pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0062693**
Facility Type	**Industrial**	APS ID	**583565**
Major / Minor	**Minor**	Authorization ID	**1418916**

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

Applicant and Facility Information

Applicant Name	**Municipal Authority of the Township of Blythe**	Facility Name	**Moss Glen Water Treatment Plant**
Applicant Address	375 Valley Street New Philadelphia, PA 17959-1218	Facility Address	State Route 1101 Schuylkill Township, PA 17952
Applicant Contact	Justin DeAngelo, General Manager	Facility Contact	Justin DeAngelo, General Manager
Applicant Phone	(570) 277-6921	Facility Phone	(570) 277-6921
Client ID	83009	Site ID	450871
SIC Code	4941	Municipality	Schuylkill Township
SIC Description	Trans. & Utilities - Water Supply	County	Schuylkill
Date Application Received	November 23, 2022	EPA Waived?	Yes
Date Application Accepted	December 8, 2022	If No, Reason	-

Purpose of Application: Renewal of NPDES permit to discharge industrial wastewater.

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.04 MGD of settled filter backwash wastewater from the Moss Glen Water Filtration Plant Big Creek, A Cold-Water Fishery, Migratory Fish (CWF, MF) receiving stream in State Water Plan Basin 3-A (Upper Schuylkill River). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. This stream segment is designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies. The stream is impaired for low pH due to Acid Mine Drainage (AMD) and is part of the Upper Schuylkill River TMDL for metals associated with AMD.

The facility is a drinking water filtration plant. Wastewater from the clarifier and filter backwash drains to a lagoon. The lagoon discharges to Outfall 001 which flows to Big Creek.

The previous applications submitted to the Department and previous permits issued were all for a discharge of 0.04 MGD. This renewal application was submitted for a Design Flow of 0.047 MGD. Modeling was still performed for a flow of 0.040 MGD and the permitted flow for this facility will remain at 0.040 MGD.

The limits for Total Aluminum are water quality-based and are carried over from the previous permit. New water quality modeling did not recommend stricter Total Aluminum limitations.

The limits for Total Suspended Solids (TSS), Total Residual Chlorine (TRC), Total Iron, and Total Manganese are BPT technology-based limits from the "Technology-Based Control Requirements for Water Treatment Plant Wastes" (technical guidance document 362-2183-003). These limits have been carried over from the previous permit.

The Total Residual Chlorine (TRC) Calculation Spreadsheet did not recommend stricter limitations than the previous permit.

Approve	Deny	Signatures	Date
X		/s/ Allison S. Zukosky / Project Manager	August 15, 2024
X		/s/ Amy M. Bellanca, P.E. / Program Manager	8-28-24

Summary of Review

The fact sheet for this permit from 2012 indicated a request was made by the permittee's consultant to have the minimum pH lowered from 6.0 to 5.5. The request was due to the authority having difficulty maintaining the pH value of 6.0 and stated that the addition of chemicals to adjust the pH becomes a safety issue. The request was granted.

The DMR data from July 2023 to June 2024 can be seen on page 4 of this fact sheet. The lowest pH reported is 6.7. It appears the facility will be able to meet the 6.0 instantaneous minimum value. Therefore, the minimum pH has been raised from 5.5 to 6.0 to be consistent with the technology-based limitations for Water Treatment Plant Wastes.

Pollutant sampling results submitted with the permit application were entered into the Toxic Management Spreadsheet (TMS). The TMS recommended monitoring/reporting for Total Copper. Therefore, monitoring/reporting for Total Copper has been added to the permit. This will allow for additional data to be collected during this permit cycle to be used for updated modeling during the next renewal. Monitoring/reporting will also help to rule out the facility from contributing to the TMDL for metals. The same 2/month monitoring frequency as the other pollutants in the permit has been applied.

There are no representative stream gages in the vicinity of the outfall and the drainage area at Outfall 001 is too small for USGS StreamStats to estimate accurate low flow values. Therefore, the default Low Flow Yield (LFY) of 0.1 cfs/mi^2 was used to model the discharge. For modeling inputs, RMI values were obtained using the "PA Historic Streams" feature of eMapPA, drainage areas were delineated using USGS's StreamStats Interactive Map, and elevations were obtained using the elevation profile feature of StreamStats.

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

A Water Management System Inspection query indicated that on September 28, 2022 a Compliance Evaluation was performed.

There is currently one open violation for this client in the Safe Drinking Water Program that may need to be resolved before issuance of the final permit:

1. 01/17/2024 - Violation ID 8171894– Violation Code C1A – Failure to meet design and construction standards (Program Specific ID: 3540017).

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.04
Latitude	40º 45' 47.43"	Longitude	-76º 4' 44.08"
Quad Name	Delano	Quad Code	1237
Wastewater Description:	Water Treatment Effluent		

Receiving Waters	Big Creek (CWF)	Stream Code	2374
NHD Com ID	25968888	RMI	1.46
Drainage Area	2.41 mi^2	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.241	Q_{7-10} Basis	State-wide default
Elevation (ft)	1,185.56	Slope (ft/ft)	-
Watershed No.	3-A	Chapter 93 Class.	CWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	Low pH		
Source(s) of Impairment	Acid Mine Drainage		
TMDL Status	Final	Name	Upper Schuylkill River

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	14.3	Provided by permittee on renewal application
Other:	-	-

Compliance History

DMR Data for Outfall 001 (from July 1, 2023 to June 30, 2024)

Parameter	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23
Flow (MGD) Average Monthly	0.04859209	0.035	0.051	0.049	0.04	0.042	0.058	0.032	0.014	0.01	0.01	0.01
Flow (MGD) Daily Maximum	0.106059	0.073	0.12	0.084	0.083	0.08	0.168	0.088	0.068	0.026	0.017	0.026
pH (S.U.) Instantaneous Min.	7.4	7.2	7.0	6.9	6.9	6.7	7.0	7.0	7.1	7.3	7.4	7.3
pH (S.U.) Instantaneous Max.	7.8	7.4	7.2	7.2	8.0	7.3	7.7	7.6	8.0	7.9	7.6	7.6
TRC (mg/L) Average Monthly	0.1	0.1	0.1	0.1	0.02	0.04	0.03	0.04	0.03	0.03	0.03	0.04
TRC (mg/L) Instantaneous Maximum	0.11	0.09	0.09	0.07	0.03	0.07	0.05	0.06	0.04	0.04	0.06	0.07
TSS (mg/L) Average Monthly	< 4.5	< 3.0	< 3.0	4.0	< 4.0	< 4.5	5.5	< 3.5	< 3.0	19.5	< 3.0	< 3.0
TSS (mg/L) Daily Maximum	6.0	3.0	< 3.0	4.0	5.0	6.0	6.0	4.0	< 3.0	21.0	3.0	< 3.0
Total Aluminum (lbs/day) Average Monthly	0.50	0.30	0.40	0.70	0.20	0.30	0.90	0.30	0.09	0.20	0.08	0.03
Total Aluminum (lbs/day) Daily Maximum	0.70	0.50	0.40	0.80	0.40	0.50	1.00	0.30	0.10	0.20	0.08	0.05
Total Aluminum (mg/L) Average Monthly	1.0	1.0	0.8	1.3	0.9	0.9	1.0	0.7	0.8	1.5	0.6	0.8
Total Aluminum (mg/L) Daily Maximum	1.58	1.33	0.93	1.52	1.0	0.97	1.17	0.72	0.93	1.88	0.59	1.13
Total Iron (mg/L) Average Monthly	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1
Total Iron (mg/L) Daily Maximum	0.08	0.12	0.12	0.13	0.11	0.08	0.08	0.1	0.15	0.28	0.09	0.11
Total Manganese (mg/L) Average Monthly	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.04	0.1	0.1	0.1	0.1
Total Manganese (mg/L) Daily Maximum	0.08	0.09	0.06	0.07	0.07	0.08	0.05	0.04	0.06	0.07	0.1	0.12

Modeling Using USGS StreamStats:

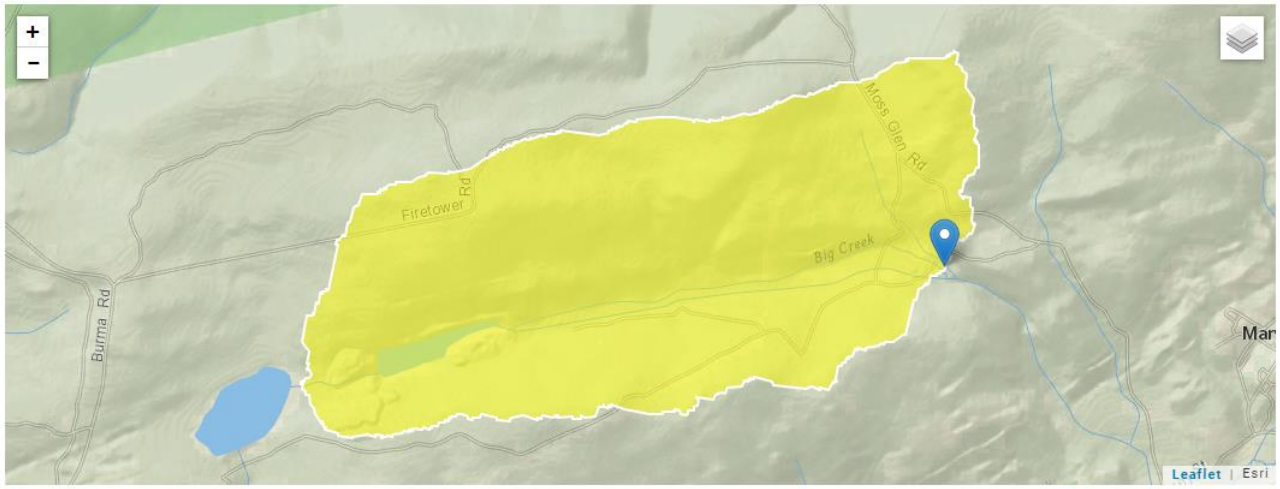
At Outfall to Big Creek:

RMI	Elevation (ft)	Drainage Area (mi^2)	Q_{7-10} Flow (cfs)
1.46	1,185.56	2.41	0.276

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{0.276\ cfs}{2.41\ mi^2} = \mathbf{0.114}\ \frac{\boldsymbol{ft^3/sec}}{\boldsymbol{mi^2}}$$

StreamStats Report

Region ID:	PA
Workspace ID:	PA20240813193012266000
Clicked Point (Latitude, Longitude):	40.76372, -76.07873
Time:	2024-08-13 15:30:40 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	2.41	square miles

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.62	ft^3/s
30 Day 2 Year Low Flow	0.821	ft^3/s
7 Day 10 Year Low Flow	0.276	ft^3/s

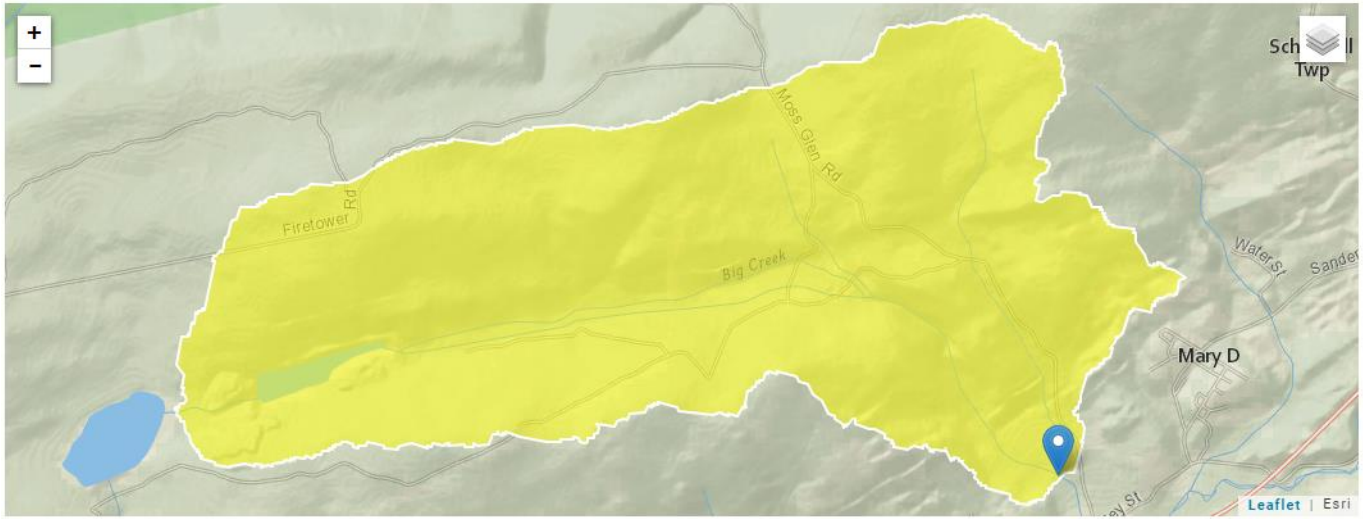
One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

At confluence with Unnamed Tributary to Big Creek (2375):

RMI	Elevation (ft)	Drainage Area (mi^2)
0.398	815.85	3.63

StreamStats Report

Region ID: PA
Workspace ID: PA20240813193532906000
Clicked Point (Latitude, Longitude): 40.75407, -76.06552
Time: 2024-08-13 15:35:55 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	3.63	square miles

TMS PA0062693.pdf

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

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

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 1.261	1.3.2.iii	WLA cfc = 1.222
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.470	5.1d	LTA_cfc = 0.711

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

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