

## NORTHCENTRAL REGIONAL OFFICE CLEAN WATER PROGRAM

 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

oplicant Name	Zerbe Township Municipal Authority	_ Facility Name	Zerbe Township WWTP
oplicant Address	800 Mahanoy Street	_ Facility Address	1350 Susquehanna Street
	Trevorton, PA 17881-1106	=	Trevorton, PA 17881
oplicant Contact	Michael Schwartz	_ Facility Contact	Ed Reed
oplicant Phone	(570) 797-1974	_ Facility Phone	(570) 797-1974
ient ID	78932	_ Site ID	255403
C Code	4952	_ Municipality	Zerbe Township
Description	Trans. & Utilities - Sewerage Systems	_ County	Northumberland
te Published in PA	Bulletin November 6, 2020	_ EPA Waived?	No
mment Period End	Date December 6, 2020	_ If No, Reason	Significant CB Discharge

#### 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  $(7.7 \,\mu\text{g/l})$  that was taken to satisfy the NPDES permit renewal application's requirements and three subsequent sample results  $(12.3, 14.3, \text{ and } 15.2 \,\mu\text{g/l})$  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  $(14.8 \,\mu\text{g/l}, \text{ average monthly})$ . 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
х			Derek S. Garner  Derek S. Garner / Project Manager	December 16, 2020
			Defek 3. Gamer / Froject Manager	
x			Nícholas W. Hartranft	December 16, 2020
			Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	

#### **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. <u>Comment</u>: 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	Hardness (mg/l)*	pH (SU)*	F	s)	Complete Mix Times (min)								
(MGD)*	nardness (mg/l)*	рп (50)	AFC CFC THH CRL Q <sub>7-10</sub>										
0.5	100	7											

					0 if lef	t blank	0.5 if le	eft blank	C	) if left blan	k	1 if let	t blank
	Discharge Pollutant	Units	Max	x Discharge Conc	Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
	Total Dissolved Solids (PWS)	mg/L											
1	Chloride (PWS)	mg/L											
Group	Bromide	mg/L											
Ď	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
	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									
7	Free Available Cyanide	μg/L											
Group	Total Cyanide	μg/L											
3.5	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			anan a								
	Total Selenium	μg/L											
	Total Silver	μg/L											
	Total Thallium	μg/L											
	Total Zinc	μg/L											
1	Total Molybdenum	μg/L											
	Acrolein	μg/L	<										
	Acrylamide	μg/L	<										
1	Acrylonitrile	μg/L	<										
1	Benzene	μg/L	<										
	Bromoform	μg/L	<										

