pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0239615**
Facility Type	**Non-Municipal**	APS ID	**1054013**
Major / Minor	**Minor**	Authorization ID	**1380377**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Reibold STP Inc.**	Facility Name	**Hidden Acres Walnut Sq & Wilsons Ridge STP**
Applicant Address	21 Leonberg Road	Facility Address	SR68/Spithaler Rd/Reibold Rd/Nursery Rd
	Cranberry Township, PA 16066-3601		Evans City, PA 16033
Applicant Contact	Frank Shipley. President	Facility Contact	
Applicant Phone	(724) 776-6060	Facility Phone	
Applicant E Mail	plumber1@zoominternet.net	Facility E Mail	
Client ID	367438	Site ID	639395
Municipality	Forward Township	County	Butler
Ch 94 Load Status	Not Overloaded	Connection Status	No Limitations
Application Received	December 6, 2021	EPA Waived?	Yes
Application Accepted	January 12, 2022	If No, Reason	

Purpose of Application: NPDES permit renewal and transfer

Summary of Review

No reported violations. Permit transfer from Frank Shipley to Reibold STP Inc. Frank Shipley President.

A Consent Assessment of Civil Penalty was executed on February 28, 2022 for exceeding NPDES permit limitations and a late NPDES renewal.

Sludge sent to Dalton's Facility 1400 1st Avenue Beaver Falls, PA 15010 by Dalton Service Company `1230 Mercer Road, Ellwood City, PA 16117.

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	December 29, 2022
X		*Vacant* Environmental Engineer Manager	Okay to Draft JCD 1/5/2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.09352
Latitude DP	40º 48' 13.01"	Longitude DP	-80º 0' 2.59"
Latitude NHD	40º 48' 13.31"	Longitude NHD	-80º 0' 2.68"
Quad Name	Evans City	Quad Code	1205
Wastewater Description:	Treated private residential sanitary sewer wastes		

Receiving Waters	Unnamed Trib of Connoquenessing Crk	Stream Code	35098
NHD Com ID	126218468	RMI	0.13
Drainage Area	0.25	Yield (cfs/mi^2)	0.048
Q_{7-10} Flow (cfs)	0.01	Q_{7-10} Basis	Buffalo Creek Freeport
Elevation (ft)	1003.18	Slope (ft/ft)	0.05411
Watershed No.	20-C	Chapter 93 Class.	WWF
Existing Use	**statewide**	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	NHD RMI is 0.05 at a downstream pond. Downstream confluence is at tributary 35097 RMI 0.22 Elevation 972.26 Drainage 1.34 square miles. Tributary 35097 drainage is 1.41 square Miles at 946.65 feet elevation		

Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)	6.2	Original WQPR
Temperature (°C)	25	default
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake		Pa American	
PWS Waters	Connoquenessing Creek	Flow at Intake (cfs)	NA
PWS RMI	0.01	Distance from Outfall (mi)	35.53

Changes Since Last Permit Issuance:

Water intake criteria was formerly assessed at the Pa American Ellwood City Slippery Rock Creek intake that was abandoned when Pa American consolidated operations and started a new intake near the confluence of Connoquenessing Creek and Beaver River.

Treatment Facility Summary				
Treatment Facility Name: Hidden Acres Walnut Square & Wilsons Ridge STP				
WQM Permit No.	**Issuance Date**			
1005409 A1	June 9, 2011			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia Reduction	Sequencing Batch Reactor	Ultraviolet	0.0935
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0935	206	Not Overloaded	Aerobic Digestion	Other WWTP

Treatment: fine screens, flow splitting, pH adjustment, parallel (ICEAS) sequencing batch reactor with preact zone, aerated sludge holding, UV disinfection and splash manhole (post aeration facility). Discharge is via a wash tank without equalization.

