pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0035009**
Facility Type	**Non-Municipal**	APS ID	**528771**
Major / Minor	**Minor**	Authorization ID	**1335470**

Applicant and Facility Information

Applicant Name	**Lake Lehman School District**	Facility Name	**Lake Lehman High School**
Applicant Address	P.O. Box 38, 1237 Market Street	Facility Address	Old Route 115
	Lehman, PA 18627-0038		Lehman, PA 18627-0038
Applicant Contact	James McGovern, Superintendent	Facility Contact	Dave Madajewski, Director of Buildings and Grounds
Applicant Phone	(570) 675-2165	Facility Phone	(570) 255-2708
Client ID	28298	Site ID	245767
Ch 94 Load Status	Not Overloaded	Municipality	Lehman Township
Connection Status	-	County	Luzerne
Date Application Received	December 2, 2020	EPA Waived?	Yes
Date Application Accepted	December 15, 2020	If No, Reason	-
Purpose of Application	Renewal of NPDES permit for discharge of treated sewage.		

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.018 MGD of treated sewage into an Unnamed Tributary to East Fork Harveys Creek, a Cold-Water Fishery, Migratory Fish (CWF, MF) receiving stream in State Water Plan Basin 5-B (Wapwallopen Creek). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. This stream segment is not designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies.

Limitations for pH, $CBOD_5$, Total Suspended Solids (TSS), Fecal Coliform, and Dissolved Oxygen (DO) are technology-based and carried over from the previous permit.

Limitations for Ammonia-Nitrogen and Total Residual Chlorine (TRC) are water quality-based and carried over from the previous permit.

WQM 7.0 modeling and the TRC Calculation Spreadsheet did not recommend stricter limits.

Sewage discharges now require monitoring and reporting for E. Coli. A monitoring frequency of 1/month for design flows >= 1 MGD, 1/quarter for design flows >= 0.05 and < 1 MGD, 1/year for design flows of 0.002 – 0.05 MGD will be utilized.

The monthly monitoring and reporting for Total Nitrogen, Total Phosphorous, Total Kjeldahl Nitrogen, and Nitrate-Nitrite as N has been maintained in this permit.

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried / Environmental Engineering Specialist	December 8, 2021
X		/s/ Amy M. Bellanca, P.E. / Environmental Engineer Manager	12-17-21

Summary of Review

Monitoring frequencies for all parameters with limitations have been updated to the recommended frequencies found in Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations (Document No. 362-0400-001).

The water quality-based limits were developed by modeling performed/revised in 1988. In that modeling, it was determined that the point of first use is at the confluence of the Unnamed Tributary to East Fork Harvey Creek with East Fork Harvey Creek. That modeling used Stream gage 0153700 (Toby Creek at Luzerne, PA) to calculate the effluent limits. The data from that stream gage is now outdated because the last year that flow data was obtained from the stream gage was in 1993.

The drainage area at Outfall 001 is too small for USGS StreamStats to estimate accurate low flow values. Therefore, the default Low Flow Yield (LFY) of 0.1 cfs/mi^2 was used to model the discharge and the same point of first use was used. For modeling inputs, RMI values were obtained using the "PA Historic Streams" feature of eMapPA, drainage areas were delineated using USGS's StreamStats Interactive Map, and elevations were obtained using the elevation profile feature of StreamStats.

The existing permit expired on May 31, 2021 and the application for renewal was received on time.

A Water Management System Inspection query indicated that on October 6, 2020 a Compliance Evaluation was performed.

There are currently 16 open violations, including one in the Clean Water Program, for this client that may need to be resolved before issuance of the final permit. The violation for Clean Water is:

1. 10/06/2020 - Violation ID 896235 – Violation Code 92A.41(A)10B – NPDES-Failure to utilize approved analytical methods. (Program Specific ID: PA0035009).

Sludge use and disposal description and location(s): As per the NPDES permit renewal application, sludge is hauled to the Wyoming Valley Sanitary Authority in Hanover, PA by Rural Wastewater.

