Effluent Quality Assessment of Mid-County WWTP Pinellas County NPDES # FL0034789 Sampled February 22, 2021

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
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DEP Laboratory, Biology Program
2600 Blair Stone Road, MS 6515
Tallahassee, FL 32399-2400
www.floridadep.gov

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Summary of Results

All analytes measured in the effluent grab and composite samples complied with Class III Water Quality Criteria for Fresh Waters and effluent permit limits. The high algal growth potential (AGP) result in the effluent grab sample suggests a potential for nutrient enrichment.

Facility Overview

Mid-County WWTP is a domestic wastewater treatment facility. A Facility Summary, including a description of the facility, summary of permit limits, and any relevant Administrative Order (AO), Consent Order (CO), and Discharge Monitoring Report (DMR) information is provided in Appendix A. Short Form Consent Order OGC File No. 19-1749 was executed on December 5, 2019 in response to a discharge of untreated wastewater which resulted in a surface water quality violation. The effluent is continuously discharged into Curlew Creek, a Class III freshwater creek [waterbody identification (WBID) 1538A] (Figure 1). Curlew Creek flows into Curlew Creek Tidal Segment then to Clearwater Harbor North.

Curlew Creek falls within the Peninsular Nutrient Watershed Region for Numeric Nutrient Criteria (NNC). For this region, the NNC, expressed as annual geometric means, are 0.12 mg/L total phosphorus and 1.54 mg/L total nitrogen (Paragraph 62-302.531(2)(c), F.A.C.). Curlew Creek falls within the Peninsula bioregion; the daily average dissolved oxygen (DO) saturation shall not be below 38 percent in more than 10 percent of the values (Paragraph 62-302.533(1)(a), F.A.C.). This FYI event only provides single sample results. It should be noted that waterbody impairment assessments are based on longer-term data, and individual exceedances of a criterion do not indicate use impairment. http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

Methods

Effluent samples were taken as grab and 24-hour flow proportioned composite samples from monitoring site location EFD-01 for outfall D-001 on February 22, 2021 (Figure 1). The permit requires chronic whole effluent toxicity testing and acute definitive tests were scheduled and performed. The permit specifies 16-hour flow proportioned composite samples for carbonaceous biochemical oxygen demand, total suspended solids, total nitrogen, and total phosphorus.

Samples were collected by Margaret Dorge, Kevin Miller, and Lance Kautz (Southwest District Office). Analyses were performed by Benchmark EnvironAnalytical in Palmetto, Eurofins Test America Laboratories in Tampa, and DEP Laboratory in Tallahassee.

All field and laboratory methods followed DEP Standard Operating Procedures (see https://floridadep.gov/dear/quality-assurance/content/dep-sops and https://floridadep.gov/dear/florida-dep-laboratory/content/dep-laboratory-quality-assurance-manual-and-sops for details) and met DEP quality assurance/quality control standards (see https://floridadep.gov/dear/quality-assurance). Explanations of specific methods and measurements can be found in Appendix B.

Class III Water Quality Criteria for Fresh and Marine Waters are found in Rule 62-302.530, F.A.C. All references to Rule 62-302.530, F.A.C. are to the surface water quality criteria table with an effective date of 02/17/2016 and a notice identification number of 17115667.

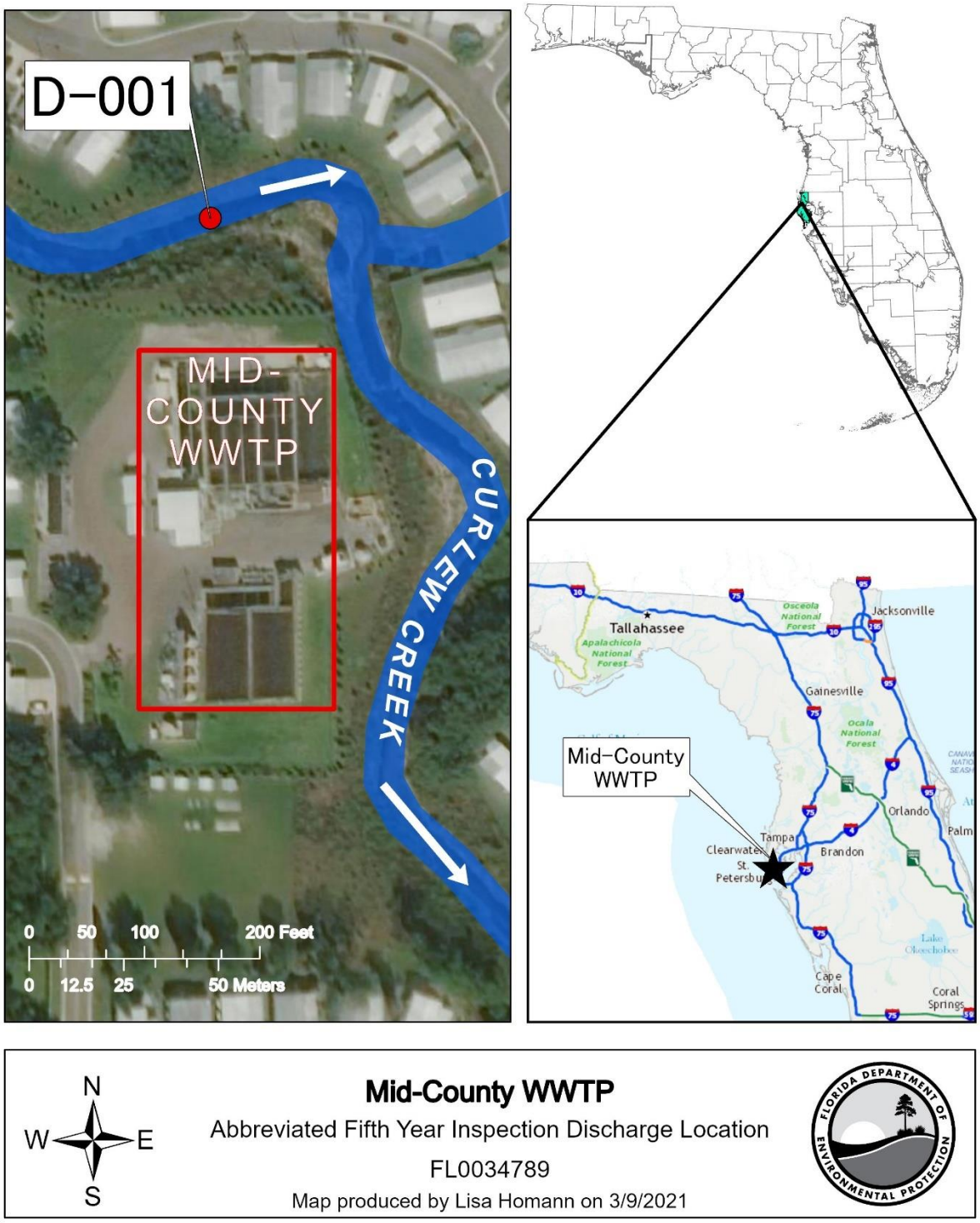


Figure 1. Map of Facility and Discharge Location

Results

Physical and Chemical Parameters (See Table 1 and Appendices C and D)

- All measured effluent water quality parameters complied with Class III Water Quality Criteria for Fresh Waters and effluent permit limits.

Analytical Water Chemistry (See Table 2 and Appendix D)

- All water chemistry analytes detected in the effluent grab and composite samples complied with Class III Water Quality Criteria for Fresh Waters and effluent permit limits.

- For comparative purposes only, the effluent composite single sample values for total phosphorus and total nitrogen were greater than the Peninsular Nutrient Watershed Region NNC.

- Total organic carbon was detected in the field blank between the MDL (method detection limit) and PQL (practical quantitation limit).

Microbiology (See Table 2 and Appendix B)

- Fecal indicator bacteria were not detected in the effluent grab sample and therefore complied with the *Escherichia coli* (*E. coli*) Class III Water Quality Criterion for Fresh Waters and the fecal coliform facility permit limit.

Toxicity Whole Effluent Test (See Table 2)

- Tests were performed February 23 through February 27, 2021.

- The sample was aerated for 5 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 9.2 mg/L to 8.5 mg/L.

- Acute bioassay results are reported as the Concentration Lethal to 50% of the test organisms (LC50). For the 96-hour acute definitive test, the calculated LC50 for the water flea, *Ceriodaphnia dubia*, was >100% effluent with 0% mortality in 100% sample. The calculated LC50 for the fish, *Pimephales promelas*, was >100% effluent with 0% mortality in 100% sample. The effluent sample was not toxic to either test species during the 96-hour acute definitive bioassays. The chronic whole effluent toxicity test required in the permit was not performed.

- For more information or to obtain copies of the toxicity bench sheets, please contact the Biology Laboratory at 850-245-8177.

Metals (See Table 3 and Appendix D)

- All metals detected in the effluent grab sample complied with Class III Water Quality Criteria for Fresh Waters. There are no effluent permit limits for metals.

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata*, was used to determine the AGP values in the effluent grab sample. Nitrogen to phosphate (N:P) ratios could not be calculated because nutrient values were not measured in the effluent grab sample.

- The effluent grab sample AGP result of 132 mg dry wt/L is greater than the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978).

Organic Constituents (See Table 5 and Appendix D)

- Atrazine, atrazine desethyl, azoxystrobin, caffeine, dithiopyr, fipronil desulfinyl, fipronil sulfide, fipronil sulfone, fludioxonil, flutolanil, fluxapyroxad, simazine, sulfentrazone, and tebuconazole were detected in the effluent grab sample.

- Caffeine was detected in the field blank between the MDL and PQL.

Literature Cited

Miller, W. E., Maloney, T. E. and Greene, J. C. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA600/978-018. U. S. EPA, Cincinnati, Ohio. 126 p.

Stevenson, R. J. and Bahls, L. L. 1999. Periphyton protocols. Pp. 6.1-6.22 in: Rapid bioassessment protocols for use in wadeable streams and rivers. 2nd edition. By: M. T. Barbour, J. Gerritsen, B. D. Snyder and J. B. Stribling. EPA 841-B-99-002. U. S. Environmental Protection Agency, Office of Water, Washington, D. C.

USEPA. 2000. Nutrient Criteria Technical Guidance Manual – River and Streams. EPA-822-B-00-002.

Table 1. Measured field parameters

Effluent limits, Class III Water Quality Criteria for Fresh Waters, and field parameters

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Temperature	C	-	-	22.6
pH	SU	6.0 - 8.5	6.0 - 8.5 s	7.2
Specific Conductance	µmhos/cm	≤ 1,275	-	950
Salinity	ppt	-	-	0.5 c
Dissolved Oxygen	% saturation	≥ 38	-	90.7
Dissolved Oxygen	mg/L	-	≥ 5.00 s	7.3
Total Residual Chlorine (dechlorination)	mg/L	≤ 0.01	≤ 0.01 s	0.01 U [1]
Total Residual Chlorine (disinfection)	mg/L	-	≥ 1.0 s	3.1 [1]

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
s - Single sample
U- Material analyzed for but not detected; value reported is the method detection limit
1- Measurement provided by facility

Table 2. Analytical water chemistry, microbiological, and toxicological data

Effluent limits, Class III Water Quality Criteria for Fresh Waters, and analytical water chemistry, microbiological, and toxicological data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab	Effluent Composite
Ortho-phosphate	mg P/L	-	-	0.49	-
Total Phosphorus	mg P/L	≤ 0.12 g	≤ 2.0 s p	-	0.21
Total Ammonia	mg N/L	≤ 3.68 s c (Effluent Grab)	-	-	0.016
Nitrate and Nitrite	mg N/L	-	-	-	1.8
Total Kjeldahl Nitrogen	mg N/L	-	-	-	0.43
Organic Nitrogen	mg N/L	-	-	-	0.41 c
Total Nitrogen	mg N/L	≤ 1.54 g	≤ 6.0 s p	-	2.2 c
Total Organic Carbon [2]	mg C/L	-	-	-	3.3
Chlorophyll *a* - Corrected	µg/L	-	-	0.82 UJ	-
Phaeophytin	µg/L	-	-	1.5 IJ	-
CBOD, 5 day, N - inhibited	mg/L	-	≤ 10.0 s p	-	2.0 U
Total Suspended Solids	mg/L	-	≤ 10.0 s p	-	2 I
Turbidity	NTU	< 29 t	-	0.50	-
Color (true)	PCU	-	-	8.6 A	-
Alkalinity	mg CaCO3/L	≥ 20	-	124 A	-
Chloride	mg Cl/L	-	-	140	-
Fluoride	mg F/L	≤ 10.0	-	0.62	-
Sulfate	mg SO4/L	-	-	110	-
Fecal Coliforms	cfu/100 mL	-	≤ 25 s	1 U	-
Escherichia coli	MPN/100 mL	≤ 410 s	-	10 U	-
Bioassay - Water flea *(Ceriodaphnia dubia)*	% effluent	-	≥ 100 s p	-	> 100
Bioassay - Fish *(Pimephales promelas)*	% effluent	-	≥ 100 s p	-	> 100

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
g - Value expressed as an annual geometric mean
p - 16-hour flow proportioned composite (FPC) for all analytes except toxicity (24-hour FPC)
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value
U - Material analyzed for but not detected; value reported is the method detection limit
2 - Analyte detected in the blank

Table 3. Analytical metals data

Effluent limits, Class III Water Quality Criteria for Fresh Waters, and analytical metals data

Analyte	Units	Effluent Grab Class III Criteria	Effluent Permit Limits	Effluent Grab
Hardness	mg CaCO3/L	-	-	212 c
Aluminum	µg/L	-	-	5.0 U
Arsenic	µg/L	≤ 50	-	0.26
Cadmium	µg/L	≤ 0.472 b	-	0.037 I
Calcium	mg/L	-	-	73.2
Chromium, Total [3]	µg/L	≤ 160 b	-	0.40 U
Copper	µg/L	≤ 17.7 b	-	5.91
Iron	µg/L	≤ 1,000	-	68 I
Lead	µg/L	≤ 8.29 b	-	0.20 U
Magnesium	mg/L	-	-	7.13
Nickel	µg/L	≤ 98.6 b	-	2.7
Potassium	mg/L	-	-	11.6
Selenium	µg/L	≤ 5.0	-	0.20 U
Silver	µg/L	≤ 0.07	-	0.010 U
Sodium	mg/L	-	-	115
Zinc	µg/L	≤ 227 b	-	47

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
b - Value is calculated based on hardness, (62-302.530(3))
c - Value is calculated
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
3 - Class III Water Quality Criterion for Fresh Waters (62-302.530(19)(a), F.A.C.) is for chromium-III

Table 4. Algal Growth Potential (AGP)

Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN), ortho-phosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation and ratios of nitrogen to phosphorus

Location	Test Species	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent Grab	*Pseudokirchneriella subcapitata*	132 A	-	210 ± 42	-	-	-	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
A - Value reported is the mean of two or more determinations

Table 5. Detected Organic Constituents

Effluent limits, Class III Water Quality Criteria for Fresh Waters, and analytical organic and pesticide data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Atrazine	ng/L	-	-	17
Atrazine Desethyl	ng/L	-	-	2.8 I
Azoxystrobin	ng/L	-	-	3.7 J
Caffeine [2]	ng/L	-	-	7.5 I
Dithiopyr	ng/L	-	-	0.32 I
Fipronil Desulfinyl	ng/L	-	-	0.24 I
Fipronil Sulfide	ng/L	-	-	0.76
Fipronil Sulfone	ng/L	-	-	0.17 I
Fludioxonil	ng/L	-	-	0.49 I
Flutolanil	ng/L	-	-	0.33 I
Fluxapyroxad	ng/L	-	-	0.33 I
Simazine	ng/L	-	-	1.2 I
Sulfentrazone	ng/L	-	-	7.3
Tebuconazole	ng/L	-	-	11 J

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value
2 - Analyte detected in the blank

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event	
Prepared By: Margaret Dorge	**Contact Number:** (813) 470-5703
Facility Name (as it appears on permit): Mid-County WWTP	**Former Names:** N/A
NPDES Permit Number: FL0034789	**Permit Expiration Date:** August 4, 2021
Physical Address: 2299 Spanish Vista Drive, Dunedin, Florida 34698	
District: Southwest	**County:** Pinellas
Function of Facility: Wastewater Treatment Facility	
Facility Type: Domestic Wastewater	**Permitted Capacity (MGD): 7.5**
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): From 01/01/2020 to 12/31/2020: D-001: 0.85 MGD	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): N/A	
Description of type of Discharge: ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify**	

Description of Sampling Location(s) - actual permit designation of permitted sampling point(s):

Surface Water Sample Locations (D-001)

Monitoring Site Number	Description of Monitoring Site
FLW-01	Flow meter prior to discharge to Curlew Creek.
EFD-01	After dechlorination and prior to surface water discharge to Curlew Creek.
EFA-01	After disinfection and prior to dechlorination.
EFB-01	After filtration and prior to disinfection.

Description of Permitted Outfall(s):

Surface Water Discharge D-001: An existing 0.90 million gallons per (MGD) Annual Average Daily Flow (AADF) discharge into the Class III Fresh waters of Curlew Creek, WBID 1538A. Curlew Creek flows into WBID 1538 of Curlew Creek Tidal Segment, Class III Marine waters, thence WBID 1528C of Clearwater Harbor (north), Class III Marine waters. The point of discharge is located approximately at latitude 28o 02' 18" N, longitude 82 o 44' 32" W.

Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility):

An existing 0.90 million gallons per day (MGD) Annual Average Daily Flow (AADF), Type I, advanced wastewater treatment facility consisting of two separate treatment trains: flow is directed through one static screen, followed by one equalization basin of 200,000 gallons total volume and then a flow splitter box which separates the flow into a 0.30 million gallons per day (MGD) treatment train and 0.60 million gallons per day (MGD) treatment train. The 0.30 million gallons per day (MGD) treatment train consists of six aeration basins, 349,000 gallons of total aeration volume and one clarifier of 92,000 gallons total volume with 1,025 square feet total surface area. The 0.60 million gallons per day (MGD) treatment train consists of two 300,000-gallon aeration basins, 600,000 gallons of total aeration volume and one clarifier of 98,000 gallons total volume with 1,086 square feet total square area. The two treatment trains are combined into four 5,000 gallon clarified effluent holding tanks, three deep-bed denitrification filters of 48,000 gallons total volume and 367 square feet of total surface area, one effluent holding tank of 16,000 gallons total volume, a chlorination/dechlorination chamber of 37,400 gallons total volume comprised of a 34,000 gallon chlorine contact chamber and a 3,400 gallon dechlorination chamber, one aerobic digester of 41,000 gallons total volume, and one sludge holding tank of 43,500 gallons total volume. This facility is operated to provide advanced wastewater treatment and high-level disinfection.

MODIFICATION:

Removal of the existing static screen and associated grating and the construction of a new headworks including fine screens and a grit removal system.

AFTER MODIFICATION:

An existing 0.90 million gallons per day (MGD) Annual Average Daily Flow (AADF), Type I, advanced wastewater treatment facility consisting of two separate treatment trains. Flow is pumped from the Master Lift Station to the Headworks Structure, which includes fine screening and grit removal and is then routed to one equalization basin of 200,000 gallons total volume. The flow is pumped to a flow splitter box which separates the flow into a 0.30 million gallons per day (MGD) treatment train and 0.60 million gallons per day (MGD) treatment train. The 0.30 million gallons per day (MGD) treatment train consists of six aeration basins, 349,000 gallons of total aeration volume and one clarifier of 92,000 gallons total volume with 1,025 square feet total surface area. The 0.60 million gallons per day (MGD) treatment train consists of two 300,000-gallon aeration basins, 600,000 gallons of total aeration volume and one clarifier of 98,000 gallons total volume with 1,086 square feet total square area. The two treatment trains are combined into four 5,000 gallon clarified effluent holding tanks, three deep-bed denitrification filters of 48,000 gallons total volume and 367 square feet of total surface area, one effluent holding tank of 16,000 gallons total volume, a chlorination/dechlorination chamber of 37,400 gallons total volume comprised of a 34,000 gallon chlorine contact chamber and a 3,400 gallon dechlorination chamber, one aerobic digester of 41,000 gallons total volume, and one sludge holding tank of 43,500 gallons total volume. This facility is operated to provide advanced wastewater treatment and high-level disinfection.

PART I: Continued

List <u>current</u> Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under (Leave cell blank if not applicable)

D-001:

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow, to D-001	MGD	Max	0.90	Annual Average	Monthly	Calculated	FLW-01	See I.A.3
Flow, to D-001	MGD	Max	Report	Monthly Average	5 Days/Week	Recording Flow Meter with Totalizer	FLW-01	See I.A.3
BOD, Carbonaceous 5 day, 20C	mg/L	Max	5.0	Annual Average	Monthly	Calculated	EFD-01	
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max	6.25 10.0	Monthly Average Single Sample	Weekly	16-hr FPC	EFD-01	
Solids, Total Suspended	mg/L	Max	5.0	Annual Average	Monthly	Calculated	EFD-01	
Solids, Total Suspended	mg/L	Max Max	6.25 10.0	Monthly Average Single Sample	Weekly	16-hr FPC	EFD-01	See I.A.6
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	4 Days/Week	Grab	EFB-01	
Nitrogen, Total	mg/L	Max	3.0	Annual Average	Monthly	Calculated	EFD-01	
Nitrogen, Total	mg/L	Max Max	3.75 6.0	Monthly Average Single Sample	Weekly	16-hr FPC	EFD-01	
Phosphorus, Total (as P)	mg/L	Max	1.0	Annual Average	Monthly	Calculated	EFD-01	
Phosphorus, Total (as P)	mg/L	Max Max	1.25 2.0	Monthly Average Single Sample	Weekly	16-hr FPC	EFD-01	
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	5 Days/Week	Meter	EFD-01	
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	Monthly	Calculated	EFA-01	See I.A.4
Coliform, Fecal	#/100mL	Max	25	Single Sample	4 days/Week	Grab	EFA-01	See I.A.4
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	5 Days/Week	Meter	EFA-01	See I.A.5
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Weekly	Grab	EFD-01	
Oxygen, Dissolved (DO)	mg/L	Min	5.00	Single Sample	5 Days/Week	Grab	EFD-01	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Nitrogen, Total	ton/mth	Max	Report	Monthly Total	Monthly	Calculated	EFD-01	See I.A.7
Nitrogen, Total	ton/yr	Max	2.12	Annual Total	Monthly	Calculated	EFD-01	See I.A.7
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Semi-Annually; twice per year	24-hr FPC	EFD-01	See I.A.6
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	Semi-Annually; twice per year	24-hr FPC	EFD-01	See I.A.6

PART I: Continued	
Receiving Waters: Curlew Creek into Curlew Creek Tidal Segment then to Clearwater Harbor North	**Classification (indicate whether fresh or marine):** Class III fresh waters (WBID No. 1538A) and Class III Marine waters (WBID No. 1538 and 1538C)

The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall D-001.

a. Effluent Limitation

(1) In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) for reproduction or growth shall not be less than 100% effluent. [Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]

(2) For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. [Rule 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]

b. Monitoring Frequency

(1) Routine toxicity tests shall be conducted once every six months, the first starting within 60 days of the effective date of this permit and lasting for the duration of this permit.

c. Sampling Requirements

(1) For each routine test or additional follow-up test conducted, a total of three flow proportional 24-hr composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.

