

National Pollutant Discharge Elimination System (NPDES) Permit Program**PUBLIC NOTICE****NPDES Permit to Discharge to State Waters**

Ohio Environmental Protection Agency
Permits Section
50 West Town St., Suite 700
P. O. Box 1049
Columbus, Ohio 43216-1049
(614) 644-2001

Public Notice No.: 163939
Date of Issue of Public Notice: November 7, 2022
Name and Address of Applicant: Mayor and Council, City of Sidney, 201 W Poplar Street, Sidney, OH, 45365

Name and Address of Facility
Where Discharge Occurs: City of Sidney WWTP, 1091 Children's Home Road, Sidney, OH, 45365, Shelby County

Outfall Flow and Location List: 001 7,000,000 GPD 40N 16' 12" 84W 19' 10"

Receiving Stream: Great Miami River

Nature of Business: Wastewater Treatment Plant

Key parameters to be limited
in the permit are as follows: Dissolved Oxygen, Total Suspended Solids, Oil and Grease-Hexane Extr Method, Ammonia Nitrogen, Total Residual Chlorine, Maximum pH, Minimum pH, CBOD 5 day, E. coli, Selenium, Total Recoverable, Bis(2-ethylhexyl)Phthalate, Total in Sludge Arsenic, Total in Sludge Cadmium, Total in Sludge Copper, Total in Sludge Lead, Total in Sludge Nickel, Total in Sludge Zinc, Total in Sludge Selenium, Total in Sludge Mercury, Molybdenum in Sludge

On the basis of preliminary staff review and application of standards and regulations, the director of the Ohio Environmental Protection Agency will issue a permit for the discharge subject to certain effluent conditions and special conditions. The draft permit will be issued as a final action unless the director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the administrator of the U.S. Environmental Protection Agency. Any person may submit written comments on the draft permit and administrative record and may request a public hearing. A request for public hearing shall be in writing and shall state the nature of the issues to be raised. In appropriate cases, including cases where there is significant public interest, the director may hold a public hearing on a draft permit or permits prior to final issuance of the permit or permits. Following final action by the director, any aggrieved party has the right to appeal to the Environmental Review Appeals Commission.

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this public notice. Comments should be delivered or mailed to both of the following locations: 1) Ohio Environmental Protection Agency, Lazarus Government Center, Division of Surface Water, Permits Processing Unit, 50 West Town St., Suite 700, P.O. Box 1049, Columbus, Ohio 43216-1049 and 2) Ohio Environmental Protection Agency, Southwest District Office 401 E. Fifth Street, Dayton, Ohio 45402-2911.

The Ohio EPA permit number and public notice numbers should appear next to the above address on the envelope and on each page of any submitted comments. All comments received no later than 30 days after the date of this public notice will be considered.

Proposed Water Quality Based Effluent Limitations: This draft permit contains water quality based effluent limitation(s) (WQBELs). In accordance with Ohio Revised Code Section 6111.03(J)(3), the Director establishes WQBELs after considering, to the extent consistent with the Federal Water Pollution Control Act, evidence relating to the technical feasibility and economic reasonableness of removing the polluting properties from those wastes and to evidence relating to conditions calculated to result from that action and their relation to benefits to the people of the state and to accomplishment of the purposes of this chapter. This determination was made based on data and information available at the time the permit was drafted, which included the contents of the of the timely submitted National Pollutant Discharge Elimination System (NDPES) permit renewal application, along with any and all pertinent information available to the Director.

This public notice hereby allows the permittee to provide to the Director for consideration during this public comment period, additional site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness for achieving compliance with WQBEL(s). This information shall be submitted to the addresses listed above.

Should the applicant need additional time to review, obtain or develop site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness of achieving compliance with WQBEL(s), written notification for any additional time shall be sent no later than 30 days after the date of this public notice to the Director at the addresses listed above.

Should the applicant determine that compliance with a WQBEL is technically and/or economically unattainable, the permittee may submit an application for a variance to the applicable WQBEL in accordance with the terms and conditions set forth in Ohio Administrative Code (OAC) Rule 3745-33-07(D) no later than 30 days after the date of this public notice to the addresses listed above.

Alternately, the applicant may propose the development of site-specific water quality standard(s) pursuant to OAC Rule 3745-1-35. The permittee shall submit written notification to the Director regarding their intent to develop site-specific water quality standards for the pollutant at issue to the addresses listed above no later than 30 days after the date of this public notice.

The application, fact sheets, permit including effluent limitations, special conditions, comments received, and other documents are available for inspection and may be copied at a cost of 5 cents per page at the Ohio Environmental Protection Agency at the address shown on page one of this public notice any time between the hours of 8 a.m. and 4:30 p.m., Monday through Friday. Copies of the public notice are available at no charge at the same address.

Mailing lists are maintained for persons or groups who desire to receive public notice for all applications in the state or for certain geographical areas. Persons or groups may also request copies of fact sheets, applications, or other documents pertaining to specific applications. Persons or groups may have their names put on such a list by making a written request to the agency at the address shown above.

Ohio EPA Permit No. 1PD00009*SD
Application No. OH0027421

DRAFT COPY
SUBJECT TO REVISION
OHIO EPA

Action Date:
Effective Date:
Expiration Date: 5 years

Ohio Environmental Protection Agency
Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., hereinafter referred to as the "Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

City of Sidney

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the Sidney wastewater treatment works located at 1091 Childrens-Home Road, Sidney, Ohio, Shelby County and discharging to the Great Miami River in accordance with the conditions specified in Parts I, II, and III of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

Laurie A. Stevenson
Director

Total Pages: 47

Part I, A. - INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the 36th month, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1PD00009001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Initial - 001 - Initial

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Day	Continuous	All
00045 - Total Precipitation - Inches	-	-	-	-	-	-	-	1/Day	24hr Total	All
00300 - Dissolved Oxygen - mg/l	-	6.0	-	-	-	-	-	1/Day	Continuous	All
00530 - Total Suspended Solids - mg/l	-	-	21.4	14.3	-	568	379	3/Week	24hr Composite	Summer
00530 - Total Suspended Solids - mg/l	-	-	32.1	21.4	-	852	568	3/Week	24hr Composite	Winter
00552 - Oil and Grease, Hexane Extr Method - mg/l	10	-	-	-	-	-	-	1/Month	Grab	All
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	2.4	1.6	-	63.6	42.4	3/Week	24hr Composite	Summer
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	18	12	-	477	318	3/Week	24hr Composite	Winter
00625 - Nitrogen Kjeldahl, Total - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00630 - Nitrite Plus Nitrate, Total - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	1/Week	24hr Composite	All

<u>Effluent Characteristic</u>		<u>Discharge Limitations</u>						<u>Monitoring Requirements</u>		
Parameter	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00671 - Orthophosphate, Dissolved (as P) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00981 - Selenium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
01074 - Nickel, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01094 - Zinc, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01113 - Cadmium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01114 - Lead, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01118 - Chromium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01119 - Copper, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01220 - Chromium, Dissolved Hexavalent - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
31648 - E. coli - #/100 ml	-	-	284	126	-	-	-	3/Week	Grab	Summer
39100 - Bis(2-ethylhexyl) Phthalate - ug/l	-	-	-	-	-	-	-	1/Month	Composite	All
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	Continuous	All
50060 - Chlorine, Total Residual - mg/l	0.038	-	-	-	-	-	-	When Disch.	Multiple Grab	Summer
50092 - Mercury, Total (Low Level) - ng/l	-	-	-	-	-	-	-	1/Month	Grab	All

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units		Loading* kg/day					Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
51173 - Cyanide, Free (Low-Level) - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
61425 - Acute Toxicity, Ceriodaphnia dubia - TUa	-	-	-	-	-	-	-	1/Year	24hr Composite	August
61426 - Chronic Toxicity, Ceriodaphnia dubia - TUc	-	-	-	-	-	-	-	1/Year	24hr Composite	August
61427 - Acute Toxicity, Pimephales promelas - TUa	-	-	-	-	-	-	-	1/Year	24hr Composite	August
61428 - Chronic Toxicity, Pimephales promelas - TUc	-	-	-	-	-	-	-	1/Year	24hr Composite	August
61941 - pH, Maximum - S.U.	9.0	-	-	-	-	-	-	1/Day	Continuous	All
61942 - pH, Minimum - S.U.	-	6.5	-	-	-	-	-	1/Day	Continuous	All
70300 - Residue, Total Filterable - mg/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
80082 - CBOD 5 day - mg/l	-	-	16.4	10.7	-	435	284	3/Week	24hr Composite	Summer
80082 - CBOD 5 day - mg/l	-	-	28.6	17.9	-	757	473	3/Week	24hr Composite	Winter

Notes for station 1PD00009001:

* Effluent loadings based on average design flow of 7.0 MGD.

a. Nickel, zinc, cadmium, lead, chromium, and copper - See Part II, Item M.

b. Free cyanide - See Part II, Item S.

- c. Mercury - See Part II, Item T.
- d. Dissolved Orthophosphate - See Part II, Item U.
- e. Bis(2-ethylhexyl) Phthalate - See Part II, Item V.
- f. Whole effluent toxicity (WET) - See Part II, Item Y.
- g. Total Residual Chlorine - See Part II, Item J. Monitoring is required during the Summer months on each day that chlorine is used to disinfect the final effluent.
- h. Temperature, dissolved oxygen and pH - A multiple grab sample may be obtained during periods when continuous monitoring is not available due to equipment failure or maintenance.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the 37th month of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1PD00009001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Final - 001 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Day	Continuous	All
00045 - Total Precipitation - Inches	-	-	-	-	-	-	-	1/Day	24hr Total	All
00300 - Dissolved Oxygen - mg/l	-	6.0	-	-	-	-	-	1/Day	Continuous	All
00530 - Total Suspended Solids - mg/l	-	-	21.4	14.3	-	568	379	3/Week	24hr Composite	Summer
00530 - Total Suspended Solids - mg/l	-	-	32.1	21.4	-	852	568	3/Week	24hr Composite	Winter
00552 - Oil and Grease, Hexane Extr Method - mg/l	10	-	-	-	-	-	-	1/Month	Grab	All
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	2.4	1.6	-	63.6	42.4	3/Week	24hr Composite	Summer
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	18	12	-	477	318	3/Week	24hr Composite	Winter
00625 - Nitrogen Kjeldahl, Total - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00630 - Nitrite Plus Nitrate, Total - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	1/Week	24hr Composite	All

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
Parameter										
00671 - Orthophosphate, Dissolved (as P) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00981 - Selenium, Total Recoverable - ug/l	120	-	-	11.6	3.18	-	0.308	1/Month	24hr Composite	All
01074 - Nickel, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01094 - Zinc, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01113 - Cadmium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01114 - Lead, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01118 - Chromium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01119 - Copper, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01220 - Chromium, Dissolved Hexavalent - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
31648 - E. coli - #/100 ml	-	-	284	126	-	-	-	3/Week	Grab	Summer
39100 - Bis(2-ethylhexyl) Phthalate - ug/l	2100	-	-	15.7	55.7	-	0.416	1/Month	Composite	All
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	Continuous	All
50060 - Chlorine, Total Residual - mg/l	0.038	-	-	-	-	-	-	When Disch.	Multiple Grab	Summer
50092 - Mercury, Total (Low Level) - ng/l	-	-	-	-	-	-	-	1/Month	Grab	All

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
51173 - Cyanide, Free (Low-Level) - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
61425 - Acute Toxicity, Ceriodaphnia dubia - TUa	-	-	-	-	-	-	-	1/Year	24hr Composite	August
61426 - Chronic Toxicity, Ceriodaphnia dubia - TUc	-	-	-	-	-	-	-	1/Year	24hr Composite	August
61427 - Acute Toxicity, Pimephales promelas - TUa	-	-	-	-	-	-	-	1/Year	24hr Composite	August
61428 - Chronic Toxicity, Pimephales promelas - TUc	-	-	-	-	-	-	-	1/Year	24hr Composite	August
61941 - pH, Maximum - S.U.	9.0	-	-	-	-	-	-	1/Day	Continuous	All
61942 - pH, Minimum - S.U.	-	6.5	-	-	-	-	-	1/Day	Continuous	All
70300 - Residue, Total Filterable - mg/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
80082 - CBOD 5 day - mg/l	-	-	16.4	10.7	-	435	284	3/Week	24hr Composite	Summer
80082 - CBOD 5 day - mg/l	-	-	28.6	17.9	-	757	473	3/Week	24hr Composite	Winter

Notes for station 1PD00009001:

* Effluent loadings based on average design flow of 7.0 MGD.

a. Nickel, zinc, cadmium, lead, chromium, and copper - See Part II, Item M.

b. Free cyanide - See Part II, Item S.

- c. Mercury - See Part II, Item T.
- d. Dissolved Orthophosphate - See Part II, Item U.
- e. Bis(2-ethylhexyl) Phthalate - See Part II, Item V.
- f. Whole effluent toxicity (WET) - See Part II, Item Y.
- g. Total Residual Chlorine - See Part II, Item J. Monitoring is required during the Summer months on each day that chlorine is used to disinfect the final effluent.
- h. Temperature, dissolved oxygen and pH - A multiple grab sample may be obtained during periods when continuous monitoring is not available due to equipment failure or maintenance.

Part I, A. - EXCESS FLOW MONITORING REQUIREMENTS

3. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1PD00009602 . See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 602 - Final

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>							<u>Monitoring Requirements</u>		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
74062 - Overflow Occurrence - No./Month	-	-	-	-	-	-	-	When Disch.	Total	All
74063 - Overflow Volume - Million Gallons	-	-	-	-	-	-	-	When Disch.	24hr Total	All

NOTES for Station Number 1PD00009602:

- Discharges through this station occur during wet weather periods when the flow rate at station 601 is in excess of 13.5 MGD and the capacity of the equalization basin has been reached.
- The permittee must notify Ohio EPA within 1 hour of discharge through this station. See Part II, Item Z.
- A Discharge Monitoring Report (DMR) for this station must be submitted every month.
- If there are no discharges during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.
- Data for Overflow Occurrence and Overflow Volume may be estimated if a measuring device is not available.
- Overflow Occurrences: If a discharge from this station occurs intermittently during a day, starting and stopping several times, count "1" occurrence for that day. If a discharge from this station occurs on more than one day but is the result of a continuing precipitation event, it should be counted as one occurrence. Report "1" on the first day of the discharge.
- Overflow Volume shall be reported on each day there is a discharge through this station.
- Unless the conditions in footnote (a) above are met, discharges through this station are prohibited except as described by 40 CFR 122.41(m) and Part III, Item 11, General Conditions, of this permit.

Part I, B. - SSO MONITORING EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. SSO Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor at Station Number 1PD00009300, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - SSO Monitoring - 300 - Final

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>							<u>Monitoring Requirements</u>		
Parameter	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
74062 - Overflow Occurrence - No./Month	-	-	-	-	-	-	-	1/Month	Total	All

NOTES for Station Number 1PD00009300:

- A sanitary sewer overflow is an overflow, spill, release, or diversion of wastewater from a sanitary sewer system. Although the above table indicates that the Measuring Frequency for Overflow Occurrence is 1/Month, the intent of that provision is to specify a reporting frequency for Overflow Occurrence, not a monitoring frequency. The monitoring requirement under this permit is that these overflows shall be monitored on each day when they discharge. Only sanitary sewer overflows that enter waters of the state, either directly or through a storm sewer or other conveyance, must be reported under this monitoring station.
- For the purpose of counting occurrences, each location on the sanitary sewer system where there is an overflow, spill, release, or diversion of wastewater on a given day that enters waters of the state is counted as one occurrence. For example, if on a given day overflows occur from a manhole at one location and from a damaged pipe at another location and they both enter waters of the state, record two occurrences for that day. If overflows from both locations continue on the following day, record two occurrences for the following day. At the end of the month, total the daily occurrences and report this number on Day 1 of the DMR. If there are no overflows during the entire month, report "zero" (0).
- All sanitary sewer overflows are prohibited.
- See Part II, Items D and E.

Part I, B. - SLUDGE MONITORING REQUIREMENTS

2. Sludge Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the treatment works' final sludge at Station Number 1PD00009581, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sludge sampling.

Table - Sludge Monitoring - 581 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00611 - Ammonia (NH3) In Sludge - mg/kg	-	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
00627 - Nitrogen Kjeldahl, Total In Sludge - mg/kg	-	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
00668 - Phosphorus, Total In Sludge - mg/kg	-	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
00938 - Potassium In Sludge - mg/kg	-	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
01003 - Arsenic, Total In Sludge - mg/kg	75	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
01028 - Cadmium, Total In Sludge - mg/kg	85	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
01043 - Copper, Total In Sludge - mg/kg	4300	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
01052 - Lead, Total In Sludge - mg/kg	840	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
01068 - Nickel, Total In Sludge - mg/kg	420	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
01093 - Zinc, Total In Sludge - mg/kg	7500	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
01148 - Selenium, Total In Sludge - mg/kg	100	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.
51129 - Sludge Fee Weight - dry tons	-	-	-	-	-	-	-	1/Quarter	Total	Quarterly - Alt.
70316 - Sludge Weight - Dry Tons	-	-	-	-	-	-	-	1/Quarter	Total	Quarterly - Alt.
71921 - Mercury, Total In Sludge - mg/kg	57	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>							<u>Monitoring Requirements</u>		
Parameter	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
78465 - Molybdenum In Sludge - mg/kg	75	-	-	-	-	-	-	1/Quarter	Composite	Quarterly - Alt.

NOTES for Station Number 1PD00009581:

- a. Monitoring is required when sewage sludge is removed from the permittee's facility for application to the land. The monitoring data shall be reported on the March, June, September, and December Discharge Monitoring Report (DMR). The monitoring data can be collected at any time during the reporting period.
- b. Metal analysis must be completed during each reporting period whether or not sewage sludge is removed from the facility and applied to the land. Alternatively, the number of composite samples collected and reported prior to the next land application event shall be increased to account for the reporting period(s) in which land application did not occur. If all accumulated sewage sludge has been removed and hauled to a landfill, incinerated or transferred to another NPDES permit holder, then the metal analysis is not required.
- c. If no sewage sludge is removed from the facility during the reporting period, enter the results for the metal analysis on the DMR and enter "0" for sludge weight and sludge fee weight.
- d. If no sewage sludge is removed from the facility during the reporting period and no metal analysis is completed during the reporting period, select the "No Discharge" check box on the data entry form and PIN the eDMR.
- e. If metal analysis has not been completed previously during each reporting period: when sewage sludge is removed from the facility all metal analysis results shall be reported on the applicable DMR by entering the separate results on different days within the DMR. For example, if no sewage sludge has been removed from the facility for a full calendar year, and quarterly monitoring is required by the permit, then five (four from the previous year and one for the current monitoring period) separate composite samples of the sewage sludge are required to be collected and analyzed for metals prior to removal from the facility. The first sample result may be entered on the first day of the DMR, the second result on the second day of the DMR, and so on. A note may then be added to indicate the actual day(s) when the samples were collected.
- f. It is recommended that composite samples of the sewage sludge be collected and analyzed close enough to the time of land application to be reflective of the sludge's current quality, but not so close that the results of the analysis are not available prior to land applying the sludge.
- g. The permittee shall maintain the appropriate records on site to verify that the requirements of Pathogen Reduction and Vector Attraction Reduction have been met.
- h. Units of mg/kg are on a dry weight basis.

- i. Sludge weight is a calculated total for the year. To convert from gallons of liquid sewage sludge to dry tons of sewage sludge: $\text{dry tons} = \text{gallons} \times 8.34 \text{ (lbs/gallon)} \times 0.0005 \text{ (tons/lb)} \times \text{decimal fraction total solids}$.
- j. Sludge fee weight means sludge weight, in dry U.S. tons, excluding any admixtures such as liming material or bulking agents.
- k. See Part II, Items N, O, P, Q, and R.

Part I, B. - INFLUENT MONITORING REQUIREMENTS

3. Influent Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the treatment works' influent wastewater at Station Number 1PD00009601, and report to the Ohio EPA in accordance with the following table. Samples of influent used for determination of net values or percent removal must be taken the same day as those samples of effluent used for that determination. See Part II, OTHER REQUIREMENTS, for location of influent sampling.