Changes Since Last Permit Issuance: none

Other Comments:

			Influent						Effluent				
	Month	Year	Flow Mean MGD	Load Mean PPD	Min	Mean	Max	#	Min mg/L	Mean mg/L	Max mg/L	# #
Annual Average Design			**0.0935000**									
Hydraulic Design			**0.0935000**									
Organic Design				**206**								
Annual Average		**2018**	**0.0004422**									
		2019	**0.0004989**									
		2020	**0.0005750**									
High Month	**March**	**2020**	**0.0210000**									
pH									**6.00**		**7.80**	**24**
Fecal Coliform									**3.74**	**68.9**	**269**	**12**
CBOD5									**2.55**	**3.40**	**5.15**	**12**
TSS									**3.00**	**5.67**	**10.50**	**12**
Amm									**0.14**	**10.37**	**39.00**	**12**
N									**2.97**	**20.44**	**48.80**	**12**
P									**2.00**	**5.68**	**11.45**	**12**

No phosphorus control present.
Ammonia has summer and winter limitations.
The ammonia values are not supported by current self-monitoring reports which show NPDES permit ammonia compliance,

Compliance History

DMR Data for Outfall 001 (from December 1, 2020 to November 30, 2021)

Parameter	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20
Flow (MGD) Average Monthly	0.0224	0.0214	0.0207	0.0204	0.0195	0.0190	0.0187	0.0183	0.0187	0.0215	0.0212	0.0208
Flow (MGD) Daily Maximum	0.0279	0.0251	0.0235	0.0308	0.0252	0.0252	0.026	0.023	0.0212	0.0293	0.0315	0.0268
pH (S.U.) Minimum	6.5	7.0	6.8	6.5	6.9	7.0	6.8	6.6	6.5	6.5	6.5	6.2
pH (S.U.) Maximum	7.4	7.5	7.3	7.3	7.4	7.5	8.2	7.5	7.1	7.3	7.3	7.5
DO (mg/L) Minimum	6.0	5.4	5.0	5.0	6.0	5.0	5.0	5.0	6.0	6.5	6.0	6.0
CBOD5 (mg/L) Average Monthly	3.0	3.0	3.3	5.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
TSS (mg/L) Average Monthly	3.0	5.0	5.5	3.0	4.0	3.0	3.0	3.0	5.0	6.0	4.5	3.0
Fecal Coliform (CFU/100 ml) Geometric Mean	7	104	52	141	36	20	18	16	70	9	34	8
Total Nitrogen (mg/L) Average Monthly	17.0	8.21	7.91	16.3	11.0	12.3	16.1	9.42	18.0	17.35	17.75	12.3
Ammonia (mg/L) Average Monthly	0.225	0.265	0.22	0.35	0.30	0.22	1.39	0.275	0.16	0.135	0.275	0.145
Total Phosphorus (mg/L) Average Monthly	6.4	5.48	5.40	6.62	5.1	9.05	4.52	6.22	6.59	6.77	6.32	7.11
UV Dosage ($mWsec/cm^2$) Average Monthly	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DMR Data for Outfall 001 (from November 1, 2021 to October 31, 2022)

Parameter	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21
Flow (MGD) Average Monthly	0.0225	0.0235	0.0229	0.0221	0.0216	0.0226	0.022	0.0227	0.0245	0.0260	0.0240	0.0224
Flow (MGD) Daily Maximum	0.0317	0.0285	0.029	0.0275	0.0278	0.0314	0.028	0.032	0.0302	0.0536	0.0310	0.0279
pH (S.U.) Minimum	7.0	7.0	7.0	6.9	6.9	6.5	6.5	6.5	6.7	6.5	6.5	6.5
pH (S.U.) Maximum	7.2	7.5	7.2	7.5	7.3	7.2	7.2	7.2	7.2	7.2	7.5	7.4
DO (mg/L) Minimum	6.5	6.0	5.0	6.0	6.7	6.4	6.0	6.0	6.0	5.0	5.3	6.0
CBOD5 (mg/L) Average Monthly	3.0	3.5	3.7	3.0	3.0	3.0	5.95	3.0	3.0	3.0	3.0	3.0
TSS (mg/L) Average Monthly	4.0	3.0	4.0	3.5	3.0	3.0	3.0	3.0	4.5	3.5	3.0	3.0
Fecal Coliform (CFU/100 ml) Geometric Mean	6	13	124	30	23	9	3	10.5	22	2	8	7
Total Nitrogen (mg/L) Average Monthly	9.98	8.53	17.9	12.15	10.95	15.8	5.34	5.9	5.67	9.0	16.95	17.0
Ammonia (mg/L) Average Monthly	0.185	0.155	0.155	0.17	0.165	0.245	0.20	0.30	0.23	0.30	0.18	0.225
Total Phosphorus (mg/L) Average Monthly	6.02	5.64	7.85	6.88	7.37	7.12	5.34	4.71	4.77	6.01	5.93	6.4
UV Dosage ($mWsec/cm^2$) Average Monthly	4.6	6.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Summer Median 7.10 SU Long term median 7.15 SU

