

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0113034
 APS ID 986204
 Authorization ID 1261178

Applicant and Facility Information

Applicant Name	<u>Lycoming County Water & Sewer Authority</u>	Facility Name	<u>Beaver Lake Forest</u>
Applicant Address	<u>PO Box 186 216 Old Cement Road</u> <u>Montoursville, PA 17754-0186</u>	Facility Address	<u>101 Beaver Run Lane</u> <u>Muncy Valley, PA 17758</u>
Applicant Contact	<u>Christine Weigle</u>	Facility Contact	<u></u>
Applicant Phone	<u>(570) 546-8005</u>	Facility Phone	<u></u>
Client ID	<u>75152</u>	Site ID	<u>269359</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Penn Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Lycoming</u>
Date Application Received	<u>February 1, 2019</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>February 15, 2019</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of existing NPDES permit</u>		

Summary of Review

The above permittee has applied to renew their existing NPDES permit for the discharge of one outfall (Outfall 001) to Beaver Run in Penn Township, Lycoming County. The treatment plant serves Beaver Lake Forest residential area and a portion of Penn Township. The treatment facility is a Wagner variable aeration package treatment plant that consists of a bar screen, aeration tank, clarifier, chlorinator, chlorine contact tank, ultrasonic flow meter, and sludge holding tank.

Unless otherwise noted, all applicable Department Standard Operating Procedures (SOPs) were followed during the review of this application. Based on the following review, it is recommended the permit be drafted.

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
		Chad A. Fabian / Project Manager	November 26, 2019
		Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.0275
Latitude	41° 17' 31.45"	Longitude	-76° 35' 28.87"
Quad Name	Sonestown	Quad Code	0833
Wastewater Description: Sewage Effluent			
Receiving Waters	Beaver Run (CWF, MF)	Stream Code	19534
NHD Com ID	66912289	RMI	4.28
Drainage Area	3.21	Yield (cfs/mi ²)	0.0037
Q ₇₋₁₀ Flow (cfs)	0.12	Q ₇₋₁₀ Basis	Previous permit
Elevation (ft)	896	Slope (ft/ft)	N/A
Watershed No.	10-D	Chapter 93 Class.	CWF, MF
Existing Use	CWF, MF	Existing Use Qualifier	n/a
Exceptions to Use	none	Exceptions to Criteria	none
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	None		
Source(s) of Impairment	None		
TMDL Status	None	Name	n/a
Nearest Downstream Public Water Supply Intake		Approximately 25 miles downstream near Milton, PA on the West Branch Susquehanna River.	

Changes Since Last Permit Issuance: None

Treatment Facility Summary				
Treatment Facility Name: Beaver Lake WWTP				
WQM Permit No.	Issuance Date			
4107401-T1	6/13/12			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.02
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0275	58.4	Not Overloaded	Hauled away	Hauled away

Compliance History	
Summary of DMRs:	No effluent violations have been reported in the past 12 months.
Summary of Inspections:	The last inspection was performed by Brandon Shihinski (Water Quality Specialist, DEP Clean Water Program) on 10/22/2019. No violations were found during the inspection. The plant was operating as intended and no impact was observed at the discharge point.

Compliance History

DMR Data for Outfall 001 (from October 1, 2018 to September 30, 2019)

