Pennsylvania Department of Environmental Protection

Southeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0056065**
Facility Type	**Non-Municipal**	APS ID	**1131594**
Major / Minor	**Minor**	Authorization ID	**1516960**

Applicant and Facility Information

Applicant Name	**Enserv Inc.**	Facility Name	**Immaculata University**
Applicant Address	1145 King Road	Facility Address	1145 King Road
	Immaculata, PA 19345-9903		Immaculata, PA 19345-9903
Applicant Contact	Anthony McBride	Facility Contact	John Scully
Applicant Phone	(610) 647-4400	Facility Phone	(215) 766-2626
Client ID	64931	Site ID	449987
Ch 94 Load Status	Not Overloaded	Municipality	East Whiteland Township
Connection Status		County	Chester
Date Application Received	February 21, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application .

Summary of Review

NPDES permit renewal application was received for discharging sewage into unnamed tributary of Valley Creek (EV, MF).

The treatment plant serves the university campus site.

The facility consists of a sequential Batch Reactor plant – Lakeside screen, effluent equalization, two batch reactors, one effluent equalization, one Drum filter, and Ultra-Violet disinfection.

Per the site inspection on 11/26/2024, the site seems to be in acceptable condition.

The limits from the previous permit term carries over.

Act 14 Notifications:
- East Whiteland Twp: received on 2/18/2025
- Chester County: received on 2/18/2025

Sludge use and disposal description and location(s): Delcora WWTP, 3201 West Front St, Chester, PA 19016

Approve	Deny	Signatures	Date
X		*Charley Yang* Charley Yang / Environmental Engineering Specialist	September 2, 2025
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	09/02/2025

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)	.0977
Latitude	40Âº 2' 0.60"	Longitude	-75Âº 33' 59.94"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary of Valley Creek (EV, MF)	Stream Code	01012
NHD Com ID	25980406	RMI	1.7
Drainage Area	0.04	Yield (cfs/mi^2)	0.02
Q_{7-10} Flow (cfs)	0.01	Q_{7-10} Basis	StreamStats
Elevation (ft)	495.28	Slope (ft/ft)	
Watershed No.	3-F	Chapter 93 Class.	EV, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	CAUSE UNKNOWN, FLOW REGIME MODIFICATION, HABITAT ALTERATIONS, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBS), POLYCHLORINATED BIPHENYLS (PCBS), POLYCHLORINATED BIPHENYLS (PCBS), POLYCHLORINATED BIPHENYLS (PCBS), POLYCHLORINATED BIPHENYLS (PCBS), SILTATION		
Source(s) of Impairment	HABITAT MODIFICATION - OTHER THAN HYDROMODIFICATION, SOURCE UNKNOWN, SOURCE UNKNOWN, SOURCE UNKNOWN, SOURCE UNKNOWN, SOURCE UNKNOWN, SOURCE UNKNOWN, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status	Final	Name	Valley and Little Valley Creeks

Changes Since Last Permit Issuance: Drainage Area, Q_{7-10} Flow, and Elevation have been updated.

Other Comments: The Valley and Little Valley Creeks TMDL addresses PCB contamination that originated from the Paoli Rail Yard. The TMDL Implementation Plan addressed remedial activity at the Paoli Rail Yard and removal of stream bed sediments containing greater than 1 mg/l PCB. Therefore, the TMDL does not affect the discharge from ENSERV.

Treatment Facility Summary

Treatment Facility Name: Immaculata University STP

WQM Permit No.	Issuance Date
1508401	05/07/2008

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Ultraviolet	0.0977

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0977	244	Not Overloaded		

Changes Since Last Permit Issuance: None

Other Comments:

Compliance History	
Summary of DMRs:	There has been a few above the limit incidents on TSS, Fecal Coliform, and Ammonia. It seems to be under control and equipment have been replaced and the operator's error has been fixed per eDMR.
Summary of Inspections:	Effluent samples were not flowing proportionally. NOV was issued.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
Flow (GPD) Average Monthly	0.0404	0.0431	0.053	0.0481	0.0486	0.0328	0.0373	0.0565	0.0634	0.0658	0.0517	0.0457
pH (S.U.) Instantaneous Minimum	7.15	7.04	6.68	6.96	7.18	7.12	7.14	7.04	7.08	7.1	6.69	6.75
pH (S.U.) Instantaneous Maximum	8.99	8.55	8.51	7.57	8.71	7.81	8.23	7.74	7.8	8.26	7.32	7.78
DO (mg/L) Instantaneous Minimum	7.02	7.01	7.12	7.16	8.28	8.24	7.02	7.8	8.02	7.09	7.0	7.06
CBOD5 (lbs/day) Average Monthly	2.3	3.0	< 2.1	2.0	< 1.2	< 0.9	< 1.3	< 1.6	< 1.3	< 1.4	< 0.9	< 0.8
CBOD5 (mg/L) Average Monthly	6	9	< 4	4	< 2	< 3	< 4	< 3	< 2	< 2	< 2	< 2
TSS (lbs/day) Average Monthly	5.3	< 7.3	< 3.4	< 0.5	< 0.5	< 0.5	0.6	< 0.8	< 0.6	< 5.1	< 0.4	< 0.4
TSS (mg/L) Average Monthly	12	< 22	< 7	< 1	< 1	< 2	< 2	< 1	< 1	< 9	< 1	< 1
Fecal Coliform (No./100 ml) Geometric Mean	< 11	< 107	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 18	< 2	< 2
Fecal Coliform (No./100 ml) Instantaneous Maximum	90	< 5800	164	< 2	< 2	< 2	< 3	< 2	< 2	14300	< 2	< 2
UV Intensity (µw/cm²) Instantaneous Minimum	0.2	0.2	0.01	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total Nitrogen (mg/L) Average Monthly	15.84	7.18	< 16.28	< 21.15	15.95	< 26.22	< 27.16	< 5.06	< 5.22	23.2	< 13.47	< 13.3
Ammonia (lbs/day) Average Monthly	0.3	0.5	0.2	0.5	0.3	0.2	0.4	0.6	0.3	0.9	0.09	0.2
Ammonia (mg/L) Average Monthly	0.9	1.5	0.5	1.1	0.7	0.6	1.3	1.2	0.4	1.6	0.2	0.4