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)	0.018
Latitude	41º 18' 14.58"	Longitude	-76º 1' 11.08"
Quad Name	Harveys Lake	Quad Code	0837
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to East Fork Harveys Creek (CWF, MF)	Stream Code	28320
NHD Com ID	65633015	RMI	1.24
Drainage Area	0.21 mi^2	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.223	Q_{7-10} Basis	State-wide default
Elevation (ft)	1,236.50	Slope (ft/ft)	-
Watershed No.	5-B	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-
Nearest Downstream Public Water Supply Intake	Danville Borough Municipal Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	-
PWS RMI	122.5	Distance from Outfall (mi)	~ 50

Treatment Facility Summary

Treatment Facility Name: Lake Lehman School District

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Aeration	Chlorination	0.00967 (2017-2019)

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.018	120	Not Overloaded	Settled	Hauled

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.018
Latitude 41º 18' 24.90" **Longitude** -76º 1' 12.50"
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
$CBOD_5$	25.0	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	50.0	IMAX	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	60.0	IMAX	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)
Dissolved Oxygen	5.0	Minimum	-	BPJ
E. Coli	Report	IMAX	-	92a.61

Water Quality-Based Limitations

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
Total Residual Chlorine	1.1	IMAX	1989 Revised Modeling
Ammonia-Nitrogen	2.5	Average Monthly	
May 1 - Oct 31	5.0	IMAX	
Ammonia-Nitrogen	7.5	Average Monthly	
Nov 1 - Apr 30	15.0	IMAX	

Anti-Backsliding

No limitations were made less stringent.

Modeling with State-Wide default LFY at Point of First Use

$$\frac{0.1\ ft^3/sec}{mi^2} \times 2.23\ mi^2 = \frac{\mathbf{0.223\ ft^3}}{\mathbf{sec}}$$

Modeling Using StreamStats

At Outfall 001 to Unnamed Tributary to East Harveys Creek (28320):

RMI	Elevation (ft)	Drainage Area (mi^2)	$Q_{7\text{-}10}$ Flow (cfs)
1.24	1,236.50	0.21	-

StreamStats Report

Region ID: PA
Workspace ID: PA20211206202416738000
Clicked Point (Latitude, Longitude): 41.30682, -76.01977
Time: 2021-12-06 15:24:36 -0500

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.21	square miles

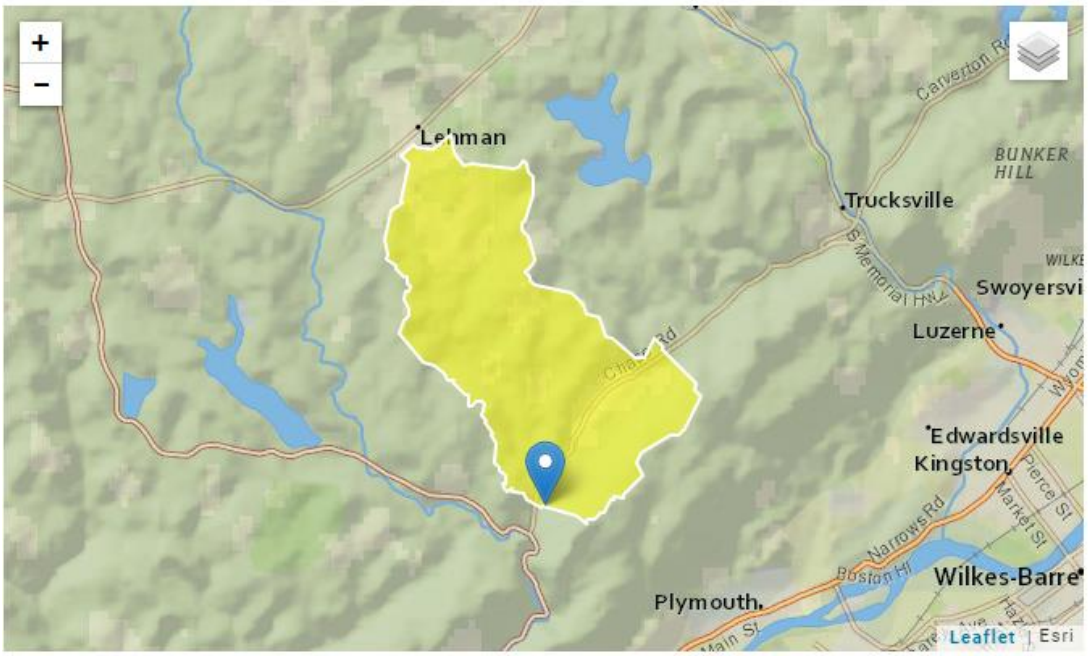
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.193	ft^3/s
30 Day 2 Year Low Flow	0.273	ft^3/s
7 Day 10 Year Low Flow	0.0787	ft^3/s

At confluence with Drakes Creek:

RMI	Elevation (ft)	Drainage Area (mi^2)
0.65	864.5	7.13

StreamStats Report

Region ID: PA
Workspace ID: PA20211208125511133000
Clicked Point (Latitude, Longitude): 41.25630, -75.99543
Time: 2021-12-08 07:55:46 -0500



Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	7.13	square miles

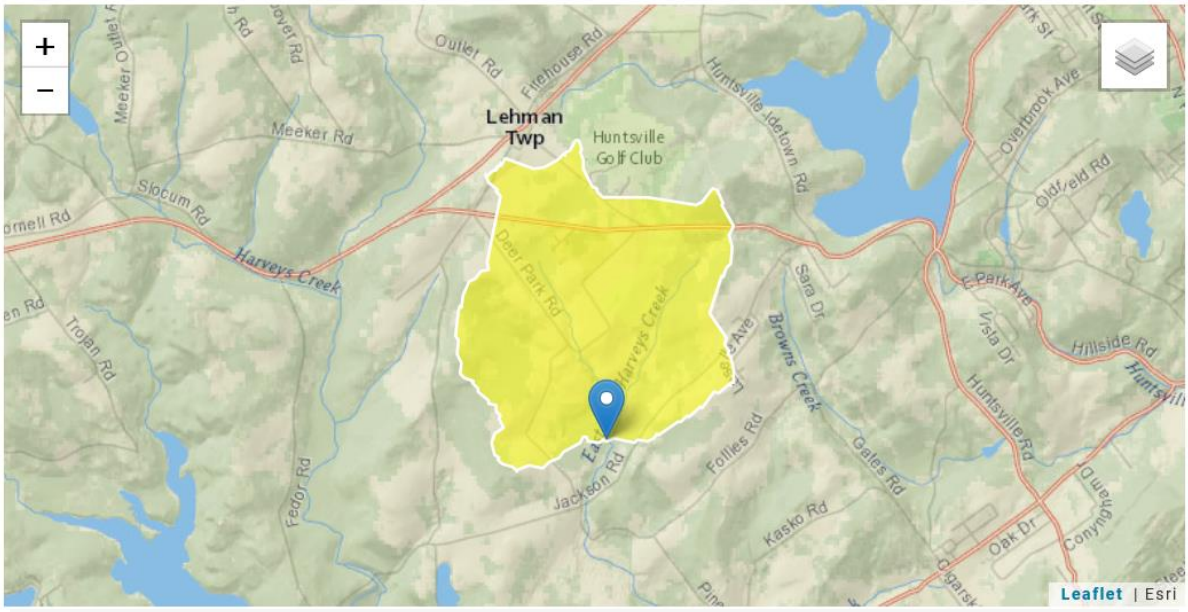
At confluence with East Fork Harveys Creek (point of first use) (28318):

RMI	Elevation (ft)	Drainage Area (mi²)	Q_{7-10} Flow (cfs)
0.00 3.69 (on East Fork Harveys Creek)	1,125	2.23	0.0787

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{0.0787\ ft^3/sec}{2.23\ mi^2} = \mathbf{0.0353\ \frac{ft^3/sec}{mi^2}}$$

StreamStats Report

Region ID: PA
Workspace ID: PA20211206204509522000
Clicked Point (Latitude, Longitude): 41.29004, -76.01241
Time: 2021-12-06 15:45:29 -0500



Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.23	square miles

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
05B	28318	EAST FORK HARVEYS 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)
3.690	Lake Lehman SD	PA0035009	0.018	CBOD5	25		
				NH3-N	22.11	44.22	
				Dissolved Oxygen			3

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.223	= Q stream (cfs)	0.5	= CV Daily
0.018	= 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 = 2.574	1.3.2.iii	WLA cfc = 2.502
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.959	5.1d	LTA_cfc = 1.454

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	