Pennsylvania Department of Environmental Protection

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Amendment, Major**	Application No.	**PA0051616 A-1**
Facility Type	**Industrial**	APS ID	**1150093**
Major / Minor	**Minor**	Authorization ID	**1548514**

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

Applicant and Facility Information

Applicant Name	**PA American Water Co.**	Facility Name	**Shady Lane – Lock 57 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	Mark Cooper
Applicant Phone	(484) 855-1008	Facility Phone	(610) 802-3342
Client ID	87712	Site ID	237989
SIC Code	4941	Municipality	East Vincent Township
SIC Description	Trans. & Utilities - Water Supply	County	Chester
Date Application Received	November 7, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Permit Amendment

Summary of Review

The applicant requests amendment of an NPDES permit to discharge process wastewater from a water treatment plant.

Original permit was issued on June 4, 2024.

Lock 57, a new water treatment plant (WTP) is currently under construction and will be replacing the existing Shady Lane WTP once it is completed. Originally the Lock 57 WTP was permitted for a capacity of 6.6 mgd in 2023. After start of construction PAWC decided to proactively add treatment for the removal of PFAS and to increase the capacity of the WTP to 11 mgd. Changes in operation from the original issued permit include switching the coagulant from alum to ferric chloride, a fifth gravity filter, additional pumping capacity, and the addition of GAC filters to treat PFAS removal. The PFAS removal system may add arsenic and antimony to the treatment lagoon influent.

Changes in the WTP operations requires to re-evaluate the effluent characteristics and make appropriate changes to the existing NPDES permit. Therefore, the amendment application is submitted.

The Lock 57 WTP will discharge 0.07 mgd of process wastewater to Schuylkill River via Outfall 002.

Process wastewater will be sent to the two treatment lagoons. This wastewater will come from a drain from the carbon contact tank, overflow from the flocculation tanks, drains and sludge blowdown from the plate settler clarification, backwash waste and filter overflow from the dual media filters, along with backwash waste and filter rinse from the GAC PFAS adsorption vessels. The discharge to Outfall 002 will be dechlorinated with sodium bisulfite.

Additionally, there is a bypass for the dual media filter rinse to be directly discharged to Outfall 002.

Approve	Deny	Signatures	Date
X		*Sara Abraham* Sara Reji Abraham, E.I.T. / Project Manager	December 3, 2025
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	12/4/2025

Summary of Review

Settled and thickened sludge will be pumped out and disposed of by a third party. The supernatant will be discharged to the Schuylkill River. The supernatant will be recycled to the head of the WTP as needed to meet permit discharge limits.

A WQM Permit No. 1522201 was issued on 5/5/2023 for the construction and operation of the Lock 57 WTP.

No comments received from Operations Section. DMR review shows a few effluent limit violations in the past year.

Existing Shady Lane WTP discharges process wastewater via Outfall 001 as needed. There will be no changes to the Shady Lane WTP discharge. Current effluent limits are continued in the amended permit for Outfall 001.

Draft permit is prepared as a two tier permit similar to the existing permit.

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.

Act 14 Notifications:

East Vincent Township - June 13, 2025
Chester County - June 13, 2025

Permit Conditions:

A. Acquire Necessary Property Rights
B. Proper Sludge Disposal
C. WQM Permit Requirement
D. Applicable BAT/BCT if Developed
E. Chlorine Optimization
F. Monitoring at the Secondary Outfall
G. Notification of completion of construction
H. Sedimentation Basin Cleaning

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.07
Latitude	40º 11' 40.39"	Longitude	-75º 34' 21.64"
Quad Name	Phoenixville	Quad Code	1741
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	25989546	RMI	46.1
Watershed No.	3-D	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	002	Design Flow (MGD)	.07
Latitude	40º 11' 38.01"	Longitude	-75º 34' 9.77"
Quad Name	Phoenixville	Quad Code	1741
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	25989546	RMI	46.4
Q_{7-10} Flow (cfs)	188	Q_{7-10} Basis	From previous fact sheet, Stream stats
Elevation (ft)	103.61		
Watershed No.	3-D	Chapter 93 Class.	WWF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Compliance History

DMR Data for Outfall 001 (from October 1, 2024 to September 30, 2025)

Parameter	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24
Flow (MGD) Average Monthly	0.13	0.108	0.063	0.085		0.265						
Flow (MGD) Daily Maximum	0.167	0.151	0.093	0.124		0.265						
pH (S.U.) Instantaneous Minimum	6.91	7.12	6.95	7.18		6.82						
pH (S.U.) Instantaneous Maximum	7.68	7.55	7.75	7.3		6.82						
TRC (mg/L) Average Monthly	0.2	0.2	0.10	0.3		0.37						
TRC (mg/L) Instantaneous Maximum	0.47	0.40	0.28	0.59		0.37						
TSS (lbs/day) Average Monthly	< 4.2	< 4.2	< 4.9	7.0		32.0						
TSS (lbs/day) Daily Maximum	6	< 5	9	7		32						
TSS (mg/L) Average Monthly	< 6.0	< 4.0	< 10.0	7.0		14.5						
TSS (mg/L) Daily Maximum	9.0	< 4.0	17.5	6.8		14.5						
Total Aluminum (lbs/day) Average Monthly	0.30	0.30	0.30	0.80		3.36						
Total Aluminum (lbs/day) Daily Maximum	0.40	0.40	0.40	0.80		3.36						
Total Aluminum (mg/L) Average Monthly	0.40	0.30	0.50	0.8		1.5						
Total Aluminum (mg/L) Daily Maximum	0.755	0.373	0.841	0.776		1.52						
Total Iron (lbs/day) Average Monthly	< 0.08	< 0.10	< 0.06	< 0.10		< 0.20						

Total Iron (lbs/day) Daily Maximum	< 0.10	< 0.10	0.08	< 0.10		< 0.20						
Total Iron (mg/L) Average Monthly	< 0.10	< 0.10	< 0.1	< 0.10		< 0.1						
Total Iron (mg/L) Daily Maximum	< 0.10	< 0.10	0.166	< 0.10		< 0.1						
Total Manganese (lbs/day) Average Monthly	0.10	0.06	0.70	0.30		0.10						
Total Manganese (lbs/day) Daily Maximum	0.30	0.08	1.28	0.30		0.10						
Total Manganese (mg/L) Average Monthly	0.20	0.1	1.4	0.3		0.05						
Total Manganese (mg/L) Daily Maximum	0.794	0.067	1.81	0.276		0.047						
Chlorodibromo-methane (mg/L) Daily Maximum	0.0023			0.0006								
Dichlorobromo-methane (mg/L) Daily Maximum	0.0112			0.0068								
Chloroform (mg/L) Daily Maximum	0.0431			0.0448								

Compliance History

Effluent Violations for Outfall 001, from: November 1, 2024 To: September 30, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	04/30/25	Avg Mo	32.0	lbs/day	17.5	lbs/day
Total Aluminum	04/30/25	Avg Mo	3.36	lbs/day	2.34	lbs/day
Total Manganese	07/31/25	Avg Mo	0.70	lbs/day	.58	lbs/day
Total Manganese	07/31/25	Daily Max	1.28	lbs/day	1.17	lbs/day
Total Manganese	07/31/25	Avg Mo	1.4	mg/L	1.0	mg/L

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** .07
Latitude 40º 11' 37.00" **Longitude** -75º 34' 16.00"
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	

Water Quality-Based Limitations

The dilution ratio of the Schuylkill River to the discharge is 1740:1 at Q7-10 streamflow. 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.

The monitoring requirement for the parameters Chlorodibromomethane, Dichlorobromomethane, and Chloroform from the current permit are carried over to the draft permit.

All the above technology and water quality limits are similar to the existing permit requirements.

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.

Since a PFAS removal system is proposed to be added to the new Lock 57 WTP, the following new parameters are required to be monitored at Outfall 002. Annual monitoring is included in the draft permit for the following parameters.

PFOA			Report			Data collection/SOP
PFOS			Report			Data collection/SOP
HFPO-DA			Report			Data collection/SOP
PFBS			Report			Data collection/SOP

The permittee may discontinue monitoring for these parameters if the results in 4 consecutive monitoring periods indicate non-detect results for all of these parameters at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittee must enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.

Constituents anticipated to be in the effluent from GAC column rinsing and backwash that are not currently monitored in the existing NPDES permit are arsenic and antimony.

Quarterly monitoring is included in the draft permit for the parameters arsenic and antimony.

Iron from Ferric Chloride is expected to be settled out and remain settled out as the ferric form has very low solubility, so the discharge concentration of Iron is expected to be similar to the existing plant.

Nothing else is changed in the permit.

Anti-Backsliding

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 Startup of New or Upgraded Facilities.

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	Daily when Discharging	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.7	XXX	2.0	Daily when Discharging	Grab
Total Suspended Solids	17.5	35	XXX	30.0	60.0	75	Weekly when Discharging	Grab
Aluminum, Total	2.34	4.67	XXX	4.0	8.0	10	Weekly when Discharging	Grab
Iron, Total	1.17	2.34	XXX	2.0	4.0	5	Weekly when Discharging	Grab
Manganese, Total	0.58	1.17	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

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	17.5	35	XXX	30.0	60.0	75	Weekly when Discharging	Grab
Aluminum, Total	2.34	4.67	XXX	4.0	8.0	10	Weekly when Discharging	Grab
Antimony, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Arsenic, Total	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Iron, Total	1.17	2.34	XXX	2.0	4.0	5	Weekly when Discharging	Grab
Manganese, Total	0.58	1.17	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
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Outfall 002, Continued (from 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		
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab