

Application Type Renewal  
Facility Type Sewage  
Major / Minor Minor

**NPDES PERMIT FACT SHEET  
ADDENDUM No. 1**

Application No. PA0038865  
APS ID 1012712  
Authorization ID 1307797

**Applicant and Facility Information**

Applicant Name	<u>Zerbe Township Municipal Authority</u>	Facility Name	<u>Zerbe Township WWTP</u>
Applicant Address	<u>800 Mahanoy Street</u> <u>Trevorton, PA 17881-1106</u>	Facility Address	<u>1350 Susquehanna Street</u> <u>Trevorton, PA 17881</u>
Applicant Contact	<u>Michael Schwartz</u>	Facility Contact	<u>Ed Reed</u>
Applicant Phone	<u>(570) 797-1974</u>	Facility Phone	<u>(570) 797-1974</u>
Client ID	<u>78932</u>	Site ID	<u>255403</u>
SIC Code	<u>4952</u>	Municipality	<u>Zerbe Township</u>
SIC Description	<u>Trans. &amp; Utilities - Sewerage Systems</u>	County	<u>Northumberland</u>
Date Published in PA Bulletin	<u>November 6, 2020</u>	EPA Waived?	<u>No</u>
Comment Period End Date	<u>December 6, 2020</u>	If No, Reason	<u>Significant CB Discharge</u>
Purpose of Application	<u>Application for a renewal of an NPDES permit for discharge of treated sewage.</u>		

**Internal Review and Recommendations**

**Comment / Responses**

Comments regarding the October 26, 2020 draft permit were received from the permittee via letter dated November 17, 2020. The summarized comments and DEP's responses are as follows:

1. **Comment:** The Authority respectfully requests that the proposed total copper limitations not be included in the final NPDES permit to be issued. The primary reason is because the Authority has very limited effluent data on total copper and is uncertain if compliance can be consistently achieved without treatment and could find themselves in violation.

**Response:** The total copper limit is based on one sample result (7.7 µg/l) that was taken to satisfy the NPDES permit renewal application's requirements and three subsequent sample results (12.3, 14.3, and 15.2 µg/l) that were taken during the draft permit's comment period. Based on these results, it does not appear that the Authority will be able to immediately achieve the proposed total copper limits (14.8 µg/l, average monthly). Accordingly, DEP has proposed a compliance schedule at Part C.III of the permit. The condition includes provisions for site-specific data collection, a toxics reduction evaluation, and the submission of a final compliance report.

2. **Comment:** The Authority also notes other further restrictive effluent limits on the wastewater discharge to a stream that is listed as a Cold Water Fishery (CWF) when the stream is in fact severely impaired by acid mine drainage.

Approve	Return	Deny	Signatures	Date
X			<i>Derek S. Garner</i> Derek S. Garner / Project Manager	December 16, 2020
X			<i>Nicholas W. Hartranft</i> Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	December 16, 2020

**Internal Review and Recommendations**

Since the stream has not changed, any consideration given to maintain the current limitations would be greatly appreciated.

**Response:** Historically, water quality-based effluent limits were not applied to the discharge at Zerbe Run in accordance with 25 Pa. Code § 95.5(a)(1), which states that sewage discharges to waters impaired by abandoned mine drainage (“AMD”) so that water quality criteria are not being met and designated water uses are not being achieved to the extent that aquatic communities are essentially excluded must only treat to secondary technology standards. Instead, a point of first use was designated downstream at the confluence of Zerbe Run and Mahanoy Creek.

A TMDL for the Mahanoy Creek watershed, which includes Zerbe Run, was finalized on March 13, 2007. The purpose of the TMDL is to address the watershed’s impairment caused by AMD. When a TMDL is in place, it can be reasonably assumed that water quality throughout the watershed will significantly improve. Under this assumption, in accordance with § 95.5(b)(1) and (2), DEP no longer believes the application of § 95.5(a)(1) is appropriate. Additionally, the TMDL states, p. 4, that sewage in the watershed is contributing to impairments but is generally being masked by the AMD.

Based on the existence of a TMDL for the Mahanoy Creek to address AMD impairment and the belief that sewage impairment is also occurring within the watershed, DEP believes that the proposed effluent limits are appropriate.