(2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.

(3) Samples for routine and additional follow-up tests shall not be collected on the same day.

d. Test Requirements

(1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%**, **50%**, **25%**, **12.5%**, and **6.25%** final effluent.

(2) The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.

(3) All test species, procedures and quality assurance criteria used shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th Edition, EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.

(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.

e. Quality Assurance Requirements

(1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.

(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or the "test acceptability criteria" are not met, the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**). The repeat test shall begin within 21 days after the last day of the invalid test.

(3) If 100% mortality occurs in all effluent concentrations for either test species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included

with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows: (a) Routine and Additional Follow-up Test Results: The calculated IC25 for reproduction or growth for each test species shall be entered on the DMR.

(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.

(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10, and mailed within 30 days after the last day of the second valid additional follow-up test.

(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.

(5) The same bioassay data shall not be reported as the results of more than one test.

(6) All bioassay laboratory reports shall be sent to:

Florida Department of Environmental Protection
Southwest District Office
13051 N Telecom Pkwy
Temple Terrace, Florida 33637-0926
Phone Number - (813) 470-5700
FAX Number - (813) 470-5996
swd_dw@dep.state.fl.us

g. Test Failures

(1) A test fails when the test results do not meet the limits in I.A.6.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the chronic toxicity limitation in I.A.6.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with I.A.6.d.

(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.

(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-013.

(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.

(a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.

(b) The Department shall review and approve the plan before initiation.

(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.

(d) Progress reports shall be submitted quarterly to the Department at the address above.

(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with I.A.6.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in I.A.6.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.

(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in I.A.6.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four

consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in I.A.6.a.(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.

(5) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures.

[62-4.241, 62-620.620(3)]

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
Short Form Consent Order OGC File No. 19-1749 was executed on December 5, 2019. The Department sought $9,350.00 in civil penalties, $281.66 in economic benefit, and $250.00 for costs and expenses which amounts to a total of $9,881.66. The civil penalty in this matter includes 4 violations of $2,000.00 or more. The Facility had a 83,350 gallons discharge of untreated wastewater to a nearby stream known as Curlew Creek which resulted in a surface water quality violation.

Facility Mixing Zone Details (if applicable):
N/A

List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year:

Monitoring Site	Date	Monitoring	Description	Result	Limit	Units	Statistical Base
D-001	01/01/2020	FLW-01	Flow	0.901	0.9	MGD	AB-Annual Average
D-001	12/31/2020	EFD-01	Total Nitrogen	8.6	6.0	mg/L	MB - Maximum

Describe previous FYI and WQBEL study:
N/A

Describe previous or current Enforcement Actions (including WLs):

1. Consent Order executed on 12/5/2019 for unauthorized discharged. Enforcement project is open for in-kind project.
2. Consent Order executed on November 19, 2018 for effluent exceedances for total nitrogen; BOD Carbonaceous 5 day; total suspended solids, and fecal coliform. Enforcement project closed on July 30, 2019.
3. WL19-55DW52SWD sent on October 11, 2019 for unauthorized discharges and sanitary sewer overflows.
4. WL20-147DW52SWD sent on September 24, 2020 for unauthorized discharge due to bypass event.
5. WL21-05DW52SWD sent on January 25, 2021 for unauthorized discharge due to bypass event.

Describe any violations or problems noted in previous inspection:
08/19/2019 CEI/SSOP: The facility reported the following exceedances from October 2017 through August 2019.

Monitoring Group	Date	Monitoring Location	Parameter	Description	Result	Limit	Units	Statistical Base
D-001	7/31/2019	EFD-01	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	79.4	100.0	percent	ME - Minimum
D-001	6/30/2019	EFD-01	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	79.4	100.0	percent	ME - Minimum
D-001	5/31/2019	EFD-01	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	4.54	100.0	percent	ME - Minimum
D-001	11/30/2018	EFD-01	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	3.5	100.0	percent	ME - Minimum
D-001	10/31/2018	EFD-01	P 00600	Nitrogen, Total	2.58	2.12	ton/yr	AD – Annual Total
D-001	9/30/2018	EFD-01	P 50060	Chlorine, Total Residual	0.2	1.0	mg/L	ME - Minimum
D-001	9/30/2018	EFD-01	P 00600	Nitrogen, Total	2.73	2.12	ton/yr	AD – Annual Total
D-001	8/31/2018	EFD-01	P 00600	Nitrogen, Total	2.67	2.12	ton/yr	AD – Annual Total
D-001	7/31/2018	EFD-01	P 00600	Nitrogen, Total	2.6	2.12	ton/yr	AD – Annual Total
D-001	6/30/2018	EFD-01	P 00600	Nitrogen, Total	2.56	2.12	ton/yr	AD – Annual Total
D-001	5/31/2018	EFD-01	P 00600	Nitrogen, Total	2.5	2.12	ton/yr	AD – Annual Total
D-001	5/31/2018	EFD-01	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	2.65	100.0	percent	ME - Minimum
D-001	4/30/2018	EFD-01	P 00600	Nitrogen, Total	2.25	2.12	ton/yr	AD – Annual Total
D-001	3/31/2018	EFD-01	P 80082	BOD, Carbonaceous 5 day, 20C	15	10.0	mg/L	MB-Maximum
D-001	3/31/2018	EFD-01	P 80082	BOD, Carbonaceous 5 day, 20C	8.53	6.25	mg/L	MK-Monthly Average
D-001	3/31/2018	EFD-01	P 00600	Nitrogen, Total	2.14	2.12	ton/yr	AD – Annual Total
D-001	2/28/2018	EFD-01	P 00600	Nitrogen, Total	2.2	2.12	ton/yr	AD – Annual Total
D-001	1/31/2018	EFD-01	P 80082	BOD, Carbonaceous 5 day, 20C	6.34	6.25	mg/L	MK-Monthly Average
D-001	1/31/2018	EFD-01	P 80082	BOD, Carbonaceous 5 day, 20C	14	10.0	mg/L	MB-Maximum
D-001	1/31/2018	EFD-01	P 00600	Nitrogen, Total	2.2	2.12	ton/yr	AD – Annual Total
D-001	12/31/2017	EFD-01	P 00530	Solids, Total Suspended	24	5.0	mg/L	MB-Maximum
D-001	12/31/2017	EFD-01	P 00600	Nitrogen, Total	8.1	3.75	mg/L	MK-Monthly Average
D-001	12/31/2017	EFD-01	P 00600	Nitrogen, Total	18	6.0	mg/L	MB-Maximum
D-001	12/31/2017	EFD-01	P 74055	Coliform, Fecal	48	25.0	#/100 mL	MB-Maximum
D-001	12/31/2017	EFD-01	P 00600	Nitrogen, Total	2.17	2.12	ton/yr	AD – Annual Total
D-001	11/30/2017	EFD-01	P 80082	BOD, Carbonaceous 5 day, 20C	19	10.0	mg/L	MB-Maximum

D-001	11/30/2017	EFD-01	P 80082	BOD, Carbonaceous 5 day, 20C	7.8	6.25	mg/L	MK-Monthly Average

Discuss whether DMR trends within previous five years are improving or declining:

D-001: EFD-01 and EFA-01

BOD, Carbonaceous 5 day, 20c exceedances occurred November 2017, January 2018, and March 2018. This appears to be abnormal occurrences. No additional trending.

