4,4-DDT	0	0		0	0.001	0.001	0.015	
4,4-DDE	0	0		0	0.001	0.001	0.015	
4,4-DDD	0	0		0	0.001	0.001	0.015	
Dieldrin	0	0		0	0.056	0.056	0.84	
alpha-Endosulfan	0	0		0	0.056	0.056	0.84	

beta-Endosulfan	0	0		0	0.056	0.056	0.84	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.54	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.057	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.057	

☑ ***THH*** CCT (min): 720 PMF: 0.718 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	2,400	2,400	35,979	
Total Boron	0	0		0	3,100	3,100	46,473	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	4,497	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	14,991	
Total Mercury	0	0		0	0.050	0.05	0.75	
Total Nickel	0	0		0	610	610	9,145	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	45.0	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	1,499	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	495	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	1,019	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	855	

1,2-trans-Dichloroethylene	0	0		0	100	100.0	1,499	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	149,913	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	450	
2,4-Dichlorophenol	0	0		0	10	10.0	150	
2,4-Dimethylphenol	0	0		0	100	100.0	1,499	
2,4-Dinitrophenol	0	0		0	10	10.0	150	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	59,965	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	1,049	
Anthracene	0	0		0	300	300	4,497	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	2,998	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	1.5	
2-Chloronaphthalene	0	0		0	800	800	11,993	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	14,991	
1,3-Dichlorobenzene	0	0		0	7	7.0	105	
1,4-Dichlorobenzene	0	0		0	300	300	4,497	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	8,995	
Dimethyl Phthalate	0	0		0	2,000	2,000	29,983	
Di-n-Butyl Phthalate	0	0		0	20	20.0	300	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	300	
Fluorene	0	0		0	50	50.0	750	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	60.0	

Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	510	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	150	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	300	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	1.05	
Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	4.2	4.2	63.0	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	300	
beta-Endosulfan	0	0		0	20	20.0	300	
Endosulfan Sulfate	0	0		0	20	20.0	300	
Endrin	0	0		0	0.03	0.03	0.45	
Endrin Aldehyde	0	0		0	1	1.0	15.0	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	

☑ *CRL* CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	

Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	4.75	
Benzene	0	0		0	0.58	0.58	45.9	
Bromoform	0	0		0	7	7.0	554	
Carbon Tetrachloride	0	0		0	0.4	0.4	31.7	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	63.4	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	451	
1,2-Dichloroethane	0	0		0	9.9	9.9	784	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	71.3	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	1,584	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	15.8	
Tetrachloroethylene	0	0		0	10	10.0	792	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	43.6	
Trichloroethylene	0	0		0	0.6	0.6	47.5	
Vinyl Chloride	0	0		0	0.02	0.02	1.58	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	2.38	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	119	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.008	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.079	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.008	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.079	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.79	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	2.38	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	

Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	25.3	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	9.5	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.008	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	3.96	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	3.96	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	3.96	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	2.38	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.006	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.79	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	7.92	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.079	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.055	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.4	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	261	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	
Aldrin	0	0		0	0.0000008	8.00E-07	0.00006	
alpha-BHC	0	0		0	0.0004	0.0004	0.032	
beta-BHC	0	0		0	0.008	0.008	0.63	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0003	0.0003	0.024	
4,4-DDT	0	0		0	0.00003	0.00003	0.002	
4,4-DDE	0	0		0	0.00002	0.00002	0.002	
4,4-DDD	0	0		0	0.0001	0.0001	0.008	
Dieldrin	0	0		0	0.000001	0.000001	0.00008	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	

Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.0005	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.002	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	30.4	AFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

