pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0053449**
Facility Type	**Municipal**	APS ID	**1057759**
Major / Minor	**Minor**	Authorization ID	**1386699**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Birmingham Township Chester County**	Facility Name	**Birmingham Township STP**
Applicant Address	1040 W Street Road	Facility Address	1288 Wilmington Pike
	West Chester, PA 19382-8012		West Chester, PA 19382
Applicant Contact	John Conklin	Facility Contact	Quina Nelling
Applicant Phone	(610) 793-2600	Facility Phone	(610) 793-2600
Client ID	78155	Site ID	453761
Ch 94 Load Status	Not Overloaded	Municipality	Birmingham Township
Connection Status		County	Chester
Date Application Received	January 28, 2022	EPA Waived?	No
Date Application Accepted		If No, Reason	, DEP Discretion

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

Summary of Review

The applicant requests renewal of an NPDES permit to discharge treated sewage to Radley Run is unnamed tributary to Brandywine Creek through Outfall 001.

Birmingham Township with population of 4,221 people is served by this facility.

The Birmingham Township STP utilizes an aeration process to treat sewage and provides nitrification via a DAVCO package. Before biological treatment influent travels through the influent grinder and screen building, influent lift station, and equalization tank. Then wastewater travels to the biological treatment consisting of two parallel DAVCO treatment trains. Each train has a concrete circular tank with several compartments, each a step in the biological treatment process. In both trains the wastewater flows in a circular patten through an aeration and central clarifier compartment. Waste sludge is diverted to the sludge holding tank as needed. The effluent is then filtered using up flow filters and chemically treated. Chemical treatment systems are used for pH control, phosphorous removal, disinfection, and dechlorination prior to discharge to Radley Run located in the Brandywine Creek Basin.

Based on previous renewal review:

This discharge is listed under Christina River Basin Low Flow and High Flow TMDLs. EPA approved the Christina River Basin Low Flow TMDL on January 19, 2001, with revisions in October 2002 and April 2006.The existing effluent limits in the permit are consistent with the April 2006 TMDL revision. On August 29, 2012, EPA approved an alternative reduction scenario for Christina River Basin Low Flow TMDL as proposed by DEP. Based on the alternative reduction scenario the TN limit in the new permit is more relaxed and it may resolve facility's noncompliance issues with the TN limit in the future. An increased TN load for this facility to the Brandywine Creek Main Stem is appropriate and in accordance with the requirements of the TMDL, because the increased load to the Main Stem will be offset by an available balance of TN from

Approve	Deny	Signatures	Date
X		*Begay Omuralieva* Begay Omuralieva / Environmental Engineering Specialist	September 8, 2022
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	09/08/2022

Summary of Review

the upstream, Brandywine Creek East Branch. The WLAs for CBOD5, NH3-N, TP and DO are not changed by the alternative reduction scenario.

The plant was upgraded in 2015 to incorporate denitrification process to comply with the existing TN limit. Based on the review of the eDMRs 5 years data no known non-compliance issues are noted.
DEP has conducted a site visit on 10/14/2021. No violations are noted. No comments revised from Operation Section on the renewal application.

Influent monitoring for BOD5 and TSS were included in the current permit based on Chapter 94 requirement and to check compliance with the 85 percent removal requirement for secondary treatment.

TDS, sulfate, chloride, bromide, and Cooper were established in previous permit renewal process.

Development of Effluent Limitations are listed on p. 6-11.

All previously established effluent limits and monitoring requirements remain the same as were established earlier are listed on pages 12 and 13.