Ī	Carbon Tetrachloride	μg/L	<					
	Chlorobenzene	µg/L	<					
	Chlorodibromomethane	μg/L	<					
	Chloroethane							
	2-Chloroethyl Vinyl Ether	μg/L	<					
	Chloroform	μg/L	<					
		μg/L	<					
	Dichlorobromomethane	μg/L	<					
	1,1-Dichloroethane	μg/L	<					
က	1,2-Dichloroethane	μg/L	<					
Group	1,1-Dichloroethylene	μg/L	<					
l Š	1,2-Dichloropropane	μg/L	<					
	1,3-Dichloropropylene	μg/L	<					
	1,4-Dioxane	μg/L	<					
	Ethylbenzene	μg/L	<					
	Methyl Bromide	μg/L	<					
	Methyl Chloride	μg/L	<					
	Methylene Chloride	μg/L	<					
	1,1,2,2-Tetrachloroethane	μg/L	<					
	Tetrachloroethylene	μg/L	<					
	Toluene	μg/L	<					
	1,2-trans-Dichloroethylene	μg/L	<					
	1,1,1-Trichloroethane	μg/L	<					
	1,1,2-Trichloroethane	μg/L	<					
	Trichloroethylene	μg/L μg/L	<					
	-							
-	Vinyl Chloride	μg/L	<					
	2-Chlorophenol	μg/L	<					
	2,4-Dichlorophenol	μg/L	<					
	2,4-Dimethylphenol	μg/L	<					
1_	4,6-Dinitro-o-Cresol	μg/L	<					
p 4	2,4-Dinitrophenol	μg/L	<					
Group	2-Nitrophenol	μg/L	<					
ō	4-Nitrophenol	μg/L	<					
	p-Chloro-m-Cresol	μg/L	<					
	Pentachlorophenol	μg/L	<					
	Phenol	μg/L	<					
	2,4,6-Trichlorophenol	μg/L	<					
	Acenaphthene	μg/L	<					
	Acenaphthylene	μg/L	<					
	Anthracene	μg/L	<					
	Benzidine	μg/L	<					
	Benzo(a)Anthracene	μg/L	<					
	Benzo(a)Pyrene	µg/L	<					
	3,4-Benzofluoranthene	µg/L	<					
	Benzo(ghi)Perylene	μg/L	<					
	Benzo(k)Fluoranthene	μg/L μg/L	<					
	Bis(2-Chloroethoxy)Methane							
	Bis(2-Chloroethyl)Ether	μg/L	<					
	· · · · · · · · · · · · · · · · · · ·	μg/L	<					
	Bis(2-Chloroisopropyl)Ether	μg/L	<					
	Bis(2-Ethylhexyl)Phthalate	μg/L	<					
	4-Bromophenyl Phenyl Ether	μg/L	<					
	Butyl Benzyl Phthalate	μg/L	<					
	2-Chloronaphthalene	μg/L	<					
	4-Chlorophenyl Phenyl Ether	μg/L	<					
	Chrysene	μg/L	<					
	Dibenzo(a,h)Anthrancene	μg/L	<					
	1,2-Dichlorobenzene	μg/L	<					
	1,3-Dichlorobenzene	μg/L	<b>'</b>					
2	1,4-Dichlorobenzene	μg/L	<					
<u>d</u>	3,3-Dichlorobenzidine	μg/L	<					
Group	Diethyl Phthalate	μg/L	<					
Q	Dimethyl Phthalate	μg/L	<					
	Di-n-Butyl Phthalate	μg/L	<					
	2,4-Dinitrotoluene	μg/L	<					
	,	- J. –		CHELLINIA.				22.22.22.22.22 C

Ī	2,6-Dinitrotoluene	μg/L	<				
	Di-n-Octyl Phthalate	μg/L	<				
	1,2-Diphenylhydrazine		<				
	Fluoranthene	μg/L					
		μg/L	<				
	Fluorene	μg/L	<				
	Hexachlorobenzene	μg/L	<				
	Hexachlorobutadiene	μg/L	<				
	Hexachlorocyclopentadiene	μg/L	<				
	Hexachloroethane	μg/L	<				
	Indeno(1,2,3-cd)Pyrene	μg/L	٧				
	Isophorone	μg/L	<				
	Naphthalene	μg/L	<				
	Nitrobenzene	μg/L	<				
	n-Nitrosodimethylamine	μg/L	<				
	n-Nitrosodi-n-Propylamine	μg/L	<				
	n-Nitrosodiphenylamine	μg/L	<				
	Phenanthrene						
		μg/L	<				
	Pyrene	μg/L	<				
	1,2,4-Trichlorobenzene	μg/L	<				
	Aldrin	μg/L	<				
	alpha-BHC	μg/L	<				
	beta-BHC	μg/L	<				
	gamma-BHC	μg/L	<				
	delta BHC	μg/L	<				
	Chlordane	μg/L	<				
	4,4-DDT	μg/L	<				
	4,4-DDE	μg/L	<				
	4,4-DDD	μg/L	<				
	Dieldrin	μg/L	<				
	alpha-Endosulfan	μg/L	<				
	beta-Endosulfan	μg/L	\ <				
9	Endosulfan Sulfate						
ᅀ		μg/L	<				
Group	Endrin	μg/L	<				
	Endrin Aldehyde	μg/L	<				
	Heptachlor	μg/L	<				<u> </u>
	Heptachlor Epoxide	μg/L	<				
	PCB-1016	μg/L	<				
	PCB-1221	μg/L	<				
	PCB-1232	μg/L	٧				
	PCB-1242	μg/L	<				
	PCB-1248	μg/L	<				
	PCB-1254	μg/L	<				
	PCB-1260	μg/L	<				
	PCBs, Total	μg/L	<				
	Toxaphene	μg/L	\			1///	
	2,3,7,8-TCDD	ng/L	<				
			,				
	Gross Alpha	pCi/L					
2 2	Total Beta	pCi/L	<				
Group	Radium 226/228	pCi/L	<				444
310	Total Strontium	μg/L	<				
	Total Uranium	μg/L	<				
	Osmotic Pressure	mOs/kg					
				1111111			



