pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0263443**
Facility Type	**Municipal**	APS ID	**998578**
Major / Minor	**Minor**	Authorization ID	**1282461**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Linesville Pine Joint Municipal Authority**	Facility Name	**Linesville Pine Joint STP**
Applicant Address	PO Box 382	Facility Address	13609 Hartstown Road
	Linesville, PA 16424-0382		Linesville, PA 16424
Applicant Contact	Daniel Whalen	Facility Contact	
Applicant Phone	(814) 683-4146	Facility Phone	
Client ID	267525	Site ID	712168
Ch 94 Load Status	Not Overloaded	Municipality	Pine Township
Connection Status	No Limitations	County	Crawford
Application Received	July 29, 2019	EPA Waived?	Yes
Application Accepted	August 13, 2019	If No, Reason	
Application Purpose	NPDES permit renewal		

Summary of Review

No violations listed in eFACTS©. EDMR has one phosphorus exceedance at 1.23-mg/L for the past operating year.

The main permit change is minimum daily DO reporting to a 4.0-mg/L minimum daily DO limitation.

EFACTS© corrections include the facility pump stations and the Linesville Spillway connection activation.

The facility operator is Daniel Whalen with Roderick Donghia as a back-up.

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.

Approve	Deny	Signatures	Date
X		William H. Mentzer, P.E. Environmental Engineering Specialist	August 28, 2019
X		Justin C. Dickey, P.E. Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.48
Latitude NHD	41º 38' 46.22"	Longitude NHD	-80º 25' 59.93"
Latitude DP	41º 38' 43.84"	Longitude DP	-80º 25' 59.36"
Quad Name	Linesville	Quad Code	0502
Wastewater:	Treated municipal sanitary sewer wastes		

Receiving Waters	Shenango River (Pymatuning Res)	Stream Code	35482
NHD Com ID	130030263	RMI	83.75
Drainage Area	44.52	Yield (cfs/mi^2)	Regulated at dam
Q_{7-10} Flow (cfs)	186.5	Q_{7-10} Basis	Mean flow through
Elevation (ft)	1008.19	Slope (ft/ft)	nil
Watershed No.	20-A	Chapter 93 Class.	WWF
Existing Use	statewide	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	Reservoir discharge.		

Assessment Status	Not Assessed. Lake Trophic study nutrient requirements are in place.
Impairment Causes	
Impairment Sources	
TMDL Status	Name

Impoundment	Pymatuning Reservoir	Number	4129540802747	**Dam No**	**80-20-007**
Location	Receiving waters	Dam RMI	68.54	**Upper RMI**	85.1
Flow Through (cfs)	196.5	Retention (day)	508		
Drainage (Sq-Mile)	158	Volume (a-feet)	188 120	**Surface (a)**	14500
Normal Pool (feet)	1008	**Mn Depth (feet)**	13	**Mx Depth (ft)**	35

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

Nearest Downstream Public Water Supply		Greenville Borough	
PWS Waters	Shenango River	Flow at Intake (cfs)	100
PWS RMI	56.96	Distance from Outfall (miles)	26.79

Changes Since Last Permit Issuance: none

Other Comments:

The Shenango River is regulated at 100-cfs above the water supply intake. Control is through the Pymatuning Reservoir Dam.

This discharge is not expected to affect any downstream water supplies.

Treatment Facility Summary				
Treatment Facility Name: Linesville Pine Joint STP				
WQM Permit No.	**Issuance Date**			
2009403	**18 August 2009**			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Phosphorus Reduction	Sequencing Batch Reactor	Chlorine With Dechlorination	0.48
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.48	550	Not Overloaded	Aerobic Digestion	landfill

Changes Since Last Permit Issuance: none

Other Comments:
The organic load has been rounded to the nearest 5-pound.

Planning approved 7 December 2005.

Facility design included facility relocation, sewers, pumps stations, and treatment.
Treatment Facilities include headworks, three SBR with step aeration, chemical addition (alum), aerobic sludge digestion, belt filter press dewatering, chlorination, and de-chlorination.

			Influent				Effluent					
Year	month	mean MGD	mean PPD	max PPD	min PPD	mean PPD	max PPD	#	min mg/L	mean mg/L	max mg/L	#	screening comments
Annual Average Design		0.48											
Hydraulic Design Capacity		0.48											
Organic Design			549										
Annual Average 2016		0.199											
2017		0205											
2016		0.224											
Previous	March	0.291											
pH					7.27		7.27	1	6.80		8.08	48	Sec Treatment
Dissolved Oxygen									7.56	8.13		3	BPJ
Total Residual Chlorine									0.03	0.03	0.03	24	BAT
BOD5				90.54			52.7	1					Sec Treatment
CBOD5									4.58		7.33	24	Sec Treatment
TSS				73.87			43.0	1	5.0		5.08	24	Sec Treatment
Nitrogen				31.26			18.20	1	4.81		6.912	24	< N Criteria
Phosphorus				0.591			0.244	1	0.405		0.631	24	WQ
Ammonia				31.61			18.4	1	< 0.8		< 0.8	24	Not Needed
Total Dissolved Solids				774.84			451	1	474		474	1	< WS criteria
Fecal Coliform							712100	1		1.29	149:7	24	Sec Treatment
Total Kjeldahl Nitrogen							17.7	1	1.06		1.06	1	< N Criteria
Nitrite-Nitrate Nitrogen							0.445	1	3.43		3.53	1	< N Criteria
Chloride									136		136	1	< WS Criteria
Bromide									2.15		2.15	1	No Criteria
Sulfate									44.2		44.2	1	< WS Criteria
Oil & Grease									< 5.0		< 5.0	1	Not Present
Total Copper									< 0.005		< 0.005	1	Not Present
Total Lead									< 0.005		< 0.005	1	Not Present
Total Zinc									0.035		0.035	1	< Fish Criteria

