pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Application Type	**Renewal**	Application No.	**PA0056731**
Wastewater Type	**Sewage**	APS ID	**1078110**
Facility Type	**SFTF**	Authorization ID	**1421846**

Applicant, Facility and Project Information

Applicant Name	**Historic Salem Village Homeowners Association**	Facility Name	**Historic Salem Village STP**
Applicant Address	2193 Yellow Springs Road Malvern, PA 19355	Facility Address	2193 Yellow Springs Road Malvern, PA 19355
Applicant Contact	Lamar Kilgore	Facility Contact	Lamar Kilgore
Applicant Phone	(610) 640-1611	Facility Phone	(610) 640-1611
Client ID	86874	Site ID	484169
SIC Code	4952	Municipality	Tredyffrin Township
SIC Description	Trans. & Utilities - Sewerage Systems	County	Chester
Date Application Received	December 29, 2022	WQM Required	
Date Application Accepted		WQM App. No.	

Project Description: Permit Renewal

Summary of Review

Applicant requests renewal of an NPDES permit to discharge 0.0017 mgd of treated sewage effluent from Historic Salem Village STP. The site consists of four historic buildings rehabilitated into four single family units.

The plant consists of septic tank treatment followed by 2 Nyadic aerobic treatment units in parallel with soda ash & alum for pH adjustment & phosphorus reduction, parallel intermittent sand filters & UV disinfection. The effluent receives additional polishing in a constructed treatment wetland prior to discharge to an unnamed tributary to Valley Creek.

The original permit was issued on April 19, 1996, and the limits for Outfall 001 were Antidegradation Best Available Treatment (ABAT) limits from the 1st edition (November 1992) of the "Special Protection Waters Implementation Handbook." The limits were applied at the post aeration chamber before the constructed wetland. Because the permittee was experiencing compliance problems, the permit was amended November 9, 1999, so that the Outfall 001 limits would apply after the constructed wetland and secondary limits/monitoring would apply internally (IMP101) at the post aeration chamber.

Although the Part II permit included the constructed wetland as a treatment unit, it also receives stormwater runoff from the PA Turnpike. Review shows no DMR data was submitted for the discharge from the wetland (Outfall 001) because there was no flow when they sampled.

For the permit renewal issued March 25, 2008, two sets of limits were applied. The ABAT limits for Outfall 001 were applied after the constructed treatment wetland. Internal limits for IMP101 were applied at the post aeration chamber. The limits were based on what was considered currently achievable if the plant is properly maintained and operated. These limits are CBOD5 = 15 mg/l, TSS = 20 mg/l, NH3-N (May – October) = 2.0 mg/l, NH3-N (November – April) = 4.5 mg/l, Phosphorus = 2.0 mg/l, Fecal coliform = 200 col/100 ml, DO = 6.0 mg/l minimum, and pH = 6.0 – 9.0. To minimize potential impacts of stormwater on the effluent samples, Part C of the permit specifies that samples for Outfall 001 be collected 72 hours following a measurable

Approve	Deny	Signatures	Date
X		*Sara Abraham* Sara Reji Abraham, E.I.T. / Project Manager	January 19 2023
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	01/19/2023

Summary of Review

storm event. Part C of the permit also requires that when there is no discharge during the monitoring period, as may be the situation for Outfall 001, the permittee shall submit the DMR specifying "No Discharge."

Review of DMRs shows the discharge is in compliance with the permit effluent limitations most of the time.

There are no changes in the quality and quantity of wastewater, treatment units, stream designation etc…

Therefore, the existing permit limits are carried over to the draft permit as follows:

Parameter	Limit (mg/l) 001	Limit (mg/l) 101	SBC
CBOD5	10	15	Average Monthly
TSS	10	20	Average Monthly
DO	6.0	6.0	Inst. Min.
Ammonia-Nitrogen (11-1 to4-30)	4.5	4.5	Average Monthly
Ammonia-Nitrogen (05-1 to 10-31)	1.5	2.0	
Total Phosphorus	1.0	2.0	Average Monthly
Fecal Coliform	200/Report	200/1000*	Geo Mean/I Max
pH	6.0 to 9.0 Std units at all times		

* The DRBC regulation requires that, from October through April, the instantaneous maximum concentration of fecal coliform organisms shall not be greater than 1,000/100 milliliters in more than 10 percent of the samples taken over a period of thirty consecutive days. For less than 10 samples taken per month, no sample can exceed 1,000/100 milliliters as an instantaneous maximum.