Table - Influent Monitoring - 601 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00530 - Total Suspended Solids - mg/l	-	-	-	-	-	-	-	3/Week	24hr Composite	All
00720 - Cyanide, Total - mg/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
00981 - Selenium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
01074 - Nickel, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01094 - Zinc, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01113 - Cadmium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01114 - Lead, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01118 - Chromium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01119 - Copper, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01220 - Chromium, Dissolved Hexavalent - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly

<u>Effluent Characteristic</u>		<u>Discharge Limitations</u>						<u>Monitoring Requirements</u>			
Parameter		Concentration		Specified Units		Loading* kg/day		Measuring Frequency	Sampling Type	Monitoring Months	
		Maximum	Minimum	Weekly	Monthly	Daily	Weekly				Monthly
39100 - Bis(2-ethylhexyl) Phthalate - ug/l		-	-	-	-	-	-	-	1/Month	Composite	All
50092 - Mercury, Total (Low Level) - ng/l		-	-	-	-	-	-	-	1/Month	Grab	All
61941 - pH, Maximum - S.U.		-	-	-	-	-	-	-	1/Day	Continuous	All
61942 - pH, Minimum - S.U.		-	-	-	-	-	-	-	1/Day	Continuous	All
80082 - CBOD 5 day - mg/l		-	-	-	-	-	-	-	3/Week	24hr Composite	All

Notes for Station Number 1PD00009601:

- a. Selenium, nickel, zinc, cadmium, lead, chromium, and copper, - See Part II, Item M.
- b. Mercury - See Part II, Item T.
- c. Bis(2-ethylhexyl) Phthalate - See Part II, Item V.
- d. pH - A multiple grab sample may be obtained during periods when continuous monitoring is not available due to equipment failure or maintenance.

Part I, B. - UPSTREAM MONITORING REQUIREMENTS

4. Upstream Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the receiving stream, upstream of the point of discharge at Station Number 1PD00009801, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Upstream Monitoring - 801 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00625 - Nitrogen Kjeldahl, Total - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00630 - Nitrite Plus Nitrate, Total - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
31648 - E. coli - #/100 ml	-	-	-	-	-	-	-	1 / 2 Weeks	Grab	June - Aug
61432 - 48-Hr. Acute Toxicity Ceriodaphnia dubia - % Affected	-	-	-	-	-	-	-	1/Year	Grab	August
61435 - 96-Hr. Acute Toxicity Pimephales promela - % Affected	-	-	-	-	-	-	-	1/Year	Grab	August
61438 - 7-Day Chronic Toxicity Ceriodaphnia dubia - % Affected	-	-	-	-	-	-	-	1/Year	Grab	August
61441 - 7-Day Chronic Toxicity Pimephales promelas - % Affected	-	-	-	-	-	-	-	1/Year	Grab	August

NOTES for Station Number 1PD00009801:

- Ammonia-Nitrogen, TKN, nitrite+nitrate, phosphorus and E. coli - See Part II, Item M.
- Whole effluent toxicity (WET) - See Part II, Item Y.

Part I, B. - DOWNSTREAM-FARFIELD MONITORING REQUIREMENTS

5. Downstream-Farfield Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the receiving stream, downstream of the point of discharge, at Station Number 1PD00009901, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Downstream-Farfield Monitoring - 901 - Final

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>							<u>Monitoring Requirements</u>		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Month	Grab	All
00400 - pH - S.U.	-	-	-	-	-	-	-	1/Month	Grab	All
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00625 - Nitrogen Kjeldahl, Total - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00630 - Nitrite Plus Nitrate, Total - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00900 - Hardness, Total (CaCO3) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
31648 - E. coli - #/100 ml	-	-	-	-	-	-	-	1 / 2 Weeks	Grab	June - Aug

NOTES for Station Number 1PD00009901:

a. Ammonia-Nitrogen, TKN, nitrite+nitrate, phosphorus and E. coli - See Part II, Item M.

Part I, C - Schedule of Compliance

1. Municipal Pretreatment Schedule

a. The permittee shall evaluate the adequacy of local industrial user limitations to prevent the introduction of pollutants into the POTW which will interfere with the operation of the POTW, pass through the POTW in amounts that exceed water quality standard-based limits, be incompatible with the POTW, or limit wastewater or sludge use options. Technical justification for revising local industrial user limitations to attain compliance with final table limits, along with a pretreatment program modification request, or technical justification for retaining existing local industrial user limitations shall be submitted for acceptance to Ohio EPA, Central Office Pretreatment Unit and to Ohio EPA, Southwest District Office, as soon as possible, but no later than 48 months from the effective date of this permit . (Event Code 52599)

Technical justification is required for arsenic, barium, cadmium, total chromium, dissolved hexavalent chromium, copper, free cyanide, lead, mercury, molybdenum, nickel, selenium, silver, and zinc unless screening of wastewater and sludge indicate these pollutants are not present in significant amounts. Technical justification is also required for any other pollutants where a local limit may be necessary to protect against pass through, interference or sludge disposal.

To demonstrate technical justification for new local industrial user limits or justification for retaining existing limits, a local limits technical justification report shall be submitted to Ohio EPA. The report shall be consistent with the guidance, procedures and methodologies found in Ohio EPA's and USEPA's local limits guidance documents available at <https://epa.ohio.gov/divisions-and-offices/surface-water/permitting/guidance-documents-tools-and-checklists-for-approved-pretreatment-programs>

The report shall include the following:

- i. Identification of and justification for pollutants of concern for which local limits will be developed.
- ii. Treatment plant flow and industrial flows to which local limits will be applied. If the POTW is accepting any hauled waste include for each type of hauled waste (e.g. landfill leachate, septage), at least 5 data points detailing the dates and volumes of discharge and sampling results for all the pollutants of concern.
- iii. Domestic/background concentrations. To determine domestic/background concentrations, the permittee shall, at a minimum, sample at three different locations for five consecutive days or two different locations for seven consecutive days. These locations shall, to the extent possible, convey only domestic wastewater.
- iv. Treatment plant removal efficiencies. Whenever possible, site specific removal efficiencies shall be determined using actual plant data with analytical detection levels that are sensitive enough to provide values above the reporting level (RL) or practical quantification limit (PQL).
- v. A comparison of maximum allowable headworks loadings based on all applicable criteria. Criteria may include sludge disposal, NPDES permit limits, waste load allocation values, and interference with biological processes such as activated sludge, sludge digestion, nitrification, etc. Calculation tables can be found on the Ohio EPA website at <https://epa.ohio.gov/divisions-and->

offices/surface-water/permitting/guidance-documents-tools-and-checklists-for-approved-pretreatment-programs.

vi. If revised industrial user discharge limits are proposed, the method of allocating available pollutant loads to industrial users.

vii. If narrative or best management practices (BMPs) are proposed as local limits, information on how they will be implemented. When appropriate, industrial user discharge limits may include narrative local limits requiring industrial users to develop and implement BMPs. These narrative local limits may be used either alone or as a supplement to numeric limits.

viii. Supporting data, assumptions, and methodologies used in establishing the information in item 1.a through 1.g above.

ix. If new or revised industrial user discharge limits are proposed, the stamp and signature of a licensed Ohio professional engineer.

b. Revisions. The permittee shall submit a revised local limit technical justification report within 90 days of receiving notification from Ohio EPA of deficiencies in the submitted report.

c. If revisions to local industrial user limitations including best management practices are determined to be necessary, the permittee shall incorporate revised local industrial user limitations in all industrial user control documents, as applicable, no later than 4 months after the date of Ohio EPA's approval.

d. Sampling Methods

i. Mercury: If the permittee uses EPA Method 245.1 or 245.2 to sample domestic background locations and mercury concentrations are below detection, the permittee shall use EPA method 1631 or 245.7 to quantify domestic background contributions of mercury.

ii. Free Cyanide: The permittee shall use ASTM D7237, OIA-1677-09, or ASTM D4282-02 to quantify domestic background contributions of free cyanide. [Note: The use of ASTM D4282-02 requires supporting documentation that it meets the requirement of a "sufficiently sensitive" test procedure as defined in 40 CFR 122.44(i)(1)(iv)].

2. Final Effluent Limits for Selenium and Bis(2-ethylhexyl) Phthalate

The permittee shall attain compliance with the new effluent limits for selenium and bis(2-ethylhexyl) phthalate as expeditiously as possible but no later than the dates in the following schedule.

a. No later than 12 months from the effective date of this permit, the permittee shall submit a report to Ohio EPA Southwest District Office on the process of bringing the facility into compliance with the final effluent limits for selenium and bis(2-ethylhexyl) phthalate. The report shall include: (Event Code 95999)

i. Available data from the permittee's facility for the past five years, including influent and effluent data;

ii. A summary of all actions taken in the previous 12 months to meet the new effluent limits.

iii. A brief description of actions planned to be implemented in the next 12 months to meet the new effluent limits.

b. No later than 24 months from the effective date of this permit, the permittee shall submit a report to Ohio EPA Southwest District Office on the process of bringing the facility into compliance with the final effluent limits for selenium and bis(2-ethylhexyl) phthalate. The report shall include: (Event Code 95999)

i. A summary of all actions taken in the previous 12 months to meet the new effluent limits.

ii. All sampling results for selenium and bis(2-ethylhexyl) phthalate collected in the previous 12 months.

iii. A brief description of actions planned to be implemented in the next 12 months to meet the new effluent limits.

c. No later than 36 months after the effective date of this permit, the permittee shall attain compliance with the new effluent limits for selenium and bis(2-ethylhexyl) phthalate. (Event Code 05699)

3. Inflow & Infiltration Reduction and Sanitary Sewer Overflow (SSO) Elimination

a. No later than March 1, 2023, the permittee shall submit an annual status report detailing the inflow & infiltration (I/I) projects completed the previous year. The report shall also detail the I/I projects planned for the current year consistent with the following goals (Event Code 03599):

i. Identify at least 40,000 linear feet of sewer that was/will be evaluated/investigated;

ii. Identify at least 20,000 linear feet of sewer that was/will be chemically grouted or replaced;

iii. Identify the manholes (minimum of 15) that were/will be chemically grouted, rehabilitated or replaced;

iv. Identify pipe lining rehabilitation (approximately 2,000 linear feet) completed and to be completed;

v. The permittee shall provide justification for any deviations from these goals.

The status report shall also include the following:

vi. Estimate the amount of I/I removed from the system as a result of the I/I projects the previous year as well as the amount estimated to be removed from the system in the current year.

vii. Report the number of laterals inspected and repaired the previous year and the amount anticipated in the current year.

b. As soon as possible, but no later than January 31, 2024, the permittee shall complete all work necessary to eliminate SSOs. (Event Code 04599)

c. Beginning on February 1, 2024 and continuing for a period of 12 months, the permittee shall conduct a post-construction monitoring period to evaluate whether the goals of the implemented projects were attained. The permittee shall implement a monitoring strategy to determine whether the completed projects:

- i. Resulted in at least a 25% reduction in I/I since 2014; and
 - ii. Eliminated SSOs from the collection system.
- d. On February 1, 2025, the permittee shall conclude the post-construction monitoring period.
(Event Code 97099)
- e. No later than August 1, 2025, the permittee shall submit a report on the results of the monitoring period. If the permittee determines that the goals stated in Item c were not attained, the permittee shall evaluate alternatives for additional control and incorporate the recommended project(s) into an implementation schedule. (Event Code 61099)

Part II, Other Requirements

A. Operator Certification Requirements

1. Classification

a. In accordance with Ohio Administrative Code 3745-7-04, the sewage treatment facility shall be classified as a Class IV facility. The permittee shall designate one or more professional operator of record to oversee the technical operation of the treatment works with a valid certification of a class equal to or greater than the classification of the treatment works.

b. All sewerage (collection) systems that are tributary to this treatment works are Class II sewerage systems in accordance with paragraph (B)(1)(b) of rule 3745-7-04 of the Ohio Administrative Code. The permittee shall designate one or more professional operator of record to oversee the technical operation of the sewerage (collection) system with a valid certification of a class equal to or greater than the classification of the sewerage (collection) system.

2. Professional Operator of Record

a. Within three days of a change in a professional operator of record, the permittee shall notify the Director of the Ohio EPA of any such change on a form acceptable to Ohio EPA. The appropriate form can be found at the following website:

<http://epa.ohio.gov/static/Portals/28/documents/opcert/Operator%20of%20Record%20Notification%20Form.pdf>

b. All applications for renewal of this NPDES permit shall include an updated Operator of Record Notification form along with other necessary forms and fees to be considered a complete application.

c. The professional operator of record for a class II, III, or IV treatment works or class II sewerage system may be replaced by a backup professional operator with a certificate one classification lower than the treatment works or sewerage system for a period of up to thirty consecutive days. The use of this provision does not require notification to the agency. This provision may not be used to routinely circumvent minimum staffing requirements.

d. Upon proper justification, such as military leave or long term illness, the director may authorize the replacement of the professional operator of record for a class II, III, or IV treatment works or class II sewerage system by a backup professional operator with a certificate one classification lower than the facility for a period of greater than thirty consecutive days. Such requests shall be made in writing to the Ohio EPA Southwest District Office.

3. Minimum Staffing Requirements

a. The permittee shall ensure that the treatment works professional operator of record is physically present at the facility in accordance with the minimum staffing requirements per paragraph (C)(1) of rule 3745-7-04 of the Ohio Administrative Code or the requirements from an approved 3745-7-04(C) minimum staffing hour reduction plan.

b. The permittee shall ensure that the collection system professional operator of record or a professional operator that is certified in the field of wastewater collection or wastewater

treatment, class A operators excluded, is physically present at the collection system in accordance with the minimum staffing requirements per paragraph (C)(2) of rule 3745-7-04 of the Ohio Administrative Code.

c. If Ohio EPA approves a reduction in minimum staffing requirements based upon a facility operating plan, any change in the criteria under which the operating plan was approved (e.g., retirement of a professional operator listed in the approved staffing plan, loss of the professional operator of record, reduction in the workforce, removal or failure of automation or continuous monitoring, etc.) will require that the treatment works immediately return to the minimum staffing requirements included in paragraph (C)(1) of rule 3745-7-04 of the Ohio Administrative Code.

4. Additional Staffing Requirements

Visits to all treatment works shall be performed by the permittee, the permittee's representative, or agent five days a week and noted in the operational and maintenance records required by rule 3745-7-09 of the Administrative Code. Visits shall not be necessary when the treatment works is not in operation.

B. Description of the location of the required sampling stations are as follows:

Sampling Station Description of Location

1PD00009001	Final effluent from the WWTP after disinfection, but prior to discharge to the Great Miami River (Lat: 40 N 16 ' 12 "; Long: 84 W 09 ' 10 ")
1PD00009101	Storm water discharges not associated with industrial activity.
1PD00009300	System-wide sanitary sewer overflow occurrences.
1PD00009581	Sludge disposed by land application at agronomic rates.
1PD00009586	Sludge hauled to a sanitary landfill in an emergency.
1PD00009588	Sludge transferred to a NPDES permit holder in an emergency.
1PD00009601	Raw sewage influent (Lat: 40 N 16' 23"; Long 84 W 09' 13")
1PD00009602	Monitoring of equalization basin overflow prior to blending with fully treated effluent. (Lat: 40 N 16' 21"; Long: 84 W 09' 11")
1PD00009801	Gearhart Rd. Bridge upstream of outfall 1PD00009001. (Lat: 40 N 16' 19.92"; Long: 84 W 09 ' 11 ")
1PD00009901	Sulphur Heights Road bridge downstream of outfall 1PD00009001.

(Lat: 40 N 15 ' 94"; Long: 84 W 09' 13.68")

C. All parameters, except flow, need not be monitored on days when the plant is not normally staffed (Saturdays, Sundays, and Holidays). On those days, report "AN" on the monthly report form.

D. Sanitary Sewer Overflows

A sanitary sewer overflow is an overflow, spill, release, or diversion of wastewater from a sanitary sewer system. SSOs do not include wet weather discharges from combined sewer overflows specifically listed in Part II of this NPDES permit (if any). All SSOs are prohibited.

1. Reporting for SSOs That Imminently and Substantially Endanger Human Health

a) Immediate Notification

You must notify Ohio EPA (1-800-282-9378) and the appropriate Board of Health (i.e., city or county) within 24 hours of learning of any SSO from your sewers or from your maintenance contract areas that may imminently and substantially endanger human health. The telephone report must identify the location, estimated volume and receiving water, if any, of the overflow. An SSO that may imminently and substantially endanger human health includes dry weather overflows, major line breaks, overflow events that result in fish kills or other significant harm, overflows that expose the general public to contact with raw sewage, and overflow events that occur in sensitive waters and high exposure areas such as protection areas for public drinking water intakes and waters where primary contact recreation occurs.

b) Follow-Up Written Report

Within 5 days of the time you become aware of any SSO that may imminently and substantially endanger human health, you must provide the appropriate Ohio EPA district office a written report that includes:

- (i) the estimated date and time when the overflow began and stopped or will be stopped (if known);
- (ii) the location of the SSO including an identification number or designation if one exists;
- (iii) the receiving water (if there is one);
- (iv) an estimate of the volume of the SSO (if known);
- (v) a description of the sewer system component from which the release occurred (e.g., manhole, constructed overflow pipe, crack in pipe);
- (vi) the cause or suspected cause of the overflow;
- (vii) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps; and
- (viii) steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps.

An acceptable 5-day follow-up written report can be filled-in or downloaded from the Ohio EPA Division of Surface Water Permits Program Technical Assistance Web page at https://epa.ohio.gov/static/Portals/35/permits/SSO_5-day_report.docx

2. Reporting for All SSOs, Including Those That Imminently and Substantially Endanger Human Health

a) Discharge Monitoring Reports (DMR)

Sanitary sewer overflows that enter waters of the state, either directly or through a storm sewer or other conveyance, shall be reported on your Discharge Monitoring Reports (DMR). You must report the system-wide number of occurrences for SSOs that enter waters of the state in accordance with the requirements for station number 300. A monitoring table for this station is included in Part I, B of this NPDES permit. For the purpose of counting occurrences, each location on the sanitary sewer system where there is an overflow, spill, release, or diversion of wastewater on a given day is counted as one occurrence. For example, if on a given day overflows occur from a manhole at one location and from a damaged pipe at another location and they both enter waters of the state, you should record two occurrences for that day. If overflows from both locations continue on the following day, you should record two occurrences for the following day. At the end of the month, total the daily occurrences from all locations on your system and report this number using reporting code 74062 (Overflow Occurrence, No./Month) on the 4500 form for station number 300.

b) Annual Report

You must prepare an annual report of all SSOs in your collection system, including those that do not enter waters of the state. The annual report must be in an acceptable format (see below) and must include:

- (i) A table that lists an identification number, a location description, and the receiving water (if any) for each existing SSO. If an SSO previously included in the list has been eliminated, this shall be noted. Assign each SSO location a unique identification by numbering them consecutively, beginning with 301.
- (ii) A table that lists the date that an overflow occurred, the unique ID of the overflow, the name of affected receiving waters (if any), and the estimated volume of the overflow (in millions of gallons). The annual report may summarize information regarding overflows of less than approximately 1,000 gallons.
- (iii) A table that summarizes the occurrence of water in basements (WIBs) by total number and by sewershed. The report shall include a narrative analysis of WIB patterns by location, frequency and cause. Only WIBs caused by a problem in the publicly-owned collection system must be included.

Not later than March 31 of each year, you must submit one copy of the annual report for the previous calendar year. The report may be submitted electronically using the NPDES Annual Sanitary Sewer Overflow Report available through the Ohio EPA eBusiness Center, Division of Surface Water NPDES Permit Applications service. Alternatively, you may submit one hardcopy of the report to the Ohio EPA Southwest District Office and one copy to: Ohio EPA; Division of Surface Water; NPDES Permit Unit; P.O. Box 1049; Columbus, OH, 43216-1049. An acceptable

annual SSO report can be filled-in or downloaded from the Ohio EPA Division of Surface Water Permits Program Technical Assistance Web page at https://epa.ohio.gov/static/Portals/35/permits/SSO_annual_report.docx.

You also must provide adequate notice to the public of the availability of the report. Adequate public notice would include: notices posted at the community administration building, the public library and the post office; a public notice in the newspaper; or a notice sent out with all sewer bills.

E. The permittee shall maintain in good working order and operate as efficiently as possible the "treatment works" and "sewerage system" as defined in ORC 6111.01 to achieve compliance with the terms and conditions of this permit and to prevent discharges to the waters of the state, surface of the ground, basements, homes, buildings, etc.

F. Composite samples shall be comprised of a series of grab samples collected over a 24-hour period and proportionate in volume to the sewage flow rate at the time of sampling. Such samples shall be collected at such times and locations, and in such a fashion, as to be representative of the facility's overall performance.

G. Grab samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's performance.

H. Multiple grab samples shall be comprised of at least three grab samples collected at intervals of at least three hours during the period that the plant is staffed on each day for sampling. Samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's overall performance. The critical value shall be reported.

I. The treatment works must obtain at least 85 percent removal of carbonaceous biochemical oxygen demand (five-day) and suspended solids (see Part III, Item 1).

J. The parameter below has had effluent limitations established that are below the Ohio EPA Quantification Level (OEPA QL) for the approved analytical procedure promulgated at 40 CFR 136. OEPA QLs may be expressed as Practical Quantification Levels (PQL) or Minimum Levels (ML).

Compliance with an effluent limit that is below the OEPA QL is determined in accordance with ORC Section 6111.13 and OAC Rule 3745-33-07(C). For maximum effluent limits, any value reported below the OEPA QL shall be considered in compliance with the effluent limit. For average effluent limits, compliance shall be determined by taking the arithmetic mean of values reported for a specified averaging period, using zero (0) for any value reported at a concentration less than the OEPA QL, and comparing that mean to the appropriate average effluent limit. An arithmetic mean that is less than or equal to the average effluent limit shall be considered in compliance with that limit.

The permittee must utilize the lowest available detection method currently approved under 40 CFR Part 136 for monitoring these parameters.

REPORTING:

All analytical results, even those below the OEPA QL (listed below), shall be reported. Analytical results are to be reported as follows:

1. Results above the QL: Report the analytical result for the parameter of concern.
2. Results above the MDL, but below the QL: Report the analytical result, even though it is below the QL.
3. Results below the MDL: Analytical results below the method detection limit shall be reported as "below detection" using the reporting code "AA".

The following table of quantification levels will be used to determine compliance with NPDES permit limits:

Parameter	PQL	ML
Chlorine, Total Residual	0.050 mg/L	--

This permit may be modified, or, alternatively, revoked and reissued, to include more stringent effluent limits or conditions if information generated as a result of the conditions of this permit indicate the presence of these pollutants in the discharge at levels above the water quality based effluent limit (WQBEL).

K. POTWs that accept hazardous wastes by truck, rail, or dedicated pipeline are considered to be hazardous waste treatment, storage, and disposal facilities (TSDFs) and are subject to regulation under the Resource Conservation and Recovery Act (RCRA). Under the "permit-by-rule" regulation found at 40 CFR 270.60(c), a POTW must

- 1) comply with all conditions of its NPDES permit,
- 2) obtain a RCRA ID number and comply with certain manifest and reporting requirements under RCRA,
- 3) satisfy corrective action requirements, and
- 4) meet all federal, state, and local pretreatment requirements.

L. Water quality based permit limitations in this permit may be revised based on updated wasteload allocations or use designation rules. This permit may be modified, or revoked and reissued, to include new water quality based effluent limits or other conditions that are necessary to comply with a revised wasteload allocation, or an approved total maximum daily loads (TMDL) report as required under Section 303 (d) of the Clean Water Act.

M. Sampling for these parameters at station 1PD00009001, 1PD00009601, 1PD00009801, and 1PD00009901 shall occur the same day.

N. All disposal, use, storage, or treatment of sewage sludge by the Permittee shall comply with Chapter 6111. of the Ohio Revised Code, Chapter 3745-40 of the Ohio Administrative Code and any further requirements specified in this NPDES permit, and any other actions of the Director that pertain to the disposal, use, storage, or treatment of sewage sludge by the Permittee.

O. Sewage sludge composite samples shall consist of a minimum of six grab samples collected at such times and locations, and in such fashion, as to be representative of the facility's sewage sludge.

P. No later than March 1 of each calendar year, the Permittee shall submit a report summarizing the sewage sludge disposal, use, storage, or treatment activities of the Permittee during the previous calendar year. The report shall be submitted through the Ohio EPA eBusiness Center, Division of Surface Water NPDES Permit Applications service.

Q. Each day when sewage sludge is removed from the wastewater treatment plant for use or disposal, a representative sample of sewage sludge shall be collected and analyzed for percent total solids. This value of percent total solids shall be used to calculate the total Sewage Sludge Weight (Discharge Monitoring Report code 70316) and/or total Sewage Sludge Fee Weight (Discharge Monitoring Report code 51129) removed from the treatment plant on that day. The results of the daily monitoring and the weight calculations shall be maintained on site for a minimum of five years. The test methodology used shall be from Part 2540 G of Standard Methods for the Examination of Water and Wastewater American Public Health Association, American Water Works Association, and Water Environment Federation, using the edition which is current on the issuance date of the permit. To convert from gallons of liquid sewage sludge to dry tons of sewage sludge: $\text{dry tons} = \text{gallons} \times 8.34 \text{ (lbs/gallon)} \times 0.0005 \text{ (tons/lb)} \times \text{decimal fraction total solids}$.

R. The permittee is authorized to dispose of sewage sludge in a sanitary landfill, or transfer sludge to another NPDES facility in emergency situations only. Stations 586 and 588 for disposal in a sanitary landfill and transfer to a NPDES permit holder are included in the authorized list of stations in Part II, Item B of this permit, however, effluent tables are not included in Part 1.B. If these stations must be used in an emergency situation, the permittee must report the total amount of sludge taken to a landfill on the permittee's Annual Sludge Report. The Discharge Monitoring Report (DMR) should not be used to report under this paragraph.

S. Monitoring for Free Cyanide (Low-Level)

Currently there are three approved methods for free cyanide listed in 40 CFR 136 that have a quantification level lower than any water quality-based effluent limits: ASTM D7237-10, OIA-1677-09, and ASTM D4282-02. (Note: The use of ASTM D4282-02 requires supporting documentation that it meets the requirement of a "sufficiently sensitive" test procedure as defined in 40 CFR 122.44(i)(1)(iv)). The permittee shall continue to use one of these approved methods.

T. Monitoring for Mercury (Low-Level)

The permittee shall use either EPA Method 1631 or EPA Method 245.7 promulgated under 40 CFR 136 to comply with the influent and effluent mercury monitoring requirements of this permit.

U. Monitoring for Dissolved Orthophosphate (as P)

The permittee shall monitor for dissolved orthophosphate by grab sample. The permittee shall filter the grab sample within 15 minutes of collection using a 0.45-micron filter. The filtered sample must be analyzed within 48 hours. Samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's overall performance.

V. Monitoring for Bis(2-ethylhexyl) Phthalate

Composite samples for bis(2-ethylhexyl) phthalate shall be comprised of at least three manual grab samples collected at intervals of at least 3 hours, during an 8 hour period that the plant is staffed for sampling. The samples shall be collected and composited in glass to eliminate the potential for contamination from plastic containers; and they shall be collected at such times and locations, and in such fashion, as to be representative of the facility's overall performance.

W. Outfall Signage

The permittee shall maintain a permanent sign on the stream bank at each outfall that is regulated under this NPDES permit. This includes final outfalls and bypasses. The sign shall include, at a minimum, the name of the establishment to which the permit was issued, the Ohio EPA permit number, and the outfall number and a contact telephone number. The information shall be printed in letters not less than two inches in height. The sign shall be a minimum of 2 feet by 2 feet and shall be a minimum of 3 feet above ground level. The sign shall not be obstructed such that persons in boats or persons swimming on the river or someone fishing or walking along the shore cannot read the sign. Vegetation shall be periodically removed to keep the sign visible. If the outfall is normally submerged the sign shall indicate that. When an existing sign is replaced or reset, the new sign shall comply with the requirements of this section.

X. Pretreatment Program Requirements

The permittee's pretreatment program initially approved on June 14, 1985 and all subsequent modifications approved before the effective date of this permit, shall be an enforceable term and condition of this permit.

To ensure that the approved program is implemented in accordance with 40 CFR 403, Chapter 3745-3 of Ohio Administrative Code and Chapter 6111 of the Ohio Revised Code, the permittee shall comply with the following conditions:

1. Legal Authority

The permittee shall adopt and maintain legal authority which enables it to fully implement and enforce all aspects of its approved pretreatment program including the identification and characterization of industrial sources, issuance of control documents, compliance monitoring and reporting, and enforcement.

The permittee shall establish agreements with all contributing jurisdictions, as necessary, to enable the permittee to fulfill its requirements with respect to industrial users discharging to its system.

2. Funding

The permittee shall have sufficient resources and qualified personnel to fully implement all aspects of its approved pretreatment program.

3. Industrial User Inventory

The permittee shall identify all industrial users subject to pretreatment standards and requirements and characterize the nature and volume of pollutants in their wastewater. Dischargers determined to be Significant Industrial Users according to OAC 3745-3-01(FF) must be notified of applicable

pretreatment standards and requirements within 30 days of making such a determination. This inventory shall be updated at a frequency to ensure proper identification and characterization of industrial users.

4. Slug Load Control Plans for Significant Industrial Users

The permittee shall evaluate the need for a plan, device or structure to control a potential slug discharge at least once during the term of each significant industrial user's control mechanism. Existing significant industrial users shall be evaluated within one year of the effective date of this permit if the users have never been evaluated. New industrial users identified as significant industrial users shall be evaluated within one year of being identified as a significant industrial user.

5. Local Limits

The permittee shall develop and enforce technically based local limits to prevent the introduction of pollutants into the POTW which will interfere with the operation of the POTW, pass through the treatment works, be incompatible with the treatment works, or limit wastewater or sludge use options.

The permittee shall use the following waste load allocation values when evaluating local limits for the following pollutants for which a final effluent limit has not been established:

Arsenic 351 ug/l

Cadmium 13.4 ug/l

Chromium, hexavalent 25.9 ug/l

Chromium, total 491 ug/l

Copper 51.3 ug/l

Free Cyanide 28.2 ug/l

Lead 57.3 ug/l

Mercury 12 ng/l

Molybdenum 46997 ug/l

Nickel 301 ug/l

Selenium 11.6 ug/l

Silver 3.1 ug/l

Zinc 590 ug/l

For the purpose of periodically reevaluating local limits, the permittee shall implement and maintain a sampling program to characterize pollutant contribution to the POTW from industrial and residential sources and to determine pollutant removal efficiencies through the POTW. The permittee shall continue to review and develop local limits as necessary.

6. Control Mechanisms

The permittee shall issue control mechanisms to all industries determined to be Significant Industrial Users as defined in OAC 3745-3-01(FF). Control mechanisms must meet at least the minimum requirements of OAC-3745-3-03(C)(1)(c).

7. Industrial Compliance Monitoring

The permittee shall sample and inspect industrial users in accordance with the approved program or approved modifications, including inspection and sampling of all significant industrial users at least annually. Sample collection, preservation and analysis must be performed in accordance with procedures in 40 CFR 136 and with sufficient care to produce evidence admissible in judicial enforcement proceedings.

The permittee shall also require, receive, and review self-monitoring and other industrial user reports when necessary to determine compliance with pretreatment standards and requirements. If the permittee performs sampling and analysis in lieu of an industrial user's self-monitoring, the permittee shall perform repeat sampling and analysis within 30 days of becoming aware of a permit violation, unless the permittee notifies the user of the violation and requires the user to perform the repeat analysis and reporting.

8. POTW Priority Pollutant Monitoring

The permittee shall annually monitor priority pollutants, as defined by U.S. EPA, in the POTW's influent, effluent and sludge. Sample collection, preservation, and analysis shall be performed using U.S. EPA approved methods.

a. A sample of the influent and the effluent shall be collected when industrial discharges are occurring at normal to maximum levels. Sampling of the influent shall be done prior to any recycle streams and sampling of the effluent shall be after disinfection. Both samples shall be collected on the same day or, alternately, the effluent sample may be collected following the influent sample by approximately the retention time of the POTW.

Sampling of sludge shall be representative of sludge removed to final disposal. A minimum of one grab sample shall be taken during actual sludge removal and disposal unless the POTW uses more than one disposal option. If multiple disposal options are used, the POTW shall collect a composite of grab samples from all disposal practices which are proportional to the annual flows to each type of disposal.

b. A reasonable attempt shall be made to identify and quantify additional constituents (excluding priority pollutants and unsubstituted aliphatic compounds) at each sample location. Identification of additional peaks more than ten times higher than the adjacent background noise on the total ion plots (reconstructed gas chromatograms) shall be attempted through the use of U.S. EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be based on an order of magnitude estimate compared with an internal standard.

The results of these samples must be submitted on Ohio EPA Form 4221 with the permittee's annual pretreatment report. Samples may be collected at any time during the 12 months preceding the due date of the annual report and may be used to fulfill other NPDES monitoring requirements where applicable.

9. Enforcement

The permittee shall investigate all instances of noncompliance with pretreatment standards and requirements and take timely, appropriate, and effective enforcement action to resolve the noncompliance in accordance with the permittee's approved enforcement response plan.

On or prior to August 15th of each year, the permittee shall publish, in a newspaper of general circulation that provides meaningful public notice within the jurisdiction served by the permittee, a list of industrial users which, during the previous 12 months, have been in Significant Noncompliance [OAC 3745-3-03(C)(2)(h)] with applicable pretreatment standards or requirements.

10. Reporting

All reports required under this section shall be submitted either through Ohio EPA's eBusiness Center or by mail. The Ohio EPA eBusiness Center can be found in the link:
<https://ebiz.epa.ohio.gov/login.html>

All reports required under this section shall be submitted to the following address in duplicate:

Ohio Environmental Protection Agency
Division of Surface Water
Pretreatment Unit
P.O. Box 1049
Columbus, OH 43216-1049

a. Quarterly Industrial User Violation Report

On or prior to the 15th day of February, May, August, and November, the permittee shall report the industrial users that are in violation of applicable pretreatment standards during the previous quarter. The report shall be prepared in accordance with guidance provided by Ohio EPA and shall include a description of all industrial user violations and corrective actions taken to resolve the violations.

b. Annual Pretreatment Report

On or prior to August 15th of each year, the permittee shall submit an annual report on the effectiveness of the pretreatment program. The report shall be prepared in accordance with guidance provided by Ohio EPA and shall include, but not be limited to: a discussion of program effectiveness; and industrial user inventory; a description of the permittee's monitoring program; a description of any pass through or interference incidents; a copy of the annual publication of industries in Significant Noncompliance; and, priority pollutant monitoring results.

11. Record Keeping

All records of pretreatment activities including, but not limited to, industrial inventory data, monitoring results, enforcement actions, and reports submitted by industrial users must be maintained for a minimum of three (3) years. This period of retention shall be extended during the course of any unresolved litigation. Records must be made available to Ohio EPA and U.S. EPA upon request.

12. Program Modifications

Any proposed modifications of the approved pretreatment program must be submitted to Ohio EPA for review, on forms available from Ohio EPA and consistent with guidance provided by Ohio EPA. If the modification is deemed to be substantial, prior approval must be obtained before implementation; otherwise, the modification is considered to be effective 45 days after the date of application. Substantial program modifications include, among other things, changes to the POTW's legal authority, industrial user control mechanisms, local limits, confidentiality procedures, or monitoring frequencies.

Y. Biomonitoring Program Requirements

The permittee shall continue to implement an effluent biomonitoring program to determine the toxicity of the effluent from outfall 1PD00009001.

General Requirements

All toxicity testing conducted as required by this permit shall be done in accordance with "Reporting and Testing Guidance for Biomonitoring Required by the Ohio Environmental Protection Agency" (hereinafter, the "biomonitoring guidance"), Ohio EPA, July 1998 (or current revision). The Standard Operating Procedures (SOP) or verification of SOP submittal, as described in Section 1.B. of the biomonitoring guidance shall be submitted no later than three months after the effective date of this permit. If the laboratory performing the testing has modified its protocols, a new SOP is required.

Testing Requirements

1. Chronic Bioassays

For the life of the permit, the permittee shall conduct annual chronic toxicity tests using *Ceriodaphnia dubia* and fathead minnows (*Pimephales promelas*) on effluent samples from outfall 1PD00009001. These tests shall be conducted as specified in Section 3 of the biomonitoring guidance.

2. Acute Bioassays

Acute endpoints, as described in Section 2.H. of the biomonitoring guidance, shall be derived from the chronic test.

3. Testing of Ambient Water

In conjunction with the acute and chronic toxicity tests, upstream control water shall be collected at a point outside the zone of effluent and receiving water interaction at station 1PD00009001. Testing of ambient waters shall be done in accordance with Sections 2 and 3 of the biomonitoring guidance.

4. Data Review

a. Reporting

Following completion of each annual bioassay requirement, the permittee shall report results of the tests in accordance with Sections 2.H.1., 2.H.2.a., 3.H.1., and 3.H.2.a. of the biomonitoring guidance, including reporting the results on the monthly DMR and submitting a copy of the

complete test report to Ohio EPA, Division of Surface Water. The test report may be submitted electronically using the acute or chronic NPDES Biomonitoring Report Form available through the Ohio EPA eBusiness Center, Division of Surface Water NPDES Permit Applications service. Alternatively, the permittee may submit a hard copy of the report to Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049.

Based on Ohio EPA's evaluation of the results, this permit may be modified to require additional biomonitoring, require a toxicity reduction evaluation, and/or contain whole effluent toxicity limits.

b. Definitions

$TU_a = \text{Acute Toxicity Units} = 100/LC50$

$TU_c = \text{Chronic Toxicity Units} = 100/IC25$

This equation for chronic toxicity units applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations except when the following equation is more restrictive (*Ceriodaphnia dubia* only):

$TU_c = \text{Chronic Toxic Units} = 100/\text{square root of } (NOEC \times LOEC)$

Z. Notification of Equalization Basin Overflow

The permittee shall, at all times, comply with effluent limitations at Outfall 001, including the "General Effluent Limitations" listed in Part III, 2. As referenced in the conditions of PTI No. 1029928, this includes periods of time when flows from the equalization basin overflow are combined with fully treated effluent. In order to determine compliance with Part III, 2, Ohio EPA requires notification of discharges through Station 602.

The permittee shall notify Ohio EPA (swdo24hournpdes@epa.ohio.gov) and the designated Ohio EPA SWDO inspector) within 1 hour of learning of any discharge through Station 602.

AA. Storm Water

To comply with industrial storm water regulations, the permittee submitted a form for "No Exposure Certification" which was signed on January 18, 2019. Compliance with the industrial storm water regulations must be re-affirmed every five years. No later than January 18, 2024, the permittee must submit a new form for "No Exposure Certification" or make other provisions to comply with the industrial storm water regulations.

PART III - GENERAL CONDITIONS

1. DEFINITIONS

"Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

"Average weekly" discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. Each of the following 7-day periods is defined as a calendar week: Week 1 is Days 1 - 7 of the month; Week 2 is Days 8 - 14; Week 3 is Days 15 - 21; and Week 4 is Days 22 - 28. If the "daily discharge" on days 29, 30 or 31 exceeds the "average weekly" discharge limitation, Ohio EPA may elect to evaluate the last 7 days of the month as Week 4 instead of Days 22 - 28. Compliance with fecal coliform bacteria or E coli bacteria limitations shall be determined using the geometric mean.

"Average monthly" discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. Compliance with fecal coliform bacteria or E coli bacteria limitations shall be determined using the geometric mean.

"85 percent removal" means the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

"Absolute Limitations" Compliance with limitations having descriptions of "shall not be less than," "not greater than," "shall not exceed," "minimum," or "maximum" shall be determined from any single value for effluent samples and/or measurements collected.

"Net concentration" shall mean the difference between the concentration of a given substance in a sample taken of the discharge and the concentration of the same substances in a sample taken at the intake which supplies water to the given process. For the purpose of this definition, samples that are taken to determine the net concentration shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"Net Load" shall mean the difference between the load of a given substance as calculated from a sample taken of the discharge and the load of the same substance in a sample taken at the intake which supplies water to given process. For purposes of this definition, samples that are taken to determine the net loading shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"MGD" means million gallons per day.

"mg/l" means milligrams per liter.

"ug/l" means micrograms per liter.

"ng/l" means nanograms per liter.

"S.U." means standard pH unit.

"kg/day" means kilograms per day.

"Reporting Code" is a five digit number used by the Ohio EPA in processing reported data. The reporting code does not imply the type of analysis used nor the sampling techniques employed.

"Quarterly (1/Quarter) sampling frequency" means the sampling shall be done in the months of March, June, August, and December, unless specifically identified otherwise in the Effluent Limitations and Monitoring Requirements table.

"Yearly (1/Year) sampling frequency" means the sampling shall be done in the month of September, unless specifically identified otherwise in the effluent limitations and monitoring requirements table.

"Semi-annual (2/Year) sampling frequency" means the sampling shall be done during the months of June and December, unless specifically identified otherwise.

"Winter" shall be considered to be the period from November 1 through April 30.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Summer" shall be considered to be the period from May 1 through October 31.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

"Sewage sludge" means a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works as defined in section 6111.01 of the Revised Code. "Sewage sludge" includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes. "Sewage sludge" does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator, grit and screenings generated during preliminary treatment of domestic sewage in a treatment works, animal manure, residue generated during treatment of animal manure, or domestic septage.

"Sewage sludge weight" means the weight of sewage sludge, in dry U.S. tons, including admixtures such as liming materials or bulking agents. Monitoring frequencies for sewage sludge parameters are based on the reported sludge weight generated in a calendar year (use the most recent calendar year data when the NPDES permit is up for renewal).

"Sewage sludge fee weight" means the weight of sewage sludge, in dry U.S. tons, excluding admixtures such as liming materials or bulking agents. Annual sewage sludge fees, as per section 3745.11(Y) of the Ohio Revised Code, are based on the reported sludge fee weight for the most recent calendar year.

2. GENERAL EFFLUENT LIMITATIONS

The effluent shall, at all times, be free of substances:

A. In amounts that will settle to form putrescent, or otherwise objectionable, sludge deposits; or that will adversely affect aquatic life or water fowl;

B. Of an oily, greasy, or surface-active nature, and of other floating debris, in amounts that will form noticeable accumulations of scum, foam or sheen;

C. In amounts that will alter the natural color or odor of the receiving water to such degree as to create a nuisance;

D. In amounts that either singly or in combination with other substances are toxic to human, animal, or aquatic life;

E. In amounts that are conducive to the growth of aquatic weeds or algae to the extent that such growths become inimical to more desirable forms of aquatic life, or create conditions that are unsightly, or constitute a nuisance in any other fashion;

F. In amounts that will impair designated instream or downstream water uses.

3. FACILITY OPERATION AND QUALITY CONTROL

All wastewater treatment works shall be operated in a manner consistent with the following:

A. At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with conditions of the permit.

B. The permittee shall effectively monitor the operation and efficiency of treatment and control facilities and the quantity and quality of the treated discharge.

C. Maintenance of wastewater treatment works that results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by Ohio EPA as specified in the Paragraph in the PART III entitled, "UNAUTHORIZED DISCHARGES".

4. REPORTING

A. Monitoring data required by this permit shall be submitted monthly on Ohio EPA 4500 Discharge Monitoring Report (DMR) forms using the electronic DMR (e-DMR) internet application. e-DMR allows permitted facilities to enter, sign, and submit DMRs on the internet. e-DMR information is found on the following web page:

<http://www.epa.ohio.gov/dsw/edmr/eDMR.aspx>

Alternatively, if you are unable to use e-DMR due to a demonstrated hardship, monitoring data may be submitted on paper DMR forms provided by Ohio EPA. Monitoring data shall be typed on the forms. Please contact Ohio EPA, Division of Surface Water at (614) 644-2050 if you wish to receive paper DMR forms.

B. DMRs shall be signed by a facility's Responsible Official or a Delegated Responsible Official (i.e. a person delegated by the Responsible Official). The Responsible Official of a facility is defined as:

1. For corporations - a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the

necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For partnerships - a general partner;
3. For a sole proprietorship - the proprietor; or,
4. For a municipality, state or other public facility - a principal executive officer, a ranking elected official or other duly authorized employee.

For e-DMR, the person signing and submitting the DMR will need to obtain an eBusiness Center account and Personal Identification Number (PIN). Additionally, Delegated Responsible Officials must be delegated by the Responsible Official, either on-line using the eBusiness Center's delegation function, or on a paper delegation form provided by Ohio EPA. For more information on the PIN and delegation processes, please view the following web page:

<http://epa.ohio.gov/dsw/edmr/eDMR.aspx>

C. DMRs submitted using e-DMR shall be submitted to Ohio EPA by the 20th day of the month following the month-of-interest. DMRs submitted on paper must include the original signed DMR form and shall be mailed to Ohio EPA at the following address so that they are received no later than the 15th day of the month following the month-of-interest:

Ohio Environmental Protection Agency

Lazarus Government Center

Division of Surface Water - PCU

P.O. Box 1049

Columbus, Ohio 43216-1049

D. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in Section 5. SAMPLING AND ANALYTICAL METHODS, the results of such monitoring shall be included in the calculation and reporting of the values required in the reports specified above.

E. Analyses of pollutants not required by this permit, except as noted in the preceding paragraph, shall not be reported to the Ohio EPA, but records shall be retained as specified in Section 7. RECORDS RETENTION.

5. SAMPLING AND ANALYTICAL METHOD

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored flow. Test procedures for the analysis of pollutants shall conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants" unless other test procedures have been specified in this permit. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to insure accuracy of measurements.

6. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- A. The exact place and date of sampling; (time of sampling not required on EPA 4500)

- B. The person(s) who performed the sampling or measurements;
- C. The date the analyses were performed on those samples;
- D. The person(s) who performed the analyses;
- E. The analytical techniques or methods used; and
- F. The results of all analyses and measurements.

7. RECORDS RETENTION

The permittee shall retain all of the following records for the wastewater treatment works for a minimum of three years except those records that pertain to sewage sludge disposal, use, storage, or treatment, which shall be kept for a minimum of five years, including:

- A. All sampling and analytical records (including internal sampling data not reported);
- B. All original recordings for any continuous monitoring instrumentation;
- C. All instrumentation, calibration and maintenance records;
- D. All plant operation and maintenance records;
- E. All reports required by this permit; and
- F. Records of all data used to complete the application for this permit for a period of at least three years, or five years for sewage sludge, from the date of the sample, measurement, report, or application.

These periods will be extended during the course of any unresolved litigation, or when requested by the Regional Administrator or the Ohio EPA. The three year period, or five year period for sewage sludge, for retention of records shall start from the date of sample, measurement, report, or application.

8. AVAILABILITY OF REPORTS

Except for data determined by the Ohio EPA to be entitled to confidential status, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate district offices of the Ohio EPA. Both the Clean Water Act and Section 6111.05 Ohio Revised Code state that effluent data and receiving water quality data shall not be considered confidential.

9. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. RIGHT OF ENTRY

The permittee shall allow the Director or an authorized representative upon presentation of credentials and other documents as may be required by law to:

- A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.

D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. UNAUTHORIZED DISCHARGES

A. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 11.B and 11.C.

B. Notice

1. Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

2. Unanticipated Bypass - The permittee shall submit notice of an unanticipated bypass as required in paragraph 12.B (24 hour notice).

C. Prohibition of Bypass

1. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- c. The permittee submitted notices as required under paragraph 11.B.

2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 11.C.1.

12. NONCOMPLIANCE NOTIFICATION

A. Exceedance of a Daily Maximum Discharge Limit

1. The permittee shall report noncompliance that is the result of any violation of a daily maximum discharge limit for any of the pollutants listed by the Director in the permit by e-mail or telephone within twenty-four (24) hours of discovery.

The permittee may report to the appropriate Ohio EPA district office e-mail account as follows (this method is preferred):

Southeast District Office: sedo24hournpdes@epa.state.oh.us

Southwest District Office: swdo24hournpdes@epa.state.oh.us

Northwest District Office: nwdo24hournpdes@epa.state.oh.us

Northeast District Office: nedo24hournpdes@epa.state.oh.us

Central District Office: cdo24hournpdes@epa.state.oh.us

Central Office: co24hournpdes@epa.state.oh.us

The permittee shall attach a noncompliance report to the e-mail. A noncompliance report form is available on the following web site under the Monitoring and Reporting - Non-Compliance Notification section:

<http://epa.ohio.gov/dsw/permits/individuals.aspx>

Or, the permittee may report to the appropriate Ohio EPA district office by telephone toll-free between 8:00 AM and 5:00 PM as follows:

Southeast District Office: (800) 686-7330

Southwest District Office: (800) 686-8930

Northwest District Office: (800) 686-6930

Northeast District Office: (800) 686-6330

Central District Office: (800) 686-2330

Central Office: (614) 644-2001

The permittee shall include the following information in the telephone noncompliance report:

- a. The name of the permittee, and a contact name and telephone number;
- b. The limit(s) that has been exceeded;
- c. The extent of the exceedance(s);
- d. The cause of the exceedance(s);
- e. The period of the exceedance(s) including exact dates and times;
- f. If uncorrected, the anticipated time the exceedance(s) is expected to continue; and,
- g. Steps taken to reduce, eliminate or prevent occurrence of the exceedance(s).

B. Other Permit Violations

1. The permittee shall report noncompliance that is the result of any unanticipated bypass resulting in an exceedance of any effluent limit in the permit or any upset resulting in an exceedance of any effluent limit in the permit by e-mail or telephone within twenty-four (24) hours of discovery.

The permittee may report to the appropriate Ohio EPA district office e-mail account as follows (this method is preferred):

Southeast District Office: sedo24hournpdes@epa.state.oh.us

Southwest District Office: swdo24hournpdes@epa.state.oh.us

Northwest District Office: nwdo24hournpdes@epa.state.oh.us

Northeast District Office: nedo24hournpdes@epa.state.oh.us

Central District Office: cdo24hournpdes@epa.state.oh.us

Central Office: co24hournpdes@epa.state.oh.us

The permittee shall attach a noncompliance report to the e-mail. A noncompliance report form is available on the following web site:

<http://www.epa.ohio.gov/dsw/permits/permits.aspx>

Or, the permittee may report to the appropriate Ohio EPA district office by telephone toll-free between 8:00 AM and 5:00 PM as follows:

Southeast District Office: (800) 686-7330

Southwest District Office: (800) 686-8930

Northwest District Office: (800) 686-6930

Northeast District Office: (800) 686-6330

Central District Office: (800) 686-2330

Central Office: (614) 644-2001

The permittee shall include the following information in the telephone noncompliance report:

- a. The name of the permittee, and a contact name and telephone number;
 - b. The time(s) at which the discharge occurred, and was discovered;
 - c. The approximate amount and the characteristics of the discharge;
 - d. The stream(s) affected by the discharge;
 - e. The circumstances which created the discharge;
 - f. The name and telephone number of the person(s) who have knowledge of these circumstances;
 - g. What remedial steps are being taken; and,
 - h. The name and telephone number of the person(s) responsible for such remedial steps.
2. The permittee shall report noncompliance that is the result of any spill or discharge which may endanger human health or the environment within thirty (30) minutes of discovery by calling the 24-Hour Emergency Hotline toll-free at (800) 282-9378. The permittee shall also report the spill or discharge by e-mail or telephone within twenty-four (24) hours of discovery in accordance with B.1 above.
- C. When the telephone option is used for the noncompliance reports required by A and B, the permittee shall submit to the appropriate Ohio EPA district office a confirmation letter and a completed noncompliance report within five (5) days of the discovery of the noncompliance. This follow up report is not necessary for the e-mail option which already includes a completed noncompliance report.
- D. If the permittee is unable to meet any date for achieving an event, as specified in a schedule of compliance in their permit, the permittee shall submit a written report to the appropriate Ohio EPA district office within fourteen (14) days of becoming aware of such a situation. The report shall include the following:
1. The compliance event which has been or will be violated;
 2. The cause of the violation;
 3. The remedial action being taken;
 4. The probable date by which compliance will occur; and,
 5. The probability of complying with subsequent and final events as scheduled.

E. The permittee shall report all other instances of permit noncompliance not reported under paragraphs A or B of this section on their monthly DMR submission. The DMR shall contain comments that include the information listed in paragraphs A or B as appropriate.

F. If the permittee becomes aware that it failed to submit an application, or submitted incorrect information in an application or in any report to the director, it shall promptly submit such facts or information.

13. RESERVED

14. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

15. AUTHORIZED DISCHARGES

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such violations may result in the imposition of civil and/or criminal penalties as provided for in Section 309 of the Act and Ohio Revised Code Sections 6111.09 and 6111.99.

16. DISCHARGE CHANGES

The following changes must be reported to the appropriate Ohio EPA district office as soon as practicable:

A. For all treatment works, any significant change in character of the discharge which the permittee knows or has reason to believe has occurred or will occur which would constitute cause for modification or revocation and reissuance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Notification of permit changes or anticipated noncompliance does not stay any permit condition.

B. For publicly owned treatment works:

1. Any proposed plant modification, addition, and/or expansion that will change the capacity or efficiency of the plant;
2. The addition of any new significant industrial discharge; and
3. Changes in the quantity or quality of the wastes from existing tributary industrial discharges which will result in significant new or increased discharges of pollutants.

C. For non-publicly owned treatment works, any proposed facility expansions, production increases, or process modifications, which will result in new, different, or increased discharges of pollutants.

Following this notice, modifications to the permit may be made to reflect any necessary changes in permit conditions, including any necessary effluent limitations for any pollutants not identified and limited herein. A determination will also be made as to whether a National Environmental Policy Act (NEPA) review will be required. Sections 6111.44 and 6111.45, Ohio Revised Code, require that plans for treatment works or improvements to such works be approved by the Director of the Ohio EPA prior to initiation of construction.

D. In addition to the reporting requirements under 40 CFR 122.41(l) and per 40 CFR 122.42(a), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit. If that discharge will exceed the highest of the "notification levels" specified in 40 CFR Sections 122.42(a)(1)(i) through 122.42(a)(1)(iv).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" specified in 122.42(a)(2)(i) through 122.42(a)(2)(iv).

17. TOXIC POLLUTANTS

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement. Following establishment of such standards or prohibitions, the Director shall modify this permit and so notify the permittee.

18. PERMIT MODIFICATION OR REVOCATION

A. After notice and opportunity for a hearing, this permit may be modified or revoked, by the Ohio EPA, in whole or in part during its term for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this permit;
2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
3. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

B. Pursuant to rule 3745-33-04, Ohio Administrative Code, the permittee may at any time apply to the Ohio EPA for modification of any part of this permit. The filing of a request by the permittee for a permit modification or revocation does not stay any permit condition. The application for modification should be received by the appropriate Ohio EPA district office at least ninety days before the date on which it is desired that the modification become effective. The application shall be made only on forms approved by the Ohio EPA.

19. TRANSFER OF OWNERSHIP OR CONTROL

This permit may be transferred or assigned and a new owner or successor can be authorized to discharge from this facility, provided the following requirements are met:

A. The permittee shall notify the succeeding owner or successor of the existence of this permit by a letter, a copy of which shall be forwarded to the appropriate Ohio EPA district office. The copy of that letter will serve as the permittee's notice to the Director of the proposed transfer. The copy of that letter shall be received by the appropriate Ohio EPA district office sixty (60) days prior to the proposed date of transfer;

B. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) shall be submitted to the appropriate Ohio EPA district office within sixty days after receipt by the district office of the copy of the letter from the permittee to the succeeding owner;

At anytime during the sixty (60) day period between notification of the proposed transfer and the effective date of the transfer, the Director may prevent the transfer if he concludes that such transfer will jeopardize compliance with the terms and conditions of the permit. If the Director does not prevent transfer, he will modify the permit to reflect the new owner.

20. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

21. SOLIDS DISPOSAL

Collected grit and screenings, and other solids other than sewage sludge, shall be disposed of in such a manner as to prevent entry of those wastes into waters of the state, and in accordance with all applicable laws and rules.

22. CONSTRUCTION AFFECTING NAVIGABLE WATERS

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

23. CIVIL AND CRIMINAL LIABILITY

Except as exempted in the permit conditions on UNAUTHORIZED DISCHARGES or UPSETS, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

24. STATE LAWS AND REGULATIONS

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

25. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

26. UPSET

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "upset," see Part III, Paragraph 1, DEFINITIONS.

27. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

28. SIGNATORY REQUIREMENTS

All applications submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR 122.22.

All reports submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR Section 122.22.

29. OTHER INFORMATION

A. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

B. ORC 6111.99 provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$25,000 per violation.

C. ORC 6111.99 states that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$25,000 per violation.

D. ORC 6111.99 provides that any person who violates Sections 6111.04, 6111.042, 6111.05, or division (A) of Section 6111.07 of the Revised Code shall be fined not more than \$25,000 or imprisoned not more than one year, or both.

30. NEED TO HALT OR REDUCE ACTIVITY

40 CFR 122.41(c) states that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

31. APPLICABLE FEDERAL RULES

All references to 40 CFR in this permit mean the version of 40 CFR which is effective as of the effective date of this permit.

32. AVAILABILITY OF PUBLIC SEWERS

Notwithstanding the issuance or non-issuance of an NPDES permit to a semi-public disposal system, whenever the sewage system of a publicly owned treatment works becomes available and accessible, the permittee operating any semi-public disposal system shall abandon the semi-public disposal system and connect it into the publicly owned treatment works.

National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding an NPDES Permit to Discharge to Waters of the State of Ohio
for the City of Sidney Wastewater Treatment Plant (WWTP)

Public Notice No.: 163939
Public Notice Date: November 7, 2022
Comment Period Ends: December 7, 2022

Ohio EPA Permit No.: 1PD00009*SD
Application No.: OH0027421

Name and Address of Applicant:
City of Sidney
201 W Poplar Street
Sidney, OH 45365

Name and Address of Facility Where
Discharge Occurs:
Sidney WWTP
1091 Childrens-Home Road
Sidney, OH 45365
Shelby County

Receiving Water: Great Miami River

Subsequent Stream Network: Ohio River

INTRODUCTION

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations (CFR), Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency (Ohio EPA), as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This Fact Sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act (CWA) and Ohio Water Pollution Control Law (Ohio Revised Code [ORC] 6111). Decisions to award variances to Water Quality Standards (WQS) or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

No antidegradation review was necessary.

Effluent limits based on available treatment technologies are required by Section 301(b) of the CWA. Many of these have already been established by the United States Environmental Protection Agency (U.S. EPA) in the effluent guideline regulations (a.k.a. categorical regulations) for industry categories in 40 CFR Parts 405-499. Technology-based regulations for publicly-owned treatment works are listed in the Secondary Treatment Regulations (40 CFR Part 133). If regulations have not been established for a category of dischargers, the director may establish technology-based limits based on best professional judgment (BPJ).

Ohio EPA reviews the need for water-quality-based limits on a pollutant-by-pollutant basis. Wasteload allocations (WLAs) are used to develop these limits based on the pollutants that have been detected in the

discharge, and the receiving water's assimilative capacity. The assimilative capacity depends on the flow in the water receiving the discharge, and the concentration of the pollutant upstream. The greater the upstream flow, and the lower the upstream concentration, the greater the assimilative capacity is. Assimilative capacity may represent dilution (as in allocations for metals), or it may also incorporate the break-down of pollutants in the receiving water (as in allocations for oxygen-demanding materials).

The need for water-quality-based limits is determined by comparing the WLA for a pollutant to a measure of the effluent quality. The measure of effluent quality is called Projected Effluent Quality (PEQ). This is a statistical measure of the average and maximum effluent values for a pollutant. As with any statistical method, the more data that exists for a given pollutant, the more likely that PEQ will match the actual observed data. If there is a small data set for a given pollutant, the highest measured value is multiplied by a statistical factor to obtain a PEQ; for example if only one sample exists, the factor is 6.2, for two samples - 3.8, for three samples - 3.0. The factors continue to decline as samples sizes increase. These factors are intended to account for effluent variability, but if the pollutant concentrations are fairly constant, these factors may make PEQ appear larger than it would be shown to be if more sample results existed.

SUMMARY OF PERMIT CONDITIONS

The effluent limits and/or monitoring requirements proposed for all parameters are the same as in the current permit, except those listed below.

New effluent limits are proposed for selenium and bis(2-ethylhexyl) phthalate because of reasonable potential to exceed WQS. A 36-month compliance schedule to meet these new limits is included in Part I, C of the permit.

Monitoring frequency for mercury is proposed to increase to 1/month based on the notable presence of this pollutant in the effluent.

Monitoring is proposed to be removed for arsenic, molybdenum, and silver because sampling data indicates that there is no reasonable potential to exceed WQS. The corresponding monitoring requirements for influent monitoring station 601 are also proposed to be removed.

Annual chronic toxicity monitoring with the determination of acute endpoints. This satisfies the minimum testing requirements of Ohio Administrative Code (OAC) 3754-33-07(B)(11) and will adequately characterize toxicity in the plant's effluent.

Monitoring for phosphorus is proposed to be removed at influent monitoring station 601 because sufficient data has been collected to evaluate the plant's treatment efficiency for this pollutant.

New monitoring is proposed for total Kjeldahl nitrogen at upstream monitoring station 801 and downstream monitoring station 901 to characterize the nutrient impact of the plant's discharge.

New monitoring is proposed for hardness at downstream station 901 to collect data for future permit limit determinations.

The monitoring frequency for *E. coli* at upstream monitoring station 801 and downstream monitoring station 901 is proposed to increase to 1/2 weeks to be consistent with the recommendations in Ohio EPA Permit Guidance 1. In addition, the monitoring months are proposed to change to June through August.

Monitoring for temperature, dissolved oxygen, and pH at upstream monitoring station 801 is proposed to be removed because this data is not used in permitting determinations for this or future renewals.

A schedule of compliance for SSO elimination activities is included in Part I, C of the permit, which requires the City to complete work towards eliminating SSOs by January 31, 2024, and submit annual reports on their progress towards meeting this milestone.

In Part II of the permit, special conditions are included that address sanitary sewer overflow (SSO) reporting; operator certification, minimum staffing and operator of record; whole effluent toxicity (WET) testing; storm water compliance; pretreatment program requirements; and outfall signage.

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PROCEDURES FOR PARTICIPATION IN THE FORMULATION OF FINAL DETERMINATIONS

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

**Legal Records Section
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049**

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

**Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049**

The Ohio EPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. The first 250 pages copied are free. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

For additional information about this fact sheet or the draft permit, contact Chris Monroe, (614) 644-2007, Christopher.monroe@epa.ohio.gov.

INFORMATION REGARDING CERTAIN WATER QUALITY BASED EFFLUENT LIMITS

This draft permit may contain proposed water-quality-based effluent limits (WQBELs) for parameters that **are not** priority pollutants. (See the following link for a list of the priority pollutants: https://epa.ohio.gov/static/Portals/35/pretreatment/Pretreatment_Program_Priority_Pollutant_Detection_Limits.pdf.) In accordance with ORC 6111.03(J)(3), the Director established these WQBELs after considering, to the extent consistent with the Federal Water Pollution Control Act, evidence relating to the technical feasibility and economic reasonableness of removing the polluting properties from those wastes and to evidence relating to conditions calculated to result from that action and their relation to benefits to the people of the state and to

accomplishment of the purposes of this chapter. This determination was made based on data and information available at the time the permit was drafted, which included the contents of the timely submitted NPDES permit renewal application, along with any and all pertinent information available to the Director.

This public notice allows the permittee to provide to the Director for consideration during this public comment period additional site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness for achieving compliance with the proposed final effluent limitations for these parameters. The permittee shall deliver or mail this information to:

**Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049**

Should the applicant need additional time to review, obtain or develop site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness of achieving compliance with these limitations, a written request for any additional time shall be sent to the above address no later than 30 days after the Public Notice Date on Page 1.

Should the applicant determine that compliance with the proposed WQBELs for parameters other than the priority pollutants is technically and/or economically unattainable, the permittee may submit an application for a variance to the applicable WQS used to develop the proposed effluent limitation in accordance with the terms and conditions set forth in OAC 3745-33-07(D). The permittee shall submit this application to the above address no later than 30 days after the Public Notice Date.

Alternately, the applicant may propose the development of site-specific WQS pursuant to OAC 3745-1-39. The permittee shall submit written notification regarding their intent to develop site specific WQS for parameters that are not priority pollutants to the above address no later than 30 days after the Public Notice Date.

LOCATION OF DISCHARGE/RECEIVING WATER USE CLASSIFICATION

The Sidney WWTP discharges to the Great Miami River at River Mile 128.68. Figure 1 shows the approximate location of the facility.

This segment of the Great Miami River is described by Ohio EPA River Code: 14-001, Hydrologic Unit Code: 05080001-90-01, County: Shelby, Ecoregion: Eastern Corn Belt Plains. The Great Miami River is designated for the following uses under Ohio's WQS (OAC 3745-1-21): Exceptional Warmwater Habitat, Agricultural Water Supply, Industrial Water Supply, Primary Contact Recreation, Public Water Supply.

Use designations define the goals and expectations of a waterbody. These goals are set for aquatic life protection, recreation use and water supply use, and are defined in the Ohio WQS (OAC 3745-1-07). The use designations for individual waterbodies are listed in rules -08 through -32 of the Ohio WQS. Once the goals are set, numeric WQS are developed to protect these uses. Different uses have different water quality criteria.

Use designations for aquatic life protection include habitats for coldwater fish and macroinvertebrates, warmwater aquatic life and waters with exceptional communities of warmwater organisms. These uses all meet the goals of the federal CWA. Ohio WQS also include aquatic life use designations for waterbodies which cannot meet the CWA goals because of human-caused conditions that cannot be remedied without causing fundamental changes to land use and widespread economic impact. The dredging and clearing of some small streams to support agricultural or urban drainage is the most common of these conditions. These streams are given Modified Warmwater or Limited Resource Water designations.

Recreation uses are defined by the depth of the waterbody and the potential for wading or swimming. Uses are defined for bathing waters, swimming/canoeing (Primary Contact Recreation) and wading only (Secondary Contact which are generally waters too shallow for swimming or canoeing).

Water supply uses are defined by the actual or potential use of the waterbody. Public Water Supply designations apply near existing water intakes so that waters are safe to drink with standard treatment. Most other waters are designated for agricultural water supply and industrial water supply.

FACILITY DESCRIPTION

The Sidney WWTP was constructed in 1956 and last upgraded in 2017. The average design flow is 7.0 million gallons per day (MGD) and the peak hydraulic capacity is 13.5 MGD. The Sidney WWTP serves the City of Sidney, the Village of Port Jefferson, the Mill Creek Subdivision in Shelby County, and the Honda of America plant in Anna. The Sidney WWTP has the following treatment processes (Figure 2):

- Influent pumping
- Screening/grit removal
- Comminution
- Flow equalization
- Primary settling
- Conventional activated sludge aeration
- Ultraviolet disinfection

The Sidney WWTP has an overflow from the equalization basin, which is monitored at station 602 when influent flows are over 13.5 MGD and the equalization basin capacity is exceeded. Overflows from the equalization basins are disinfected via chlorine, diverted through station 602, and blended with fully treated

effluent downstream of the UV disinfection system. The blended flows are monitored at final outfall 001 prior to discharge to the Great Miami River.

The City of Sidney has fully separated sewers in their collection system.

The City of Sidney has an approved pretreatment program. The City of Sidney has 12 categorical users that discharge 0.512 MGD of flow and four significant non-categorical users that discharge 0.73 MGD of flow.

The service area's potable water comes from the City's municipal water supply.

The Sidney WWTP utilizes the following sewage sludge treatment processes (Figure 3):

- Anaerobic digestion
- Chemical addition (polymer, ferric chloride, and alum)
- Mechanical dewatering (centrifuge)
- Digester gas utilization

Table 1 shows the last five years of sludge removed from the Sidney WWTP. Treated sludge is land applied or disposed of in a municipal landfill.

DESCRIPTION OF EXISTING DISCHARGE

Table 2 presents the effluent violations for the Sidney WWTP during the previous five years. The total suspended solids violations were a result of significant precipitation events. The ammonia violations were caused by effluent from an industrial user and have been addressed by installation of pretreatment equipment. Violations for pH and dissolved oxygen were associated with blending issues and have been resolved using maintenance practices.

Table 3 presents the average annual effluent flow rate for the Sidney WWTP for the previous five years.

The Sidney WWTP has an estimated infiltration/inflow (I/I) rate of 1.64 MGD that contributes to overflows at the treatment plant. In 2012, the City established a division in their utilities department to focus on I/I elimination activities. In addition, the City enforces the elimination of private property I/I by requiring residents to televise and repair defective laterals. The permit includes a requirement for the City to complete SSO elimination work by January 31, 2024. In the interim, the City is required to submit annual reports on their progress towards achieving this compliance milestone. See Part I, C of the permit for details.

Table 4 presents the number of SSOs reported by the Sidney WWTP for the previous five years. Only seven SSOs were reported during this period, all of which occurred on March 28, 2020 as the result of a precipitation event exceeding two inches.

Table 5 presents data characterizing overflow activity at the Sidney WWTP for the previous five years. Overflows are reported at station 602.

Table 6 presents data characterizing the seasonal total phosphorus load from the Sidney WWTP during the previous five years.

Table 7 presents chemical specific data compiled from data reported in annual pretreatment reports. Because this data is substantially identical to the application requirements in CFR 122.21(j), the Director has waived the requirement for submittal of supplemental effluent testing data as part of the NPDES renewal application.

Table 8 presents chemical specific data compiled from data collected by Ohio EPA.

Table 9 presents a summary of unaltered Discharge Monitoring Report (DMR). Data are presented for the period January 2016 to August 2021, and current permit limits are provided for comparison.

Table 10 summarizes the chemical specific data for outfall 001 by presenting the average and maximum PEQ values.

Table 11 summarizes the results of acute and chronic Whole Effluent Toxicity (WET) tests of the final effluent, using the water flea (*Ceriodaphnia dubia*) and fathead minnow (*Pimephales promelas*) as test organisms.

ASSESSMENT OF IMPACT ON RECEIVING WATERS

The Great Miami River Mainstem (Tawawa Creek to Mad River) large river assessment unit (LRAU), which includes the Great Miami River in the vicinity of the Sidney WWTP, is listed as impaired for Aquatic Life Use, Recreational Use, and Human Health on Ohio's 303(d) list.

The attainment status of the Great Miami River Mainstem (Tawawa Creek to Mad River) is reported in the *Final Ohio 2020 Integrated Water Quality Monitoring and Assessment Report*. An assessment of the impact of a permitted point source on the immediate receiving waters includes an evaluation of the available chemical/physical, biological, and habitat data which have been collected by Ohio EPA pursuant to the Five-Year Basin Approach for Monitoring and NPDES Reissuance. Other data may be used provided it was collected in accordance with Ohio EPA methods and protocols as specified by the Ohio WQS and Ohio EPA guidance documents. Other information which may be evaluated includes, but is not limited to: NPDES permittee self-monitoring data; effluent and mixing zone bioassays conducted by Ohio EPA, the permittee, or U.S. EPA.

In evaluating this data, Ohio EPA attempts to link environmental stresses and measured pollutant exposure to the health and diversity of biological communities. Stresses can include pollutant discharges (permitted and unpermitted), land use effects, and habitat modifications. Indicators of exposure to these stresses include whole effluent toxicity tests, fish tissue chemical data, and fish health biomarkers (for example, fish blood tests).

Use attainment is a term which describes the degree to which environmental indicators are either above or below criteria specified by the Ohio WQS (OAC 3745-1). Assessing use attainment status for aquatic life uses primarily relies on the Ohio EPA biological criteria (OAC 3745-1-07; Table 7-1). These criteria apply to rivers and streams outside of mixing zones. Numerical biological criteria are based on measuring several characteristics of the fish and macroinvertebrate communities; these characteristics are combined into multimetric biological indices including the Index of Biotic Integrity and modified Index of Well-Being, which indicate the response of the fish community, and the Invertebrate Community Index, which indicates the response of the macroinvertebrate community. Numerical criteria are broken down by ecoregion, use designation, and stream or river size. Ohio has five ecoregions defined by common topography, land use, potential vegetation and soil type.

Three attainment status results are possible at each sampling location -full, partial, or non-attainment. Full attainment means that all of the applicable indices meet the biocriteria. Partial attainment means that one or more of the applicable indices fails to meet the biocriteria. Nonattainment means that either none of the applicable indices meet the biocriteria or one of the organism groups indicates poor or very poor performance. An aquatic life use attainment table (see Table 10) is constructed based on the sampling results and is arranged from upstream to downstream and includes the sampling locations indicated by river mile, the applicable biological indices, the use attainment status (i.e., full, partial, or non), the Qualitative Habitat Evaluation Index, and comments and observations for each sampling location.

The most recent data available for the Great Miami River watershed is from 2009-2010 and 2016. The Great Miami River is listed in full attainment (see Table 12) up and downstream of Sidney until RM 85.8. From this point the river is impaired for ammonia toxicity (aquatic life) due to the local major wastewater treatment plant discharge. At this time, a TMDL study is in progress to address the impairments identified in this portion of the Great Miami River. Implementation plans in these reports may include recommendations for load reductions through additional NPDES permit limits. Information about the TMDL reports is available through the Ohio EPA, Division of Surface Water website at:
<https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/reports-data/great-miami-river-watershed>

More information can be found in the following technical support document: “*Biological and Water Quality Study of the Middle Great Miami River and Principal Tributaries*”, OEPA, 2013. It is available through the Ohio EPA, Division of Surface Water website at:
https://epa.ohio.gov/static/Portals/35/documents/MGMR_TSD_2010.pdf

The 2020 *Ohio Integrated Water Quality Monitoring and Assessment Report* is available through the Ohio EPA, Division of Surface Water website at:
<https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/reports-data/ohio-integrated-water-quality-monitoring-and-assessment-report>

DEVELOPMENT OF WATER-QUALITY-BASED EFFLUENT LIMITS

Determining appropriate effluent concentrations is a multiple-step process in which parameters are identified as likely to be discharged by a facility, evaluated with respect to Ohio water quality criteria, and examined to determine the likelihood that the existing effluent could violate the calculated limits.

Parameter Selection

Effluent data for the Sidney WWTP were used to determine what parameters should undergo WLA. The parameters discharged are identified by the data available to Ohio EPA, DMR data submitted by the permittee, compliance sampling data collected by Ohio EPA, and any other data submitted by the permittee, such as priority pollutant scans required by the NPDES application or by pretreatment, or other special conditions in the NPDES permit. The sources of effluent data used in this evaluation are as follows:

Self-monitoring data (DMR)	January 2016 through August 2021
Pretreatment data	2016-2020
Ohio EPA bioassay sampling data	2019

Statistical Outliers and Other Non-representative Data

The data were examined, and the following were removed from the evaluation as non-representative data:

Zinc - TR – 0.01 µg/L on 2/25/18 and 22.8 µg/L on 4/3/18

Molybdenum – 0.04 µg/L on 2/25/18

Mercury –66.5 ng/L on 4/3/18 and 0.002 ng/L on 5/9/21

Cyanide, free – 0.003 µg/L on 3/1/17 and 11/1/18, 0.007 µg/L on 6/1/17, 0.004 µg/L on 3/6/18 and 4/3/18, and 0.009 µg/L on 12/6/18.

This data is evaluated statistically, and PEQ values are calculated for each pollutant. Average PEQ (PEQ_{avg}) values represent the 95th percentile of monthly average data, and maximum PEQ (PEQ_{max}) values represent the 95th percentile of all data points (see Table 10). See Modeling Guidance #1 for more information on PEQ calculations, available through the Ohio EPA, Division of Surface Water website at:
<https://epa.ohio.gov/static/Portals/35/guidance/model1.pdf>.

The PEQ values are used according to Ohio rules to compare to applicable WQS and allowable WLA values for each pollutant evaluated. Initially, PEQ values are compared to the applicable average and maximum WQS. If both PEQ values are less than 25 percent of the applicable WQS, the pollutant does not have the reasonable potential to cause or contribute to exceedances of WQS, and no WLA is done for that parameter. If either PEQ_{avg} or PEQ_{max} is greater than 25 percent of the applicable WQS, a WLA is conducted to determine whether the parameter exhibits reasonable potential and needs to have a limit or if monitoring is required (see Table 13).

Wasteload Allocation

For those parameters that require a wasteload allocation (WLA), the results are based on the uses assigned to the receiving waterbody in OAC 3745-1. The applicable waterbody uses for this facility’s discharge and the associated stream design flows are as follows:

Aquatic life (WWH)		
Toxics (metals, organics, etc.)	Average	Annual 7Q10
	Maximum	Annual 1Q10
Ammonia-N	Average	Summer/winter 30Q10
Agricultural Water Supply		Harmonic mean flow
Human Health (nondrinking)		Harmonic mean flow

Allocations are developed using a percentage of stream design flow (as specified in Table 14), and allocations cannot exceed the Inside Mixing Zone Maximum criteria.

The data used in the WLA are listed in Table 13 and Table 14. The wasteload allocation results to maintain all applicable criteria are presented in Table 15.

Public Water Supply (PWS) criteria apply within the Great Miami River Study Area at river miles (RMs) 130.2 and 118.5. The Sidney WTP intake is at RM 130.2 and is not affected by any of the three effluent discharges in this segment, which are all downstream. However, the Piqua WTP intake at RM 118.5 is downstream of the Sidney WWTP discharge (RM 128.7). In addition, the Troy and Tipp City well fields are located within 1000 yards of the GMR at RMs 107 and 99, respectively. None of these water supply sources are located within 500 yards of any of three interactive effluent discharges, so PWS criteria do not apply. However, they are included in Table 13 for informational purposes (expressed as human health – drinking water criteria). The human health wasteload allocation results shown in Table 15 are calculated to meet human health non-drinking criteria. This also applies to Table 16; the parameter assessments do not consider wasteload allocations based on PWS criteria.

The following dischargers to the Great Miami River were considered interactive (see Figure 4):

- Sidney WWTP
- Piqua WWTP
- Troy WWTP

These outfalls were allocated together for most parameters due to the size of the plant discharges, the flows of the Great Miami River and tributaries, and the relatively proximity of the discharge points. The exception was the wasteload allocations (WLAs) for ammonia toxicity, which were evaluated separately for each facility because ammonia is considered a non-conservative parameter.

The available assimilative capacity was distributed among them using the conservative substance wasteload allocation (CONSWLA) water quality model for conservative parameters. CONSWLA is the model Ohio EPA typically uses in multiple discharger situations. CONSWLA model inputs for flow are fixed at their critical low levels and inputs for effluent flow are fixed at their design or 50th percentile levels. Background concentrations are fixed at a representative value (generally a 50th percentile) using available ambient stream data from

upstream sampling stations. A mass balancing method is then used to allocate effluent concentrations that maintain WQS under these conditions. This technique is appropriate when data bases are unavailable to generate statistical distributions for inputs and if the parameters modeled are conservative.

Whole Effluent Toxicity Wasteload Allocation

WET is the total toxic effect of an effluent on aquatic life measured directly with a toxicity test. Acute WET measures short term effects of the effluent while chronic WET measures longer term and potentially more subtle effects of the effluent.

WQS for WET are expressed in Ohio’s narrative “free from” WQS rule [OAC 3745-1-04(D)]. These “free froms” are translated into toxicity units (TUs) by the associated WQS Implementation Rule (OAC 3745-2-09). WLAs can then be calculated using TUs as if they were water quality criteria.

The WLA calculations for WET are similar to those for aquatic life criteria - using the chronic toxicity unit (TU_c) and 7Q10 flow for the average and the acute toxicity unit (TU_a) and 1Q10 flow for the maximum. These values are the levels of effluent toxicity that should not cause instream toxicity during critical low-flow conditions. For the Sidney WWTP, the WLA values are 0.84 TU_a and 3.22 TU_c.

The chronic toxicity unit (TU_c) is defined as 100 divided by the estimate of the effluent concentration which causes a 25% reduction in growth or reproduction of test organisms (IC₂₅):

$$TU_c = 100/IC_{25}$$

This equation applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations except when the following equation is more restrictive (*Ceriodaphnia dubia* only):

$$TU_c = 100/\text{geometric mean of No Observed Effect Concentration and Lowest Observed Effect Concentration}$$

The acute toxicity unit (TU_a) is defined as 100 divided by the concentration in water having 50% chance of causing death to aquatic life (LC₅₀) for the most sensitive test species:

$$TU_a = 100/LC_{50}$$

This equation applies outside the mixing zone for all designated waters.

When the acute WLA is less than 1.0 TU_a, it may be defined as:

Downstream Dilution Ratio (downstream flow to discharger flow)	Allowable Effluent Toxicity (percent effects in 100% effluent)
up to 2	30
greater than 2 but less than 2.7	40
2.7 to 3.3	50

$$\text{Downstream Dilution Ratio} = \frac{1Q10 + [WWTP \text{ flow rate}]}{[WWTP \text{ flow rate}]} = \frac{19.4 \text{ cfs} + 10.83 \text{ cfs}}{10.83 \text{ cfs}} = 2.79$$

The acute WLA for the Sidney WWTP is 50 percent mortality in 100 percent effluent based on the dilution ratio of 2.79.

REASONABLE POTENTIAL/EFFLUENT LIMITS/MANAGEMENT DECISIONS

After appropriate effluent limits are calculated, the reasonable potential of the discharger to violate the WQS must be determined. Each parameter is examined and placed in a defined "group". Parameters that do not have a WQS or do not require a WLA based on the initial screening are assigned to either group 1 or 2. For the allocated parameters, the preliminary effluent limits (PEL) based on the most restrictive average and maximum WLAs are selected from Table 15. The average PEL (PEL_{avg}) is compared to the average PEQ (PEQ_{avg}) from Table 10, and the PEL_{max} is compared to the PEQ_{max} . Based on the calculated percentage of the allocated value [$(PEQ_{avg} \div PEL_{avg}) \times 100$, or $(PEQ_{max} \div PEL_{max}) \times 100$], the parameters are assigned to group 3, 4, or 5. The groupings are listed in Table 16.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 17 presents the final effluent limits and monitoring requirements proposed for the Sidney WWTP outfall 001 and the basis for their recommendation. Unless otherwise indicated, the monitoring frequencies proposed in the permit are continued from the existing permit.

Dissolved Oxygen, Total Suspended Solids (TSS), and Carbonaceous Biochemical Oxygen Demand (CBOD5)

The limits proposed for dissolved oxygen, TSS, and CBOD5 are all based on plant design criteria and have been effective since 2003, following the last facility expansion. The TSS and CBOD5 limits are more stringent than the Secondary Treatment Standards in 40 CFR Part 133. The current dissolved oxygen limit is protective of WQS.

Ammonia

The current limits are based on the 2011 wasteload allocation. The current ammonia limits have been evaluated using the WLA procedures and are protective of WQS for ammonia toxicity.

Although the current WLA would allow slightly higher limits for ammonia, anti-backsliding provisions in the OAC prevent the imposition of less stringent limits than those in the existing permit unless specific conditions have been satisfied. In the case of the Sidney WWTP, none of those conditions have been satisfied, so the existing limits are proposed to continue. The anti-backsliding provisions of OAC 3745-33-05(F) require that an anti-degradation review must be completed before an existing permit limit can be made less stringent. The rule requires other conditions to be satisfied as well.

Total Residual Chlorine

The existing daily effluent limit for total residual chlorine is proposed to continue as a plant design value which is based on protection of the inside mixing zone maximum (IMZM) and outside mixing zone maximum (OMZM) PELs. Monitoring is required during the summer months only on days when station 602 is discharging and chlorine is being utilized for disinfection. The limit has been evaluated using the WLA procedures and determined to be protective of WQS for chlorine toxicity.

The effluent limit for chlorine is less than the quantification level of 0.050 mg/L. Special language regarding limits below the quantification level is included in Part II of the permit.

Oil and Grease, pH, and *Escherichia coli*

Limits proposed for oil and grease, pH, and *Escherichia coli* are based on WQS (OAC 3745-1-35 and 37). Primary contact recreation *E. coli* standards apply to the Great Miami River.

Selenium and Bis(2-ethylhexyl) Phthalate

The Ohio EPA risk assessment (Table 16) places selenium and bis(2-ethylhexyl) phthalate in group 5. This placement, as well as the data in Table 10 and Table 15, indicates that the reasonable potential to exceed WQS

exists and limits are necessary to protect water quality. For these parameters, the PEQ is greater than 100 percent of the WLA. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1). The thirty-day average and daily maximum concentration limits are based on the wasteload allocation. The loading limits for are based on the concentration limits and the plant's design flow. Monitoring is proposed at a frequency of monthly.

Mercury

The Ohio EPA risk assessment (Table 16) places mercury in group 4. This placement, as well as the data in Table 10 and Table 15, support that this parameter does not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring for Group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2). Monitoring will continue at an increased frequency of monthly.

Cadmium, Chromium, Free Cyanide, Hexavalent Chromium, Lead, Nickel, Total Filterable Residue, and Zinc

The Ohio EPA risk assessment (Table 16) places cadmium, chromium, free cyanide, hexavalent chromium, lead, nickel, total filterable residue, and zinc in groups 2 and 3. This placement, as well as the data in Table 10 and Table 15, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a low frequency is proposed to document that these pollutants continue to remain at low levels.

Antimony, Arsenic, Barium, Chlorodibromomethane, Chloroform, Dibenzo(a,h)anthracene, Dichlorobromomethane, Diethyl Phthalate, Iron, Methyl Ethyl Ketone, Molybdenum, Phenol, Silver, and Strontium

The Ohio EPA risk assessment (Table 16) places antimony, arsenic, barium, chlorodibromomethane, chloroform, dibenzo(a,h)anthracene, dichlorobromomethane, diethyl phthalate, iron, methyl ethyl ketone, molybdenum, phenol, silver, and strontium in groups 2 and 3. This placement, as well as the data in Table 10 and Table 15, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Monitoring for arsenic, molybdenum, and silver is proposed to be removed.

Nitrate + Nitrite and Total Kjeldahl Nitrogen (TKN)

Municipal WWTPs discharge a nutrient load to the river, therefore monitoring for nitrate + nitrite and total Kjeldahl nitrogen (TKN) is proposed based on best technical judgment. Monitoring for TKN and nitrate + nitrite at the upstream and downstream stations also is proposed. The purpose of the monitoring is to maintain a nutrient data set for use in the future nutrient studies.

Temperature, Precipitation and Flow Rate

Monitoring for these parameters is proposed to continue in order to evaluate the performance of the treatment plant.

Dissolved Orthophosphate and Total Phosphorus

Monitoring for dissolved orthophosphate (as P) and total phosphorus is required by ORC 6111.03. This monitoring will further develop nutrient datasets that are used in stream and watershed assessments and studies. Because Ohio EPA monitoring, as well as other in-stream monitoring, for dissolved orthophosphate is taken by grab sample, grab samples are proposed for orthophosphate to maintain consistent data. The grab samples must be filtered within 15 minutes of collection using a 0.45-micron filter. The filtered sample must be analyzed within 48 hours.

Additivity of Carcinogens

Bis(2-ethylhexyl) phthalate, chlorodibromomethane, chloroform, dibenzo(a,h)anthracene, and dichlorobromomethane are carcinogens, for which OAC 3745-33-07(A)(8) requires an evaluation of additivity, the combined toxic effect of carcinogenic pollutants. This evaluation uses an additivity factor equation to determine whether a limit in the permit is necessary to maintain a total carcinogen risk of 1×10^{-5} (1 in 100,000), other limits are protective of carcinogen additivity, or there is no reasonable potential for the total carcinogen risk to be exceeded. In the additivity factor equation, the PEQ average for each additive pollutant is divided by the respective human health PEL and these values are added together. If the sum is equal to or greater than 1.0, reasonable potential is demonstrated and the permit must contain a limit regulating carcinogenic additivity.

Based on the assessment in Attachment 1, the sum of the fractions is less than 1.0, therefore reasonable potential is not demonstrated and carcinogenic additivity is not proposed for inclusion in the permit.

Whole Effluent Toxicity Reasonable Potential

Based on evaluating the WET data presented in Table 11, and other pertinent data under the provisions of OAC 3745-33-07(B), the Sidney WWTP is placed in Category 4 with respect to WET. While this indicates that the plant's effluent does not currently pose a toxicity problem, annual toxicity testing is proposed consistent with the minimum monitoring requirements at OAC 3754-33-07(B)(11). Annual chronic toxicity monitoring with the determination of acute endpoints is proposed for the life of the permit. The proposed monitoring will adequately characterize toxicity in the plant's effluent.

Additional Monitoring Requirements

Monitoring for phosphorus is proposed to be removed at influent station 601 because this data is not used for permitting determinations.

New monitoring for total Kjeldahl nitrogen is being proposed at upstream monitoring station 801 and downstream monitoring station 901 to evaluate instream nutrients.

New monitoring for hardness is being proposed at downstream monitoring station 901 to support future wasteload allocations for metals.

Monitoring for temperature, dissolved oxygen, and pH is proposed to be removed at upstream monitoring station 801 because this data is not essential for future permitting determinations.

Additional monitoring requirements proposed at the final effluent, influent and upstream/downstream stations are included for all facilities in Ohio and vary according to the type and size of the discharge. In addition to permit compliance, this data is used to assist in the evaluation of effluent quality and treatment plant performance and for designing plant improvements and conducting future stream studies.

Sludge

Limits and monitoring requirements proposed for the disposal of sewage sludge by the following management practices are based on OAC 3745-40: land application and removal to sanitary landfill.

OTHER REQUIREMENTS

Compliance Schedule

Pretreatment Local Limits Review - A 48-month compliance schedule is proposed for the City to submit a technical justification for either revising its local industrial user limits or retaining its existing local limits. If revisions to local limits are required, the City must also submit a pretreatment program modification request. Details are in Part I, C of the permit.

New Selenium and Bis(2-ethylhexyl) Phthalate Limits - A 36-month compliance schedule is proposed for the Sidney WWTP to meet the new daily maximum and monthly average concentration and loading limits for selenium and bis(2-ethylhexyl) phthalate. Details are in Part I, C of the permit.

Construction Schedule - A schedule is proposed for the City to complete all work necessary to eliminate SSOs. Details are in Part I, C of the permit.

Sanitary Sewer Overflow Reporting

Provisions for reporting SSOs are again proposed in this permit. These provisions include: the reporting of the system-wide number of SSO occurrences on monthly operating reports; telephone notification of Ohio EPA and the local health department, and 5-day follow up written reports for certain high risk SSOs; and preparation of an annual report that is submitted to Ohio EPA and made available to the public. Many of these provisions were already required under the “Noncompliance Notification”, “Records Retention”, and “Facility Operation and Quality Control” general conditions in Part III of Ohio NPDES permits.

Operator Certification and Operator of Record

Operator certification requirements have been included in Part II of the permit in accordance with rules effective on August 15, 2018 (OAC 3745-7). These rules require the Sidney WWTP to have a Class IV wastewater treatment plant operator in charge of the sewage treatment plant operations discharging through outfall 001. These rules also require the permittee to designate one or more operator of record to oversee the technical operation of the treatment works and sewerage system.

Low-Level Free Cyanide Testing

Currently there are three approved methods for free cyanide listed in 40 CFR 136 that have a quantification level lower than water quality-based effluent limits:

- ASTM D7237-10, OIA-1677-09, and ASTM D4282-02. (Note: The use of ASTM D4282-02 requires supporting documentation that it meets the requirement of a “sufficiently sensitive” test procedure as defined in 40 CFR 122.44(i)(1)(iv)).

These methods will allow Ohio EPA to make more reliable water quality-related decisions regarding free cyanide. Because the quantification levels are lower than any water quality-based effluent limits, it will also be possible to directly evaluate compliance with free cyanide limits.

Outfall Signage

Part II of the permit includes requirements for the permittee to place and maintain a sign at each outfall to the Great Miami River providing information about the discharge. Signage at outfalls is required pursuant to OAC 3745-33-08(A).

Part III

Part III of the permit details standard conditions that include monitoring, reporting requirements, compliance responsibilities, and general requirements.

Storm Water Compliance

To comply with industrial storm water regulations, the permittee submitted a form for "No Exposure Certification" which was signed on 1/18/2019. The certification number is 1GRN00888. Compliance with the industrial storm water regulations must be re-affirmed every five years. No later than 1/15/2024, the permittee must submit a new form for "No Exposure Certification" or make other provisions to comply with the industrial storm water regulations.