Total chorine residual exceedance occurred on September 2018. This appears to be an abnormal occurrence. No additional trending.

Fecal Coliform exceedance occurred on July 2016, October 2016, and December 2017. This appears to be abnormal occurrences and isolated events. No additional trending.

Total Nitrogen exceedance occurred consistently from December 2017 – October 2018 for the annual total which eventually trended downward. The exceedances were addressed in consent order OGC File No. 18-1197.
Other exceedances occurred on March 2016 and December 2020. This appears to be abnormal occurrences and isolated events. No additional trending.

Total suspended solids exceedance occurred for three consecutive months from May through July 2017. The exceedances were addressed in consent order OGC File No. 18-1197. Other exceedances occurred August 2015 and December 2017. This appears to be abnormal occurrences and isolated events. No additional trending.

IC25 Statre 7day Chr Ceriodaphnia exceedance occurred from May through July 2019. The exceedances were addressed in a Toxicity Corrective Action Plan that was closed on December 23, 2020. Other exceedances occurred April 2015, May 2018, and November 2018. This appears to be abnormal occurrences and isolated events. No additional trending.

IC25 Statre 7Day Chr Pimephales exceedance occurred on April 2015. This appears to be an abnormal occurrence and an isolated event. No additional trending.

Flow exceedance occurred on August 2019, October – December 2019, and January 2020. This appears to be abnormal occurrence and an isolated event. No additional trending.

Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):
N/A

Appendix B. Explanations of Measurements

Biological assessments are prepared by DEP staff to provide information for review of NPDES permit renewal applications. Biological assessments, in conjunction with other information concerning the subject facility and its receiving-water body, are used to determine appropriate permit conditions. References to Rule 62-302.530, F.A.C., are to the currently applicable surface water quality criteria table with an effective date of 02/17/2016 and a notice identification number of 17115667.

- **Chemical Analyses of the Effluent**

  The effluent was analyzed for nutrients, metals, organic constituents (base, neutral, and acid extractables) and pesticides following DEP SOPs. The results from these analyses were compared with Water Quality Criteria (62-302, F.A.C.) and facility permit limits.

- **Toxicity Bioassays**

  Greater than 50% mortality in an acute toxicity test may constitute an exceedance of Paragraph 62-302.500(1)(a) and/or facility permit limits. A 25% inhibition concentration (IC25) is the effluent concentration causing a 25% reduction in a biological response such as biomass or reproduction when compared to a control population. An IC25 of less than 100% in a chronic test may constitute exceedances of Subsection 62-302.530(20), Subsection 62-302.530(62) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of Subsection 62-302.530(62) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

- **Bacteriological Testing**

  High levels of fecal indicator bacteria may constitute an exceedance of Subsection 62-302.530(6) and/or facility permit limits. Fecal coliform results often are based on colony counts outside the acceptable range (B-qualifier). The dilutions performed on the sample did not yield results within the method acceptable range of 20- 60 colony forming units per plate. The B-qualifier does not affect data quality.

- **Algal Growth Potential (AGP)**

  The algal growth potential (AGP) value is the peak growth of the alga within that 14-day period, recorded as mg dry weight/L. AGP results within the range 6.10 to 20.0 mg dry wt/L are suggested to be representative of high productivity for freshwaters (Miller et al. 1978). High AGP values may constitute exceedances of Subsection 62-302.530(47), F.A.C., Paragraph 62-302.530(48)(a), F.A.C. and/or Paragraph 62-302.530(48)(b), F.A.C.

  The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble inorganic nitrogen (nitrate and nitrite plus ammonia) under nitrogen limitation or 430 times the ortho-phosphate (OP) concentration under phosphorus limitation with an error of ± 20%. When the ratio of nitrogen to phosphorus (N: P) is less than 10:1, nitrogen limitation of algal production is likely. When the N: P ratio is 20:1 or greater,

phosphorus limitation is likely (USEPA 2000). For ratios in-between, co-limitation may occur. Production of lower biomass than expected may be evidence of growth inhibition related to toxic compounds present in the water sample tested and may constitute an exceedance of Subsection 62-302.530(62), F.A.C.

- **Chlorophyll *a* Content**

  Chlorophyll *a* content is an estimate of algal biomass. High algal biomass implies nutrient stress (Stevenson and Bahls 1999) and may be constitute exceedances of Subsection 62-302.530(47), F.A.C., Paragraph 62-302.530(48)(a) F.A.C. and/or Paragraph 62-302.530(48)(b) F.A.C..

- **Definition of Qualifiers** (Rule 62-160.700, F.A.C.)

  A - Value reported is the mean of two or more determinations
  B - Results based on colony counts outside the acceptable range.
  I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
  J - Estimated value
  K - Actual value is known to be less than value given
  L - Actual value is known to be greater than value given
  N - Presumptive evidence of presence of material.
  O - Sampled, but analysis lost or not performed.
  Q - Sample held beyond normal holding time.
  T - Value reported is less than the criterion of detection.
  U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
  V - Analyte was detected in both sample and method blank.
  X - Too few individuals to calculate SCI value.
  Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
  Z - Colonies were too numerous to count (TNTC)

Appendix C. Chain of Custody

Request Number: RQ-2021-02-15-12

FYI3 FL0034789 Mid-County WWTP Sampling Inspection

Customer: SW-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Page 1 of 4
last revised Jan 25, 2018

Requester: Elaine Ignacio
Collected By: M. Dorge, K. Miller, L. Kautz
Field Report Prepared By: Lara Kautz
Sampling Agency: FDEP – SWD

Location: EFD-01	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 2/22/21 Time 1015a	Eastern / Central	Composite end Date	Time	Bottle Group(s) (See pg 2): A					
Field ID: Mid Co. Effluent - grab	Matrix (type, e.g., Salt, Fresh, etc): Fresh		Diss. Oxygen 90.7	☐ mg/L ☒ % sat	Total Res. Chlorine (mg/L)						
WIN/STORET #	Temp (C) 22.6	pH 7.18	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm) 950						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: Bad to contact lab								
Location: EFD-01	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 2/21/21 Time 930a	Eastern / Central	Composite end Date 2/22/21 Time 930a		Bottle Group(s): B					
Field ID: Mid Co. Effluent - composite	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)						
WIN/STORET #	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: samples split 10:30a on 2/22/21								
Location	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 2/22/21 Time 1040a	Eastern / Central	Composite end Date	Time	Bottle Group(s): C					
Field ID: Field Blanks	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)						
WIN/STORET #	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern / Central	Composite end Date	Time	Bottle Group(s)					
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)						
WIN/STORET #	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Lara Kautz	2/22/21 5:00p	FEDEX	5	AB	2-23-21 10:15

Devon Witczak 2.23.21/1054
Analysis BSY-AD- FCD/FFS

Request Number: RQ-2021-02-15-12

FYI3 FL0034789 Mid-County WWTP Sampling Inspection

Customer: SW-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Elaine Ignacio

Collected By: M. Bragg, K. Miller, L Kautz

Field Report Prepared By: Lance Kautz

Sampling Agency: FDEP – SWD

Location: EFD-01	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 2/22/21 Time 1015a	Eastern / Central	Composite end Date Time	Bottle Group(s) (See pg 2): A					
Field ID: Mid Co. Effluent - Grab	Matrix (type, e.g., Salt, Fresh, etc): Fresh	Diss. Oxygen: 90.7 ☐ mg/L ☑ % sat	Total Res. Chlorine (mg/L)							
WIN/STORET #	Temp (C): 22.6	pH: 7.18	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm): 950						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: Not included							
Location: EFD-01	☑ Comp ☐ Grab	Collection (comp begin or grab) Date 2/21/21 Time 930a	Eastern / Central	Composite end Date 2/22/21 Time 930a	Bottle Group(s): B					
Field ID: Mid Co. Effluent - composite	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)							
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: samples split 10:50a on 2/22/21							
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern / Central	Composite end Date Time	Bottle Group(s)					
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)							
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments							
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern / Central	Composite end Date Time	Bottle Group(s)					
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)							
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments							

