pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0021547**
Facility Type	**Municipal**	APS ID	**633711**
Major / Minor	**Minor**	Authorization ID	**1254347**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Orwigsburg Borough Municipal Authority**	Facility Name	**Orwigsburg Sewage Treatment Plant**
Applicant Address	209 North Warren Street, P.O. Box 128 Orwigsburg, PA 17961-1852	Facility Address	South Liberty Street & Route 61 Orwigsburg, PA 17961
Applicant Contact	Robert Williams, Borough Manager	Facility Contact	Dave Teter, Water/Wastewater Supervisor
Applicant Phone	(570) 366-3103	Facility Phone	(570) 366-3103
Client ID	51439	Site ID	256473
Ch 94 Load Status	Not Overloaded	Municipality	Orwigsburg Borough
Connection Status	No Limitations	County	Schuylkill
Date Application Received	November 28, 2018	EPA Waived?	Yes
Date Application Accepted	December 7, 2018	If No, Reason	-
Purpose of Application	Renewal of NPDES permit for discharge of treated sewage.		

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.9 MGD of treated sewage into Mahannon Creek, a Cold-Water Fishery, Migratory Fish (CWF, MF) receiving stream in State Water Plan Basin 3-A (Upper Schuylkill River). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. This discharge is not expected to affect public water supplies.

Limitations for Total Suspended Solids, pH, Dissolved Oxygen, and Fecal Coliform are technology-based and carried over from the previous permit.

Water quality modeling recommended stricter summertime limitations for Ammonia-Nitrogen (2.4 mg/L average monthly, 4.7 mg/L IMAX). The standard 3x multiplier was used to develop the wintertime limitations (7.2 mg/L average monthly, 14.1 mg/L IMAX). The new limitations will come into effect four years after the permit effective date. The previous permit did not include IMAX limitations for Ammonia- Nitrogen. A 2x multiplier (based on the average monthly limits in the previous permit) was used to establish IMAX limitations for the first four years of this permit and will come into effect at the permit effective date.

Water quality modeling also recommended slightly stricter limitations for $CBOD_5$ (22.0 mg/L average monthly, 33.0 mg/L weekly average, and 44.0 mg/L IMAX). The new limitations will come into effect at the permit effective date because eDMR data from the past year confirms the facility is consistently under these limits.

TRC limitations were not included in the previously issued permit because the facility utilizes ultraviolet light as its primary method of disinfection. In the event the facility utilizes chlorine for backup disinfection, cleaning, or other purposes, an IMAX limitation has been included in this renewal. The TRC IMAX limitation is water quality-based and is to be sampled "daily when discharging" (see Part C.I.D).

Weekly influent monitoring requirements for TSS has been carried over from the previous permit. The weekly influent monitoring for BOD_5 has been changed to influent monitoring of $CBOD_5$ to better determine the removal percentages.

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried / Environmental Engineering Specialist	February 27, 2020
X		/s/ Amy M. Bellanca, P.E. / Environmental Engineer Manager	February 27, 2020

Summary of Review

Pollutant sampling results submitted with the permit application were entered into the Toxic Screening Analysis Water Quality Pollutants of Concern (TSA) spreadsheet. The highest reported Total Copper concentration was 20 µg/L. The TSA spreadsheet suggested PENTOX modeling. The most stringent average monthly WQBEL recommended through modeling was 12.6 µg/L, which resulted in the TSA spreadsheet recommending to establish limits. The permittee was given the opportunity to conduct a minimum of 10 additional effluent samples for copper. The permittee conducted 11 additional samples during November 2019 through January 2020 and provided the results to the Department via letter dated February 18, 2020 (attached). The average sample result (including the initial 20 µg/L result) was 14 µg/L. These updated results were used to re-run the PENTOX modeling, however, PENTOX and the TSA spreadsheet still suggests establishing limits.

Therefore, Total Copper limitations were added to the permit and will come into effect 4 years after the permit effective date. Monitoring/reporting requirements are included in the permit until the limitations come into effect. The Part C.IV. condition regarding Toxics Reduction Evaluations (TREs) is added to the permit and applies to the Total Copper limitations. The permittee will have the option to accept the implementation of the limitations or to perform site-specific studies to verify or refine the WQBELs.

Monitoring frequencies for all parameters with limitations have been updated to the recommended frequencies found in Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations (doc. no. 362-0400-001).

24-hour composite sampling is now required for every pollutant except pH, DO and Fecal Coliform.

A final Total Maximum Daily Load (TMDL) exists for the Upper Schuylkill River Watershed. The TMDL addresses metals (iron, manganese, and aluminum) and pH associated with acid mine drainage (AMD). There are no approved Waste Load Allocations (WLA) for this facility. Since this is a sewage discharge with no industrial contributors, no appreciable quantities of these metals are expected to be present in the effluent.

River Mile Index (RMI) values were obtained using the Department's eMapPA, drainage areas were delineated using USGS's StreamStats interactive map, and elevations were obtained using the elevation profile tool on StreamStats. There are no representative stream gages in the vicinity of the outfall. Therefore, the state-wide default LFY of 0.1 cfs/mi^2 was used to model the discharge.

As per the permittee's September 2019 Sewage Sludge and Biosolids Supplemental Report forms, sludge is hauled to the Greater Hazelton Joint Sewer Authority in West Hazelton, PA by Liquid Motion.

The existing permit expired on May 31, 2019 and the application for renewal was received on time.

A Water Management System Inspection query indicated that on January 8, 2019 a Compliance Evaluation was performed.

There are no open violations for this client that warrant withholding issuance of this permit.

Watershed Info - Orwigsburg.pdf
TRC_CALC - Orwigsburg.pdf
WQM 7.0 - Orwigsburg.pdf
TSA_Updated_Orwigsburg.pdf
PENTOX_UPDATED_Orwigsburg.pdf
CopperLimitSummary_Orwigsburg.pdf
CopperSampleLTR_02182020.pdf

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.9
Latitude	40º 38' 33.62"	Longitude	-76º 6' 22.92"
Quad Name	Orwigsburg	Quad Code	1337
Wastewater Description:	Sewage Effluent		
Receiving Waters	Mahannon Creek (CWF, MF)	Stream Code	2318
NHD Com ID	25986206	RMI	1.93
Drainage Area	5.60 mi^2	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.560	Q_{7-10} Basis	State-wide default
Elevation (ft)	523.5	Slope (ft/ft)	-
Watershed No.	3-A	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	DEWATERING, HABITAT ALTERATIONS, NUTRIENTS, TOTAL SUSPENDED SOLIDS (TSS), TOTAL SUSPENDED SOLIDS (TSS)		
Source(s) of Impairment	AGRICULTURE, CHANNELIZATION, MUNICIPAL POINT SOURCE DISCHARGES, MUNICIPAL POINT SOURCE DISCHARGES, RURAL (RESIDENTIAL AREAS)		
TMDL Status	Final	Name	Upper Schuylkill River
Nearest Downstream Public Water Supply Intake	Pottstown Borough Water Authority		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	-
PWS RMI	57	Distance from Outfall (mi)	≈ 59

Treatment Facility Summary

Treatment Facility Name: Orwigsburg Sewage Treatment Plant

WQM Permit No.	Issuance Date
5414405	5/19/2015

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Vertical Loop Reactors	Ultraviolet	0.47 (2015-2017)

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
1.3	680	Not Overloaded	Aerobic Digestion and Reed Beds	Hauled

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.9
Latitude 40º 38' 34.00" **Longitude** -76º 6' 26.00"
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
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45.0	Average Weekly	-	-
	60.0	IMAX	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)
Dissolved Oxygen	5.0	Minimum	-	BPJ

Water Quality-Based Limitations

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
$CBOD_5$	22.0	Average Monthly	WQM 7.0
	33.0	Average Weekly	
	44.0	IMAX	
Ammonia-Nitrogen May 1 - Oct 31	2.4	Average Monthly	WQM 7.0
	4.7	IMAX	
Ammonia-Nitrogen Nov 1 - Apr 30	7.2	Average Monthly	
	14.1	IMAX	
Total Residual Chlorine	0.2	IMAX	TRC Calculation Spreadsheet
Total Copper	0.01	Average Monthly	PENTOX Modeling
	0.02	Daily Maximum	
Carbonaceous Biochemical Oxygen Demand (CBOD5) Raw Sewage Influent	Report	Average Monthly	Previous permit requirement. (Updated influent BOD5 sampling to influent CBOD5 sampling)
Total Suspended Solids Raw Sewage Influent	Report	Average Monthly	

Anti-Backsliding

No limitations were made less stringent.