Figure 1. Location of Sidney WWTP

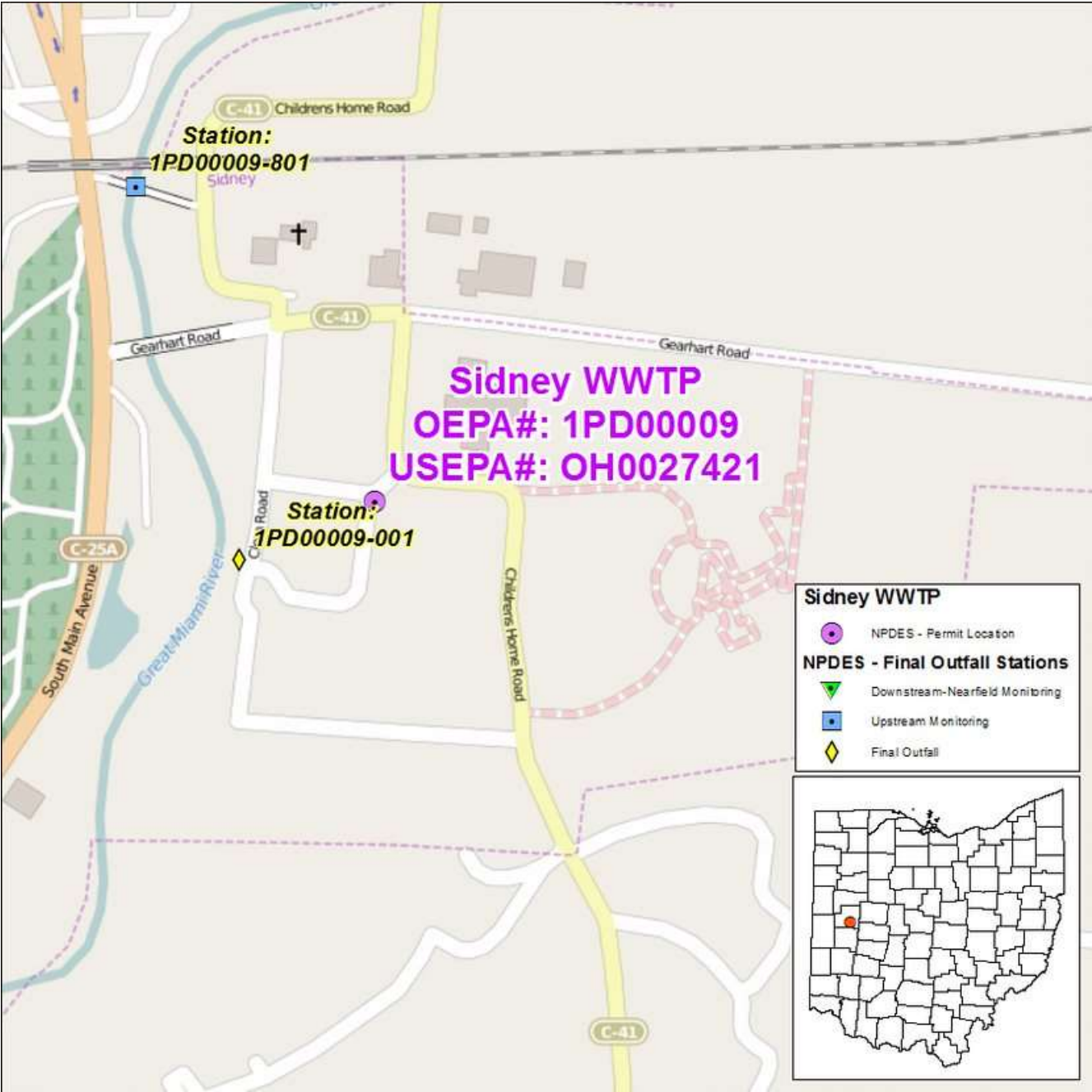


Figure 2. Diagram of Wastewater Treatment System

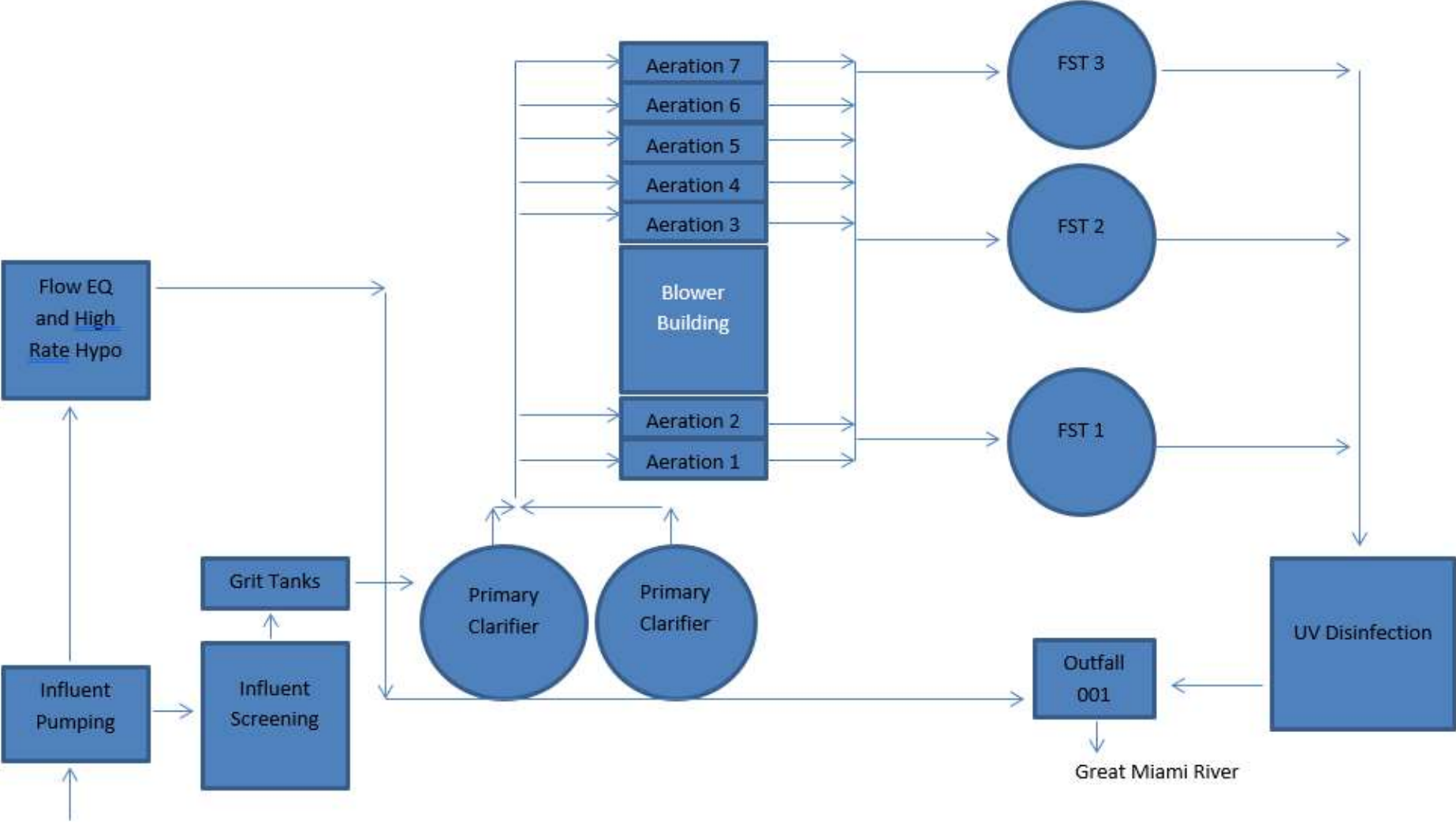


Figure 3. Diagram of Sludge Treatment System

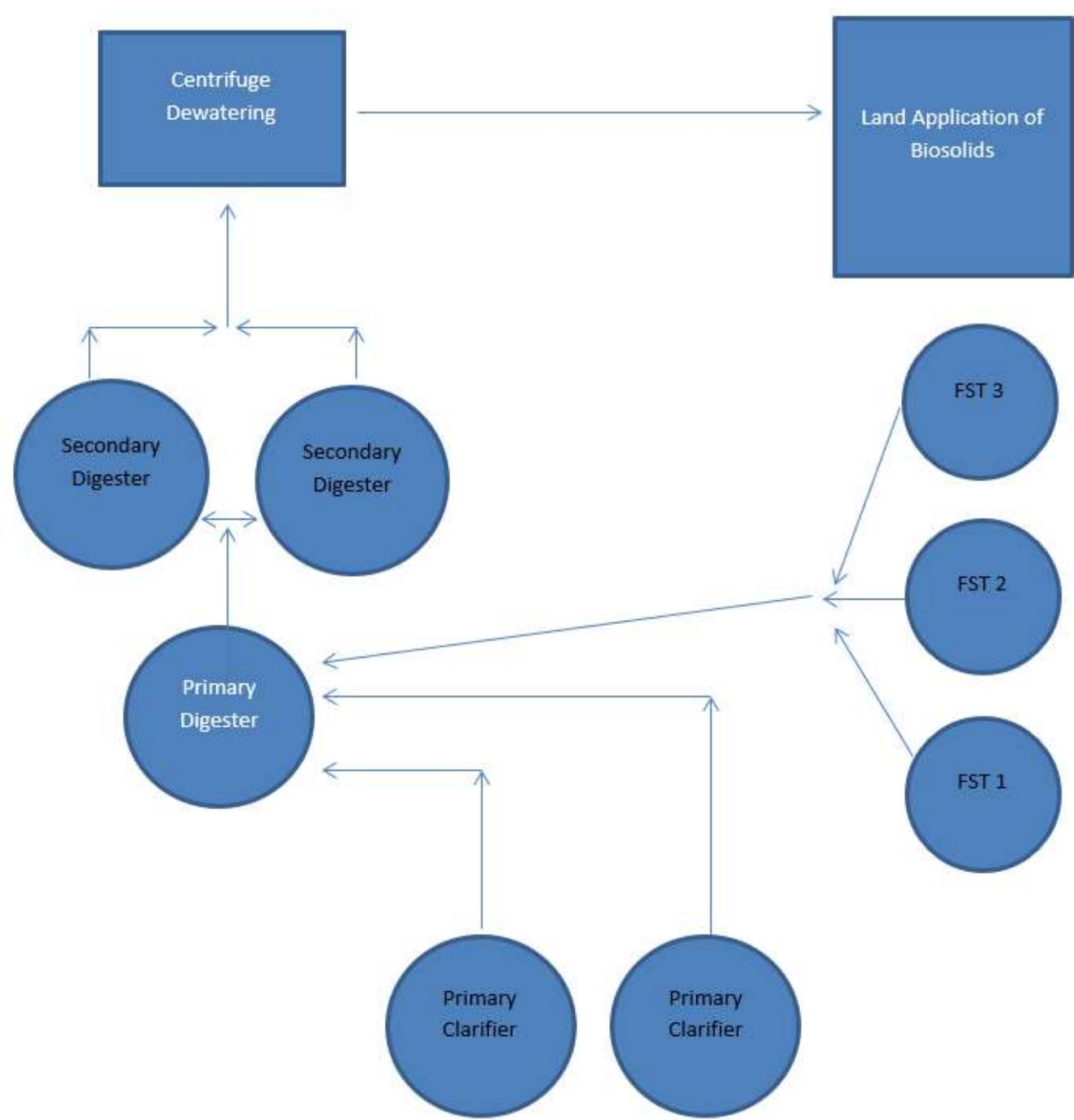


Figure 4. Great Miami River Study Area

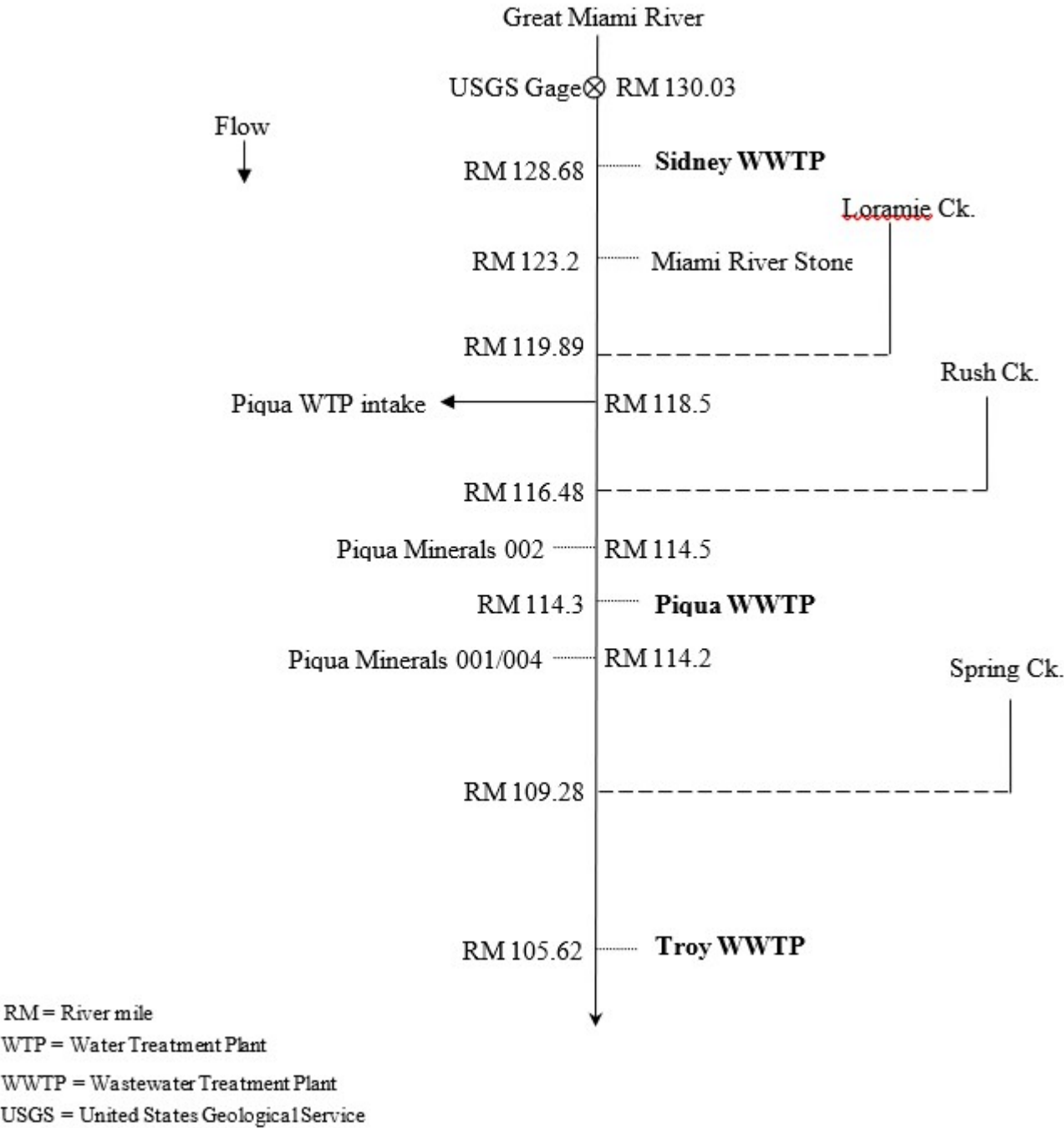


Table 1. Sewage Sludge Removal

Year	Dry Tons Removed
2016	542
2017	557
2018	513
2019	544
2020	355
2021	260

*DMR data reported January 2016 – August 2021

Table 2. Effluent Violations for Outfall 001

Station	Parameter	2016	2017	2018	2019	2020	2021
001	Dissolved Oxygen	0	1	0	2	0	0
001	Nitrogen, Ammonia (NH3)	0	0	0	5	0	0
001	Total Suspended Solids	0	1	0	0	1	0
001	pH, Minimum	0	0	1	2	0	0
Total		0	2	1	9	1	0

*DMR data reported January 2016 – August 2021

Table 3. Average Annual Effluent Flow Rates

Year	# obs	Flow Rate (Million Gallons per Day)			
		Average	Median	95th Percentile	Maximum
2016	366	4.346503	3.88	7.413	12.6
2017	365	4.747863	4.17	8.526	21.85
2018	365	5.052356	4.21	11.5	25.6
2019	365	5.051863	4.32	10.7	19.98
2020	396	4.829015	4.17	8.648	27.91
2021	243	4.667984	4.08	7.2	18.7

*DMR data reported January 2016 – August 2021

MGD = million gallons per day.

Table 4. Sanitary Sewer Overflows Discharges

Year	Number of SSOs
2016	0
2017	0
2018	0
2019	0
2020	7
2021	0

*DMR data reported January 2016 – August 2021

Table 5. Overflow Discharges

Year	No. of Occurrences	Volume (MGD)
2017	3	15.84
2018	4	22.32
2019	6	22.73
2020	2	24.03
2021	2	5.28

*DMR data reported January 2016 – August 2021

Table 6. Calculated Seasonal Total Phosphorus Loadings

Year	Obs.	For Months May - October		
		Median Phosphorus (mg/L)	Median Flow (MGD)	Median Loading (kg/day)
2016	24	3.77	3.79	52.1
2017	26	3.045	4.11	50.3
2018	24	2.935	4.015	44.9
2019	27	3.3	3.98	50.6
2020	29	3.5	4.21	61.3
2021	13	3.6	4.38	64.5

*DMR data reported January 2016 – August 2021

MGD = million gallons per day

n = number of samples

Table 7. Effluent Characterization Using Pretreatment Data

Parameter (µg/L)	8/3/2016	8/2/2017	8/8/2018	7/1/2019	8/11/2020
Antimony	AA(5)	AA(5)	AA(5)	AA(5)	AA(5)
Arsenic	AA(5)	AA(5)	AA(5)	AA(10)	AA(5)
Bis(2-ethylhexyl) Phthalate	AA(5)	AA(5)	31.4	3.2	AA(5)
Cadmium	AA(3)	AA(3)	AA(2)	AA(2)	AA(1)
Chloroform	AA(5)	AA(5)	AA(5)	0.86	AA(5)
Chromium	AA(7)	AA(7)	AA(5)	AA(5)	15
Copper	AA(8)	22	AA(5)	AA(5)	AA(8)
Dibenzo (A,H) Anthracene	AA(10)	AA(10)	AA(0.4)	0.25	AA(10)
Diethyl Phthalate	AA(10)	AA(10)	AA(5)	1	AA(10)
Di-N-Octyl Phthalate	AA(10)	AA(10)	AA(5)	1.2	AA(10)
Lead	AA(10)	AA(10)	AA(5)	AA(5)	AA(10)
Manganese	NS	NS	NS	NS	38
Mercury (ng/L)	NS	1.25	NS	NS	NS
Molybdenum	AA(20)	AA(20)	AA(10)	10.8	10
Nickel	AA(8)	AA(8)	22.8	AA(5)	10
Nitrate + Nitrite (mg/L)	NS	NS	NS	NS	9.72
Phenol	AA(10)	AA(10)	5.76	AA(1)	AA(10)
Selenium	AA(4)	AA(4)	AA(10)	AA(10)	AA(4)
Silver	AA(5)	AA(5)	AA(0.5)	AA(2)	AA(1)
Zinc	32	41	29.5	29	36

AA = not-detected (analytical method detection limit)

NS = No sample taken

Table 8. Effluent Characterization Using Ohio EPA data

Parameter	Units	10/29/19
Ammonia	mg/L	0.164
Antimony	µg/L	0.424
Arsenic	µg/L	1.59
Bis(2-ethylhexyl) Phthalate	µg/L	AA(2.14)
Cadmium	µg/L	0.041
Chloride	mg/L	123
Chloroform	µg/L	0.89
Chromium	µg/L	0.761
Copper	µg/L	2.6
Dibenzo (A,H) Anthracene	µg/L	AA(1.67)
Diethyl Phthalate	µg/L	AA(1.38)
Di-N-Octyl Phthalate	µg/L	AA(1.73)
Free Cyanide	µg/L	7.19
Iron	µg/L	201
Lead	µg/L	0.508
Manganese	µg/L	44.5
Nickel	µg/L	5.08
Nitrate + Nitrite	mg/L	5.85
Phenol	µg/L	AA(2.13)
Selenium	µg/L	0.996
Silver	µg/L	0.038
Strontium	µg/L	1560
Total Filterable Residue	mg/L	588
Zinc	µg/L	36.2

AA = not detected (analytical method detection limit)

Table 9. Effluent Characterization Using Self-Monitoring Data

Parameter	Unit	Current Limits		# Obs	Percentiles		Data Range
		30 Day	Daily		50th	95th	
Water Temperature	°C	Monitoring Only		2065	17.3	23.7	10.3 - 31.5
Total Precipitation	Inches	Monitoring Only		1764	0	.68	0 - 3.12
Dissolved Oxygen	mg/L	--	6.0 ^m	2062	7.4	6.7*	4.82 - 10
Total Suspended Solids - Summer	kg/day	379	568 ^w	436	73.6	210	0 - 1640
Total Suspended Solids - Summer	mg/L	14.3	21.4 ^w	412	4.85	9.49	0 - 22.6
Total Suspended Solids - Winter	kg/day	568	852 ^w	419	91.2	354	0 - 4920
Total Suspended Solids - Winter	mg/L	21.4	32.1 ^w	419	5	12.6	0 - 65
Oil and Grease, Total	mg/L	--	10.0	10	--	--	< 5
Oil and Grease	mg/L	--	10.0	70	< 5	< 5	0 - 1.4
Nitrogen, Ammonia - Summer	kg/day	42.4	63.6 ^w	447	2.91	38.7	0 - 225
Nitrogen, Ammonia - Summer	mg/L	1.6	2.4 ^w	423	.19	1.86	0 - 10.4
Nitrogen, Ammonia - Winter	kg/day	318	477 ^w	413	8.3	96.2	0 - 272
Nitrogen, Ammonia - Winter	mg/L	12.0	18.0 ^w	413	.43	4.4	0 - 13
Nitrogen Kjeldahl, Total	mg/L	Monitoring Only		84	2	4.81	0 - 7.8
Nitrite Plus Nitrate, Total	mg/L	Monitoring Only		84	6.88	20.3	2.06 - 48.3
Phosphorus, Total	mg/L	Monitoring Only		286	2.77	6.3	.5 - 14.6
Orthophosphate, Dissolved	mg/L	Monitoring Only		72	1.92	4.13	0 - 8.8
Cyanide, Free	mg/L	Monitoring Only		4	--	--	< .003
Arsenic, TR	µg/L	Monitoring Only		24	--	--	< 5
Selenium, TR	µg/L	Monitoring Only		30	< 10	9.4	0 - 20.9
Nickel, TR	µg/L	Monitoring Only		27	< 8	9.4	0 - 22.8
Silver, TR	µg/L	Monitoring Only		33	--	--	< 5
Zinc, TR	µg/L	Monitoring Only		27	32	43.4	12.8 - 63
Cadmium, TR	µg/L	Monitoring Only		27	< 2	< 2	0 - 1
Lead, TR	µg/L	Monitoring Only		27	--	--	< 10
Chromium, TR	µg/L	Monitoring Only		27	< 5	< 5	0 - 15
Copper, TR	µg/L	Monitoring Only		27	< 5	6.37	0 - 15
Molybdenum, TR	µg/L	Monitoring Only		24	2.6	10.7	0 - 12

Parameter	Unit	Current Limits		# Obs	Percentiles		Data Range
		30 Day	Daily		50th	95th	
Chromium, Dissolved Hexavalent	µg/L	Monitoring Only		27	--	--	< 10
Fecal Coliform	#/100 mL	1000	2000 ^w	256	23.2	371	1 - 175000
E. coli - 2017-2021	#/100 mL	126	284 ^w	343	16.1	137	0 - 47400
E. coli - 2016-2016	#/100 mL	Monitoring Only		71	365	2200	22.6 - 4840
Flow Rate	MGD	Monitoring Only		2069	4.16	8.84	2.22 - 27.9
Chlorine, Total Residual	mg/L	--	0.038	136	< .01	< .01	0 - .02
Mercury, Total	ng/L	Monitoring Only		27	.832	3.04	0 - 19.9
Cyanide, Free (Low-Level)	µg/L	Monitoring Only		24	< 3	5.76	0 - 6.6
Acute Toxicity, Ceriodaphnia dubia	TUa	Monitoring Only		5	--	--	< .2
Chronic Toxicity, Ceriodaphnia dubia	TUc	Monitoring Only		5	--	--	< 1
Acute Toxicity, Pimephales promelas	TUa	Monitoring Only		5	--	--	< .2
Chronic Toxicity, Pimephales promelas	TUc	Monitoring Only		5	--	--	< 1
pH, Maximum	S.U.	--	9.0	2063	7.1	7.5	6.8 - 8.5
pH, Minimum	S.U.	--	6.5 ^m	2063	7	6.8*	5.7 - 7.6
Residue, Total Filterable	mg/L	Monitoring Only		27	616	719	373 - 738
CBOD 5 day - Summer	kg/day	284	435 ^w	433	50.7	107	0 - 559
CBOD 5 day - Summer	mg/L	10.7	16.4 ^w	409	3.3	5.5	0 - 13.2
CBOD 5 day - Winter	kg/day	473	757 ^w	418	68.7	226	0 - 3710
CBOD 5 day - Winter	mg/L	17.9	28.6 ^w	418	3.7	8.2	0 - 49

* = For minimum pH, 5th percentile shown in place of 50th percentile.

** = For dissolved oxygen, 5th percentile shown in place of 95th percentile.

^a = weekly average.

*DMR data reported January 2016 – August 2021

Table 10. Projected Effluent Quality for Outfall 001

Parameter	Units	Number of Samples	Number > MDL	PEQ Average	PEQ Maximum
<i>Self-Monitoring (DMR) Data</i>					
Ammonia (Summer)	mg/L	279	275	0.607	1.321
Ammonia (Winter)	mg/L	206	192	3.495	6.966
Arsenic - TR	µg/L	36	33	5.838	7.997
Cadmium - TR	µg/L	16	2	1.095	1.50
Chlorine, Total Residual	mg/L	136	5	0.004	0.009
Chromium - TR	µg/L	40	2	12.05	16.50
Chromium, Dissolved Hexavalent	µg/L	38	0	--	--
Copper - TR	µg/L	41	7	18.63	22.63
Cyanide - free	µg/L	28	9	5.11	8.583
Lead - TR	µg/L	1	1	2.299	3.150
Mercury - TR (BCC)	ng/L	39	32	8.695	13.43
Molybdenum	µg/L	32	17	9.527	13.57
Nickel - TR	µg/L	40	5	14.25	17.36
Nitrate-N + Nitrite-N	mg/L	85	85	14.56	21.41
Phosphorus	mg/L	286	286	4.985	7.027
Selenium - TR	µg/L	36	2	16.78	22.99
Silver	µg/L	1	1	0.172	0.236
Total Kjeldahl Nitrogen	mg/L	84	82	3.585	5.14
Total Filterable Residue	mg/L	35	35	701	852
Zinc - TR	µg/L	38	38	45.68	63.82
<i>Pretreatment Program Reports and Ohio EPA data</i>					
Aluminum	µg/L	1	1	262.5	359.6
Antimony	µg/L	6	1	0.650	0.890
Barium	µg/L	1	1	84.64	115.9
Bis(2-ethylhexyl) phthalate	µg/L	6	2	48.14	65.94
Chlorides	mg/L	1	1	556.7	763
Chlorodibromomethane	µg/L	5	1	0.646	0.886
Chloroform	µg/L	5	2	1.494	2.047
Dibenz(a,h)anthracene	µg/L	5	1	0.420	0.575
Dichlorobromomethane	µg/L	5	1	0.485	0.665
Diethyl phthalate	µg/L	6	1	1.533	2.10
Iron - TR	µg/L	1	1	910	1246
Manganese - TR	µg/L	1	1	201.4	276
Methyl ethyl ketone	µg/L	1	1	2.661	3.646
Phenol	µg/L	5	1	9.671	13.25
Strontium	µg/L	1	1	7061	9672

BCC = Bioaccumulative Chemical of Concern

MDL = analytical method detection limit

PEQ = projected effluent quality

TR = total recoverable

* Per OAC 3745-2-04(E)(3), ammonia PEQ is based on data collected during the following months:

Summer – June through September

Winter – December through February

Table 11. Summary of Acute and Chronic Toxicity Results for Outfall 001

Date	<i>Ceriodaphnia Dubia</i>		<i>Pimephales Promelas</i>	
	Acute (Tu_a)	Chronic (Tu_c)	Acute (Tu_a)	Chronic (Tu_c)
9/20/2016	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
8/17/2017	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
8/14/2018	AA (0.2)	AA (1)	AA (0.2)	AA (1)
8/9/2019	AA (0.2)	AA (1)	AA (0.2)	AA (1)
8/10/2020	AA (0.2)	AA (1)	--	--
8/23/2020	--	--	AA (0.2)	AA (1)

AA = non-detection; analytical method detection limit of 0.2 TU_a, 1.0 TU_c

TU_a = acute toxicity unit

TU_c = chronic toxicity unit

Table 12. Use Attainment Table

Location	River Mile	Use Designation	Attainment Status	Causes of Impairment	Sources of Impairment
Great Miami River at SR 47, North St.	130.0	EWH	Full	N/A	N/A
Great Miami River Dst Sidney WWTP	127.7	EWH	Full	N/A	N/A
Great Miami River Dst. Piqua WWTP	114.0	EWH	Full	N/A	N/A
Great Miami River Dst. Troy WWTP	104.7	EWH	Full	N/A	N/A

Dst = downstream

EWH = Exceptional Warmwater Habitat

WWTP = Wastewater Treatment Plant

Table 13. Water Quality Criteria in the Study Area

Parameter	Units	Outside Mixing Zone Criteria					Inside Mixing Maximum
		Average				Maximum Aquatic Life	
		Human Health	Human Health	Agri-culture	Aquatic Life		
		Drinking ^A	Non-Drink ^A				
Aluminum	µg/L	--	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	75	2600	--	9.4	57	110
Ammonia (Summer)	mg/L	--	--	--	0.8	--	--
Ammonia (Winter)	mg/L	--	--	--	2.8	--	--
Antimony	µg/L	6	4300	--	190	900	1800
Arsenic – TR ^B	µg/L	10	--	100	150	340	680
Barium ^B	µg/L	2000	--	--	220	2000	4000
Beryllium	µg/L	4	280	100	61	520	1000
Bis(2-ethylhexyl)phthalate ^{C B}	µg/L	6	59	--	8.4	1100	2100
Cadmium - TR ^B	µg/L	5	--	50	5.7	15	30
Chlorides ^B	mg/L	250000	--	--	--	--	--
Chlorine, Total Residual ^B	mg/L	4	--	--	0.011	0.019	0.038
Chlorodibromomethane ^C	µg/L	4.1	340	--	--	--	--
Chloroform ^C	µg/L	57	4700	--	140	1300	2600
Chromium - TR ^B	µg/L	100	--	100	210	4300	8700
Chromium, Dissolved Hexavalent ^B	µg/L	--	--	--	11	16	31
Copper - TR ^B	µg/L	--	1300	500	23	38	77
Cyanide - free ^B	µg/L	200	22000	--	12	46	92
Dibenz(a,h)anthracene ^{C B}	µg/L	0.044	0.49	--	--	--	--
Dichlorobromomethane ^C	µg/L	5.6	460	--	--	--	--
Diethyl phthalate	µg/L	23000	120000	--	220	980	2000
Di-n-butyl phthalate	µg/L	2700	12000	--	--	--	--
Iron - TR ^B	µg/L	--	--	5000	--	--	--
Lead - TR ^B	µg/L	--	--	100	25	480	960
Manganese - TR	µg/L	--	--	--	--	--	--
Mercury - TR (BCC)	ng/L	12	12	10000	910	1700	--
Methyl ethyl ketone	µg/L	--	--	--	22000	200000	400000
Molybdenum ^B	µg/L	--	--	--	20000	190000	370000
Nickel - TR ^B	µg/L	610	4600	200	130	1200	2300
Nitrate-N + Nitrite-N	mg/L	10	--	100	--	--	--
Phenol	µg/L	1	4600000	--	400	4700	9400
Selenium - TR ^B	µg/L	50	11000	50	5	62	120
Silver ^B	µg/L	50	--	--	1.3	10	20
Strontium ^B	µg/L	--	--	--	21000	40000	81000
Thallium	µg/L	1.7	--	--	17	79	160

Parameter	Units	Outside Mixing Zone Criteria					Inside Mixing Maximum
		Average				Maximum Aquatic Life	
		Human Health	Human Health	Agri-culture	Aquatic Life		
		Drinking ^A	Non-Drink ^A				
Toluene	µg/L	1000	200000	--	62	560	1100
Total Filterable Residue ^B	mg/L	--	--	--	1500	--	--
Zinc - TR ^B	µg/L	9100	69000	25000	300	300	590

^A Human health drinking water criteria (dual-route exposure) apply within 500 yards of the Piqua WTP intake at RM 118. Non-drinking (single route exposure) criteria apply elsewhere

^B This parameter was found in the effluent of another discharger in this segment and was modeled interactively.

^C Carcinogen

TR = Total Recoverable

BCC = Bioaccumulative Chemical of Concern

Table 14. Instream Conditions and Discharger Flow

Parameter	Units		Value	Basis
Upstream flows:				
GMR above Sidney				
1Q10	cfs	annual	19.4	USGS gage #03261500, 1927-2021 data
7Q10	cfs	annual	24.0	USGS gage #03261500, 1927-2021 data
30Q10	cfs	summer	29.0	USGS gage #03261500, 1927-2020 data
	cfs	winter	67.2	USGS gage #03261500, 1927-2021 data
Harmonic Mean Flow	cfs	annual	119.2	USGS gage #03261500, 1927-2021 data
Mixing Assumption	%	average	100	Stream-to-discharge ratio
(GMR and Tributaries)	%	maximum	100	Stream-to-discharge ratio
Loramie Creek at Mouth				
1Q10	cfs	annual	2.71	USGS gage #03262000, 1916-2020 data
7Q10	cfs	annual	3.43	USGS gage #03262000, 1916-2020 data
30Q10	cfs	summer	4.29	USGS gage #03262000, 1916-2020 data
	cfs	winter	8.34	USGS gage #03262000, 1915-2020 data
Harmonic Mean Flow	cfs	annual	21.76	USGS gage #03262000, 1916-2020 data
Rush Creek at mouth				
1Q10	cfs	annual	0.66	USGS gage #03261500, 1927-2021 data
7Q10	cfs	annual	0.82	USGS gage #03261500, 1927-2021 data
30Q10	cfs	summer	0.99	USGS gage #03261500, 1927-2020 data
	cfs	winter	2.28	USGS gage #03261500, 1927-2021 data
Harmonic Mean Flow	cfs	annual	4.05	USGS gage #03261500, 1927-2021 data
Sidney WWTP Outfall 001 flow rate	cfs (MGD)	design	10.83 (7.0)	NPDES permit application
Miami River Stone Outfall 001 flow rate	cfs (MGD)	average	1.53 (0.99)	Annual average
Piqua Minerals Outfall 002 flow rate	cfs (MGD)	average	4.83 (3.12)	Annual average
Piqua WWTP Outfall 001 flow rate	cfs (MGD)	design	13.46 (8.7)	NPDES permit application
Piqua Minerals Outfall 001/4 flow rate	cfs (MGD)	average	4.93 (3.19)	Annual average
Troy WWTP Outfall 001 flow rate	cfs (MGD)	design	10.83 (7.0)	NPDES permit application
Piqua WTP Intake flow rate	cfs (MGD)	average	10.44 (6.75)	Annual average

Parameter	Units		Value	Basis
Instream Hardness	mg/L	annual	292	DMR (Troy 901); 67 values, 2016-2021
Background Water Quality for the Great Miami River:				
Ammonia	mg/L	summer	0	DMR; 23 values, 17<MDL, 2016-21
Ammonia	mg/L	winter	0	DMR; 17 values, 11<MDL, 2016-21
Arsenic	µg/L	annual	1	STORET; 30 values, 16<MDL, 2007-20
Barium	µg/L	annual	98	STORET; 30 values, 0<MDL, 2007-20
Bis(2-ethylhexyl) phthalate	µg/L	annual	5.13	STORET; 10 values, 7<MDL, 2008-20
Cadmium	µg/L	annual	0	STORET; 30 values, 30<MDL, 2007-20
Chlorine, Total Residual	mg/L	annual	0	No representative data available.
Chlorides	mg/L	annual	38.4	STORET; 40 values, 0<MDL, 2007-20
Chromium	µg/L	annual	1	STORET; 30 values, 29<MDL, 2007-20
Chromium, Dissolved Hexavalent	µg/L	annual	0	No representative data available.
Copper	µg/L	annual	1	STORET; 30 values, 19<MDL, 2007-20
Cyanide, free	µg/L	annual	0	No representative data available.
Dibenz(a,h)anthracene	µg/L	annual	0	No representative data available.
Iron	µg/L	annual	639	STORET; 29 values, 0<MDL, 2007-20
Lead	µg/L	annual	1	STORET; 30 values, 23<MDL, 2007-20
Molybdenum	µg/L	annual	0	No representative data available.
Nickel	µg/L	annual	3.25	STORET; 30 values, 2<MDL, 2007-20
Selenium	µg/L	annual	0	STORET; 30 values, 30<MDL, 2009-20
Silver	µg/L	annual	0	No representative data available.
Strontium	µg/L	annual	1655	STORET; 30 values, 0<MDL, 2009-20
Total Filterable Residue	µg/L	annual	403	STORET; 40 values, 0<MDL, 2007-20
Zinc	µg/L	annual	5	STORET; 31 values, 17<MDL, 2007-20

STORET = US EPA STOrage and RETrieval database USGS = US Geological Survey

MDL = method detection limit

NPDES = National Pollutant Discharge Elimination System

USGS = United States Geological Survey

Table 15. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria

Parameter	Units	Outside Mixing Zone Criteria				Inside Mixing Zone Maximum
		Average			Maximum Aquatic Life	
		Human Health	Agri-culture	Aquatic Life		
Ammonia (Summer)	mg/L	--	--	2.942	--	--
Ammonia (Winter)	mg/L	--	--	20.17	--	--
Arsenic - TR ^B	µg/L	--	591	351	746 ^A	680
Barium	µg/L	--	--	401	4293 ^A	4000
Bis(2-ethylhexyl) phthalate	µg/L	333	--	15.65	2414 ^A	2100
Cadmium - TR ^B	µg/L	--	298 ^A	13.37	32.94 ^A	30
Chlorides	mg/L	--	--	--	--	--
Chlorine, Total Residual	mg/L	--	--	0.028	0.044 ^A	0.038
Chromium - TR ^B	µg/L	--	584	491	9446 ^A	8700
Chromium, Dissolved Hexavalent ^B	µg/L	--	--	25.85	35.15 ^A	31
Copper - TR	µg/L	7744 ^A	2971 ^A	51.31	81.12 ^A	77
Cyanide - free	µg/L	131239 ^A	--	28.2	101 ^A	92
Dibenz(a,h)anthracene	µg/L	4.761	--	--	--	--
Iron - TR ^B	µg/L	--	21333	--	--	--
Lead - TR ^B	µg/L	--	590	57.32	1053 ^A	960
Mercury - TR (BCC)	ng/L	12	10000 ^A	910	1700	--
Molybdenum ^B	µg/L	--	--	46997	417460 ^A	370000
Nickel - TR ^B	µg/L	27417 ^A	1169	301	2632 ^A	2300
Selenium - TR	µg/L	65619 ^A	298	11.59	136 ^A	120
Silver ^B	µg/L	--	--	3.055	21.97 ^A	20
Strontium	µg/L	--	--	47819	86601 ^A	81000
Total Filterable Residue	mg/L	--	--	2989	--	--
Zinc - TR ^B	µg/L	411563 ^A	149085 ^A	693 ^A	649 ^A	590

^A Allocation must not exceed the Inside Mixing Zone Maximum

^B Parameter would not require a WLA based on reasonable potential procedures, but allocation requested by Permits Group.

BCC = Bioaccumulative Chemical of Concern, WQS must be met at end-of-pipe, unless the requirements for an exclusion are met as listed in 3745-2-05(A)(2)(e)(ii)

TR = Total Recoverable

Table 16. Parameter Assessment

Group 1:	Due to a lack of numeric criteria, the following parameters were not evaluated at this time.		
	Aluminum	Chlorides	Manganese - TR
Group 2:	PEQ < 25 percent of WQS or all data below minimum detection limit. WLA not required. No limit recommended; monitoring optional.		
	Antimony	Arsenic - TR	Cadmium - TR
	Chlorodibromomethane	Chloroform	Chromium - TR
	Chromium, Dissolved Hexavalent	Dichlorobromomethane	Diethyl phthalate
	Iron - TR	Lead - TR	Methyl ethyl ketone
	Molybdenum	Nickel - TR	Nitrate-N + Nitrite-N
	Phenol	Silver	Zinc - TR
Group 3:	PEQ _{max} < 50 percent of maximum PEL and PEQ _{avg} < 50 percent of average PEL. No limit recommended; monitoring optional.		
	Barium	Chlorine, Total Residual	Copper - TR
	Cyanide - free	Dibenz(a,h)anthracene	Strontium
	Total Filterable Residue		
Group 4:	PEQ _{max} ≥ 50 percent, but < 100 percent of the maximum PEL or PEQ _{avg} ≥ 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.		
	Mercury - TR		
Group 5:	Maximum PEQ ≥ 100 percent of the maximum PEL or average PEQ ≥ 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.		

Limits to Protect Numeric Water Quality Criteria

Parameter	Units	Period	Recommended Effluent Limits	
			Average	Maximum
Bis(2-ethylhexyl) Phthalate	µg/L	annual	15.65	2100
Selenium - TR	µg/L	annual	11.59	120

PEL = preliminary effluent limit
 PEQ = projected effluent quality
 WLA = wasteload allocation
 WQS = water quality standard

Table 17. Final Effluent Limits for Outfall 001

Parameter	Units	Concentration		Loading (kg/day) ^a		Basis ^b
		Daily Maximum	30 Day Average	Daily Maximum	30 Day Average	
Water Temperature	°C	----- Monitor -----				M ^c
Total Precipitation	In.	----- Monitor -----				M ^c
Dissolved Oxygen	mg/L	6.0 ^m	--	--	--	WQS
TSS (summer)	mg/L	21.4 ^d	14.3	568 ^d	379	PD
TSS (winter)	mg/L	32.1 ^d	21.4	852 ^d	568	PD
Oil & Grease	mg/L	10	--	--	--	WQS
Ammonia (summer)	mg/L	2.4 ^d	1.6	63.6 ^d	42.4	WLA/ABS
Ammonia (winter)	mg/L	18 ^d	12	477 ^d	318	WLA/ABS
Total Kjeldahl Nitrogen	mg/L	----- Monitor -----				M
Nitrate plus Nitrite	mg/L	----- Monitor -----				M
Phosphorus	mg/L	----- Monitor -----				PMR
Orthophosphate	mg/L	----- Monitor -----				PMR
Selenium	µg/L	120	11.6	3.18	0.308	WLA
Nickel	µg/L	----- Monitor -----				M
Zinc	µg/L	----- Monitor -----				M
Cadmium	µg/L	----- Monitor -----				M
Lead	µg/L	----- Monitor -----				M
Chromium	µg/L	----- Monitor -----				M
Copper	µg/L	----- Monitor -----				M
Dissolved Hexavalent Chromium	µg/L	----- Monitor -----				M
<i>E. coli</i>	#/100 mL	284 ^d	126	--	--	WQS
Bis(2-ethylhexyl) Phthalate	µg/L	2100	15.7	55.7	0.416	WLA
Flow Rate	MGD	----- Monitor -----				M ^c
Chlorine	mg/L	0.038	--	--	--	PD/WLA
Mercury	ng/L	----- Monitor -----				RP
Free Cyanide	µg/L	----- Monitor -----				M
Acute Toxicity, <i>Ceriodaphnia dubia</i>	TUa	----- Monitor -----				WET
Chronic Toxicity, <i>Ceriodaphnia dubia</i>	TUc	----- Monitor -----				WET
Acute Toxicity, <i>Pimephales promelas</i>	TUa	----- Monitor -----				WET
Chronic Toxicity, <i>Pimephales promelas</i>	TUc	----- Monitor -----				WET
Total Filterable Residue	mg/L	----- Monitor -----				M
pH, maximum	SU	9.0	--	--	--	WQS
pH, minimum	SU	6.5 ^m	--	--	--	WQS
CBOD5 (summer)	mg/L	16.4 ^d	10.7	435 ^d	284	PD
CBOD5 (winter)	mg/L	28.6 ^d	17.9	757 ^d	473	PD

^a Effluent loadings based on average design discharge flow of 7.0 MGD.

- ^b Definitions:
- ABS = Antibacksliding Rule (OAC 3745-33-05(F) and 40 CFR Part 122.44(l))
M = Division of Surface Water NPDES Permit Guidance 1: Monitoring frequency requirements for Sanitary Discharges
PD = Plant Design (OAC 3745-33-05(E))
PMR = Phosphorus monitoring requirements (ORC 6111.03)
RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in permits (OAC 3745-33-07(A))
WET = Minimum testing requirements for whole effluent toxicity [OAC 3745-33-07(B)(11)]
WLA = Wasteload Allocation procedures (OAC 3745-2)
WQS = Ohio Water Quality Standards (OAC 3745-1)
- ^c Monitoring of flow and other indicator parameters is specified to assist in the evaluation of effluent quality and treatment plant performance.
- ^d 7 day average limit.
- ^m minimum limit

Attachment 1. Additivity Equation for Carcinogens

Parameter	No.	Units	PEQ _{avg}	WLA _{HH}	PQL
Bis(2-ethylhexyl) phthalate	1	µg/L	48.14	333	10
Chlorodibromomethane	2	µg/L	0.646	4082	0.11
Chloroform	3	µg/L	1.494	56426	0.09
Dibenzo(a,h)anthracene	4	µg/L	0.42	5.9	0.15
Dichlorobromomethane	5	µg/L	0.485	5523	0.21

WLA = wasteload allocation

The carcinogen additivity equation below is used to determine reasonable potential for the combined toxic effect of carcinogenic pollutants. Bis(2-ethylhexyl) phthalate, chlorodibromomethane, chloroform, dibenzo(a,h)anthracene, and dichlorobromomethane are included in the equation.

Reasonable potential for additive effects is determined by dividing the PEQ average for each additive pollutant by the human health wasteload allocation for that pollutant and adding these values. The following additivity equation is used:

$$\frac{PEQ_{avg1}}{PEL_{HH1}} + \frac{PEQ_{avg2}}{PEL_{HH2}} + \frac{PEQ_{avg3}}{PEL_{HH3}} + \frac{PEQ_{avg4}}{PEL_{HH4}} + \frac{PEQ_{avg5}}{PEL_{HH5}} \leq 1.0$$

$$\frac{48.14}{333} + \frac{0.646}{4082} + \frac{1.494}{56426} + \frac{0.42}{5.9} + \frac{0.485}{5523} = 0.22$$

If the sum is equal to or greater than 1.0, the permit must have a limit regulating carcinogenic additivity. Reasonable potential is not demonstrated, therefore additivity is not proposed for inclusion in this permit.

Addendum 1. Acronyms

ABS	Anti-backsliding
BPJ	Best professional judgment
CFR	Code of Federal Regulations
CMOM	Capacity Management, Operation, and Maintenance
CONSWLA	Conservative substance wasteload allocation
CSO	Combined sewer overflow
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DMT	Dissolved metal translator
IMZM	Inside mixing zone maximum
LTCP	Long-term Control Plan
MDL	Analytical method detection limit
MGD	Million gallons per day
NPDES	National Pollutant Discharge Elimination System
OAC	Ohio Administrative Code
Ohio EPA	Ohio Environmental Protection Agency
ORC	Ohio Revised Code
ORSANCO	Ohio River Valley Water Sanitation Commission
PEL	Preliminary effluent limit
PEQ	Projected effluent quality
PMP	Pollution Minimization Program
PPE	Plant performance evaluation
SSO	Sanitary sewer overflow
TMDL	Total Daily Maximum Load
TRE	Toxicity reduction evaluation
TU	Toxicity unit
U.S. EPA	United States Environmental Protection Agency
WET	Whole effluent toxicity
WLA	Wasteload allocation
WPCF	Water Pollution Control Facility
WQBEL	Water-quality-based effluent limit
WQS	Water Quality Standards
WWTP	Wastewater Treatment Plant