pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0222496**
Facility Type	**Municipal**	APS ID	**970520**
Major / Minor	**Minor**	Authorization ID	**1233015**

Applicant and Facility Information

Applicant Name	**Summerville Borough Municipal Authority**	Facility Name	**Summerville Borough STP**
Applicant Address	PO Box 278	Facility Address	Anderson Drive
	Summerville, PA 15864-0278		Summerville, PA 15864-0278
Applicant Contact	Howard Johnson	Facility Contact	
Applicant Phone	(814) 856-3210	Facility Phone	
	sbma@windstream.net		
Client ID	33297	Site ID	543483
Municipality	Summerville Borough	County	Jefferson
Ch 94 Load Status	**No overloaded**	Connection Status	**No requirements**
Application Received	May 31, 2018	EPA Waived?	Yes
Application Accepted	June 27, 2018	If No, Reason	

Purpose of Application: MPDES discharge permit renewal

Summary of Review

No current violations filed.

Added is Influent and effluent ammonia twice a month monitoring with a minimum daily effluent DO at 4.0-mg/L.

The certified operator is Chuck Ishman, G Force engineering, 1630 Philadelphia Street, Unit 40, Indiana, Pa 15701.

One industrial user (brick maker).

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	April 15, 2019
X		Justin C. Dickey, P.E. Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.09
Latitude NHD	41º 7' 2.53"	Longitude NHD	-79º 11' 46.95"
Latitude DP	41º 7' 2.30"	Longitude DP	-79º 11' 47.77"
Quad Name	Summerville	Quad Code	1012
Wastewater:	Treated municipal sanitary sewer wastes		

Receiving Waters	Runaway Run	Stream Code	48477
NHD Com ID	123863567	RMI	0.1000
Drainage Area	3.5	Yield (cfs/mi^2)	0.061
Q_{7-10} Flow (cfs)	0.2	Q_{7-10} Basis	Redbank Creek@St Charles
Elevation (ft)	1159.67	Slope (ft/ft)	0.0013
Watershed No.	17-C	Chapter 93 Class.	CWF
Existing Use	statewide	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	Runaway Run discharges to Redbank Creek at RMI 39.76.		
	Confluence Elevation is 1152.34 ft and the basin drainage is 361.16 square miles		

Assessment Status	Impaired		
Impairment Causes	Metals, pH		
Impairment Sources	Acid Mine Drainage		
TMDL Status	**pending**	Name	Runaway Run

Background/Ambient Data		Data Source (secondary source 2009 Redbank TMDL)
pH (SU)	4.00	Rte 28 Bridge over Runaway Run on February 4, 1998
temperature (°C)	20	Assumed (CWF)
total alkalinity	0 (2.0 in 2009)	Rte 28 Bridge over Runaway Run on February 4, 1998
total calcium	104	Rte 28 Bridge over Runaway Run on February 4, 1998
magnesium	50.1	Rte 28 Bridge over Runaway Run on February 4, 1998
iron 01045A	7.16 (3.37 in 2009)	Rte 28 Bridge over Runaway Run on February 4, 1998
manganese 01055A	8.08 (10.43 in 2009)	Rte 28 Bridge over Runaway Run on February 4, 1998
aluminum 01105A	3.23	Rte 28 Bridge over Runaway Run on February 4, 1998
total acidity hot	50 (57.05 in 2009)	Rte 28 Bridge over Runaway Run on February 4, 1998
hardness (mg/L)	413	Rte 28 Bridge over Runaway Run on February 4, 1998
specific conductance	820	Rte 28 Bridge over Runaway Run on February 4, 1998
Other: BOD	1.8	WQN 820 (in 1993 for Redbank Creek)
pH (SU)	6.73	WQN 820 (in 1993 for Redbank Creek)
Other: BOD	1.8	WQN 820 (in 1993 for Redbank Creek)

Nearest Downstream Public Water Supply Intake	Hawthorn Water Company		
PWS Waters	Redbank Creek	Flow at Intake (cfs)	
PWS RMI	28.04	Distance from Outfall (mi)	11.82

Changes Since Last Permit Issuance: none Other Comments: none

Treatment Facility Summary

Treatment Facility Name: Summerville Borough STP

WQM Permit No	Notarization Date	Application Date	Received Date	Amendment No.	Issuance Date
3398402	Feb 12, 1998	Jan 23, 1998	Jan 26, 1998		6 Apr 1998
3398402	Dec 26, 2000		Jan 4, 2001	A1	6 Feb 2001

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	secondary	SBR	UV	0.090

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.090	158	no requirements	Aerated holding	landfill

Changes Since Last Permit Issuance: none

The design load rounded to the nearest 5-pounds is 160-PPD.

NPDES Permit

Design effluent: 25-mg/l 5 day-BOD, 30-mg/L TSS, and 3-mg/L ammonia. The original NPDES permit was for a Redbank Creek discharge. When built a Runaway Creek outfall was installed. WQPR has used Runaway Run as the receiving waters since 1998.

Planning

The official sewerage plan approval is dated December 2000 to address collection system changes later addressed on WQM permit amendment 1.

Changes Since Last Permit Issuance: None

Other Comments:

Treatment is with a two basin ICEAS sequencing batch reactor with UV light disinfection

WQM Amendment 1

Application dated November 15, 1999 and revised January 4, 2001. Permit for modifications, sewers and pump stations.

With 1996 Sewerage Conditions 1, 2, 3, 4, 5, 6, 7, 9, 12, 13, 14, 16, 17, 18, 20, 21, and 22; 1991 erosion control all; and Special Condition 1 holding Dan B. Slagle responsible for design. No treatment plant changes were proposed.

Pump station mean flow remained at 0.090-MGD based on 672 people and 259 EDU. Wetwell capacity was increased to 1269-gallon and 20-minute retention at 0.090-MGD using 200-gpm submersible pumps. The wet well 10-inch inlet has a coarse screen basket and the 6-inch force main prior to the treatment facility has a fine screen basket. The force main has diameter been increased from 4 to 6-inch.

A 60-kw generator is provided for emergency treatment operation.

WQM Permit

Permit for sanitary sewage collection and treatment.

With 1996 Sewerage Conditions 1, 2, 3, 4, 5, 6, 7, 8, 9, 19, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22; 1991 erosion control all; and Special Condition 1 holding Dan B. Slagle responsible for design.

Design for 244 connections totaling 359 EDU and a 900 (673 people) person design population.
Treatment is a Sanitaire/ABJ (intermittent cycle extending aeration system [ICEAS]) sequencing batch reactor. {ICEAS is a continuous flow single basin system.}
Trojan UV light disinfection.
23 000-gallon aerated sludge holding tank with 18 to 30-day retention.
Sludge production is 1 274-gpd at 0.85 to 1.37 per cent solids
VSS loading is 21 PPD/100 cubic foot based on 90-PPD sludge and 70% volatile solids.

Domestic		861	people					
Industrial		39	people					
Total		900	people					
Year		2007			revised to	2012		
Runoff		24	hours					
Domestic	100 gpcd	0.090	MGD					
Maximum	Domestic	0.225	MGD					
Total Design	Average	0.090	MGD					
	Maximum monthly	0.169	MGD					
	Peak Hourly	0.225	MGD					
	Instantaneous	0.225	MGD					
Pump Station	submersible duplex	160	gpm	or 230400-gpd	revised to	200-gpm	288000-gpd	
Outfall		8 inch diameter						

			Influent			Effluent				
Parameter	**Year**	**Month**	**Mean MGD**	**Mean PPD**	**Max**	**Mean**	**Max**	**#**	**Min**	**Mean**	**Max**	**#**
Annual Average Flow	**Design**		**0.090**									
Hydraulic Design Capacity		**0.090**										
Organic Design Capacity				**158**								
Annual Average	**2017**		**0.0370**									
	2016		**0.0236**									
	2015		**0.0260**									
Highest Monthly Average Flow		**November**	**0.0900**									
pH									**6.85**		**7.03**	**208**
TRC												
BOD5				**36**	**44**	**195**	**201**	**24**				
CBOD5									**< 2**	**6.4**	**16.5**	**48**
TSS				**55**	**64**	**302**	**296**	**24**	**< 5**	**12.35**	**25**	**48**
Nitrogen						**17.5**	**21.3**	**24**		**80.07**		
Phosphorus						**0.14**	**0.35**	**24**		**> 0.97**		
Fecal Coliform						**< 10**	**< 0**	**24**	**< 10**	**5312.98**	**40469**	**48**
UV Intensity									**4.94**			**730**

UV Intensity is in µw/sq-cm.
Nitrogen and phosphorus data is not consistent with other effluent data.

Chemical Use:

Hydrated lime for pH adjustment
Sludge production and disposal

304 dry tons sludge removed.

No outside sludge sources reported.
Sludge disposal sites reported were Punxsutawney Sewage (PA0020346 and Greentree Landfill (PA101397)
All sludge is landfill disposed.

Included is a 26R report for Glen-Gary Corporation, Hanley Plant. A 1 596 080-gallon waste source with a 7 to 8-SU pH is reported. 1 642 884-gallons were shipped the previous year.

The industrial waste flow is approximately 4373-gpd or 5% of the design flow.

2017 WLMR

Population 530
1 industrial user – Glen-Gery Corporation (brick maker)
Water and Creek Street Pump Station
Capacity 200-gpm
304-tons wet sludge removed to Greentree Landfill.

