Pennsylvania Department of Environmental Protection

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0060593**
Facility Type	**Non-Municipal**	APS ID	**1151187**
Major / Minor	**Minor**	Authorization ID	**1550411**

Applicant and Facility Information

Applicant Name	**Aqua PA Wastewater Inc.**	Facility Name	**Laurel Lakes WWTP**
Applicant Address	762 W Lancaster Avenue	Facility Address	1021 Pine Lane
	Bryn Mawr, PA 19010		Mountain Top, PA 18707
Applicant Contact	Todd Duerr	Facility Contact	David Hoogstad
Applicant Phone	(570) 443-7099	Facility Phone	(570) 443-7099
Client ID	62614	Site ID	245281
Ch 94 Load Status	Not Overloaded	Municipality	Rice Township
Connection Status		County	Luzerne
Date Application Received	November 25, 2025	EPA Waived?	Yes
Date Application Accepted	November 26, 2025	If No, Reason	

Purpose of Application: Renewal of NPDES Application for an MISF2 Facility

Summary of Review

General Information:

The applicant is requesting renewal of NPDES Permit No. PA0060593 to authorize a discharge of 0.0875 MGD of treated sewage from a minor sewage treatment plant into Nuangola Outlet (CWF, MF) in State Water Plan Watershed 05-B. Nuangola Outlet does not have an existing use classification. The discharge is not expected to affect public water supplies. Nuangola Outlet is supporting for its assessed use of Aquatic Life according to eMAP PA.

The annual average flow rates for Laurel Lakes WWTP are as follows:

- In 2022, the annual average flow rate was 0.0418 MGD.
- In 2023, the annual average flow rate was 0.0579 MGD.
- In 2024, the annual average flow rate was 0.0552 MGD.

The highest monthly average flow was 0.2834 MGD in January 2025. The organic design capacity of the facility is 175 lbs/day.

The facility describes their treatment process as the following: “Raw wastewater flows in a mechanical screen basket to remove large solids and stringy material. Then, the wastewater is pumped into a flow distribution box and directs them to 3 parallel extended aerations wastewater treatment trains. Flow then enters an aeration basin and clarifier. The clear supernatant exists the clarifier and goes into a UV system for disinfection. Sodium hypochlorite is available as back up disinfection. The flow enters an effluent storage tank and ultimately is discharged via gravity through Outfall 001 to Nuangola Outlet. Waste Activated Sludge is pumped to the aerated sludge holding compartments, it is thickened by gravity and decanted using a submersible pump; it is finally disposed of using a liquid hauling contractor.”

There is 13.82 tons of biosolids produced by the facility. It is disposed of at Greater Hazleton Joint Sewer Authority.

The facility uses the following wastewater treatment chemicals:

Approve	Deny	Signatures	Date
X		*Melanie Macioce* Melanie Macioce / Environmental Engineering Trainee	December 15, 2025
X		Edward Dudick, P.E. / Environmental Engineer Manager	December 19, 2025

Summary of Review

- Magnesium hydroxide is used as a pH neutralizer. The maximum usage rate is 0.3 gallons/hour.
- Poly Aluminum Chloride (PAC) is a coagulant used to remove TSS, organic matter, and phosphorus. The maximum usage rate is 0.2 gallons/hour.
- Sodium hypochlorite is used as a disinfectant. The maximum daily usage rage is 0.2 gallons/hour.
- Sodium Thiosulfate is used as dechlorination. The maximum daily usage rate is 0.2 gallons/hour.

WQM Updates:
There have been 2 updates to the facility's WQM Permit:

2021 WQM Update
In 2021, a new influent pump station, comminutor, influent distribution box, extended aeration treatment and sludge holding tanks, blower system, control building, operations building, disinfection and emergency power were installed.

New Pump Station:
The existing influent pump station, valve box, manhole and abandoned concrete vault was demolished and replaced with a new pump station and valve box. Two 5 HP submersible VFD pumps, capable of pumping 250 GPM at a 28.5 ft TDB will be installed. One will be service, and one will be standby. Levels in the wet well will be monitored with a pressure transducer and low/high level backup floats.

New Comminutor:
A new comminutor with a capacity of 370 gpm during peak flow with in-channel configuration will replace the existing comminutor.

Influent Distribution Box:
A new distribution flow box with a set of 3 adjustable 90° V-notch weirs with an average flow capacity of 0.029 MGD that can equally distribute flow between the three extended aeration wastewater treatment tanks. An overflow pipe will discharge to the influent wet well.

Extended Aeration Treatment and Sludge Holding Tanks:
The two existing sludge holding tanks will be converted in aeration tanks. A third treatment train will be added to operate in parallel with the existing two trains to provide for redundancy. Two new sludge holding tanks will be installed with a capacity of 30,000 gallons total.

Blower System:
- Two additional aeration blowers will be installed for a total of four (3 duty / 1 standby) in the new Operations Building. Each 20 HP positive displacement blower is VFD-controlled and capable of providing 360 cfm @ 6 psi.
- Four 5 HP positive displacement blowers capable of providing 90 cfm @ 6psi will also be installed in the new Operations Building: two for sludge holding tanks 1 & 2, one for air lifting and one common spare for redundancy.
- Two 3/4 HP regenerative blowers capable of providing 10 cfm @ 4 psi will be installed in the building for post aeration in the chlorine contact tank.

Control Building:
New chemical feed systems for magnesium hydroxide and polyaluminum chloride will be installed in the Chemical Room. The existing magnesium hydroxide chemical feed equipment for influent alkalinity adjustment will be replaced with new equipment consisting of two peristaltic pumps (1 service / 1 standby), a mixer and a polyethylene double wall chemical storage tank. Polyaluminum chloride solution will be added to the distribution box for phosphorus removal. Two peristaltic pumps (1 service / 1 standby) and a polyethylene double wall chemical storage tank will be installed in the Chemical Room in the Control Building.

Operations Building:
A new Operations Building will be constructed to house the Electrical Room, Blower Room and UV Disinfection Room. Sodium hypochlorite and sodium bisulfate chemical feed systems will be installed in the UV Disinfection Room to serve as emergency backup chlorination/dechlorination of the wastewater.

Summary of Review

Disinfection:
The existing sodium hypochlorite disinfection system will be replaced with a new ultraviolet (UV) radiation disinfection system and will be housed in the UV Disinfection Room of the new Operations Building. The UV system is capable of treating a peak flow of 0.36 MGD with 60% minimum transmittance @ 30 mg/L TSS. One channel will contain two complete systems (1 service / 1 standby). Each of the 2 UV banks contains 6 modules. Each module will contain two UV lamps for a total of 24 lamps. Chlorine tanks will remain in place.

Emergency Power:
A 125 kW generator will be installed near the Operations Building.

General Updates:
A plant-wide SCADA system will be installed. Several safety upgrades will be installed in the new and existing tanks, including walkways, platforms and railings.

2023 WQM Update:
A new ¼" perforated plate mechanical screen will be added to the influent pump station wet well to help prevent clogging of pumps in lieu of the comminutor system in the original design. It will consist of a vertical screen basket and a shafted auger in a vertical tube. A new plant water system will be installed to meet non-potable water use demands at the WWTP.

The design capacity of 0.0875 MGD remained unchanged in both WQM Permit Updates.

NPDES Permit Renewal Explanation:

According to DEP's *Standard Operating Procedure for Clean Water Program: Establishing Effluent Limitations for Individual Sewage Permits*, the following are required in the permit: CBOD5, Total Suspended Solids, pH, Fecal Coliform, Total Residual Chlorine, Ammonia Nitrogen, Total Phosphorous, Dissolved Oxygen, and E.Coli.

- E. Coli was added as a new permit limit in this renewal. The instantaneous maximum will be measured 1/quarter since this facility has a design flow between 0.05 – 1 MGD.

The previous permit enacted limits on Ammonia-Nitrogen (May-October) of 3.3 mg/L average monthly and 6.6 mg/L IMAX and Ammonia-Nitrogen (November-April) of 9.9 mg/L average monthly.

A WQM 7.0 Analysis was completed to calculate effluent limitations for CBOD5, Dissolved Oxygen, and Ammonia Nitrogen. The results from the WQM 7.0 model ran on December 5, 2025 are linked below. USGS StreamStats data is linked below; areas and elevations were obtained from the interactive map and report. No values were more stringent than previous permit values. Therefore, the current limits will remain to prevent anti-backsliding. (See Water Quality-Based Limitations that is on the final page of this document). However, Ammonia-Nitrogen (November-April) did not have an IMAX limit. A limit of 19.8 mg/L was enacted on this permit renewal. Below is the WQM 7.0 Modeling Results and StreamStats Data:


Combined WMS RESULTS 12.17.2025.


Streamstats Outfall Delineation.pdf


StreamStats Convergence with S

The Department's "Total Residual Chlorine Spreadsheet" was performed to determine the appropriate limits for TRC. The limits of the previous permit were stricter. Therefore, they will remain the same to prevent anti-backsliding. The average monthly concentration will remain at 0.12 mg/L. The IMAX value has decreased to 0.39 mg/L as compared to 0.4 mg/L.


TRC_CALC (1).xlsx

An additional update to the permit is the addition of reporting a daily max for Nitrate-Nitrite as N, Total Nitrogen and Total Kjeldahl Nitrogen. This was added to accurately reflect the sampling results.

