Pennsylvania Department of Environmental Protection

Southeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0040576**
Facility Type	**Non-Municipal**	APS ID	**1136343**
Major / Minor	**Minor**	Authorization ID	**1525539**

Applicant and Facility Information

Applicant Name	**Village of Valleybrook HOA**	Facility Name	**Valley Brook HOA STP**
Applicant Address	PO Box 394	Facility Address	265 Bishops Drive
	Chester Heights, PA 19017-0394		Chester Heights, PA 19017
Applicant Contact	Justin Buccilli	Facility Contact	Gene Decarlo
Applicant Phone	(610) 940-1050	Facility Phone	(610) 389-3509
Client ID	66139	Site ID	452976
Ch 94 Load Status	Not Overloaded	Municipality	Chester Heights Borough
Connection Status		County	Delaware
Date Application Received	May 1, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Permit Renewal.

Summary of Review

PADEP received application for renewal of NPDES permit to discharge 72,000 gpd treated sewage from the STP serving Valley Brook Apartments into West Branch Chester Creek. The Valleybrook Homeowners Association STP is in Chester Heights Borough, Delaware County. This is an existing discharge to West Branch Chester Creek classified as TSF and MF. There are no changes to the wastewater characteristics, flow and/or receiving stream designation since the last renewal. Permittee recently replaced old treatment plant with new packaged WWTP that consists of two treatment trains that uses extended aeration and UV disinfection system.

The previous STP was consists of a comminutor, one equalization tank, two aeration tanks, two clarifiers, one sludge holding tanks and a chlorine contact tank. Sodium Hypochlorite was used for disinfection.

The new treatment plant manufactured by Dutchland Inc., consists of two treatment trains that uses extended aeration and UV disinfection system. All wastewater from existing EQ tank flows to the new package WWTP. Each proposed treatment train can treat an average daily for of 36,000 GPD, maximum of 60,000 GPD. The treatment plant consists of influent screw screen, equalization tank, 4.5 -unit aeration tanks, 1.5-unit clarifier tanks, UV disinfection system with post aeration, sludge holding tank with aeration. Part II WQM permit No. 2322403 for the new treatment plant was issued on April 28, 2022.

The treated effluent from STP is generally in compliance with NPDES permits limits. There are no changes to wastewater characteristics, receiving stream classification, and/or wastewater quantity. Effluent limits for all parameters will remain same for this permit renewal. We have included monitoring for E. Coli and UV Disinfection for this permit renewal. We have Total Residual Chorine (TRC) for this permit renewal. There are no industrial dischargers to this system.

Sludge use and disposal description and location(s): Liquid sludge hauled to DELCORA WWTP.

Approve	Deny	Signatures	Date
X		Ketan Thaker Ketan Thaker / Project Manager	9/9/2025
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	09/10/2025

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)	.072
Latitude	39Âº 52' 31.71"	Longitude	-75Âº 27' 59.89"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	West Branch Chester Creek (TSF, MF)	Stream Code	00542
NHD Com ID	25607194	RMI	2.33
Drainage Area	12.9 mi^2	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	2.43	Q_{7-10} Basis	Previous WQPR
Elevation (ft)	163	Slope (ft/ft)	
Watershed No.	3-G	Chapter 93 Class.	TSF, 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, SILTATION		
Source(s) of Impairment	HABITAT MODIFICATION - OTHER THAN HYDROMODIFICATION, URBAN RUNOFF/STORM SEWERS,		
TMDL Status		Name	

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

Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance: Old treatment plant was replaced with new packaged WWTP that consists of two treatment trains that uses extended aeration and UV disinfection system.

Treatment Facility Summary

Treatment Facility Name: Valley Brook Homeowners Association STP

WQM Permit No.	Issuance Date
2322403	4/28/2022

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	UV Disinfection	0.072

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

Changes Since Last Permit Issuance: Old treatment plant was replaced with new packaged WWTP consists of two treatment trains that uses extended aeration and UV disinfection system.

Compliance History

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

Parameter	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24
Flow (MGD) Average Monthly	0.025	0.026	0.024	0.0252	0.0244	0.0249	0.0268	0.0272	0.027	0.0276	0.0295	0.0284
Flow (MGD) Daily Maximum	0.0473	0.0418	0.0406	0.0354	0.0314	0.0333	0.035	0.0335	0.0391	0.0389	0.0393	0.0465
pH (S.U.) Instantaneous Minimum	6.9	6.8	6.7	6.8	6.5	6.8	6.4	6.8	6.9	6.9	6.7	6.1
pH (S.U.) Instantaneous Maximum	8.1	7.8	8.2	8.1	8.1	7.8	7.7	8.1	8.1	8.2	8.2	8.0
DO (mg/L) Instantaneous Minimum	5.2	6.2	5.0	5.9	5.4	6.1	5.9	5.9	6.1	5.9	5.3	5.1
DO (mg/L) Average Monthly	6.7	7.2	7.0	7.3	7.4	7.5	7.31	7.13	7.3	7.0	6.9	8.0
TRC (mg/L) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TRC (mg/L) Instantaneous Maximum	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
CBOD5 (lbs/day) Average Monthly	< 0.5	< 0.4	< 0.5	0.9	< 0.4	0.9	< 0.5	< 0.4	< 0.3	< 0.4	< 0.5	< 0.04
CBOD5 (mg/L) Average Monthly	< 2.3	< 2.3	< 2.6	3.8	< 2.3	3.9	< 3.0	< 2.8	< 2.0	< 2.0	< 2.0	< 2.0
TSS (lbs/day) Average Monthly	0.6	0.6	0.5	0.9	0.2	1.2	1.7	1.1	0.6	0.6	1.7	1.3
TSS (mg/L) Average Monthly	3.0	3.5	2.5	4.0	1.5	5.5	10.0	6.5	5.0	3.0	6.5	6.0
Total Dissolved Solids (mg/L) Daily Maximum		641			784			753			694	
Fecal Coliform (No./100 ml) Geometric Mean	< 3	< 4	107	17	< 2	< 2	< 12	< 4	< 3	< 13	20	53

