

Application Type Renewal
Facility Type Non-Municipal
Major / Minor Minor

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0050423
APS ID 1136560
Authorization ID 1525928

Applicant and Facility Information

Applicant Name <u>Sister Servants Of The Immaculate Heart Of Mary</u>	Facility Name <u>Villa Maria STP</u>
Applicant Address <u>1140 King Road</u> <u>Immaculata, PA 19345-0200</u>	Facility Address <u>1140 King Road</u> <u>Immaculata, PA 19345</u>
Applicant Contact <u>Dawn Barnett</u>	Facility Contact <u>Dawn Barnett</u>
Applicant Phone <u>(610) 647-2190</u>	Facility Phone <u>(610) 647-2190</u>
Client ID <u>62911</u>	Site ID <u>458570</u>
Ch 94 Load Status <u>Not Overloaded</u>	Municipality <u>East Whiteland Township</u>
Connection Status <u></u>	County <u>Chester</u>
Date Application Received <u>May 5, 2025</u>	EPA Waived? <u>Yes</u>
Date Application Accepted <u></u>	If No, Reason <u></u>
Purpose of Application <u>Permit renewal.</u>	

Summary of Review

The applicant requests approval for the renewal of an NPDES permit to discharge treated sewage from Villa Maria STP.

Influent is fed to the treatment plant via a gravity collection system. A manual bar screen is utilized to remove large debris prior to the treatment process. The flows are then split to two aeration basins for biological treatment. The aeration is derived from centrifugal blowers. Aluminum Sulfate is added at the end of both aeration basins for phosphorus reduction. Two clarifiers with air lift sludge return pumps follow the aeration tanks. Wasting is achieved by manually opening independent gate valves at the clarifiers which discharges to the sludge holding tank. The flow leaves the clarifiers through a V notch weir for flow measurement to two sand filtration beds that are used in alternation. Forward flow goes to a chlorine injection point at the chlorine detention tank and is then dechlorinated before being discharged to the outfall. Sodium hypochlorite is used for disinfection.

The bar screen is cleaned daily by the operator and the rags and solids are placed in the garbage. The extended aeration tank is on 24 hours a day and there are extra blowers at this facility for redundancy. There are two sand filters on site, and they are swapped every 6 months or so.

Sludge use and disposal description and location(s): 0.009 dry tons sludge for previous year; Sludge is removed once a quarter from the facility and hauled away to another WWTP.

There are no changes in the flow, influent characteristics, treatment units, stream designation, etc.

The existing limits are recommended to carry over to this permit. Total Zinc is recommended to be added to the permit based on the concentration reported in the application.

Approve	Deny	Signatures	Date
X		<i>Amy Boginsky</i> Amy Boginsky, MS, EIT / Environmental Engineering Specialist	November 4, 2025
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	11/05/2025

Summary of Review

Act 14 Notifications:

East Whiteland Township: April 15, 2025
Chester County: April 15, 2025

Permit Conditions

- A. No Stormwater
- B. Property Rights
- C. Solids Handling
- D. Municipal Sewage
- E. Chlorine Minimization
- F. Responsible Operator
- G. Seasonal Fecal Coliform
- H. Solids Management

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)	.04
Latitude	40° 1' 19.48"	Longitude	-75° 34' 0.56"
Quad Name	Malvern	Quad Code	1841
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary of Ridley Creek (HQ-TSF)	Stream Code	00686
NHD Com ID	25625972	RMI	0.3
Drainage Area	0.24 mi ²	Yield (cfs/mi ²)	0.1058
Q ₇₋₁₀ Flow (cfs)	0.0254	Q ₇₋₁₀ Basis	StreamStats
Elevation (ft)	494.78	Slope (ft/ft)	
Watershed No.	3-G	Chapter 93 Class.	HQ-TSF
Assessment Status	Impaired		
Cause(s) of Impairment	CAUSE UNKNOWN, FLOW REGIME MODIFICATION, SILTATION		
Source(s) of Impairment	URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status	None	Name	

Changes Since Last Permit Issuance: None



StreamStats.pdf

Treatment Facility Summary				
Treatment Facility Name: Villa Maria STP				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration With Solids Removal	Hypochlorite	0.04
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.04		Not Overloaded		Other WWTP

Compliance History

DMR Data for Outfall 001 (from September 1, 2024 to August 31, 2025)

Parameter	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24
Flow (MGD) Average Monthly	0.02129 3	0.01743 6	0.00573 7	0.01791 6	0.01621 5	0.01917 3	0.01377 1	0.01241 9	0.01764 4	0.01180 2	0.01127 7	0.01104 5
Flow (MGD) Daily Maximum	0.05607 5	0.05851 3	0.02214 6	0.04999 3	0.05301 4	0.05787 3	0.03096 6	0.03174	0.05266 8	0.03429 3	0.03278 1	0.03780 2
pH (S.U.) Instantaneous Minimum	7.14	6.63	7.04	6.6	6.15	7.08	7.07	6.92	7.04	7.02	7.02	6.98
pH (S.U.) Instantaneous Maximum	7.72	7.92	7.96	7.45	7.38	7.37	7.86	7.54	7.36	7.36	7.34	7.66
DO (mg/L) Instantaneous Minimum	7.27	7.71	8.54	6.01	6.02	8.34	8.17	8.29	8.27	7.65	7.58	8.01
TRC (mg/L) Average Monthly	0.04	< 0.05	< 0.03	< 0.02	< 0.04	< 0.11	< 0.09	0.08	< 0.08	< 0.09	0.06	< 0.05
TRC (mg/L) Instantaneous Maximum	0.08	0.07	0.07	0.05	0.14	0.21	0.23	0.16	0.16	0.18	0.14	0.12
CBOD5 (lbs/day) Average Monthly	< 0.2	< 0.2	0.2	0.4	< 0.2	0.3	< 0.2	< 0.2	0.4	< 0.2	< 0.06	< 0.2
CBOD5 (mg/L) Average Monthly	< 2.0	< 2.0	4.3	3.7	< 2.4	3.0	< 2.2	< 2.0	4.0	< 2.0	< 2.0	< 3.6
TSS (lbs/day) Average Monthly	< 0.09	0.3	0.3	0.4	0.2	0.4	0.3	0.3	< 0.3	0.09	0.03	0.7
TSS (mg/L) Average Monthly	< 1.0	4.0	19.5	3.0	2.5	4.0	4.5	3.0	< 3.3	1.0	1.0	11.0
Total Dissolved Solids (mg/L) Daily Maximum			896			522.0			606			909
Fecal Coliform (No./100 ml) Geometric Mean	< 5	< 2	514	< 81	< 10	< 2	< 2.0	< 2	< 2	< 2	< 2	< 28
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 12	3	540	3300	46	< 2	< 2	< 2	< 2	< 2	< 2	5600

NPDES Permit Fact Sheet
Villa Maria STP

NPDES Permit No. PA0050423

Total Nitrogen (mg/L) Average Monthly	< 58.4	< 55.4	< 39.5	< 28.74	< 44.91	< 43.6	< 43.5	< 43.6	< 29.93	< 37	< 37.5	< 32.5
Ammonia (lbs/day) Average Monthly	< 0.002	< 0.002	0.002	0.04	0.05	0.02	0.02	0.06	< 0.01	< 0.002	< 0.0006	0.004
Ammonia (mg/L) Average Monthly	< 0.03	< 0.02	0.1	0.4	0.6	0.2	< 0.1	0.5	< 0.9	< 0.02	< 0.02	0.1
Total Phosphorus (lbs/day) Average Monthly	0.6	0.4	0.03	0.06	0.09	0.04	0.02	0.01	0.4	0.2	0.03	0.07
Total Phosphorus (mg/L) Average Monthly	6.7	3.8	0.7	0.7	0.9	0.4	0.3	0.1	3.1	1.7	1.0	1.2
Total Copper (mg/L) Daily Maximum			0.036			0.016			0.032			0.022

Compliance History

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

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	06/30/25	Geo Mean	514	No./100 ml	200	No./100 ml
Fecal Coliform	05/31/25	IMAX	3300	No./100 ml	1000	No./100 ml
Total Phosphorus	08/31/25	Avg Mo	6.7	mg/L	2.0	mg/L
Total Phosphorus	07/31/25	Avg Mo	3.8	mg/L	2.0	mg/L
Total Phosphorus	12/31/24	Avg Mo	3.1	mg/L	2.0	mg/L

Summary of Inspections: The corrective actions have been performed, and the violations have been addressed.



PA0050423_SEWAGE_Villa_Maria_STP_PA00
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Development of Effluent Limitations

Outfall No. 001
Latitude 40° 1' 19.24"
Wastewater Description: Sewage Effluent

Design Flow (MGD) .04
Longitude -75° 34' 0.84"

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
CBOD ₅ (05-1 to 10-31)	20	Average Monthly	Existing
CBOD ₅ (11-1 to 4-30)	25	Average Monthly	Existing
TSS	30	Average Monthly	DRBC
Fecal Coliform	200/1000	Ave. Month. /Inst.Max	Chapt. 93 & DRBC
Ammonia-N (05-1 to 10-31)	2.0	Average Monthly	Existing
Ammonia-N (11-1 to 04-30)	6.0	Average Monthly	Existing
Total Residual Chlorine	0.14/0.32	Ave.Month./Inst.Max	Existing
Dissolved Oxygen	6.0	Inst. Min.	Existing
pH	6.0 to 9.0 at all times		Chapt. 93
Total Phosphorus	2.0	Average Monthly	Existing/BPJ
Total Nitrogen	Report	Average Monthly	Existing/Data Collection
Total Dissolved Solids	Report	Daily Max.	Existing/ Data Collection
Copper, Total	Report	Daily Max.	Existing/ Data Collection
Zinc, Total	Report	Daily Max.	Data Collection*

*Discharge concentration of Zinc, Total is reported as 365 ug/l in the application which is much higher than the most stringent criterion, 117 ug/l. Therefore, quarterly monitoring for Zinc, Total is included in the permit for data collection. This is the only new parameter 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" (386-0400-001), 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	See Permit	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	See Permit	Grab
TRC	XXX	XXX	XXX	0.14	XXX	0.32	See Permit	Grab
CBOD5 Nov 1 - Apr 30	8.3	XXX	XXX	25.0	XXX	50	2/month	24-Hr Composite
CBOD5 May 1 - Oct 31	6.7	XXX	XXX	20.0	XXX	40	2/month	24-Hr Composite
TSS	10.0	XXX	XXX	30.0	XXX	60	2/month	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	2.0	XXX	XXX	6.0	XXX	12	2/month	24-Hr Composite
Ammonia May 1 - Oct 31	0.7	XXX	XXX	2.0	XXX	4	2/month	24-Hr Composite
Total Phosphorus	0.7	XXX	XXX	2.0	XXX	4	2/month	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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Copper	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Total Zinc	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite

Compliance Sampling Location: Outfall 001