# **Stream / Surface Water Information**

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

Instructions Disch	Stream							
Receiving Surface W	/ater Name: Zer	be Run				No. Reaches to Mod	el: <u>1</u>	<ul><li>Statewide Criteria</li><li>Great Lakes Criteria</li></ul>
Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*	ORSANCO 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		Flow	(cfs)	W/D	Width	Depth	Velocit	Travei Time	Tributa	ary	Strea	m	Analys	sis
Location	KIVII	(cfs/mi <sup>2</sup> )*	Stream	Tributary	Ratio	(ft)	(ft)	y (fps)	(days)	Hardness	рН	Hardness*	рН*	Hardness	рН
Point of Discharge	6.55	0.061							, j		HHHHH	100	6.5		
End of Reach 1	3.28	0.061													

#### $Q_h$ Travel LFY Flow (cfs) W/D Width Velocit Stream Depth Tributary Analysis RMI Location Time Ratio (ft) (ft) y (fps) (cfs/mi<sup>2</sup>) Stream Tributary Hardness рΗ Hardness рΗ Hardness рΗ (days) Point of Discharge 6.55 End of Reach 1 3.28



# **Model Results**

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

Instructions	Results	RET	URN TO INPUTS	S	SAVE AS PD	F	PRINT		∥	○ Results	O Limits	
✓ Hydrody	ynamics											
<b>Q</b> <sub>7-10</sub>												
RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Flo	ge Analysis w (cfs)	Slope (II/II)	Depth (ft)	· ·	,	Velocity (fps)	Time (days) 1.343	Complete Mix Time (min)
6.55	0.50		0.50	0	.//4	0.004	0.531	16.17	30.476	0.149	1.343	2.263
3.28	0.59		0.59			<u> </u>						
Q <sub>h</sub>						_		_			· · · · · · · · · · · · · · · · · · ·	
RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)		ge Analysis w (cfs)	Slope (ft/ft)	Depth (ft)	Width (	ft) W/D Ratio	Velocity (fps)	Time (days)	Complete Mix Time (min)
6.55	4.08		4.08	0	.774	0.004	0.955	16.17	16.939	0.314	(days) 0.636	4.264
3.28	4.688		4.69									
✓ Wastelo	ad Allocatio	CCT (min):		PMF: [	1		s Hardness	(mg/l): [	100	Analysis pH:	6.73	
	Pollutants	Coi (µg/	nc CV	ib Conc (µg/L)	Coef	(μg/L) (	μg/L)	/LA (μg/L)			omments	000000
	rotai Copper	0			0	3.439	14.0	23.1		Cnem Transi	18101 01 0.96	applied
☑ CFC	•	CCT (min):		PMF:	1	Analysis	s Hardness	(mg/l):	100	Analysis pH:	6.73	
	Pollutants	Stre Col (µg/	nc CV	ib Conc (μg/L)	Coef	(μg/L) (	μ9/L)	/LA (µg/L)			omments	
	l otal Copper	0	0 ////		0	8.956	9.33	15.4		Chem Transl	ator of 0.96	appiled

								<u> </u>
ТНН	CCT (min): 2.	263	PMF:	1	Ana	alysis Hardne	ess (mg/l):	N/A Analysis pH: N/A
Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	(μg/L) U	0		0	N/A	N/A	N/A	
CRL	CCT (min): 4.	264	PMF:	1	Ana	alysis Hardne	ess (mg/l):	N/A Analysis pH: N/A
Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
l otal Copper	" 0 '	0		0	N/A	N/A	N/A	

No. Samples/Month:

	Mass	Limits		Concentra	ation Limits				
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
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., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments