pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0052451**
Wastewater Type	**Sewage**	APS ID	**1046111**
Facility Type	**SFTF**	Authorization ID	**1366575**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Landenberg Village LLC**	Facility Name	**Landenberg Village/Wool House STP**
Applicant Address	104 Landenberg Road; Suite 3	Facility Address	103 Mercer Mill Road
	Landenberg, PA 19350		Landenberg, PA 19350
Applicant Contact	William Skalish	Facility Contact	Brian Norris
Applicant Phone	(610) 274-1494	Facility Phone	(610) 633-8009
Client ID	245553	Site ID	458841
SIC Code	4952,6513	Municipality	New Garden Township
SIC Description	Fin, Ins & Real Est - Apartment Building Operators, Trans. & Utilities - Sewerage Systems	County	Chester
Date Application Received	August 23, 2021	WQM Required	No
Date Application Accepted	Not Applicable	WQM App. No.	Not Applicable

Project Description: NPDES Permit Renewal

Summary of Review

A permit renewal application was submitted for PA0052451. The renewal application, and the current permit, are categized as Minor Facility <0.05 mgd. The permitted flow is 0.0012 mgd (1,200 gallons per day) which falls under the category of Small Flow Treatment Facility (SFTF), thus the permit renewal is now for a SFTF. Reported flows in the renewal application are close to 0.0004 mgd (400 gpd).

The Wool House STP consists of a Class I Norweco Singular Package extended aeration treatment plant and a chlorine contact tank with erosion chlorination system.

There are no changes in the limitations, sampling type or the measurement frequency from the existing permit. The main driver for the permit limitations is the Christina River Basin Total Maximum Daily Load (TMDL). The Christina River Basin TMDL has three approved TMDLs, one low flow (LF) and two high flow (HF), and an Alternate Reduction Scenario. The wasteload allocations (WLAs) are shown in the below table. Standard Operating Procedure No. BCW-PMT-003 Version 1.8 contains limitations for CBOD5 and TSS that are lower than the TMDL and the existing permit; however, this facility appears to have been permitted (1985) prior to the SFTF manual publication (2006). As such, the aforementioned limitations do not need to be imposed. The DEP TRC spreadsheet was run and the result was the same limitations as the current permit.

The facility may want to consider treatment options for further reductions in the TN and TP effluent concentrations, as concentration limitations may be added in the future.

Act 14 Notifications:
Chester County Received August 2, 2021
New Garden Township Received July 31, 2021

Approve	Deny	Signatures	Date
X		Harmonie Hawley, PhD, PE / Environmental Engineering Specialist /s/	August 31, 2021
X		Pravin C. Patel, P.E. / Environmental Engineer Manager /s/	09/02/2021

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.

Table: TMDL WLAs

	$CBOD_5$ mg/l & lb/d	NH_3-N mg/l & lb/d	TN mg/l & lb/d	TP mg/l & lb/d	DO mg/l	TSS mg/l & lb/d	Fecal coliform cfu/100ml
Alternate Reduction Scenario	25 & 0.25	10 & 0.1	24.2 & 0.242	10 & 0.1	6		
Low Flow	25 & 0.25	10 & 0.1	24.2 & 0.242	10 & 0.1	6		
HF Bacteria						30 & 0.3	200
HF Nutrients	25 & 0.25	10 & 0.1		10 & 0.1			

Discharge and Stream Data – 2 - Receiving Waters and PWS

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.0012
Latitude	39º 46' 41.00"	Longitude	-75º 46' 17.03"
Quad Name	West Grove	Quad Code	2039
Wastewater Description:	Sewage Effluent		
Receiving Waters	East Branch White Clay Creek (CWF, MF)	Stream Code	00432
NHD Com ID	26109002	RMI	3.5 miles
Drainage Area	27.1	Yield (cfs/mi^2)	0.148
Q_{7-10} Flow (cfs)	4.02	Q_{7-10} Basis	PA StreamStats
Elevation (ft)	N/A	Slope (ft/ft)	N/A
Watershed No.	3-I	Chapter 93 Class.	CWF, MF
Existing Use	CWF, MF	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Nutrients, Organic Enrichment, Pathogens, Siltation		
Source(s) of Impairment	Agriculture, Source Unknown		
TMDL Status	Final	Name	Christina River Basin
Nearest Downstream Public Water Supply Intake	None found downstream on the Creek		
PWS Waters	N/A	Flow at Intake (cfs)	N/A
PWS RMI	N/A	Distance from Outfall (mi)	N/A

Changes Since Last Permit Issuance: None

Other Comments: RMI is approximately 3.5 miles upstream of the confluence with White Clay Creek.

Compliance History	
Summary of DMRs:	In the past two (2) years, one non-compliances was found for DO (5.6) in October 2019.
Summary of Inspections:	An inspection was conducted on October 16, 2020 and no violations were noted.

Other Comments: Open Violations report was run on August 27, 2021 and no open violations were found.

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" (362-0400-001), 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	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/week	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/week	Grab
CBOD5	0.25	XXX	XXX	25.0	XXX	50	1/month	Grab
TSS	0.3	XXX	XXX	30.0	XXX	60	1/month	Grab
Fecal Coliform (CFU/100 ml)	XXX	XXX	XXX	200.0 Geo Mean	XXX	1000.0	1/month	Grab
Total Nitrogen	0.24 Daily Max	XXX	XXX	Report Daily Max	XXX	XXX	1/quarter	Grab
Ammonia	0.1	XXX	XXX	10.0	XXX	20	1/month	Grab
Total Phosphorus	0.10 Daily Max	XXX	XXX	Report Daily Max	XXX	XXX	1/quarter	Grab

Compliance Sampling Location: Outfall 001

Other Comments: None

Attachment A: TRC Spreadsheet

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

4.02	= Q stream (cfs)	0.5	= CV Daily
0.0012	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	690.808	1.3.2.iii	WLA cfc =	673.476
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	257.411	5.1d	LTA_cfc =	391.527

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.635	

WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)