Total Phosphorus (mg/L) Average Monthly	3.21	3.64	4.55	3.94	2.77	2.52	2.92	1.57	1.51	4.74	2.17	2.3

Compliance History

Effluent Violations for Outfall 001, from: August 1, 2024 To: June 30, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	05/31/25	Avg Mo	< 22	mg/L	10	mg/L
TSS	06/30/25	Avg Mo	12	mg/L	10	mg/L
Fecal Coliform	05/31/25	IMAX	< 5800	No./100 ml	1000	No./100 ml
Fecal Coliform	09/30/24	IMAX	14300	No./100 ml	1000	No./100 ml
Ammonia	09/30/24	Avg Mo	1.6	mg/L	1.5	mg/L

Summary of Inspections:

Other Comments:

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0977
Latitude 40° 1' 55.37" **Longitude** 75° 33' 57.22"
Wastewater Description: Treated sewage from Immaculata University STP

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	-	DRBC, 92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	DRBC, 92a.47(a)(4)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: The NPDES permit issued in 2003 included more stringent effluent limits for $CBOD_5$ and TSS based on ABACT Technology Based limits. The ABACT Technology Based average monthly limits for $CBOD_5$ and TSS are both 10 mg/l, respectively.

Water Quality-Based Limitations

WQM 7.0 was run to verify the effluent limits. The NPDES permit renewal issued in 2003 included more stringent effluent limits for $CBOD_5$ and TSS based on ABACT Technology Based limits.

Since this facility is designed for less than 0.1 MGD, no reporting of toxic parameters was required. Therefore, no reasonable potential analysis was performed, and the Department's PENTOXSD model was not run.

The Valley and Little Valley Creeks TMDL:

The Valley and Little Valley Creeks TMDL addresses PCB contamination that originated from the Paoli Rail Yard. The TMDL Implementation Plan addressed remedial activity at the Paoli Rail Yard and removal of stream bed sediments containing greater than 1 mg/l PCB. Therefore, the TMDL does not affect the discharge from ENSERV.

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	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (GPD)	Report	XXX	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	7.0	XXX	XXX	XXX	1/day	Grab
CBOD5	8.0	XXX	XXX	10	XXX	20	1/week	24-Hr Composite
TSS	8.0	XXX	XXX	10	XXX	20	1/week	24-Hr Composite
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
UV Intensity (µw/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	3.0	XXX	XXX	3.7	XXX	7.4	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	1.2	XXX	XXX	1.5	XXX	3	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

Compliance Sampling Location:

Other Comments:

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03F	1012	Trib 01012 to Valley Creek	**1.700**	495.28	0.04	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.01	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Immaculata	PA0056065	0.0977	0.0977	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	10.00	0.00	0.00	1.50
Dissolved Oxygen	7.00	8.24	0.00	0.00
NH3-N	1.50	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03F	1012	Trib 01012 to Valley Creek	**0.570**	294.39	1.90	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.55	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
03F	1012	Trib 01012 to Valley Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (ºC)	Analysis pH
Q7-10 Flow												
1.700	0.01	0.00	0.01	.1511	0.03367	.461	1.92	4.16	0.18	0.387	24.78	7.00
Q1-10 Flow												
1.700	0.00	0.00	0.00	.1511	0.03367	NA	NA	NA	0.18	0.391	24.86	7.00
Q30-10 Flow												
1.700	0.01	0.00	0.01	.1511	0.03367	NA	NA	NA	0.18	0.384	24.70	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	7		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03F	1012	Trib 01012 to Valley Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.700	Immaculata	11.21	3	11.21	3	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.700	Immaculata	1.39	1.48	1.39	1.48	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
1.70	Immaculata	10	10	1.48	1.48	7	7	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03F	1012	Trib 01012 to Valley Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (ºC)	Analysis pH
1.700	0.098	24.779	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.922	0.461	4.165	0.178
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
9.56	1.500	1.42	1.011
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.055	32.037	Owens	7
Reach Travel Time (days)			
0.387			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.039	8.89	1.36	7.31
0.077	8.27	1.31	7.42
0.116	7.69	1.26	7.50
0.155	7.16	1.21	7.56
0.194	6.66	1.16	7.57
0.232	6.19	1.12	7.57
0.271	5.76	1.08	7.57
0.310	5.36	1.04	7.57
0.348	4.99	1.00	7.57
0.387	4.64	0.96	7.57

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03F	1012	Trib 01012 to Valley Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.700	Immaculata	PA0056065	0.098	CBOD5	10		
				NH3-N	1.48	2.96	
				Dissolved Oxygen			7