At this renewal a requirement to clean the UV system contact surface is included in Part C of the draft permit. Also, the permittee is required to report the monthly cleaning using the Annual Maintenance Report.

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:

Tredyffrin Township - December 8, 2022

Chester County - December 8, 2022

Permit Conditions:

A. AMR to DEP
B. Sampling at Outfall 001
C. DMR to DEP
D. Measurement of Septage
E. Pumping of Septic Tanks
F. Chlorine Optimization
G. No Stormwater
H. Acquire Necessary Property Rights

Summary of Review
I. Proper Sludge Disposal J. Abandon STP when Municipal Sewers Available K. Constructed Wetland Maintenance L. No Discharge Condition M. UV Contact Surface Cleaning N. Fecal Coliform Monitoring

Discharge and Stream Data - 2 - Receiving Waters and PWS

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.0017
Latitude	40º 4' 11.28"	Longitude	-75º 30' 25.00"
Quad Name	Malvern	Quad Code	1841
Wastewater Description:	Treated Sewage Effluent		
Receiving Waters	UNT to Valley Creek (EV, MF)	Stream Code	00991
NHD Com ID	25980332	RMI	5.5
Watershed No.	3-F	Chapter 93 Class.	EV, MF
Assessment Status	Impaired		
Cause(s) of Impairment	cause unknown, flow regime modification, habitat alterations, pathogens, polychlorinated biphenyls (pcbs), siltation		
Source(s) of Impairment	habitat modification - other than hydromodification, source unknown, urban runoff/storm sewers, urban runoff/storm sewers		
TMDL Status	Final*	Name	Valley and Little Valley Creeks

*emap shows Valley and Little Valley Creeks TMDL exists for PCBs

Compliance History

DMR Data for Outfall 101 (from December 1, 2021 to November 30, 2022)

Parameter	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21
Flow (MGD) Average Monthly	0.000403	0.00039	0.000403	390	0.00039	0.000403	0.00039	0.000403	0.00039	0.000431	0.00039	0.00039
pH (S.U.) Instantaneous Minimum	7.28	7.18	6.48	7.21	7.27	7.37	6.94	7.49	7.44	6.85	6.89	7.23
pH (S.U.) Instantaneous Maximum	7.28	7.18	6.48	7.21	7.27	7.37	6.94	7.49	7.44	6.85	6.89	7.23
DO (mg/L) Instantaneous Minimum	8.63	6.59	6.47	6.37	6.06	7.72	7.59	8.75	10.29	7.97	8.95	7.36
CBOD5 (mg/L) Average Monthly	< 2	2.4	< 2	< 2.0	2	2.9	2.0	6.1	< 2.0	2.0	2.4	11.1
TSS (mg/L) Average Monthly	< 172	10.5	< 4	9.0	8	7.2	< 58	< 25.75	17.5	< 4.0	7.5	5.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 1	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1	1	1
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1
Ammonia (mg/L) Average Monthly	< 3.86	< 4.97	0.67	0.57	0.21	7.78	< 3.8	1.12	0.49	1.51	0.46	19.29
Total Phosphorus (mg/L) Average Monthly	1.23	0.56	0.38	0.35	0.41	0.52	5.84	1.935	0.83	0.60	2.0	1.97

Proposed Effluent Limitations and Monitoring Requirements

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	XXX	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/month	Grab
CBOD5	XXX	XXX	XXX	10	XXX	20	1/month	Grab
TSS	XXX	XXX	XXX	10	XXX	20	1/month	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	Report	1/month	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9	1/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3	1/month	Grab
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2	1/month	Grab

Proposed Effluent Limitations and Monitoring Requirements

Outfall 101, 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	XXX	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/month	Grab
CBOD5	XXX	XXX	XXX	15	XXX	30	1/month	Grab
TSS	XXX	XXX	XXX	20	XXX	40	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9	1/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.0	XXX	4	1/month	Grab
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4	1/month	Grab