	Flow	Organic
Annual Average	0.037	41
Max Mon Ave	0.09	58
Max 3 Mon Ave	0.06	NA

No projected overloads

Compliance History

DMR Data for Outfall 001 (from March 1, 2018 to February 28, 2019)

Parameter	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18	JUL-18	JUN-18	MAY-18	APR-18	MAR-18
Flow (MGD) Average Monthly	0.05	0.036	0.033	0.046	0.034	0.045	0.022	0.019	0.02	0.048	0.069	0.060
pH (S.U.) Minimum	6.5	6.4	6.6	6.5	6.2-	6.8	6.9	6.9	7.0	6.9	6.7	6.7
pH (S.U.) Maximum	6.9	6.9	7.0	6.9	7.1	7.2	7.2	7.3	7.4	7.5	7.2	6.9
CBOD5 (ppd) Ave Monthly	4	2	2	2	1	0.6	< 0.5	0.7	0.8	< 0.8	< 1	< 1
CBOD5 (ppd) Weekly Average	5	3	3	2	2	0.8	0.7	14	1.0	< 0.8	2	1
CBOD5 (mg/L) Average Monthly	8	11	8	5	6	2	< 3	4	5	< 2	< 2	< 2
CBOD5 (mg/L) Weekly Average	12	18	11	5	10	2	4	5	8	< 2	2	3
TSS (lbs/day) Average Monthly	8	< 5	4	7	3	< 2	2	< 2	3	2	< 4	2
TSS (lbs/day) Weekly Average	9	10	6	10	3	2	2	3	3	3	4	2
TSS (mg/L) Average Monthly	17	< 24	17	18	15	< 11	11	< 11	16	6	< 6	5
TSS (mg/L) Weekly Average	20	23.7	25	22	18	16	14	16	18	7	6	5
Fecal Coliform (#/100 ml) Geometric Mean	748	< 88	108	< 10	< 19	175	< 10	< 45	< 184	< 10	< 10	50
Fecal Coliform (#/100 ml) Instant Maximum	748	775	108	< 10	36	192	< 10	207	**5091**	< 10	< 10	57
UV Intensity (µw/cm²) Average Monthly	7.8	6.5	2.2	2.5	2.3	2.1	2	2.1	2.1	1.9	2.1	2.1
Total Nitrogen (mg/L) Average Monthly	12.2	17.6	15.1	11.5	15.8	11.38	7.08	16.66	30.5	10.22	9.17	7.72
Total Phosphorus (mg/L) Average Monthly	0.39	3.04	0.71	0.386	0.83	0.5	0.38	0.41	0.18	< 0.11	0.16	< 0.13

Summer median 7.1-SU annual median 6.9-SU

No Ammonia monitoring requirements in the NPDES permit.

Compliance History

Effluent Violations for Outfall 001, from: April 1, 2018 to: February 28, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	06/30/18	IMAX	5091	CFU/100 ml	1000	CFU/100 ml

Summary of Inspections: Last inspected October 27, 2016 with one SBR down for repair (actuator broke) and its replacement on order.

Other Comments: Last inspection was in 2016

Permit No. PA0222496

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.09
Latitude 41º 7' 2.30" **Longitude** -79º 11' 47.77"
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 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
DO	4-mg/L	Daily minimum	BPJ	

Comments: Proposed is the 4.0-mg/L minimum daily BPJ DO requirement

Water Quality-Based Limitations

The receiving waters are abandoned mine drainage impacted without any water-quality based requirements. The basic TMDL for Redbank Creek is dated June 9, 2009 with a specific Runaway Run TMDL scheduled for 2015.

The Redbank Creek TMDL allows for further mining activities in the Runaway Run basin. The local public water supply, Hawthorne Water Company is listed in the Redbank Creek TMDL while the Summerville STP is not listed.

Based on sanitary sewage collection system as the waste source, reasonable potential use implies BOD, or CBOD, RSS, ammonia and DO requirements. As the receiving waters are mine drainage impaired no water quality limitations are presently proposed.

With stream recovery (attaining designated uses) the stream pH should approximate 6.5-SU as a default value while the background total aluminum, iron, and manganese ambient quality should fall to near zero. With stream recovery a 4.0-mg/L minimum daily DO and a 5/5-mg/L summer ammonia limitations are recommended. The annual current discharge pH median is 6.9-SU with a 7.1-SU summer median.

The following limitations were determined through water quality modeling (output files attached):

Discharge pH	Parameter	Limit			SBC	Model		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
SU		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
6.9	Ammonia		5.5	10.0			5.2	10.3
	DO	4.0				4.0		

Best Professional Judgment (BPJ) Limitations

Comments: the 4-mg/L DO limit is considered BPJ.

Anti-Backsliding

Not necessary

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	XXX	XXX	XXX	XXX	XXX	1/week	Measured
DO	XXX	XXXX	4.0	XXX	XXX	XXX	1/day	Grab
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Max	XXX	1/day	Grab
CBOD5	19	30	XXX	25	40	50	2/month	8-Hr Composite
BOD5 Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TSS	23	34	XXX	30	45	60	2/month	8-Hr Composite
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
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

Compliance Sampling Location: Outfall 001 after disinfection.