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Lance Kautz	2/22/21 5:00p LK	FEDEX	1		2/23/21 14:50

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3/2/2021

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
TASK ASSIGNMENT/NOTIFICATION FORM: LAB145

Contract Manager: Trenetta Wilson/Magan Bowden
2600 Blair Stone Rd., MS 6512
Tallahassee, FL 32399-2400
(850) 245-8084/ (850) 245-8095

Contractor: Eurofins/TestAmerica Laboratories, Inc
5102 LaRoche Ave
Savannah, GA 31404
ATTN: Noel Savoie

DEP Approval By: Devan R Cobb-Williams Contractor Approval By: Noel Savoie
Project Manager

Contractor Representatives Contacted: Noel Savoie

Date: 2/2/2021
Means of Contact: Email

Task Assignment Number: OV186 Maximum Cost: **$36.25** Turnaround Time: 5 BD

Sample Delivery Date: 2/2/2021

Project Name/Description:
RQ-2021-02-15-12

Deliverable Number/ Parameter Group/ Method	Sample Matrix	# of Samples	# of Containers	DEP ID #	Unit Cost	% Mark-up (if any)	Cost
Quote/BOD 5210B-2011	W	1	1 bottle		$33.75		$33.75
217/Sample Disposal Fee:	1				$2.50		$2.50
Total Number of Containers Shipped:	1					**Total:**	$36.25

660-108258 Chain of Custody

Loc: 660
108258

QC Instructions:

Comments: Quote #66015426 - 0

Samples released to Contract Lab by: Date/Time: 2/22/21 5000

Delivery Method: Shipping

Samples Accepted by: Date/Time 2/23/21 14:50

* **Please sign and return by email to** Trenetta.L.Wilson@floridaDEP.gov and Magan.Bowden@dep.state.fl.us

2.2/22 cd-09

Page 13 of 19 3/2/2021

Benchmark EnviroAnalytical,Inc
1711 12th Street East
Palmetto, Fl 34221
941-723-9986
941-723-6061 Fax

PO#_____

Client Information: **FDEP**
Address: 13051 N. Telecom Parkway
Tampa FL 33604
Phone # 815-470-5878 813-470-5903
Report to: benjamin.paswater@dep.state.fl.us Lance.Kautz@Floridadep.gov
Invoice to: FDEP Micro Overflow

Project Name: RQ-2021-02-15-12

Laboratory Submission # 21021263

Sample Name	Sample Type[1] / Sample Matrix[2]	Collection		Container			Preservative[4]	Parameters for Analysis	Laboratory Sample #
		Date	Time	Qty	Capacity	Type[3]			
Mid County WWTP 1	WW	2/22/2021	1025a	1	250 mL	P	NaTh.S	Fecal Coliform	1
Mid County WWTP 2	WW	2/22/2021	1025a	1	250mL	P	NaTh.O	E. Coli	2

1 "Sample Type" is used to indicate whether the sample was a grab (G) or whether it was a composite (C).
2 "Sample Matrix" is used to indicate whether the sample is being discharged to drinking water (DW), groundwater (GW), surface water (SW), fresh surface water (FSW), saline surface water (SSW), soil, sediment (SDMNT), or sludge (SLDG).
3 "Container Type" is used to indicate whether the container is plastic (P) or glass (G).
4 **Sample must be refrigerated or stored in wet ice after collection. The temperature during storage should be less than or equal to 6°C (42.8°F).**
Under "Preservative," list any preservatives that were added to the sample container.

Instructions:
1. Each bottle has a label identifying sample ID, preservative preservative contained in the bottle, sample type, client ID, and parameters for analysis.
2. The following information should be added to each bottle label after collection with permanent black ink: date and time of collection, sampler's name or initials, and any field number or ID.
3. All bottles not containing preservative may be rinsed with appropriate sample prior to collection.
4. The client is responsible for documentation of the sampling event. Please note special circumstances or events on the sample custody form.

Laboratory Sample Acceptability:
Temperature: 1.2°C

1	Collected / Relinquished By: Lance Kautz	Date 2/22/21	Time 12:13 P	Received By:	Date 2-22-21	Time 17 13
2	Relinquished By:	Date	Time	Received By:	Date	Time

Appendix D. Chemical Analysis of Effluent

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:15	Effluent Grab	AGP/LN	Algal Growth Potential	132 A	mg DryWt/L	0.300	0.900
2/22/2021 10:15	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.5 IJ	µg/L	0.90	2.7
2/22/2021 10:15	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.82 UJ	µg/L	0.82	2.5
2/22/2021 10:15	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.77 IJ	µg/L	0.60	1.8
2/22/2021 10:15	Effluent Grab	Overflow	Escherichia Coli-Quanti-Tray	10 U	MPN/100 mL	10	10
2/22/2021 10:15	Effluent Grab	Overflow	Fecal Coliforms-Membrane Filter	1 U	cfu/100 mL	1	1
2/22/2021 10:15	Effluent Grab	Metals	Zinc	47	µg/L	5.0	20
2/22/2021 10:15	Effluent Grab	Metals	Cadmium	0.037 I	µg/L	0.020	0.080
2/22/2021 10:15	Effluent Grab	Metals	Potassium	11.6	mg/L	0.30	1.2
2/22/2021 10:15	Effluent Grab	Metals	Sodium	115	mg/L	0.50	2.0
2/22/2021 10:15	Effluent Grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80
2/22/2021 10:15	Effluent Grab	Metals	Arsenic	0.26	µg/L	0.050	0.20
2/22/2021 10:15	Effluent Grab	Metals	Silver	0.010 U	µg/L	0.010	0.040
2/22/2021 10:15	Effluent Grab	Metals	Iron	68 I	µg/L	30	120
2/22/2021 10:15	Effluent Grab	Metals	Magnesium	7.13	mg/L	0.040	0.16
2/22/2021 10:15	Effluent Grab	Metals	Calcium	73.2	mg/L	0.075	0.30
2/22/2021 10:15	Effluent Grab	Metals	Aluminum	5.0 U	µg/L	5.0	20
2/22/2021 10:15	Effluent Grab	Metals	Chromium	0.40 U	µg/L	0.40	1.6
2/22/2021 10:15	Effluent Grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
2/22/2021 10:15	Effluent Grab	Metals	Nickel	2.7	µg/L	0.50	2.0
2/22/2021 10:15	Effluent Grab	Metals	Copper	5.91	µg/L	0.40	0.80
2/22/2021 10:15	Effluent Grab	Nutrients	O-Phosphate-P	0.49	mg P/L	0.040	0.10
2/22/2021 10:15	Effluent Grab	Nutrients	Sulfate	110	mg SO4/L	0.40	1.0
2/22/2021 10:15	Effluent Grab	Nutrients	Fluoride	0.62	mg F/L	0.035	0.10
2/22/2021 10:15	Effluent Grab	Nutrients	Chloride	140	mg Cl/L	0.40	1.0
2/22/2021 10:15	Effluent Grab	Nutrients	Total Alkalinity	124 A	mg CaCO3/L	0.65	2.5
2/22/2021 10:15	Effluent Grab	Nutrients	Turbidity	0.50	NTU	0.10	0.13
2/22/2021 10:15	Effluent Grab	Nutrients	Color (true)	8.6 A	PCU	2.5	6.0
2/22/2021 10:15	Effluent Grab	Pesticides	Cyanazine	3.6 U	ng/L	3.6	14
2/22/2021 10:15	Effluent Grab	Pesticides	Dimethenamid	0.11 U	ng/L	0.11	0.44

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:15	Effluent Grab	Pesticides	Fenbuconazole	0.14 U	ng/L	0.14	0.55
2/22/2021 10:15	Effluent Grab	Pesticides	Fluazifop-P-butyl	0.11 U	ng/L	0.11	0.44
2/22/2021 10:15	Effluent Grab	Pesticides	Malathion	0.39 U	ng/L	0.39	1.6
2/22/2021 10:15	Effluent Grab	Pesticides	Myclobutanil	0.28 U	ng/L	0.28	1.1
2/22/2021 10:15	Effluent Grab	Pesticides	Oxadiazon	0.33 U	ng/L	0.33	1.3
2/22/2021 10:15	Effluent Grab	Pesticides	Prometon	1.0 U	ng/L	1.0	3.9
2/22/2021 10:15	Effluent Grab	Pesticides	Pronamide	0.17 U	ng/L	0.17	0.66
2/22/2021 10:15	Effluent Grab	Pesticides	Sucralose	71	µg/L	0.10	0.40
2/22/2021 10:15	Effluent Grab	Pesticides	Azinphos Methyl	2.2 U	ng/L	2.2	8.9
2/22/2021 10:15	Effluent Grab	Pesticides	Bromacil	0.55 U	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Carfentrazone Ethyl	0.11 U	ng/L	0.11	0.44
2/22/2021 10:15	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.28 U	ng/L	0.28	1.1
2/22/2021 10:15	Effluent Grab	Pesticides	Dithiopyr	0.32 I	ng/L	0.19	0.78
2/22/2021 10:15	Effluent Grab	Pesticides	Flumioxazin	1.9 UJ	ng/L	1.9	7.8
2/22/2021 10:15	Effluent Grab	Pesticides	Metribuzin	3.6 U	ng/L	3.6	14
2/22/2021 10:15	Effluent Grab	Pesticides	Parathion Methyl	0.61 U	ng/L	0.61	2.4
2/22/2021 10:15	Effluent Grab	Pesticides	Prometryn	0.22 U	ng/L	0.22	0.89
2/22/2021 10:15	Effluent Grab	Pesticides	Pyriproxyfen	0.14 U	ng/L	0.14	0.55
2/22/2021 10:15	Effluent Grab	Pesticides	Tebuconazole	11 J	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Ibuprofen	0.020 U	µg/L	0.020	0.080
2/22/2021 10:15	Effluent Grab	Pesticides	Atrazine	17	ng/L	0.28	1.1
2/22/2021 10:15	Effluent Grab	Pesticides	Atrazine Desethyl	2.8 I	ng/L	1.7	6.6
2/22/2021 10:15	Effluent Grab	Pesticides	Butylate	0.44 U	ng/L	0.44	1.8
2/22/2021 10:15	Effluent Grab	Pesticides	Demeton	1.7 U	ng/L	1.7	6.6
2/22/2021 10:15	Effluent Grab	Pesticides	Fipronil Sulfide	0.76	ng/L	0.17	0.66
2/22/2021 10:15	Effluent Grab	Pesticides	Fonofos	0.22 U	ng/L	0.22	0.89
2/22/2021 10:15	Effluent Grab	Pesticides	Prodiamine	0.19 U	ng/L	0.19	0.78
2/22/2021 10:15	Effluent Grab	Pesticides	Acetochlor	0.28 U	ng/L	0.28	1.1
2/22/2021 10:15	Effluent Grab	Pesticides	Azoxystrobin	3.7 J	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Diazinon	0.14 U	ng/L	0.14	0.55
2/22/2021 10:15	Effluent Grab	Pesticides	Fenamiphos	0.55 U	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Fipronil Desulfinyl	0.24 I	ng/L	0.14	0.55
2/22/2021 10:15	Effluent Grab	Pesticides	Flutolanil	0.33 I	ng/L	0.11	0.44
2/22/2021 10:15	Effluent Grab	Pesticides	Metolachlor	0.39 U	ng/L	0.39	1.6

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:15	Effluent Grab	Pesticides	Oxyfluorfen	0.17 U	ng/L	0.17	0.66
2/22/2021 10:15	Effluent Grab	Pesticides	Sulfentrazone	7.3	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Terbuthylazine	0.47 U	ng/L	0.47	1.9
2/22/2021 10:15	Effluent Grab	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
2/22/2021 10:15	Effluent Grab	Pesticides	Carbophenothion	0.55 U	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Ethion	0.17 UJ	ng/L	0.17	0.66
2/22/2021 10:15	Effluent Grab	Pesticides	Alachlor	0.28 U	ng/L	0.28	1.1
2/22/2021 10:15	Effluent Grab	Pesticides	EPTC	1.4 U	ng/L	1.4	5.5
2/22/2021 10:15	Effluent Grab	Pesticides	Ethoprop	0.11 U	ng/L	0.11	0.44
2/22/2021 10:15	Effluent Grab	Pesticides	Fluxapyroxad	0.33 I	ng/L	0.11	0.44
2/22/2021 10:15	Effluent Grab	Pesticides	Hexazinone	0.55 U	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Imazalil	0.83 U	ng/L	0.83	3.3
2/22/2021 10:15	Effluent Grab	Pesticides	Metalaxyl	0.83 U	ng/L	0.83	3.3
2/22/2021 10:15	Effluent Grab	Pesticides	Parathion Ethyl	0.28 U	ng/L	0.28	1.1
2/22/2021 10:15	Effluent Grab	Pesticides	Pendimethalin	1.1 U	ng/L	1.1	4.4
2/22/2021 10:15	Effluent Grab	Pesticides	Phorate	0.58 U	ng/L	0.58	2.3
2/22/2021 10:15	Effluent Grab	Pesticides	Ametryn	0.66 U	ng/L	0.66	2.7
2/22/2021 10:15	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.055 U	ng/L	0.055	0.22
2/22/2021 10:15	Effluent Grab	Pesticides	Difenoconazole	0.66 UJ	ng/L	0.66	2.7
2/22/2021 10:15	Effluent Grab	Pesticides	Fipronil Sulfone	0.17 I	ng/L	0.17	0.66
2/22/2021 10:15	Effluent Grab	Pesticides	Mevinphos	1.2 U	ng/L	1.2	4.7
2/22/2021 10:15	Effluent Grab	Pesticides	Naled	1.7 U	ng/L	1.7	6.6
2/22/2021 10:15	Effluent Grab	Pesticides	Norflurazon	0.55 U	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Simazine	1.2 I	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Terbufos	0.11 U	ng/L	0.11	0.44
2/22/2021 10:15	Effluent Grab	Pesticides	Caffeine	7.5 I	ng/L	5.5	22
2/22/2021 10:15	Effluent Grab	Pesticides	Disulfoton	0.55 U	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Pesticides	Fipronil	0.28 U	ng/L	0.28	1.1
2/22/2021 10:15	Effluent Grab	Pesticides	Fludioxonil	0.49 I	ng/L	0.14	0.55
2/22/2021 10:15	Effluent Grab	Pesticides	Iprodione	0.66 U	ng/L	0.66	2.7
2/22/2021 10:15	Effluent Grab	Pesticides	Molinate	0.33 U	ng/L	0.33	1.3
2/22/2021 10:15	Effluent Grab	Pesticides	Propiconazole	0.55 U	ng/L	0.55	2.2
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Phenol	0.046 U	µg/L	0.046	0.19

