Pennsylvania Department of Environmental Protection

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0070246**
Facility Type	**Non-Municipal**	APS ID	**611186**
Major / Minor	**Minor**	Authorization ID	**1407866**

Applicant and Facility Information

Applicant Name	**Parkland School District**	Facility Name	**Kernsville Elementary School**
Applicant Address	2219 N Cedar Crest Boulevard	Facility Address	2219 N Cedar Crest Boulevard
	Allentown, PA 18104-2119		Allentown, PA 18104-9665
Applicant Contact	David Keppel	Facility Contact	David Keppel
Applicant Phone	(610) 351-5660	Facility Phone	
Client ID	51892	Site ID	448713
Ch 94 Load Status	Not Overloaded	Municipality	North Whitehall Township
Connection Status		County	Lehigh
Date Application Received	July 1, 2022	EPA Waived?	Yes
Date Application Accepted	July 1, 2022	If No, Reason	

Purpose of Application: RENEWAL OF EXISTING NPDES PERMIT

Summary of Review

The applicant is requesting renewal of an NPDES permit to discharge up to 0.009 MGD of treated sewage into Jordan Creek a TSF/MF (Trout Stocking Fish / Migratory Fish) designated receiving stream in watershed 02-C (Lower Leigh River). In 2016, their average daily flow was 0.0015 MGD. Per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than the designated use. The discharge is not expected to affect public water supplies.

Monitoring for Total Nitrogen and Total Phosphorus is now required for all Individual Sewage Permits; this monitoring will be added at a frequency of 1/year. Monitoring is also included for TKN and Nitrate-Nitrite as N since they are components of the calculation for Total Nitrogen

Annual E-Coli monitoring and reporting is added as per 2024 Updated SOP for NPDES for sewage.

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).

An Admin inspection was performed January 4,2024 and no violations were found.

WMS Query by client report was performed and no violations exist .

Public Participation

Approve	Deny	Signatures	Date
X		Hakim Yesli (signed) Hakim Yesli / Environmental Engineering Specialist	September 11, 2024
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Acting Engineer Manager	9-16-24

Summary of Review
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)	0.009
Latitude	40Âº 37' 59.30"	Longitude	-75Âº 36' 7.60"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Jordan Creek (TSF, MF)	Stream Code	3424
NHD Com ID	26297653	RMI	13.020
Drainage Area	57.3	Yield (cfs/mi^2)	0.047
Q_{7-10} Flow (cfs)	2.05	Q_{7-10} Basis	PA streamstates
Elevation (ft)	340	Slope (ft/ft)	
Watershed No.	2-C	Chapter 93 Class.	TSF, 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	

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

Nearest Downstream Public Water Supply Intake			
PWS Waters	Delaware River, Bucks County	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	55

Changes Since Last Permit Issuance: None

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.009
Latitude 40º 38' 1.00" **Longitude** -75º 35' 53.00"
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 / 1000 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	1.2	Average Monthly	-	92a.48(b)(2)

Comment: No recent DRBC Docket found in DEP Clean Water Files.

Water Quality-Based Limitation

TRC: Existing DEP Facility no upgrade to their chlorine system -specific Technology Limit (1.2 – 2.8 mg/L) verified by TRC Spreadsheet.

Dissolved Oxygen (DO) No limit needed. WQM 7.0 modeling would have set a limit of 3.0 mg/l, which a secondary treatment should achieve. Not previously monitored.

Ammonia Nitrogen NH3-N
No limit needed. WQM7.0 modeling would have set a limit of 25 mg/l, which secondary treatment should achieve. Not previously monitored, and Department files/E-maps do not indicate Ammonia-N issues in receiving stream.

CBOD5 No limit triggered by WQM7.0 modeling.

1	**TRC EVALUATION**						
2	Input appropriate values in A3:A9 and D3:D9						
3	2.05	= Q stream (cfs)		0.5	= CV Daily		
4	0.009	= Q discharge (MGD)		0.5	= CV Hourly		
5	4	= no. samples		1	= AFC_Partial Mix Factor		
6	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor		
7	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)		
8	1.2	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)		
9	0	= % Factor of Safety (FOS)			=Decay Coefficient (K)		
10	Source	Reference	AFC Calculations		Reference	CFC Calculations	
11	TRC	1.3.2.iii	WLA afc = 46.988		1.3.2.iii	WLA cfc = 45.802	
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581	
13	PENTOXSD TRG	5.1b	LTA_afc= 17.509		5.1d	LTA_cfc = 26.627	
14							
15	Source		Effluent Limit Calculations				
16	PENTOXSD TRG	5.1f	AML MULT = 1.720				
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 1.200		BAT/BPJ		
18			INST MAX LIMIT (mg/l) = 2.808				
19							
20							
21							
22	WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...					
23		...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)					
24	LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)					
25	LTA_afc	wla_afc*LTAMULT_afc					
26							
27	**WLA_cfc**	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...					
28		...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)					
29	LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)					
30	**LTA_cfc**	wla_cfc*LTAMULT_cfc					
31							
32	AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))					
33	AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)					
34	INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)					
35							
36							
37							
38							
39							
40							
41	(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....						
42	....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)						
43							

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
02C	3424	JORDAN 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)
13.020	jordon Creek	PA0070246	0.000	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

Comments:

Treatment Facility Summary				
Treatment Facility Name: Parkland School District - Kernsville Elementary School STP				
WQM Permit No.	**Issuance Date**			
3971412	3/3/1972			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	secondary	Extended aeration	Hypochlorite	0.009
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.009000	_18.8 (estimated)__	Not Overloaded	storage	Offsite disposal

Changes Since Last Permit Issuance: **None**

Pennsylvania
Department of
Environmental Protection

Approve	Deny	Signatures	Date
X		Hakim Yesli (signed) Hakim Yesli / Environmental Engineering Specialist	September 11, 2024
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Acting Engineer Manager	9-16-24