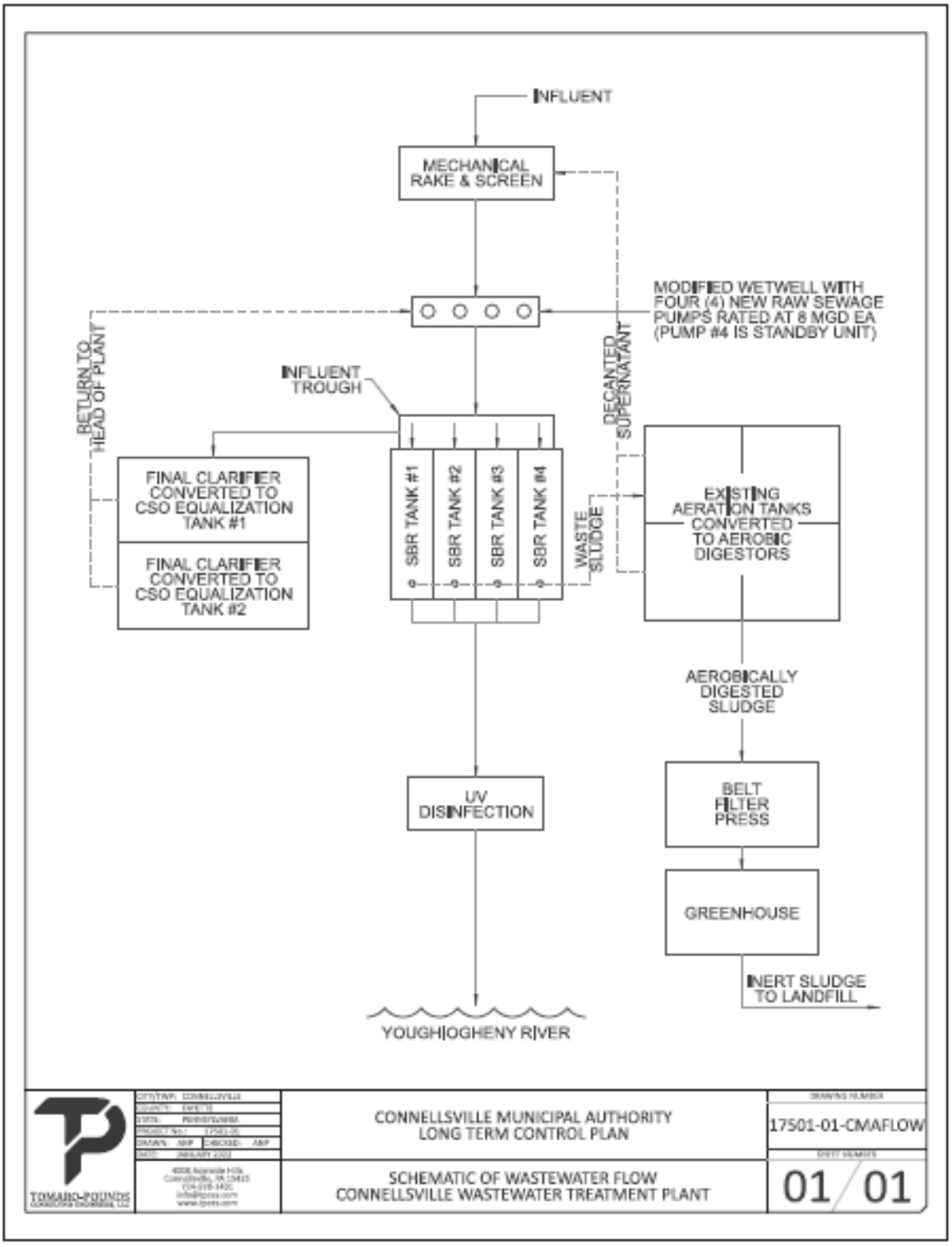
Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	1,452	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	35,979	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	15,676	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	4.13	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	1,319	µg/L	Discharge Conc < TQL
Total Cobalt	184	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	4,497	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	30,721	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	14,991	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.75	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	799	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Zinc	257	µg/L	Discharge Conc ≤ 10% WQBEL

Total Molybdenum	N/A	N/A	No WQS
Acrolein	5.81	µg/L	Discharge Conc < TQL
Acrylonitrile	4.75	µg/L	Discharge Conc < TQL
Benzene	45.9	µg/L	Discharge Conc < TQL
Bromoform	554	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	31.7	µg/L	Discharge Conc < TQL
Chlorobenzene	1,499	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	63.4	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	34,836	µg/L	Discharge Conc < TQL
Chloroform	451	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	784	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	495	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	71.3	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	1,019	µg/L	Discharge Conc < TQL
Methylene Chloride	1,584	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	15.8	µg/L	Discharge Conc < TQL
Tetrachloroethylene	792	µg/L	Discharge Conc < TQL
Toluene	855	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	1,499	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	5,806	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	43.6	µg/L	Discharge Conc < TQL
Trichloroethylene	47.5	µg/L	Discharge Conc < TQL
Vinyl Chloride	1.58	µg/L	Discharge Conc < TQL
2-Chlorophenol	450	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	150	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	1,277	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	150	µg/L	Discharge Conc < TQL
2-Nitrophenol	15,483	µg/L	Discharge Conc < TQL
4-Nitrophenol	4,451	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	310	µg/L	Discharge Conc < TQL
Pentachlorophenol	2.38	µg/L	Discharge Conc < TQL
Phenol	59,965	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	119	µg/L	Discharge Conc < TQL
Acenaphthene	161	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	4,497	µg/L	Discharge Conc < TQL
Benzidine	0.008	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.079	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.008	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.079	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.79	µg/L	Discharge Conc < TQL

Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	2.38	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	2,998	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	25.3	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	523	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	1.5	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	11,993	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	9.5	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.008	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	1,587	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	105	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	1,413	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	3.96	µg/L	Discharge Conc < TQL
Diethyl Phthalate	7,741	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	4,838	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	213	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	3.96	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	3.96	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	2.38	µg/L	Discharge Conc < TQL
Fluoranthene	300	µg/L	Discharge Conc ≤ 25% WQBEL
Fluorene	750	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.006	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.79	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	9.68	µg/L	Discharge Conc < TQL
Hexachloroethane	7.92	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.079	µg/L	Discharge Conc < TQL
Isophorone	510	µg/L	Discharge Conc < TQL
Naphthalene	271	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	150	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.055	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.4	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	261	µg/L	Discharge Conc < TQL
Phenanthrene	9.68	µg/L	Discharge Conc < TQL
Pyrene	300	µg/L	Discharge Conc ≤ 25% WQBEL
1,2,4-Trichlorobenzene	1.05	µg/L	Discharge Conc < TQL
Aldrin	0.00006	µg/L	Discharge Conc < TQL
alpha-BHC	0.032	µg/L	Discharge Conc < TQL
beta-BHC	0.63	µg/L	Discharge Conc < TQL
gamma-BHC	1.84	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.024	µg/L	Discharge Conc < TQL
4,4-DDT	0.002	µg/L	Discharge Conc < TQL
4,4-DDE	0.002	µg/L	Discharge Conc < TQL

4,4-DDD	0.008	µg/L	Discharge Conc < TQL
Dieldrin	0.00008	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.43	µg/L	Discharge Conc < TQL
beta-Endosulfan	0.43	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	300	µg/L	Discharge Conc < TQL
Endrin	0.17	µg/L	Discharge Conc < TQL
Endrin Aldehyde	15.0	µg/L	Discharge Conc < TQL
Heptachlor	0.0005	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.002	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS
PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS
PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS

Attachment C – Schematic of Wastewater Flow


INFLUENT
MECHANICAL RAKE & SCREEN
MODIFIED WETWELL WITH FOUR (4) NEW RAW SEWAGE PUMPS RATED AT 8 MGD EA (PUMP #4 IS STANDBY UNIT)
RETURN TO HEAD OF PLANT
INFLUENT TROUGH
DECANTED SUPERNATANT
FINAL CLARIFIER CONVERTED TO CSO EQUALIZATION TANK #1
FINAL CLARIFIER CONVERTED TO CSO EQUALIZATION TANK #2
SBR TANK #1
SBR TANK #2
SBR TANK #3
SBR TANK #4
WASTE SLUDGE
EXISTING AERATION TANKS CONVERTED TO AEROBIC DIGESTORS
AEROBICALLY DIGESTED SLUDGE
UV DISINFECTION
BELT FILTER PRESS
GREENHOUSE
INERT SLUDGE TO LANDFILL
YOUGHIOGHENY RIVER
TOMARO-POUNDS
CONNELLSVILLE MUNICIPAL AUTHORITY
LONG TERM CONTROL PLAN
17501-01-CMAFLOW
SCHEMATIC OF WASTEWATER FLOW
CONNELLSVILLE WASTEWATER TREATMENT PLANT
01/01

Attachment D – WET Analysis Spreadsheet

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Acute
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.382
No. Per Replicate	10
TST b value	0.8
TST alpha value	0.1

Facility Name: Connellsville WWTP

Permit No.: PA0026905

Test Completion Date: 2/4/2008

Replicate No.	Control	TIWC
1	10	10
2	10	10
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	10.000
Std Dev.	0.000	0.000
# Replicates	4	4

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

Test Completion Date: 3/24/2008

Replicate No.	Control	TIWC
1	0	1
2	1	1
3	0	0
4	0	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.250	0.750
Std Dev.	0.500	0.500
# Replicates	4	4

T-Test Result: 1.7179
Deg. of Freedom: 5
Critical T Value: 1.4759
Pass or Fail: **PASS**

Test Completion Date: 2/25/2008

Replicate No.	Control	TIWC
1	10	10
2	10	10
3	10	9
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	9.750
Std Dev.	0.000	0.500
# Replicates	4	4

T-Test Result: 5.9314
Deg. of Freedom: 3
Critical T Value: 1.6377
Pass or Fail: **PASS**

Test Completion Date: 4/28/2008

Replicate No.	Control	TIWC
1	0	0
2	1	0
3	0	1
4	1	0
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.500	0.250
Std Dev.	0.577	0.500
# Replicates	4	4

T-Test Result: -0.4407
Deg. of Freedom: 5
Critical T Value: 1.4759
Pass or Fail: **FAIL**