Twelve analysis should be provided for influent BOD5 and TSS to match the WLMR monitoring.
The organic design can be rounded up to the nearest 5-pounds or 550-PPD.
Fecal coliform decimal fraction reported. Only hole numbers are of interest.
As no industrial activity is reported copper and lead are assumed to be not present.

Chemicals used

Aluminum Sulfate	Phosphorus control
Soda Ash	pH control
Sulfur Dioxide	de-chlorination
Chlorine	**disinfection**

The above chemicals are used for process control with no need for monitoring as chemical additives.

22.15 dry tons sludge was removed in 2018. After aerobic sludge digestion and dewatering the sludge is sent to the Seneca Landfill in Butler County for disposal.

Other WQM permits:

Number	Date	Rev 1	Rev 2	Rev 3	Issuance	Comments	Standard Conditions
6407	9/1/1933	9/9/33			10/25/1933	Comprehensive sewer plan	
2072401	10/11/1971	10/11/71			2/24/1972	Rt 6 Lift station and sewer 240 people; 75-gpm duplex pump station with a 610-ft 4-in dia ACP force main to North Chestnut and East Erie Streets	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, 15, 17, 18, 25, 26, 27
2075404	7/21/1975	7/21/75	9/24/75		10/8/1975	Penn Street sewers	1972: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 21, 22, 30
2078401	12/30/1977	12/30/77			9/8/1978	Beech Street sewers	1972: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 21, 22, 30, 31
2087407	9/17/1987	9/17/87			12/10/1987	sewers	1983: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 20, 21, 22 31
2090405	8/1/1990	8/1/90	8/14/90	9/79/12	9/24/1990	facility upgrade for chemical addition, breakpoint chlorination, alkalinity addition and sludge dewatering. These facilities are no longer in use.	

WQM permit 2009403 updated the pump station's designs and replaced WQM Permit 209403 requirements.

WQM Permit 2009403

Pump Stations

Name	Units	Notes	US Route 6	Sportsmans	Linesville Creek	Stewarts	Influent
Location			US Rte 6	W Erie St	S Pymatuning St		STP
North			41º 39' 22.69"	41º 39' 26.37"	41º 39' 17.24"	41º 38' 59.42"	41º 39' 1.94"
West			80º 24' 38.74"	80º 27' 38.83"	80º 25' 16.59"	80º 26' 13.69"	80°25' 36.23"
Capacity	gpm	normal speed	140	200	700	270	190
Capacity	gpm	high speed			1740		
Capacity	MGD	normal speed	0.03	0.066	0.197	0.092	0.021
Capacity	MGD	high speed			2.45		
Force Main Diameter	inches		4	6	12	6	4
Force Main Length	feet		570	3430	2850	3165	220
Discharge to			Linesville Creek	Stewarts	Influent	Treatment	Treatment
North			41º 39' 21.92"	41º 39' 24.53"	41º 39' 3.40"	41º 39' 3.40"	41º 39' 3.40"
West			80º 24' 44.96"	80º 26' 56.36"	80º 25' 38.29"	80º 25' 39.29"	80°25' 38.29"

Included was 15035 feet of 1, 2 and 3-inch diameter low-pressure sewers. To which the Linesville spillway connection was added.

WLMR

2018 submission for operating year 2017.

At the time of renewal acceptance EFACTS had an inactive pump station and did not list the system pump stations.

The inactive pump station is a two-grinder pump connection spillway sanitary sewer connection to the municipal collection system. The WLMR reports five lift stations not presently listed in eFACTS.

No general low-pressure sewers discussion.

Pump Station	Permit	Capacity Design gpm	Capacity Design Maximum MGD	Capacity Operating Maximum MGD	Capacity Operating Maximum month	Comments
1 Influent	2009403	190	0.2736	0.010288	0.308652	
2 Route 6	2009403	140	0.2016	0.02166	0.649800	
3 Linesville Creek	2009403	1740	2.5056	0.3108	9.324000	2 speed pumps
	2009403	700	1.008			
4 Sportsmen's	2009403	200	0.2800	0.018163	0.544900	
5 Stewarts	2009403	270	0.3888	0.018583	0.557500	
6 Linesville Spillway	2013401	5	0.0072			2 units specified

2017 annual average	0.295-MGD
Maximum 3-month average	0.395-MGD
Design	0.480-MGD
2017 annual average	157-PPD
Maximum Monthly Average	246-PPD
Design	250-PPD

The Linesville Spillway pump station is a low-pressure sewer with two 5-gpm pumps connecting a comfort station and park manager's residence through 4,000-feet of 2-inch HDPE force main to the low-pressure sewer system.

