pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Amendment, Major**
Facility Type	**Industrial**
Major / Minor	**Minor**

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

Application No.	**PA0051616 A-1**
APS ID	**1053836**
Authorization ID	**1380013**

Applicant and Facility Information

Applicant Name	**PA American Water Co.**	Facility Name	**Shady Lane Water Treatment Plant**
Applicant Address	852 Wesley Drive	Facility Address	137 Shady Lane
	Mechanicsburg, PA 17055-4436		Spring City, PA 19475-1132
Applicant Contact	David Lentowski	Facility Contact	Brandy Railing
Applicant Phone	(484) 855-1008	Facility Phone	(610) 495-6234
Client ID	87712	Site ID	237989
SIC Code	4941	Municipality	East Vincent Township
SIC Description	Trans. & Utilities - Water Supply	County	Chester
Date Application Received	December 27, 2021	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Amendment of an existing NPDES permit

Summary of Review

The applicant requests amendment of an NPDES permit to add a new WTP to discharge Industrial Wastewater.

The proposed Lock 57 Water Treatment Plant will replace PAW's existing Shady Lane WTP, located adjacent to the Schuylkill River, near Spring City, PA. The existing Shady Lane WTP has a permitted capacity of 3.7 MGD and is nearing the end of its useful life and does not have sufficient reliable treatment capacity to meet projected future demands.

The proposed project includes a new intake and raw water pump station adjacent to the existing Shady Lane WTP, the new Lock 57 WTP near the intersection of Dunlap Road and Pennhurst Road, and a raw water transmission main between the two facilities.

The proposed Lock 57 WTP will have a rated capacity of 6.6 mgd. The treatment process will include carbon contact, chemical pretreatment, rapid mixing, flocculation and sedimentation, rapid granular media filtration, UV disinfection, and post chemical treatment. Process residuals (settled solids and filter backwash wastewater) will be processed using lagoons.

Clarified supernatant from the existing Shady Lane WTP is normally recycled but can be discharged to the Schuylkill River under existing NPDES Permit No. PA0051616 in emergency conditions. The intent is that clarified supernatant from the proposed Lock 57 WTP lagoons will also be recycled or discharged to the Schuylkill River in emergency conditions under this amendment to the current NPDES permit.

Approve	Deny	Signatures	Date
x		*Vasantha* Vasantha Palakurti / Environmental Engineering Specialist	April 22, 2022
		Pravin C. Patel, P.E. / Environmental Engineer Manager	

Summary of Review
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)	.07
Latitude	40Âº 11' 40.39"	Longitude	-75Âº 34' 21.64"
Quad Name		Quad Code	
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	25989546	RMI	46.1
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	3-D	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Changes Since Last Permit Issuance: There are no changes to the existing treatment system or outfall, therefore no changes are assumed.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	.07
Latitude	40Âº 11' 38.01"	Longitude	-75Âº 34' 9.77"
Quad Name		Quad Code	
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	25989546	RMI	46.4
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	188	Q_{7-10} Basis	StreamStat
Elevation (ft)	103.61	Slope (ft/ft)	
Watershed No.	3-D	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

The source water is taken directly from the Schuylkill River. Since there is no net increase in PCBs discharged back to the Schuylkill River, the Schuylkill River PCB TMDL is not applicable.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .07
Latitude 40º 11' 38.00" **Longitude** -75º 34' 19.00"
Wastewater Description: Water Treatment Effluent

There are no changes to outfall 001, therefore effluent limits are not evaluated in detail.

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** .07
Latitude 40º 11' 22.00" **Longitude** -75º 34' 8.00"
Wastewater Description: Water Treatment Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable: This discharge is subject to the Technology-Based Effluent Limits outlined in the PADEP guidance document Technology-Based Control Requirements for Water Treatment Plant Wastes (362-2183-003). In the Executive Summary of the document, it outlines the following Best Practicable Control Technology Currently Achievable (BPT) technology-based limits for filter backwash wastewater:

Parameter	Monthly Average (mg/l)	Daily Max (mg/l)
Suspended Solids	30	60
Iron (total)	2	4
Aluminum (total)	4	8
Manganese (total)	1	2
pH	6 – 9 all times	
Total Residual Chlorine	0.5	

Furthermore, the above reference guidance document also recommends quarterly monitoring for Total Trihalomethanes (TTHM) components: Bromoform, Chlorodibromomethane, Dichlorobromomethane, and Chloroform.

Water Quality-Based Limitations

The dilution ratio of the Schuylkill River to the discharge is 150:1 at Q7-10 stream flow. Due to the large dilution afforded by the Schuylkill River, the technology based limits are presumed to be more stringent than water quality based limits, and TMS or TRC modeling was not required.

The draft effluent limits in the draft NPDES permit are the technology based limits taken from the above referenced guidance document.

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	38.0	59.3	5,994	9,351	14,984	µg/L	5,994	AFC	Discharge Conc ≥ 50% WQBEL (RP)

The source water is taken directly from the Schuylkill River. Since there is no net increase in PCBs discharged back to the Schuylkill River, the Schuylkill River PCB TMDL is 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	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	2/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
TRC	XXX	XXX	XXX	0.7	XXX	2.0	1/day	Grab
TSS	19	38	XXX	30	60	75	2/month	Grab
Total Aluminum	2.54	5.07	XXX	4.0	8.0	10	2/month	Grab
Total Iron	1.27	2.54	XXX	2.0	4.0	5	2/month	Grab
Total Manganese	0.64	1.28	XXX	1.0	2.0	2.5	2/month	Grab
Chlorodibromo-methane	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Dichlorobromo-methane	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Chloroform	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

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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 002, Effective Period: Startup of New or Upgraded Facilities through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	Daily When Discharging	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	Daily When Discharging	Grab
Total Suspended Solids	127	254	XXX	20	40	50	Weekly When Discharging*	Grab
Aluminum, Total	25.4	50.7	XXX	4.0	8.0	10	Weekly When Discharging*	Grab
Iron, Total	12.7	25.4	XXX	2.0	4.0	5	Weekly When Discharging*	Grab
Manganese, Total	6.3	12.7	XXX	1.0	2.0	2.5	Weekly When Discharging*	Grab
Chlorodibromomethane	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Dichlorobromomethane	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Chloroform	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at Outfall 002

*Sample shall be taken weekly when discharging, regardless of the duration of discharge.

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