Act 14 Notifications:

Birmingham Township - 01/17/2022
CHESTER COUNTY PLANNING COMMISSION - 01/18/2022

Permit Conditions:

A. No Stormwater
B. Acquire Necessary Property Rights
C. Proper Sludge Disposal
D. Chlorine Optimization
E. Small Stream Discharge
F. Operator Notification
G. Fecal Coliform Reporting

Sludge use and disposal description and location(s): incinerator in DELCORA

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)	.15
Latitude	39º 54' 32.21"	Longitude	-75º 34' 16.60"
Quad Name	West Chester	Quad Code	09-21-1
Wastewater Description:	Sewage Effluent		
Receiving Waters	Radley Run (WWF, MF)	Stream Code	00071
NHD Com ID	26108216	RMI	4.6
Drainage Area	0.45 mi^2	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.077	Q_{7-10} Basis	Previous factsheet
Elevation (ft)	347	Slope (ft/ft)	
Watershed No.	3-H	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	FLOW REGIME MODIFICATION, SILTATION, SILTATION		
Source(s) of Impairment	AGRICULTURE, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final	Name	Christina River Basin

Changes Since Last Permit Issuance: none

Treatment Facility Summary

Treatment Facility Name: Birmingham Township STP

WQM Permit No.	Issuance Date
1514401	08/05/2014
1506411	10/24/2006
1599413	02/17/2004
1598411	08/05/1998

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Activated Sludge with Solids Removal	Hypochlorite	0.15

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.15	310	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: none

Compliance History

DMR Data for Outfall 001 (from June 1, 2021 to May 31, 2022)

Parameter	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21
Flow (MGD) Average Monthly	0.0620	0.0624	0.0611	0.0644	0.0671	0.0639	0.0676	0.0675	0.0679	0.0655	0.0694	0.0688
Flow (MGD) Daily Maximum	0.0922	0.0860	0.0873	0.0963	0.1059	0.0936	0.1052	0.1030	0.1311	0.1003	0.1324	0.1112
pH (S.U.) Instantaneous Minimum	7.14	7.25	6.70	7.34	6.89	7.02	7.33	7.03	6.84	7.39	6.49	6.89
pH (S.U.) Instantaneous Maximum	7.87	8.22	8.18	8.23	8.16	8.26	8.20	8.06	7.98	8.00	7.95	7.88
DO (mg/L) Instantaneous Minimum	7.04	5.67	8.21	7.99	7.8	8.42	8.20	6.95	7.14	6.83	6.49	6.9
TRC (mg/L) Average Monthly	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.02	0.03	0.03	0.03	0.02
TRC (mg/L) Instantaneous Maximum	0.18	0.19	0.05	0.07	0.11	0.05	0.15	0.04	0.05	0.18	0.05	0.04
CBOD5 (lbs/day) Average Monthly	< 1.96	< 1.35	< 1.63	< 1.81	< 1.65	< 2.0	< 1.6	< 1.7	< 1.6	< 1.5	< 2.7	< 2.9
CBOD5 (lbs/day) Weekly Average	2.34	< 1.55	< 2.18	2.50	1.96	3.4	< 1.8	< 1.8	1.9	1.7	4.2	6.1
CBOD5 (mg/L) Average Monthly	< 3.53	< 3.13	< 3.0	< 3.45	< 3.15	< 3.6	< 3.0	< 3.0	< 3.1	< 3.1	< 3.8	< 4.8
CBOD5 (mg/L) Weekly Average	4.50	3.50	< 3.0	4.8	3.60	5.4	< 3.0	< 3.0	3.5	3.3	5.7	10.4
BOD5 (mg/L) Raw Sewage Influent Average Monthly	600	462	435	427	414	366	392	348	387	330	374	410
TSS (lbs/day) Average Monthly	< 2.80	< 2.19	< 2.72	< 2.62	< 2.92	< 3.3	< 3.2	< 2.8	< 2.7	< 2.6	< 3.4	< 3.2
TSS (lbs/day) Weekly Average	< 3.24	< 2.52	< 3.64	< 2.99	3.93	4.5	3.9	< 3.1	2.9	3.3	< 4.0	3.6
TSS (mg/L) Average Monthly	< 5.0	< 5	< 5.0	< 5.0	< 5.55	< 6.0	< 5.8	< 5.0	< 5.1	< 5.2	< 5.1	< 5.4

