pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0222712**
Facility Type	**Municipal**	APS ID	**1012932**
Major / Minor	**Minor**	Authorization ID	**1308253**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Sykesville Borough**	Sykesville	**Sykesville STP**
Applicant Address	21 E Main Street	Facility Address	147 S Park Street
	Sykesville, Pa 15865-1105		Sykesville, Pa 15865
Applicant Contact	Michelle Yamerick, Council President	Facility Contact	Brian Williams, Operator
Applicant Phone	814-894-2406	Facility Phone	814-894-8009
Fax	814-894-7804	Fax	1012932
E Mail	sykesvilleboro@gmail.com	E Mail	williams15801@yahoo.com
Client ID	119667	Site ID	425202
Municipality	Sykesville Borough	County	Jefferson
Ch 94 Load Status	Not Overloaded	Connection Status	No Limitations
SIC Code		SIC Code	4952
SIC Code Description		SIC Code Description	Trans. & Utilities - Sewerage
Application Received	March, 2020	EPA Waived?	Yes
Application Accepted	March 22, 2020	If No, Reason	

Application Purpose: NPDES permit renewal

Summary of Review

Emailed renewal revisions on April 16, 2020. Electronic permit issuance documentation is acceptable, the DO submission is not correct, and no local stream data is available.

Stream goals established for implementation after stream recovery. Joe Brancato during a May 5, 2020 Huddle discussion Stump Creek was still marginally mine drainage impaired and the existing permit requirements retained.

DO compliance is not reported. As stated above non-compliance is believed caused by a procedure error and correctable. One-time TSS monthly and weekly non-compliance was also reported. Current stream impairment status is unknown.

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 William H. Mentzer, P.E. Environmental Engineering Specialist	May 5, 2020
X		Justin C. Dickey Justin C. Dickey, P.E. Environmental Engineer Manager	June 15, 2020

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.18
Latitude	41º 51' 4.14"	Longitude	-78º 29' 41.33"
Latitude DP	41º 2' 28.50"	Longitude DP	-78º 49' 23.68"
Quad Name	Du Bois	Quad Code	1015
Wastewater:	Treated municipal sanitary sewer wastes		

Receiving Waters	Stump Creek	Code	47922
NHD Com ID	123857381	RMI	6.43
Drainage Area	16.9	Yield (cfs/mi^2)	0.0149
Q_{7-10} Flow (cfs)	0.25	Q_{7-10} Basis	Little Mahoning Creek
Elevation (ft)	1325.91	Slope (ft/ft)	0.00076
Watershed No.	17-D	Chapter 93 Class.	cwf
Existing Use	Statewide	Existing Use Qualifier	none
Exceptions to Use	None	Exceptions to Criteria	none
Comments	At the stream mouth drainage is 425.579 square miles with a 1287.421-foot elev.		

Assessment Status	**Impaired**
Impairment Cause	**Metals**
Impairment Source	**Abandoned Mine Drainage**
TMDL Status	**Final 4/4/2007** Name **Stump Creek Watershed**

Low Flow Basis: Little Mahoning at Punxsutawney, Pa — Station Number: 03034500
Low Flow (cfs): 1.3 — Drainage (sq mi): 87.4 — Yield (cfs/sq-mi): 0.0149

Impoundment: — Station Number:
Distance (mi): — Location: — Size (a-ft): — Retention (d):

Background/Ambient Data		Data Source
pH (SU)	7.7	TMDL Summer; 7.5-SU TMDL median annual average;
Temp (°C)	20	CWF default
CBOD5 (mg/L)	2.0	Default
Ammonia (mg/L)	0.1	Default
Hardness (mg/L)		
Iron (mg/l)	12.4	TMDL; 0.188-mg/L TMDL average; 0.3-mg/L TMDL maximun
Manganese (mg/l)	1.2	TMDL; 0.038-mg/L TMDL average; 0.076-mg/L TMDL maximum

Nearest Downstream Public Water Supply Intake: Pa-Am Water Kittanning District

PWS Waters	Allegheny River	Flow at Intake (cfs)	1250
PWS RMI	44.91	Distance from Outfall (mi)	81.95

Changes Since Last Permit Issuance: none
Other Comments: The stream flow is above the public water supply intake at Franklin, Pa and no downstream user impairment is expected.

Treatment Facility Summary				
Treatment Facility Name: Sykesville Borough STP				
WQM Permit No.	**Issuance Date**			
3399401	April 13, 1999			
3307402	May 20, 2008			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Activated Sludge	Hypochlorite	0.18
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.18	338	Not Overloaded	anaerobic	Off site

Changes Since Last Permit Issuance: none

Other Comments:

WQM 3399401 to Sykesville Borough in the Borough of Sykesville, Winslow Township, and Henderson Township for Sanitary sewer submersible pump station, comminutor with bypass bar rack back-up, 2 completely mixed and 2 partially mixed lagoons, chlorine disinfection.

WQM 3307402 to Winslow Township for two lift stations, force mains, and gravity sewers.

3399401		East Railroad Street	Sykesville	Duplex	300-gpm	WWTP
3307402	Lift Station #1	Stoney Ridge Drive	Winslow Twp	Duplex	30-gpm	Sykesville Elementary
	Lift Station #2	Sprague Road	Winslow Twp	Duplex	70-gpm	Sykesville Elementary

CW permit 3307402 also has three residential grinder pumps.

The WLMR is for covers the Borough of Sykesville, Winslow Township, Sandy Township, and Troutville Borough.

	Month	Year	Mean MGD	Min PPD	Mean PPD	Max PPD	Min mg/L	Mean mg/L	Max mg/L	#	Min mg/L	Mean mg/L	Max mg/L	#
An Aver														
Hyd Design			0.18											
Org Design					338									
An Aver		2019	0.112											12
		2018	0.116											12
		2017	0.104											12
Phosphorus											3.38	6.01	8.55	12
Phosphorus Mon Aver											2.40	7.45	59.17	53
DO											1.34	2.06	2.55	12
DQ											1.16	7.0	5.8	55
pH											6.37	7.3	7.37	24
TRC											0.17	0.29	0.31	12
Coliform											0		1986	107
CBOD5											1.85	5.86	18.56	24
TSS											9.55	17.5	49.86	12
Ammonia											1.43	20.24	38,32	12
Nitrogen											025	30.41	64.30	56

Treatment

Outfall No. 001 **Design Flow (MGD)** 0.18
Latitude 41º 51' 4.14" **Longitude** -78º 29' 41.33"
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	4.0-mg/L	Daily minimum		BPJ

Water Quality-Based Limitations

Previously the Stump Creek basin was classified as acid mine drainage impaired with a final TMDL established in 2007. The TMDL did not show a instream pH below 6.0-SU but did document localized aluminum, iron, and manganese instream values above their respective criteria. Also, the TMDL does not clearly differentiate between acid mine drainage and abandoned mine drainage and did not consider the basin sewage discharges.

Because several Stump Creek sections (nodes) are classified as acid mine drainage impaired with a mining TMDL addressing the impairment no water-quality based requirements were previously established. This review determined that an aquatic life ammonia toxicity requirement exists and should be implemented if the aquatic life use can be established.

Modeling ambient conditions are based on the mining TMDL headwaters monitoring point SC03 with a single summer data point. The headwaters summer median is pH 7.7-SU, alkalinity 75.2-mg/L, acidity -41.8-mg/L, iron ~0.15-mg/L, manganese ~25-mg/L and aluminum ~0.25-mg/L. The basin summer median is pH 7.3-SU, alkalinity 65.0-mg/L, acidity -21.0-mg/L; iron 1.02-mg/L, manganese 0.205-mg/L and aluminum ~0.25-mg/L. Annual basin median is pH 7.1-SU, alkalinity 56,4-mg/L, acidity 0-mg/L, iron 1.04-mg/L; manganese 0.239-mg/L and aluminum not detectable. Basin TMDL iron exceeded the iron criteria in 31 of 90 analysis. Manganese and aluminum was not reported above their respective criteria.

The TMDL data shows pH is between 6 to 9 standard units, alkalinity is greater than acidity and aluminum is generally below 0.25-mg/L, manganese approaches its 1.0-mg/L water use criteria, and iron often exceeds its 1.5-mg/L aquatic life criteria. To show stream recovery the instream iron concentration should be less than 1.5-mg/L.

At low flow conditions groundwater impacts should be minimized. Stream pH may approach 7.5-SU with aluminum, iron, and manganese concentrations minimized. At higher stream flows groundwater impacts from mine drainage will be maximized and impairing aquatic life.

A sewerage program based “Reasonable Potential Analysis” determined the following parameters were candidates for limitations: CBOD5, TSS, ammonia, dissolved oxygen, pH, phosphorus, and TRC.

Phosphorus monitoring is to be continued. There is no record of a phosphorus impairment to justify additional requirements

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

Parameter		Limit (mg/l)			SBC	Model		
Name	Period	min	Mean	max		Min	mean	max
Ammonia	Summer		3.0	6.0			3.0	6.0
	Winter		9.0	18.0			9.0	18.0
Dissolved oxygen		4.0				4.0		
TRC			0.1	0.5			0.141	0.46

The above requirements are based on Stump Creek recovery. They are not required for an acid mine drainage basin. As of 2017 parts of Stump Creek were still listed as impaired.

Anti-Backsliding

Not applicable

Compliance

Treatment is in an aerated lagoon that could experience a spring and fall turnover. A 4.0-mg/L DO was previously achievable. The DO compliance has been explained as a procedural error.

Upon Stump Creek recovery the TRC limit becomes 0.1-mg/L and a 3.0-mg/L ammonia-nitrogen limitation is added to the permit. The change in treatment requirements is expected to require additional treatment facilities.

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	Average Weeklly	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.) Jul 1 - Aug 31	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/weekday	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/weekday	Grab
TRC Jul 1 - Aug 31	XXX	XXX	XXX	0.5	XXX	1.2	1/weekday	Grab
CBOD5 influent	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
CBOD5	XXX	XXX	XXX	25.0	40.0	50.0	2/month	8-Hr Composite
TSS Influent	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	45.0	60.0	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 – Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Ammonia-nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Aluminum`	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite
Total Iron	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite
Total Manganese	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite

Compliance Sampling Location: Outfall 001 after disinfection