March 26, 2024

Ed Turner
Richard A Renneker WTP
6193 Striker Road
Maineville, Ohio 45039

Re: Richard A Renneker WTP
Inspection
NPDES
Warren County
1IY00162

Subject: Ohio Environmental Protection Agency NPDES Inspection

Dear Mr. Turner

On March 13, 2024, Ohio EPA conducted a Compliance Evaluation Inspection (CEI) of Richard A Renneker WTP (Facility) located at 6193 Striker Road, Maineville, Warren County, Ohio. The purpose of the CEI was to evaluate compliance with the terms and conditions of your National Pollutant Discharge Elimination System (NPDES) permit (1IY00162) and to evaluate the operation and maintenance of the facility. The current permit became effective on July 1, 2019, and expires on June 30, 2024.

The Facility has two discharge outfalls on site; 001 and 002. Discharge from Outfall 001 contains filter backwash following treatment through red sand filters. Discharge from Outfall 002 is comprised of final effluent from the nanofiltration treatment system. Both outfalls discharge to the Little Miami River. Following the inspection, additional information was requested by Ohio EPA via email on March 18, 2024, and was received by Ohio EPA on March 18, 2024. Below is a summary of findings of the CEI and recommendations based on some of those findings. A photo log is also attached at the end of the inspection report documenting conditions of the Facility on the day of the site visit.

The recommendations set out below are not Orders. The recommendations are offered by Ohio EPA in an effort to provide compliance assistance to your facility.

Findings:

1. A buildup of precipitated solids was observed in the conveyance from the Outfall 002 discharge pipe to the receiving stream (Little Miami River). A notice of violation (NOV) has been issued to the facility regarding this observation.
2. In June 2023 the facility collected a sample for the required acute toxicity monitoring. The facility entered an AE code on the monthly report which indicates the data is not valid. The facility failed to provide a comment on the monthly report indicating why the data was not valid.
3. The Facility utilizes mag meters to measure flow discharged through Outfalls 001 and 002. No calibration protocols are in place for the meters, and Facility personnel indicated flow meters had not been calibrated since installation.
4. No outfall sign was observed at Outfall 002.

5. The Facility use analytical test methods HACH 8112 and HACH 8149 to comply with suspended iron and suspended manganese monitoring requirements listed in Part I, A Outfall 001 of the NPDES permit. These methods do not comply with sampling and analytical method requirements listed in Part III, 5 of the NPDES permit.

Recommendations:

1. Please review the issued NOV letter for requested actions to address inspection Findings 1 and 5.
2. Please review Part III, 12, E of the facility's NPDES permit for permit noncompliance reporting requirements. Additionally, it is recommended that a facility representative contacts their appropriate Ohio EPA DSW contact to notify them of the noncompliance and discuss the next steps.
3. Recommend excavating the existing sand and vegetation from the sand filtration beds and refilling the units with new sand. Additionally, it is recommended that the facility performs more frequent maintenance of the sand beds to limit vegetation growth and the build-up of solids.
4. Recommend reviewing manufacturer specifications for mag meter calibration and developing routine calibration procedures to ensure proper operation of the meters.
5. Recommend reviewing Part II, H of the facility's NPDES permit for outfall signage requirements.

If you have any questions or comments concerning the enclosed inspection report, please contact me at 937.285.6004 or email me at Thomas.lipp@epa.ohio.gov.

Sincerely

Thomas Lipp

Tom Lipp
Environmental Specialist 2
Compliance and Enforcement
Ohio EPA Division of Surface Water
Southwest District Office

NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING						
Permit #	NPDES #	Inspection Type	Sig. Non-Compliance	Inspection Date	Entry Time	Exit Time
OH0041629	1IY00162	CEI	No	03/13/2024	1000	1200

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Richard A Renneker WTP 6193 Striker Rd. Maineville, OH 45039	July 01, 2019 Permit Expiration Date June 30, 2024
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Ed Turner, Plant Superintendent	513.683.3687
Name and Title of Responsible Official	Phone Number
Ed Turner, Plant Superintendent	513.683.3687

SECTION C: AREAS EVALUATED DURING INSPECTION		
Evaluated? Y-Yes; N-No	Area Evaluated	Recommendations noted in report? Y – Yes; N – No; N/A – Not Applicable
Y	E. NPDES Compliance	Yes; See recommendations 1 and 2
Y	F. Operations & Maintenance	Yes; See recommendation 3
NA	G. Operator Certification	No
NA	H. Collection System	No
NA	I. Sludge Management	No
NA	J. Storm Water	No
Y	K. Self-Monitoring Program	Yes; See recommendation 4
Y	L. Laboratory	No
Y	M. Effluent / Receiving Water Observations	Yes; See recommendation 5

Comments:

Signatures	
Thomas Lipp 03/28/2024	Bob Ostendorf 3/28/2024
Tom Lipp Date Compliance and Enforcement Division of Surface Water Southwest District Office	Bob Ostendorf Date Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Compliance Data for World Kinect Energy Services- Milford between 04/09/2019 and 02/01/2024

Summary
Permit Effluent Limit Violations: 0
Permit Effluent Code Events: 1
Permit Effluent Frequency Violations: 0
Compliance Schedule Milestones Not Entered: 0

Code Violations						
Reporting Period	**Station**	**Parameter**	**Sample Frequency**	**Expected**	**Reported Value**	**Violation Date**
June 2023	002	Acute Toxicity, Ceriodaphnia dubia	1/Year	1	AE	06/21/2023

Top 10 Flows	
Date	Flows (MGD)
06/30/2020	68.0
07/14/2020	67.0
08/08/2019	0.691
05/04/2021	0.691
05/24/2021	0.68
05/18/2021	0.674
05/19/2021	0.67
05/05/2021	0.665
05/12/2021	0.663
05/26/2021	0.66
Average	14.0399

- Top 2 flow data results to be revised due to data entry error

SECTION D: PERMIT VERIFICATION

	Yes	No	N/A
a. Correct name and mailing address of permittee	☒	☐	
b. Correct name and location of receiving waters	☒	☐	
c. Flows and loadings conform with NPDES permit	☒	☐	
d. Treatment processes are as described in permit application	☒	☐	
e. New treatment process added since last inspection	☒	☐	
f. Notification given to State of new, different or increased discharges	☐	☐	☒
g. All discharges are permitted	☒	☐	
h. Number and location of discharge points are as described in permit	☒	☐	☐
i. Are all storm water discharges properly permitted?	☒	☐	
For Industrial Facilities Only			
j. Products and production rates conform with permit application?	☒	☐	☐
k. Do categorical standards apply? If yes, which ones?	No		

Comments:

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SECTION E: COMPLIANCE

See previous page for more compliance information.

	Yes	No	N/A
a. NPDES renewal app submitted 180 days prior to expiration	☐	☒	☐
b. Permittee has a compliance schedule	☐	☒	☐
c. Document containing compliance schedule	Choose an item.		
d. Permittee is meeting compliance schedule	☐	☐	☒
e. Any bypasses since last inspection	☐	☒	
f. Regulatory agency notified of all bypasses	☐	☐	☒
g. Permittee or representative reporting all noncompliance per Part III of NPDES	☐	☒	☐

Comments:

- Failure to collect Acute Toxicity data in June 2023 was not reported to Ohio EPA

SECTION F: OPERATION AND MAINTENANCE

a. Standby power available	Generator
b. Standby power provides power to which treatment components?	All facility operations
c. Which treatment components have alarm system available for power or equipment failures?	Facility components linked to SCADA system for continual monitoring

	Yes	No
d. All treatment units in service other than backup units	☒	☐
e. Routine and preventative maintenance scheduled and performed	☒	☐
f. Any major equipment breakdown since last inspection	☐	☒
g. Operation and maintenance manual provided and maintained	☒	☐
h. Any operational problems due to influent quality or quantity since last inspection	☐	☒
i. Are WWTP operations changed during high-flow events?	☐	☒

Comments:

- During emergency, on-call operator notified of treatment unit issues via SCADA system
- Nanofiltration membranes cleaned ~annually
- Red sand filters in need of more frequent maintenance following observation of vegetation and solid depositions

SECTION G: OPERATOR CERTIFICATION – Not Applicable

SECTION H: COLLECTION SYSTEM – Not Applicable

SECTION I: SLUDGE MANAGEMENT – Not Applicable

SECTION J: STORM WATER PROGRAM

SECTION K: SELF-MONITORING PROGRAM

Flow Measurement	Yes	No	N/A
a. Actual flow discharged is measured?	☒	☐	
b. Flow measurement equipment to handle full range of flows	☒	☐	
c. Is the primary flow measuring device calibrated at least annually or in accordance with manufacturers specifications	☐	☒	
d. Date of last calibration	NA		
e. Who calibrates the flow measuring device?	NA		
f. Frequency of calibration?	NA		
g. How often is the flow measuring device checked for functionality?	Daily		

Sampling, Monitoring, and Records	Yes	No	N/A
h. Secondary instruments operated and maintained	☒	☐	
i. Sampling location(s) are as specified by permit	☒	☐	
j. Sampling frequency agree with permit (look at compliance table for frequency violations or missing DMRs)	☒	☐	
k. Are proper sampling methods used (i.e. Oil & Grease collected in a glass container)	☒	☐	
l. Are the proper sampling types used (i.e., Grab, Composite, Flow proportionate, etc.)	☒	☐	
m. Are the field parameters (pH, DO, total residual chlorine, temperature) measured within 15 minutes of collection?	☒	☐	☐
n. Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e. continuous monitoring instrumentation, calibration and maintenance records)	☒	☐	

Comments:

SECTION L: LABORATORY

In-House Sampling:

Parameter	Analytical testing methods used
pH	SM 4500 H+B
Total Suspended Solids	SM 2540 D
Iron, Suspended	HACH 8112
Manganese, Suspended	HACH 8149
Flow Rate	Mag Meter
Chlorine, Total Residual	SM 4500 CL G
Residue, Total Filterable	SM 2540 C

Commercial Laboratory Sampling:

Laboratory Name: MASI

Parameter	Analytical testing methods used
Acute Toxicity, Ceriodaphnia dupia	EPA 200.2

SECTION M: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	Y	N	N	N	N	N	N	N
002	N	N	N	N	N	Y	Y	N

Comments:

- A build-up of precipitated solids was observed in the conveyance of discharge from Outfall 002 entering the Little Miami River.

Criteria	Standard Methods Requirement			Rating
Balance		Acceptable?		
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights [1,2]	☐ Yes	☐ No	Rating
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used.[3]	☐ Yes	☐ No	
• Cleanliness, air movement, vibration	• Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum[1]	☐ Yes	☐ No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable, look for dated sticker)[1]	☐ Yes	☐ No	
	• Must be able to measure to 0.1 milligrams[4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
	• Log book maintained[2]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Drying Oven (Solids)		Acceptable?		
• Temperature Recordkeeping	• Temperature recorded with each use[4]	☐ Yes	☐ No	Rating
	• Log book maintained[2]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1,2] . Correction factor posted on thermometer / equipment[1]	☐ Yes	☐ No	
• Other	• Thermometer temperature in 0.5° C increments[5]	☐ Yes	☐ No	
	• Acceptable temperature range is 103° – 105°C (TSS), 178-182°C (TDS)[4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
pH Meter		Acceptable?		
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☒ Yes	☐ No	**A**
	• Logbook maintained[2]	☒ Yes	☐ No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and fresh calibration buffers must bracket anticipated result[7]	☒ Yes	☐ No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet[2]	☒ Yes	☐ No	
• Buffer Expiration Date	• Buffers must not be expired	☒ Yes	☐ No	
• Other	• Instrument manual available	☒ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[8]	☒ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Dissolved Oxygen Meter		Acceptable?		
• Calibration Method	• Air or known DO calibration method[10]	☐ Yes	☐ No	Rating
	• Calibration per manufacturer specification[10]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Logbook maintained[2]	☐ Yes	☐ No	
	• Calibration verification required at least once each day the meter is used.[3]	☐ Yes	☐ No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)[11]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Incubator (CBOD/ E-Coli)		Acceptable?		
• Temperature Recordkeeping	• Temperature checked / recorded twice daily (4 hours between) for each shelf in use[1] (E-Coli)	☐ Yes	☐ No	Rating
	• Temperature checked / recorded daily[2] (CBOD)			
	• Acceptable temperature range (CBOD) is 20° C ±1.0 °[12]	☐ Yes	☐ No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5 °[22]	☐ Yes	☐ No	
	• Logbook maintained [2]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
	• Temperature correction information posted on incubator[1]	☐ Yes	☐ No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb) [23]	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Temperature Log (thermometer reads to 0.5 Celsius).[1]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Desiccator		Acceptable?		
• General criteria	• Properly working seals.	☐ Yes	☐ No	Rating
	• Desiccant fresh (blue color)	☐ Yes	☐ No	
• Documentation	• Log book being maintained[2]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Refrigerator		Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.5 Celsius).[5]	☐ Yes	☐ No	Rating
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
• Other	• Thermometer suspended in water bath. [1]	☐ Yes	☐ No	
	• Refrigerator temperature ≤6° C, but not freezing.[13]	☐ Yes	☐ No	
	• Do not store volatile solvents, food, or beverages.[14]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Chlorine Meter		Acceptable?		
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV[15]	☐ Yes	☐ No	Rating
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification[16]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Log book being maintained.[2]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Ammonia Meter		Acceptable?		
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)[3]	☐ Yes	☐ No	Rating
	• Log book being maintained[2]	☐ Yes	☐ No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	☐ Yes	☐ No	
• Calibration Method	• Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec.[17]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[18]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Sample Collection/Handling		Acceptable?		
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed).[19]	☐ Yes	☐ No	Rating
• Chain of Custody	• Chain of custody (description, date, time, signature).[19]	☐ Yes	☐ No	
• Other	• Composite samples refrigerated during sample collection[14]	☐ Yes	☐ No	
	• Equipment blanks utilized[14]	☐ Yes	☐ No	
	• SOP for cleaning of sampling equipment	☐ Yes	☐ No	
	• Logbook being maintained[2]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Bench sheets		Acceptable?		
• General criteria	• Date(s)[2]	☐ Yes	☐ No	Rating
	• Analyst initials[2]	☐ Yes	☐ No	
	• Blue or black ink pen[2]	☐ Yes	☐ No	
	• Calibration information[2]	☐ Yes	☐ No	
	• Equations, calculations, units for all measurements, notations, and results present[2]	☐ Yes	☐ No	
	• Corrections, single line through, initialed and dated[2]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Hot Water Bath (Fecal Coliform/E. Coli)		Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer reads 0.2° C)[21]	☐ Yes	☐ No	Rating
	• Incubator temperature 44.5° C ± 0.2° [21/24]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) [1, 5]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Autoclaves/Steam Sterilizers		Acceptable?		
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C [25]	☐ Yes	☐ No	Rating
	• 10 to 30 minutes time based on material being sterilized[26]	☐ Yes	☐ No	
• Documentation	• Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust. [1]	☐ Yes	☐ No	
	• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used [1]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available *Geobacillus stearothermophilus* in spore strips, suspensions, or capsules [1]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Final Effluent Temperature Monitoring		Acceptable?		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	Rating
	• Thermometer scaled to 0.1° C and accurate to 0.5 ° C [5]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
Comments:				

Number of Criteria Rated:	**Acceptable**	1
	Marginal	0
	Unacceptable	0
	Total Number of Areas Rated	1

Acceptable Ratings – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).

Marginal Ratings – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).

Unsatisfactory Rating - Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).

Consider recommending PAI Audit from DES when:	>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable

Notation of Referenced Method

1	Method 9020-B, Item 3	14	Method 1060A, Item 1
2	Method 1020-A, Item 1	15	Method 4500-Cl I, Item 2
3	Method 1020-B, Item 10	16	Method 4500-Cl I, Item 4
4	Method 2540-B, Item 2	17	Method 4500-NH3 D, Item 4
5	Method 2550-B, Item 1	18	Method 4500-NH3 D, Item 2
6	Method 1020-A, Item 1	19	Method 1060-B, Item 2
7	Method 4500-H B, Item 4	20	Method 1060-B, Item 1
8	Method 4500-H B, Item 2	21	Method 9222D, Item 1
9	Method 1020-B, Item 2	22	Method 9223 B, Item 2
10	Method 4500-O B, Item 3	23	Method 9223 B, Item 3
11	Method 4500-O G, Item 3	24	Method 1603, Item 2
12	Method 5210-B, Item 5	25	Method 9030-B, Item 3
13	CFR 136.3, Table II	26	Method 9020 B, Table IV

Equipment Logbook Content - all maintenance performed on a piece of equipment should be documented in the logbook. This should include parts replacement and routine maintenance activities. Entries should include date, maintenance performed and initials of person making entry.

Approved Standard Methods (Abbreviated list)	
CBOD / BOD 5 Day	Std Methods 5210-B-2011
Ammonia, Selective Electrode Method	Std Methods 4500-NH3 D-2011
Total Residual Chlorine, DPD Colorimetric Method	Std Methods 4500-Cl G-2011
Total Suspended Solids, Dried at 103-105 °C	Std Methods 2540-D-2011
Dissolved Oxygen, Membrane Electrode Method	Std Method 4500-O G-2011
pH, Electrometric Method	Std Methods 4500-H^+ B-2011
Orthophosphate	Std Methods 4500-P E-2011 or F-2011 and USEPA 365.1 Rev 2.0.
Fecal Coliform, Membrane Filter Procedure	Std Methods 9222D-2006
Escherichia Coli, Enzyme Substrate Test	Std Method 9223B-2004
Escherichia Coli Membrane Filtration Procedure	EPA Method 1603
Oil and Grease	USEPA 1664A or B or Std Methods 5520B-2011
Metals, general (not mercury)	USEPA 200, Std Methods 3111B-2011 or C-2011, or 3120B-2011
Volatiles (Purgeables by purge and trap)	USEPA 624.1, Std Methods 6210 B-2011
Semi-Volatiles (Base/Neutrals and acids)	USEPA 625.1, Std Methods 6410 B-2000
Pesticides	USEPA 608.3, Std Methods 6410 B-2000 and 6630 B-2007 & C-2007

Preservation and Holding Times

Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
						Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate ≤6° C		48h
TSS	P, G	200	G, C	Refrigerate ≤6° C		7 d
pH	P, G	50	G	Analyze immediately		0.25 h
NH3-N	P, G	500	G, C	Analyze as soon as possible or add H_2SO_4 to pH <2, Refrigerate ≤6° C		28 d
Ortho-phosphate	P,G	50	G	Filter using 0.45 micron filter. Refrigerate ≤6°		Filtered within 15 minutes 48 h
TRC	P, G	500	G	Analyze immediately		0.25 h
DO (electrode)	G, BOD Bottle	300	G	Analyze immediately		0.25 h
Temperature	P, G	--	G	Analyze immediately		0.25 h
Metals, general	P, G	1000	G, C	For dissolved filter immediately and add HNO_3 to pH <2		6 months
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH<2, Refrigerate ≤6° C		14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate ≤6° C		7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate ≤6° C		7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate ≤10° C If chlorine present, add sodium thiosulfate tablet	Incubation must begin within 8 hours of sampling.	
Oil and Grease	G	1000	G	HCl or H_2SO_4 to pH <2, Refrigerate ≤6° C		28 d

Photo 1

Taken By: Tom Lipp on 03/13/2024

Outfall 001 sign

Photo 2

Taken By: Tom Lipp on 03/13/2024

Outfall 001 conveyance to the Little Miami River

Photo 3

Taken By: Tom Lipp on 03/13/2024

Effluent cascade from nanofiltration treatment unit prior to discharge through Outfall 002 into the Little Miami River

Photo 4

Taken By: Tom Lipp on 03/13/2024

Outfall 002 discharge into the Little Miami River

Photo 5

Taken By: Tom Lipp on 03/13/2024

Build-up of precipitated solids was observed in the conveyance of discharge from Outfall 002 entering the Little Miami River.

Photo 6

Taken By: Tom Lipp on 03/13/2024

Build-up of precipitated solids was observed in the conveyance of discharge from Outfall 002 entering the Little Miami River.

Photo 7

Taken By: Tom Lipp on 03/13/2024

Red sand filtration beds