TSS (mg/L) Raw Sewage Influent Average Monthly	239	186	206	199	198	124	114	157	146	206	182	130
TSS (mg/L) Weekly Average	< 5.0	< 5	< 5.0	< 5.0	7.20	7.2	7.4	< 5.0	5.4	6.0	5.2	6.2
Total Dissolved Solids (mg/L) Daily Maximum			606			516			558			531
Fecal Coliform (No./100 ml) Geometric Mean	< 2	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 3	< 1	< 2	< 4
Fecal Coliform (No./100 ml) Instantaneous Maximum	17.3	< 1	< 1	< 1	< 1	< 1	8.2	< 1	24	< 1	23	33
Total Nitrogen (lbs/day) Average Monthly	< 5.03	< 3.83	< 5.32	< 4.93	< 4.53	6.5	< 5.3	< 5.0	< 4.3	< 4.8	< 5.8	< 4.9
Total Nitrogen (mg/L) Average Monthly	< 8.9	< 8.81	< 9.79	< 9.57	< 8.55	< 12.2	< 9.7	< 9.0	< 8.3	< 9.7	< 8.6	< 8.2
Ammonia (lbs/day) Average Monthly	0.2	< 0.10	< 0.2	0.3	< 0.1	< 0.2	< 0.07	< 0.06	< 0.07	< 0.1	< 0.3	< 0.2
Ammonia (mg/L) Average Monthly	0.32	< 0.24	< 0.27	0.56	< 0.24	< 0.31	< 0.12	< 0.10	< 0.14	< 0.19	< 0.4	< 0.3
Total Phosphorus (lbs/day) Average Monthly	0.4	< 0.40	0.5	0.5	0.7	0.5	0.4	0.70	0.3	0.5	0.3	0.8
Total Phosphorus (mg/L) Average Monthly	0.68	< 0.88	1.00	0.87	1.40	0.83	0.72	1.34	0.56	0.97	0.4	1.4
Total Copper (mg/L) Daily Maximum			0.006			< 0.10			0.014			0.017
Sulfate (mg/L) Daily Maximum			101			78.6			92.2			76.2
Chloride (mg/L) Daily Maximum			67.5			115			120.0			140
Bromide (mg/L) Daily Maximum			< 1.0			< 1.00			< 1			< 1

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .15
Latitude 39º 54' 37.00" **Longitude** -75º 34' 21.00"
Wastewater Description: Sewage Effluent from Birmingham WWTP

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

Parameter	Limit (mg/l)	SBC	Basis
CBOD5	15.0	Average Monthly	TMDL
NH3-N	1.5	Average Monthly	TMDL
TN	40.0	Average Monthly	TMDL
TP	2.0	Average Monthly	TMDL
Dissolved Oxygen	5.0	Inst. Min.	TMDL
pH	6.0 to 9.0 at all the time		Chapter 93
TRC	0.06/0.19	Av.Mo./IMAX	Existing WQBEL
TSS	30.0	Average Monthly	DRBC
Fecal Coliform	200/1000	Geo Mean/IMAX	Chapter 93/DRBC
Copper, total	Monitor	Daily Max.	TMS (copy is attached pps. 9-12)
TDS	Monitor	Daily Max.	DRBC
Sulfate	Monitor	Daily Max.	Data collection
Chloride	Monitor	Daily Max.	Data collection
Bromide	Monitor	Daily Max.	Data collection

TMDL:

This discharge is listed under Christina River Basin Low Flow and High Flow TMDLs. EPA approved the Christina River Basin Low Flow TMDL on January 19, 2001, with revisions in October 2002 and April 2006.The existing effluent limits in

the permit are consistent with the April 2006 TMDL revision. On August 29, 2012, EPA approved an alternative reduction scenario for Christina River Basin Low Flow TMDL as proposed by DEP.

See below cutout from Low flow Nutrients :

Table 15. TMDL Summary for Brandywine Creek Main Stem

	Waste Load Allocations													
	Flow	CBOD5	NH3-N	TN	TP	DO	CBOD5	NH3-N	TN	TP	DO	TMDL Percent Reduction		
NPDES	mgd	mg/L	mg/L	mg/L	mg/L	mg/L	lb/day	lb/day	lb/day	lb/day	lb/day	CBOD5	NH3-N	TP
DE0050962	0.0000	15.00	1.50	3.63	2.00	5.00	0.000	0.000	0.000	0.000	0.000	0.0%	0.0%	0.0%
DE0021768	0.0250	15.00	1.50	10.00	2.00	5.00	3.130	0.313	2.086	0.417	1.043	0.0%	0.0%	0.0%
PA0053082	0.0206	10.00	3.00	10.00	2.00	5.00	1.719	0.516	1.719	0.344	0.860	0.0%	0.0%	0.0%
PA0052663	0.0900	10.00	1.00	10.00	2.00	5.00	7.511	0.751	7.511	1.502	3.755	0.0%	0.0%	0.0%
PA0055476	0.0400	10.00	3.00	10.00	2.00	3.00	3.338	1.001	3.338	0.668	1.001	0.0%	0.0%	0.0%
PA0244031	0.1500	10.00	1.50	10.00	0.50	6.00	12.518	1.878	12.518	0.626	7.511	0.0%	0.0%	0.0%
PA0055484	0.0005	25.00	30.00	40.00	10.00	6.00	0.104	0.125	0.167	0.042	0.025	0.0%	0.0%	0.0%
PA0030848	0.0063	25.00	80.00	90.00	20.00	3.00	1.314	4.206	4.732	1.052	0.158	0.0%	0.0%	0.0%
PA0056120	0.0005	25.00	30.00	40.00	10.00	6.00	0.104	0.125	0.167	0.042	0.025	0.0%	0.0%	0.0%
PA0031097	0.0170	25.00	20.00	48.40	2.00	5.00	3.547	2.837	6.867	0.284	0.709	0.0%	0.0%	0.0%
PA0053449	0.1500	15.00	1.50	10.00	2.00	5.00	18.777	1.878	12.518	2.504	6.259	0.0%	0.0%	0.0%

Christina River Basin High Flow TMDL addresses Bacteria and Sediment and WLAs are assigned for TSS and Fecal Coliform for this facility. The existing effluent limits for TSS and Fecal Coliform for this discharge is consistent with the High Flow TMDL. The parameters listed in the High Flow TMDL for Nutrient and Low Dissolved Oxygen are also incorporated in this permit and the effluent limits are consistent with the WLAs assigned for this discharge.

Cutout from High Flow Nutrients:

Table 2-2. NPDES permit flows and loads for nutrients and CBOD5

NPDES Number	HSPF Subbasin	Flow (mgd)	CBOD5 (mg/L)	NH3-N (mg/L)	TP (mg/L)	CBOD5 (kg/day)	NH3-N (kg/day)	TP (kg/day)
Brandywine Creek main stem								
DE0021768	B19	0.0250	15.00	1.50	2.00	1.42	0.14	0.19
PA0053082	B17	0.0206	10.00	3.00	2.00	0.78	0.23	0.16
PA0052663	B16	0.0900	10.00	1.00	2.00	3.41	0.34	0.68
PA0055476	B16	0.0400	10.00	3.00	2.00	1.51	0.45	0.30
PA0244031	B16	0.1500	10.00	1.50	0.50	5.68	0.85	0.28
PA0055484	B16	0.0005	25.00	10.00	10.00	0.05	0.02	0.02
PA0030848	B16	0.0063	25.00	80.00	20.00	0.60	1.91	0.48
PA0056120	B31	0.0005	25.00	10.00	10.00	0.05	0.02	0.02
PA0031097	B15	0.0170	25.00	20.00	2.00	1.61	1.29	0.13
PA0053449	B15	0.1500	15.00	1.50	2.00	8.52	0.85	1.14

Christina River Basin High Flow TMDL addresses Bacteria and Sediment and WLAs are assigned for TSS and Fecal Coliform for this facility. The existing effluent limits for TSS and Fecal Coliform for this discharge is consistent with the High Flow TMDL. The parameters listed in the High Flow TMDL for Nutrient and Low Dissolved Oxygen are also incorporated in this permit and the effluent limits are consistent with the WLAs assigned for this discharge.

See below for Bacteria and Sediment:

Table 2-2. Fecal coliform, *enterococci*, and TSS loads for NPDES facilities

NPDES Number	HSPF Subbasin	Flow (mgd)	TSS (mg/L)	Fecal Coliform (cfu/100mL)	Enterococci (cfu/100mL)	TSS (kg/day)	Fecal Coliform (cfu/day)	Enterococci (cfu/day)
Brandywine Creek main stem								
DE0021768	B19	0.0250	15		100	1.42		9.464E+07
PA0053082	B17	0.0206	10	200	100	0.78	1.560E+08	7.798E+07
PA0052663	B16	0.0900	10	200	100	3.41	6.814E+08	3.407E+08
PA0055476	B16	0.0400	10	200	100	1.51	3.028E+08	1.514E+08
PA0244031	B16	0.1500	30	200	100	17.03	1.136E+09	5.678E+08
PA0055484	B16	0.0005	20	200	100	0.04	3.785E+06	1.893E+06
PA0030848	B16	0.0063	30	200	100	0.72	4.770E+07	2.385E+07
PA0056120	B31	0.0005	20	200	100	0.04	3.785E+06	1.893E+06
PA0031097	B15	0.0170	20	200	100	1.29	1.287E+08	6.435E+07
PA0053449	B15	0.1500	30	200	100	17.03	1.136E+09	5.678E+08

Toxics Management Spreadsheet (TMS)

TMS model was ran based on 5 years monitoring data for Total Cooper, TDS and Sulfates. No limits are established. Monitoring is recommended.
See below (pages 3 and 4 are omitted due to no applicable data needed) :

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Birmingham TWP STP** NPDES Permit No.: **PA053449** Outfall No.: **001**

Evaluation Type **Major Sewage / Industrial Waste** Wastewater Description: **effluent from the Birmingham TWP STP**

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
0.015	100	7						

					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	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		520.8									
	Chloride (PWS)	mg/L											
	Bromide	mg/L	<	1									
	Sulfate (PWS)	mg/L		79.2									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	µg/L		11.4									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L											
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Birmingham TWP STP, NPDES Permit No. PA053449, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Radley Run**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	000071	4.6	347	0.45			Yes
End of Reach 1	000071	3.8	2.83	1			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	4.6	0.1										100	7		
End of Reach 1	3.8	0.1													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	4.6														
End of Reach 1	3.8														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Birmingham TWP STP, NPDES Permit No. PA053449, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.064 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	13.439	14.0	41.1	Chem Translator of 0.96 applied

☑ ***CFC*** CCT (min): 0.064 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	8.956	9.33	27.4	Chem Translator of 0.96 applied

☑ ***THH*** CCT (min): 0.064 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	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	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.035 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	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	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	

☑ ***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	26.4	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
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable

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) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Daily Maximum	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.06 Avg Mo	XXX	0.19	1/day	Grab
CBOD5 Nov 1 - Apr 30	31	47	XXX	25 Avg Mo	38	50	1/week	24-Hr Composite
CBOD5 May 1 - Oct 31	18.8	28.2	XXX	15 Avg Mo	23	30	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	XXX	XXX	XXX	Report Avg Mo	XXX	XXX	1/week	24-Hr Composite
TSS	38	57	XXX	30 Avg Mo	45	60	1/week	24-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report Avg Mo	XXX	XXX	1/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Total Nitrogen	25.0	XXX	XXX	20.0 Avg Mo	XXX	40	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	5.7	XXX	XXX	4.5 Avg Mo	XXX	9	1/week	24-Hr Composite

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	Weekly Average	Minimum	Daily Maximum	Weekly Average	Instant. Maximum		
Ammonia May 1 - Oct 31	1.9	XXX	XXX	1.5 Avg Mo	XXX	3	1/week	24-Hr Composite
Total Phosphorus	2.5	XXX	XXX	2.0 Avg Mo	XXX	4	1/week	24-Hr Composite
Total Copper	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Sulfate	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Chloride	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Bromide	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 001