Compliance History

No violations reported

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .09352
Latitude 40º 48' 13.01" **Longitude** -80º 0' 2.59"
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			BPJ
E Coli	monitoring	annual		BPJ

Comments: none

Water Quality-Based Limitations

Comments:
Previous reviews identified water quality-based requirements for dissolved oxygen and ammonia. No phosphorus limitations were presented. The receiving tributary 35098 is too short for WQM7.1 review. Too add an effective stream reach modelling is based on the downstream tributary 35097.

The following limitations were determined through water quality modeling (output files attached): Modelling discharge is 167-gpm (0.240-MGD)

Parameter	Linits			SBC	Model		
	Minimum	Average	Maximum		Minimum	Average	Maximum
CBOD5		25	50			25	50
Ammonia		1.4	2.8			1.43	2.86
DO	5.0				5.0		

Comments: Stream pH and DO do not affect the WQ analysis.

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20C	35097	Trib 35097 to Connoquenessing Creek	0.350	1003.18	0.25	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.048	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	6.20	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Hidden Acres	PA0239615B	0.2400	0.2400	0.2400	0.000	25.00	7.10

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.10	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20C	35097	Trib 35097 to Connoquenessing Creek	**0.220**	972.26	1.34	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.048	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	6.20	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20C	35097	Trib 35097 to Connoquenessing Creek	**0.000**	946.65	1.41	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.048	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	6.20	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20C	35097	Trib 35097 to Connoquenessing Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.350	0.01	0.00	0.01	.3713	0.04505	.478	4.01	8.38	0.20	0.040	25.00	7.01
0.220	0.06	0.00	0.06	.3713	0.02205	.448	6.96	15.54	0.14	0.096	25.00	6.79
Q1-10 Flow												
0.350	0.01	0.00	0.01	.3713	0.04505	NA	NA	NA	0.20	0.040	25.00	7.04
0.220	0.04	0.00	0.04	.3713	0.02205	NA	NA	NA	0.14	0.099	25.00	6.87
Q30-10 Flow												
0.350	0.02	0.00	0.02	.3713	0.04505	NA	NA	NA	0.20	0.039	25.00	6.99
0.220	0.09	0.00	0.09	.3713	0.02205	NA	NA	NA	0.14	0.093	25.00	6.73

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	95.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20C	35097	Trib 35097 to Connoquenessing Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.350	Hidden Acres	10.65	10.87	10.65	10.87	0	0
0.220		NA	NA	12.27	NA	NA	NA

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.350	Hidden Acres	1.37	1.43	1.37	1.43	0	0
0.220		NA	NA	1.48	NA	NA	NA

Dissolved Oxygen Allocations

		CBOD5		NH3-N		Dissolved Oxygen			
RMI	Discharge Name	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Critical Reach	Percent Reduction
0.35	Hidden Acres	25	25	1.43	1.43	5	5	0	0
0.22		NA	NA	NA	NA	NA	NA	NA	NA

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20C	35097	Trib 35097 to Connoquenessing Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.350	0.240	25.000	7.015
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
4.009	0.478	8.383	0.200
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.28	1.496	1.39	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.102	32.527	Owens	5
Reach Travel Time (days)			
0.040			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.004	24.10	1.38	5.22
0.008	23.92	1.38	5.33
0.012	23.74	1.37	5.42
0.016	23.56	1.36	5.51
0.020	23.39	1.36	5.58
0.024	23.21	1.35	5.65
0.028	23.04	1.35	5.72
0.032	22.87	1.34	5.77
0.036	22.70	1.34	5.83
0.040	22.53	1.33	5.87

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.220	0.240	25.000	6.794
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
6.956	0.448	15.542	0.140
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
20.06	1.476	1.17	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.158	28.942	Owens	5
Reach Travel Time (days)			
0.096			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.010	19.71	1.16	6.19
0.019	19.36	1.15	6.22
0.029	19.02	1.13	6.25
0.038	18.68	1.12	6.28
0.048	18.35	1.11	6.31
0.058	18.03	1.10	6.34
0.067	17.71	1.09	6.38
0.077	17.40	1.08	6.41
0.086	17.09	1.07	6.44
0.096	16.79	1.06	6.47

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20C	35097	Trib 35097 to Connoquenessing 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)
0.350	Hidden Acres	PA0239615B	0.240	CBOD5	25		
				NH3-N	1.43	2.86	
				Dissolved Oxygen			5

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20C	35097	Trib 35097 to Connoquenessing 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)
0.350	Hidden Acres	PA0239615B	0.240	CBOD5	25		
				NH3-N	1.43	2.86	
				Dissolved Oxygen			5

Best Professional Judgment (BPJ) Limitations

Comments: No limitations recommended as DOSAG proposes a 5.0-mg/L daily minimum. A splash manhole is provided for post aeration.

Additional Considerations

UV light disinfection is permitted with dosage monitoring.

Also, in order to determine nitrogen and phosphorus treatability, total nitrogen and phosphorus monitoring is continued.

The discharge is within the Connoquenessing Creek phosphorus implementation basin which currently has a 2.0-mg/L total phosphorus discharge limitation.

The original basin phosphorus discharge concertation limit was 0.5-mg/L basin on chemical addition and settling. Later at a New Castle Hearing phosphorus restrictions were removed from Slippery Rock Creek and the lower Connoquenessing.

Shortly After DERLOC reorganization Central Office proposed implementation plan changes as the 0.5-mg/L limit was based on tube settlers which generally were not installed. The basin discharges were reviewed as a group and the phosphorus limitations relaxed to a sedimentation based 1.0-mg/L.

The facility is achieving from 2.0 to 11.45-mg/L with a 5.68-mg/L average annually and 4.52 to sedimentation 9.05-mg/L with a 6.23-mg/L average and 6.22-mg/L median for December 2021 through October 2022. Chemical addition with possibly additional sedimentation or filtration is needed to achieve the implementation plan requirements.

Based on this discharge, Slippery Rock STP and the City of Butler this discharge is less than 1% of the sewage-based basin phosphorus load and should not materially affect the basin phosphorus load. As a minor basin discharge Phosphorus requirements should not be necessary

Background Connoquenessing Stream Study

Date	TKN	Amm	Bro	Sulf	Chl	Phos	BOD5	TDS	NO3/O2	NO2	NO3	DO	Sp Con	Temp	pH
08/03/10	**< 1**	**0.06**	**< 0.2**	**118.0**	**272**	**0.081**	**2.2**	**966**	**2.47**						
08/16/10	**<1**	**0.11**	**< 0.2**	**98.6**	**214**	**0.099**		**742**	**2.24**	**0.02**	**2.22**				
09/01/10	**<1**	**0.08**	**0.2**	**120.0**	**395**	**0.153**	**1.5**	**1336**	**3.91**						
09/23/10	< 1	0.07	< 0.2	146.0	459	0.180	1.4	1548			3.83				
10/07/10		0.12	0.3	75.8	304	0.089	1.4				2,43	9.87	142	11.14	7.4
10/20/10		0.05	< 0.2	215.0	427	0.118	1.6				2.78	11.07	1036	13.1	7,66
Count	4	6	6	6	6	6	5	4	3	1	4	2	2	2	2
Min	<1	0.05	< 0.2	75.8	214	0.081	1.4	742	2.24	0.02	2.22	9.87	142	11.14	7.4
Average	<1	**0.08**	<0.25	128.9	345	0.120	**1.6**	1148	2.87	0.02	2.94	10.47	589	12.12	7.53
Mode							1.4								
Median	<1	0.08	<0.25	119.0	349.5	0.109	1.5	1151	2,47	0.02	2.78	10.47	589	12.12	7.53
Maximum	1	0.12	0.3	215.0	459	0.180	2.2	1548	3,81	0.02	3.83	11.07	1036	13.1	7.66

No significant variation from WQM7.1 default values. Phosphorus is high when compared to antidegradation values. TDS exceeds the water supply criteria,

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	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	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
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	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 Nov 1 - Apr 30	XXX	XXX	XXX	4.2	XXX	8.4	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.4	XXX	2.8	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
UV Dosage (mWsec/cm²)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Measured

Compliance Sampling Location: Outfall 001 after disinfection.