Fecal Coliform (No./100 ml) Instantaneous Maximum	5	7	380	38	< 2	3	73	7	5.0	82	26	280
Total Nitrogen (mg/L) Average Monthly	< 36	< 37.5	< 40.9	< 48.5	< 48	< 45.9	< 44.6	< 42.8	< 46.0	< 44	< 48	< 47
Ammonia (lbs/day) Average Monthly	< 0.02	0.02	0.01	0.02	0.01	0.02	< 0.007	< 0.008	0.009	0.01	0.5	0.007
Ammonia (mg/L) Average Monthly	< 0.1	0.1	0.1	0.1	0.1	0.1	< 0.04	< 0.1	0.1	0.1	1.7	0.03
Total Phosphorus (lbs/day) Average Monthly	0.2	0.03	0.03	0.06	0.04	0.05	0.05	0.03	0.02	0.02	0.2	0.06
Total Phosphorus (mg/L) Average Monthly	0.03	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.8	0.3

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .072
Latitude 39º 52' 32.37" **Longitude** -75º 27' 59.39"
Wastewater Description: Sewage Effluent

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)

Following are the effluent limits:

Parameter	Effluent Limit (mg/l)	Basis
CBOD5	25	WQM 7.0
Total Suspended Solids	30	25 Pa Code 92a.47
Dissolved Oxygen	4.0	BPJ
Ammonia-Nitrogen	15	WQM 7.0
Fecal Coliform (No./100 ml)	200 Geo Mean	92a.47
E. Coli	Report	92a.47
Total Nitrogen	Report	92a.61
Total Dissolved Solids	Report	DRBC
Total Phosphorus	1.0	92a.61 Previous Permit
pH (S.U.)	6.0 – 9.0 S.U.	92a.47, 95.2
UV light dosage (mjoules/cm^2)	Report	92a.47-48

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03G	542	WEST BRANCH CHESTER 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)
2.330	Valleybrook HOA	PA0040576	0.000	CBOD5	25		
				NH3-N	15	30	
				Dissolved Oxygen			3

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03G	542	WEST BRANCH CHESTER CREEK

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)		
2.33	Valleybrook HOA	25	25	15	15	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03G	542	WEST BRANCH CHESTER CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.330	0.072	20.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
21.096	0.588	35.906	0.205
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.01	0.387	0.66	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.013	11.798	Tsivoglou	6
Reach Travel Time (days)			
0.694			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.069	2.93	0.63	8.24
0.139	2.85	0.60	8.24
0.208	2.77	0.57	8.24
0.278	2.70	0.54	8.24
0.347	2.63	0.52	8.24
0.417	2.56	0.49	8.24
0.486	2.49	0.47	8.24
0.556	2.43	0.45	8.24
0.625	2.36	0.42	8.24
0.694	2.30	0.40	8.24

WQM 7.0 Modeling Specifications

Parameters	D.O.	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	6		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
03G	542	WEST BRANCH CHESTER 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 (°C)	Analysis pH
Q7-10 Flow												
2.330	2.43	0.00	2.43	.1114	0.00606	.588	21.1	35.91	0.21	0.694	20.00	7.00
Q1-10 Flow												
2.330	1.56	0.00	0.00	.1114	0.00606	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
2.330	3.30	0.00	0.00	.1114	0.00606	NA	NA	NA	0.00	0.000	0.00	0.00

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
03G	542	WEST BRANCH CHESTER CREEK	2.330	163.00	12.90	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	0.00	2.43	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
Valleybrook HOA	PA0040576	0.0000	0.0720	0.0000	0.000	20.00	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	15.00	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
03G	542	WEST BRANCH CHESTER CREEK	0.000	88.50	19.14	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	0.00	3.60	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	0.00	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

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	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	Report	XXX	XXX	1/day	Grab
CBOD5	15.0	XXX	XXX	25.0	XXX	50	2/month	24-Hr Composite
TSS	18.0	XXX	XXX	30.0	XXX	60	2/month	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	12.0	XXX	XXX	20.0	XXX	40	2/month	24-Hr Composite
Ammonia May 1 - Oct 31	9.0	XXX	XXX	15.0	XXX	30	2/month	24-Hr Composite
Total Phosphorus Nov 1 - Apr 30	1.2	XXX	XXX	2.0	XXX	4	2/month	24-Hr Composite
Total Phosphorus May 1 - Oct 31	0.6	XXX	XXX	1.0	XXX	2	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	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
UV Dosage (mjoules/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Metered