Parameter	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18
Flow (MGD) Average Monthly	0.0034	0.0041	0.0053	0.0053	0.0060	0.0056	0.0047	0.0043	0.0051	0.0051	0.0068	0.0049
pH (S.U.) Minimum	6.8	6.8	6.7	6.6	6.6	6.3	6.6	6.4	6.3	6.4	6.3	6.6
pH (S.U.) Instantaneous Maximum	7.1	7.1	7.1	7.2	7.0	7.1	7.0	7.0	7.3	6.9	7.0	7.5
TRC (mg/L) Average Monthly	0.36	0.32	0.22	0.29	0.39	0.53	0.27	0.29	0.42	0.32	0.41	0.38
TRC (mg/L) Instantaneous Maximum	0.93	0.70	0.72	0.62	0.74	0.95	0.96	1.05	0.92	0.81	0.87	0.69
CBOD5 (lbs/day) Average Monthly	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.2
CBOD5 (mg/L) Average Monthly	3.0	3.5	3.5	3.0	3.3	6.6	6.2	4.6	3.5	5.8	3.9	3.0
TSS (lbs/day) Average Monthly	0.2	0.2	0.5	0.4	0.7	0.2	0.4	0.4	0.2	0.4	0.6	0.3
TSS (mg/L) Average Monthly	7.0	10	8	10	10	7	11	11	6	12	9	5
Fecal Coliform (CFU/100 ml) Geometric Mean	74	29	68	14	8	7	113	4	13	28	174	2
Total Nitrogen (mg/L) Daily Maximum										4.88		
Ammonia (lbs/day) Average Monthly	0.003	0.004	0.02	0.005	0.007	0.003	0.003	0.140	0.003	0.004	0.007	0.021
Ammonia (mg/L) Average Monthly	0.1	0.2	0.3	0.14	0.1	0.10	0.100	4.3	0.1	0.1	0.1	0.4
Total Phosphorus (mg/L) Daily Maximum										0.8		

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>.03</u>
Latitude <u>41° 17' 33.00"</u>	Longitude <u>-76° 35' 28.00"</u>
Wastewater Description: <u>Sewage Effluent</u>	

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 (TRC)	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

A “Reasonable Potential Analysis” was not performed since the facility does not have any industrial users nor does it accept any hauled in wastes. Therefore, the application does not require any toxics to be sampled in the permit renewal application since they are not expected to be present in the discharge.

The Department’s WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD (CBOD₅), and ammonia-nitrogen (NH₃-N) into free-flowing streams and rivers. To accomplish this, the model simulates two basic processes: the mixing and degradation of NH₃-N in the stream and the mixing and consumption of DO in the stream due to the degradation of CBOD₅ and NH₃-N. The respective modeling (see attached) shows that the existing limitations for CBOD₅ and Ammonia are protective of water quality standards.

The TRC spreadsheet model was used to determine if there are any water quality based effluent limitations necessary for TRC. The model shows that TRC limitations are required. See the attached TRC model and the proposed effluents limit table for the newly proposed TRC limitations.

Chesapeake Bay Requirements

According to the Department’s Supplement to the Phase 2 Chesapeake Bay Watershed Implementation Plan (WIP), the facility is classified as a Phase 5 bay discharger (>0.002 MGD and <0.2 MGD). Phase 5 facilities are required to monitor for total nitrogen and total phosphorus at a rate of 1/year unless the facility has already conducted at least two years of nutrient monitoring and a summary of the results are included in the next permit fact sheet. The facility has been sampling for total nitrogen and total phosphorus during the existing permit cycle. The following is a summary of the peak values reported over the existing permit cycle:

Parameter	Instantaneous Maximum (mg/l)	Total Annual (lbs)
Total Nitrogen (TN)	32	2678
Total Phosphorus (TP)	5.96	499

Since the permittee has had more than 2 years of monitoring for nutrients, it is recommended that the total nitrogen and total phosphorus requirements be removed from the permit per the WIP.

Best Professional Judgment (BPJ) Limitations

None.

Anti-Backsliding

There is no proposal to relax of any limitations in this permit.

Existing Permit Effluent Limitations

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/day	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	Report Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	1.0	XXX	2.3	1/day	Grab
CBOD5	3.3	XXX	XXX	20	XXX	40	2/month	Grab
TSS	5.0	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia Nov 1 - May 31	1.7	XXX	XXX	10.5	XXX	21	2/month	Grab
Ammonia Jun 1 - Oct 31	0.6	XXX	XXX	3.5	XXX	7	2/month	Grab

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/day	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	Report Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.42	XXX	1.3	1/day	Grab
CBOD5	3.3	XXX	XXX	20	XXX	40	2/month	Grab
TSS	5.0	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia Nov 1 - May 31	1.7	XXX	XXX	10.5	XXX	21	2/month	Grab
Ammonia Jun 1 - Oct 31	0.6	XXX	XXX	3.5	XXX	7	2/month	Grab

Compliance Sampling Location: 011

Other Comments:

It is recommended the permit be drafted.