No significant load change is expected.

The WLMR should include low pressure system maintenance changes.

Compliance History

DMR Data for Outfall 001 (from July 1, 2018 to June 30, 2019)

Parameter	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18	JUL-18
Flow (MGD) Ave Mon	0.265	0.225	0.257	0.246	0.310	0.168	0.225	0.255	0.178	0.184	0.140	0.181
Flow (MGD) Daily Max	0.873	0.499	0.507	0.584	0.569	0.782	0.243	0.625	0.295	0.725	0.191	0.573
pH (S.U.) Minimum	6.61	6.65	6.3	6.55	6.67	6.59	6.50	6.63	6.85	6.74	6.74	6.98
pH (S.U.) Maximum	8.32	7.84	7.45	7.30	7.43	7.64	8.61	8.71	8.87	8.21	8.80	8.88
DO (mg/L) Minimum	5.74	5.83	6.65	6.10	7.39	6.77	6.19	5.54	4.90	4.97	5.47	4.83
TRC (mg/L) Ave Mon	< 0.05	< 0.02	0.03	< 0.01	0.02	< 0.06	< 0.06	0.02	0.02	< 0.01	0.04	0.01
TRC (mg/L) InsT Max	0.14	0.10	0.08	0.05	0.05	0.28	0.37	0.08	0.1	0.06	0.10	0.20
CBOD5 (PPD) Ave Mon	< 8	< 10	< 8	< 7	< 9	< 10	< 5	< 21	< 4	< 7	8	< 20
CBOD5 (PPD) Weekly Ave	11	< 19	10	8	< 13	< 16	< 6	< 44	< 6	< 18	11	50
CBOD5 (mg/L) Ave Mon	< 4	< 6	< 4	< 4	8.43	< 4	< 3	< 10	< 3	< 3	7	< 15
CBOD5 (mg/L) Weekly Ave	5	< 12	5	5	9.57	< 6.0	< 3	< 20	3	3	8	40
BOD5 (PPD) Infl Ave Mon	182	157	< 73	132	< 170	114	< 64	< 41.7	119	300	134	175
BOD5 (mg/L) Infl Ave Mon	89.7	83.5	< 43.6	71.2	< 57.7	37.7	< 35.7	< 82	93.9	109.8	111.8	136.3
TSS (PPD) Ave Mon	< 11	< 10	9	< 9	< 15	< 15	< 9	< 10	< 7	< 12	< 6	< 7
TSS (PPD) Infl Ave Mon	209	166	113	183	386	103	95	72	82	223	162	129
TSS (PPD) Weekly Ave	< 12	< 11	< 12	< 11	< 21	< 26	< 10	< 11	< 10	< 30	< 7	< 8
TSS (mg/L) Ave Mon	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
TSS (mg/L) Infl Ave Mon	103	85	60	97	163	33	53	37	56	97	130	93
TSS (mg/L) Weekly Ave	< 5	< 5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Fecal Coliform (#/100 ml) Geometric Mean	2	< 3	< 1	7	< 6	4	< 2	20	2	> 176	< 3	< 3
Total Nitrogen (mg/L) Average Monthly	6	3.516	4.308	2.86	4.38	4.92	6.12	4.98	6.32	3.09	2.96	2.94
Ammonia (mg/L) Aver Mon	< 2	< 0.800	< 0.800	< 0.800	< 0.800	< 0.800	< 0.800	< 0.800	< 0.800	< 0.800	< 0.800	< 0.800
Total Phosphorus (mg/L) Ave Monthly	0.83	< 0.01	< 0.904	< 0.01	< 0.107	< 0.12	< 0.132	< 0.100	< 0.1	< 0.15	**1.23**	0.744

Compliance History

Effluent Violations for Outfall 001, from: August 1, 2018 to: June 30, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Phosphorus	08/31/18	Avg Mo	1.23	mg/L	1	mg/L

Summary of Inspections: none available

Other Comments: August 2018 monthly phosphorus was high. The monthly minimum and maximum were not tabulated.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .48
Latitude 41º 38' 43.84" **Longitude** -80º 25' 59.36"
Wastewater Description: 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)
Dissolved Oxygen	4.0			BPJ

Comments: BPJ 4.0-mg/L minimum daily DO added. The previous requirement was for reporting.

Water Quality-Based Limitations

Lake Trophic index recommended phosphorus limitations

Parameter	Limit (mg/l)	SBC	Model
phosphorus	1	NA	NA

Comments: Trophic study based.

Best Professional Judgment (BPJ) Limitations

Comments: 4.0-mg/L daily minimum daily dissolved oxygen limitation is recommended.

Anti-Backsliding

With general compliance backsliding is not recommended.

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.2	1/day	Grab
CBOD5	100	160	XXX	25.0	40.0	50.0	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	120	180	XXX	30.0	45.0	60.0	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2.0	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001 after disinfection.