Summary of Review
Sludge use and disposal description and location(s): There is 13.82 tons of biosolids produced by the facility. It is disposed of at Greater Hazleton Joint Sewer Authority. 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)	.0875
Latitude	41º 9' 14.55"	Longitude	-75º 57' 37.58"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Nuangola Outlet (CWF)	Stream Code	28276
NHD Com ID	65635779	RMI	0.74
Drainage Area	2.22	Yield (cfs/mi^2)	-
Q_{7-10} Flow (cfs)	0.22	Q_{7-10} Basis	0
Elevation (ft)	1140.1	Slope (ft/ft)	0.00506
Watershed No.	5-B	Chapter 93 Class.	CWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	PA American Water Berwick		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	1190
PWS RMI	159.9	Distance from Outfall (mi)	23.1

Changes Since Last Permit Issuance: N/A

Other Comments: N/A

Treatment Facility Summary

Treatment Facility Name: Laurel Lakes WWTP

WQM Permit No.	Issuance Date
4020402 A-1	07/20/2023
4020402	3/10/2021

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	0.0875

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0875	146	Not Overloaded	N/A	Transported to Greater Hazelton WWTP for disposal

Changes Since Last Permit Issuance: A new WQM Permit and an amendment was processed since last NPDES Permit Renewal. Most notably, the disinfection switched from Chlorine to UV Disinfection with Sodium Hypochlorite as a backup. Improvements to the influent pump station, comminutor, influent distribution box, extended aeration treatment and sludge holding tanks, blower system, control building, operations building, disinfection and emergency power were made in 2021. A new ¼" perforated plate mechanical screen and a new plant water system was installed in 2023.

Other Comments: More detail regarding the updates to the WWTP system is documented above in the body of the fact sheet.

Compliance History

DMR Data for Outfall 001 (from November 1, 2024 to October 31, 2025)

Parameter	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24
Flow (MGD) Average Monthly	0.0300	0.0340	0.0370	0.0493	0.0870	0.0960	0.0581	0.0540	0.0405	0.0358	0.0457	0.0406
Flow (MGD) Daily Maximum	0.0590	0.0604	0.0539	0.1355	0.06948	0.3420	0.0995	0.1026	0.0806	0.1153	0.1108	0.1972
pH (S.U.) Instantaneous Minimum	7.8	7.7	7.3	6.5	7.4	7.2	7.2	7.0	7.4	7.2	7.5	7.8
pH (S.U.) Instantaneous Maximum	8.6	9.0	8.3	8.3	8.8	8.0	8.3	7.9	8.1	8.2	8.5	8.6
DO (mg/L) Instantaneous Minimum	7.6	7.3	6.1	6.0	6.3	6.8	6.4	8.1	9.3	9.3	7.4	7.7
TRC (mg/L) Average Monthly	0.03	GG	0.04	0.07	0.07	0.24	0.21	0.21	0.24	0.29	0.25	0.25
TRC (mg/L) Instantaneous Maximum	0.08	GG	0.10	0.10	0.11	0.91	0.39	0.30	0.33	0.46	0.48	0.46
CBOD5 (mg/L) Average Monthly	< 2.0	< 2.0	< 17.0	5.0	7.5	< 2.0	< 2.0	< 2.0	3.0	< 2.0	< 2.5	< 2.0
TSS (mg/L) Average Monthly	8.5	6.0	< 3.0	< 5.5	< 4.0	4.0	< 3.0	< 3.0	3.5	4.0	7.5	< 3.0
Fecal Coliform (No./100 ml) Geometric Mean	10	< 1	< 5	< 1	< 2	< 8	12	< 2	21	2	3	1
Nitrate-Nitrite (lbs/day) Annual Average											< 4.65	
Nitrate-Nitrite (mg/L) Annual Average											< 8.45	
Total Nitrogen (lbs/day) Annual Average											< 5.39	
Total Nitrogen (mg/L) Annual Average											< 9.80	
Ammonia (mg/L) Average Monthly	< 0.1	< 0.2	0.1	1.3	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

TKN (lbs/day) Annual Average											0.74	
TKN (mg/L) Annual Average											1.35	
Total Phosphorus (mg/L) Average Monthly	0.8	0.7	0.5	0.5	2.3	0.6	0.4	0.3	0.7	0.5	0.5	0.5

Compliance History

Effluent Violations for Outfall 001, from: December 1, 2024 To: October 31, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Phosphorus	06/30/25	Avg Mo	2.3	mg/L	2.0	mg/L

Summary of Inspections: There was one inspection completed in the last 5 years on August 18, 2025.

Other Comments: N/A