Comments regarding the October 26, 2020 draft were also received from the U.S. EPA via email. The comment and DEP’s response are as follows:

1. **Comment:** EPA recommends that the facility be required to continue to evaluate the discharge levels of these TMDL pollutants of concern with data submitted at each subsequent permit renewal application (please note that we are not suggesting 2 years-worth of data at each application). The purpose is to continue to evaluate the discharge levels of the pollutants to support and justify future permitting decisions regarding consistency with the Mahanoy Creek TMDL. This is consistent with EPA’s recommendations for permits in this scenario (see attached TMDL Wavier of Review Letter).

**Response:** The permittee will be required to continue to evaluate the discharge levels of the TMDL pollutants (Al, Fe, Mn) with each subsequent permit renewal application.

An internal review of the October 26, 2020 draft permit recommended monitoring requirements for total copper or establishing a compliance schedule. As stated above in response to Zerbe Township, DEP proposed a compliance schedule at Part C.III of the permit.

**Recommendation**

Due to substantial changes to total copper compliance dates and the associated requirements, DEP recommends the permit is redrafted.

# Discharge Information

Instructions **Discharge** Stream

Facility: **Zerbe Township WWTP** NPDES Permit No.: **PA0038865** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Sewage**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q <sub>7-10</sub>	Q <sub>h</sub>
0.5	100	7						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank		
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
<b>Group 1</b>	Total Dissolved Solids (PWS)	mg/L									
	Chloride (PWS)	mg/L									
	Bromide	mg/L									
	Sulfate (PWS)	mg/L									
	Fluoride (PWS)	mg/L									
<b>Group 2</b>	Total Aluminum	µg/L									
	Total Antimony	µg/L									
	Total Arsenic	µg/L									
	Total Barium	µg/L									
	Total Beryllium	µg/L									
	Total Boron	µg/L									
	Total Cadmium	µg/L									
	Total Chromium (III)	µg/L									
	Hexavalent Chromium	µg/L									
	Total Cobalt	µg/L									
	Total Copper	µg/L	15.2								
	Free Available Cyanide	µg/L									
	Total Cyanide	µg/L									
	Dissolved Iron	µg/L									
	Total Iron	µg/L									
	Total Lead	µg/L									
	Total Manganese	µg/L									
	Total Mercury	µg/L									
	Total Nickel	µg/L									
	Total Phenols (Phenolics) (PWS)	µg/L									
	Total Selenium	µg/L									
	Total Silver	µg/L									
	Total Thallium	µg/L									
Total Zinc	µg/L										
Total Molybdenum	µg/L										
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	<									
Bromoform	µg/L	<									







# Stream / Surface Water Information

Zerbe Township WWTP, NPDES Permit No. PA0038865, Outfall 001

Instructions **Discharge** Stream

Receiving Surface Water Name: Zerbe Run

No. Reaches to Model: 1

- Statewide Criteria
- Great Lakes Criteria
- ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	017639	6.55	710	8.25			Yes
End of Reach 1	017639	3.28	640	9.68			Yes

**Q<sub>7-10</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	6.55	0.061										100	6.5		
End of Reach 1	3.28	0.061													

**Q<sub>h</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	6.55														
End of Reach 1	3.28														

# Model Results

Zerbe Township WWTP, NPDES Permit No. PA0038865, Outfall 001

Instructions

**Results**

RETURN TO INPUTS

SAVE AS PDF

PRINT

All  Inputs  Results  Limits

**Hydrodynamics**

**Q<sub>7-10</sub>**

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
6.55	0.50		0.50	0.774	0.004	0.531	16.17	30.476	0.149	1.343	2.263
3.28	0.59		0.59								

**Q<sub>h</sub>**

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
6.55	4.08		4.08	0.774	0.004	0.955	16.17	16.939	0.314	0.636	4.264
3.28	4.688		4.69								

**Wasteload Allocations**

**AFC**

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	13.439	14.0	23.1	Chem Translator of 0.96 applied

**CFC**

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	8.956	9.33	15.4	Chem Translator of 0.96 applied


**THH**      CCT (min):       PMF:       Analysis Hardness (mg/l):       Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	N/A	N/A	N/A	

**CRL**      CCT (min):       PMF:       Analysis Hardness (mg/l):       Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	N/A	N/A	N/A	

**Recommended WQBELs & Monitoring Requirements**

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Copper	0.062	0.096	14.8	23.1	37.0	µg/L	14.8	AFC	Discharge Conc ≥ 50% WQBEL (RP)

**Other Pollutants without Limits or Monitoring**



The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g.,  $\leq$  Target QL).

Pollutants	Governing WQBEL	Units	Comments