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	µg/L	1.9	7.4
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.093 U	µg/L	0.093	0.37
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	0.93 U	µg/L	0.93	3.7
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	9.3 U	µg/L	9.3	37
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Fluorene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Benzidine	9.3 U	µg/L	9.3	37
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	9.3 U	µg/L	9.3	37
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	µg/L	2.8	11
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	4.6 U	µg/L	4.6	19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Chrysene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Isophorone	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.4
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.023 U	µg/L	0.023	0.093

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.46 U	µg/L	0.46	1.9
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	9.3 U	µg/L	9.3	37
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Anthracene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.19 U	µg/L	0.19	0.74
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.4
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.093 U	µg/L	0.093	0.37
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	Pyrene	0.093 U	µg/L	0.093	0.37
2/22/2021 10:15	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.046 U	µg/L	0.046	0.19
2/22/2021 10:15	Effluent Grab	Nutrients	pH	7.18			
2/22/2021 10:15	Effluent Grab	Nutrients	Specific Conductance	950	µmhos/cm		
2/22/2021 10:15	Effluent Grab	Nutrients	Temperature	22.6	C		
2/22/2021 10:15	Effluent Grab	Nutrients	Dissolved Oxygen %Sat	90.7	%Sat		
2/22/2021 9:30	Effluent Composite	Overflow	Carbonaceous Biochemical Oxygen Demand	2.0 U	mg/L	2.0	2.0
2/22/2021 9:30	Effluent Composite	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100 L	LC50		
2/22/2021 9:30	Effluent Composite	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100 L	LC50		
2/22/2021 9:30	Effluent Composite	Nutrients	NO2NO3-N	1.8	mg N/L	0.040	0.10
2/22/2021 9:30	Effluent Composite	Nutrients	TSS	2 I	mg/L	2.0	10
2/22/2021 9:30	Effluent Composite	Nutrients	Kjeldahl Nitrogen	0.43	mg N/L	0.080	0.20
2/22/2021 9:30	Effluent Composite	Nutrients	Ammonia-N	0.016	mg N/L	0.0020	0.0050
2/22/2021 9:30	Effluent Composite	Nutrients	Total-P	0.21	mg P/L	0.0050	0.050
2/22/2021 9:30	Effluent Composite	Nutrients	Organic Carbon	3.3	mg C/L	0.50	1.0
2/22/2021 10:40	Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
2/22/2021 10:40	Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
2/22/2021 10:40	Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
2/22/2021 10:40	Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
2/22/2021 10:40	Blank	Metals	Iron	30 U	µg/L	30	120

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:40	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
2/22/2021 10:40	Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
2/22/2021 10:40	Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
2/22/2021 10:40	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
2/22/2021 10:40	Blank	Metals	Chromium	0.40 U	µg/L	0.40	1.6
2/22/2021 10:40	Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
2/22/2021 10:40	Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
2/22/2021 10:40	Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
2/22/2021 10:40	Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
2/22/2021 10:40	Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
2/22/2021 10:40	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
2/22/2021 10:40	Blank	Nutrients	Organic Carbon	0.75 I	mg C/L	0.50	1.0
2/22/2021 10:40	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
2/22/2021 10:40	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
2/22/2021 10:40	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
2/22/2021 10:40	Blank	Nutrients	Turbidity	0.10 U	NTU	0.10	0.13
2/22/2021 10:40	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
2/22/2021 10:40	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
2/22/2021 10:40	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
2/22/2021 10:40	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
2/22/2021 10:40	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.10
2/22/2021 10:40	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
2/22/2021 10:40	Blank	Pesticides	Ibuprofen	0.020 U	µg/L	0.020	0.080
2/22/2021 10:40	Blank	Pesticides	Difenoconazole	0.61 UJ	ng/L	0.61	2.4
2/22/2021 10:40	Blank	Pesticides	Dithiopyr	0.18 U	ng/L	0.18	0.71
2/22/2021 10:40	Blank	Pesticides	Fipronil	0.25 U	ng/L	0.25	1.0
2/22/2021 10:40	Blank	Pesticides	Fipronil Sulfone	0.15 U	ng/L	0.15	0.61
2/22/2021 10:40	Blank	Pesticides	Hexazinone	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Metribuzin	3.3 U	ng/L	3.3	13
2/22/2021 10:40	Blank	Pesticides	Molinate	0.30 U	ng/L	0.30	1.2
2/22/2021 10:40	Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
2/22/2021 10:40	Blank	Pesticides	Dimethenamid	0.10 U	ng/L	0.10	0.41
2/22/2021 10:40	Blank	Pesticides	Fludioxonil	0.13 U	ng/L	0.13	0.51
2/22/2021 10:40	Blank	Pesticides	Flumioxazin	1.8 UJ	ng/L	1.8	7.1

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:40	Blank	Pesticides	Oxadiazon	0.30 U	ng/L	0.30	1.2
2/22/2021 10:40	Blank	Pesticides	Prodiamine	0.18 U	ng/L	0.18	0.71
2/22/2021 10:40	Blank	Pesticides	Carbophenothion	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Demeton	1.5 U	ng/L	1.5	6.1
2/22/2021 10:40	Blank	Pesticides	Ethoprop	0.10 U	ng/L	0.10	0.41
2/22/2021 10:40	Blank	Pesticides	Fluazifop-P-butyl	0.10 U	ng/L	0.10	0.41
2/22/2021 10:40	Blank	Pesticides	Fluxapyroxad	0.10 U	ng/L	0.10	0.41
2/22/2021 10:40	Blank	Pesticides	Imazalil	0.76 U	ng/L	0.76	3.0
2/22/2021 10:40	Blank	Pesticides	Malathion	0.36 U	ng/L	0.36	1.4
2/22/2021 10:40	Blank	Pesticides	Mevinphos	1.1 U	ng/L	1.1	4.3
2/22/2021 10:40	Blank	Pesticides	Parathion Ethyl	0.25 U	ng/L	0.25	1.0
2/22/2021 10:40	Blank	Pesticides	Prometryn	0.20 U	ng/L	0.20	0.81
2/22/2021 10:40	Blank	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.61
2/22/2021 10:40	Blank	Pesticides	Atrazine	0.25 U	ng/L	0.25	1.0
2/22/2021 10:40	Blank	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	6.1
2/22/2021 10:40	Blank	Pesticides	Metolachlor	0.36 U	ng/L	0.36	1.4
2/22/2021 10:40	Blank	Pesticides	Naled	1.5 U	ng/L	1.5	6.1
2/22/2021 10:40	Blank	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.61
2/22/2021 10:40	Blank	Pesticides	Pendimethalin	1.0 U	ng/L	1.0	4.1
2/22/2021 10:40	Blank	Pesticides	Azinphos Methyl	2.0 U	ng/L	2.0	8.1
2/22/2021 10:40	Blank	Pesticides	Azoxystrobin	0.51 UJ	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Chlorpyrifos Ethyl	0.25 U	ng/L	0.25	1.0
2/22/2021 10:40	Blank	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.51
2/22/2021 10:40	Blank	Pesticides	Fipronil Desulfinyl	0.13 U	ng/L	0.13	0.51
2/22/2021 10:40	Blank	Pesticides	Myclobutanil	0.25 U	ng/L	0.25	1.0
2/22/2021 10:40	Blank	Pesticides	Terbuthylazine	0.43 U	ng/L	0.43	1.7
2/22/2021 10:40	Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
2/22/2021 10:40	Blank	Pesticides	Acetochlor	0.25 U	ng/L	0.25	1.0
2/22/2021 10:40	Blank	Pesticides	Alachlor	0.25 U	ng/L	0.25	1.0
2/22/2021 10:40	Blank	Pesticides	Butylate	0.41 U	ng/L	0.41	1.6
2/22/2021 10:40	Blank	Pesticides	Cyanazine	3.3 U	ng/L	3.3	13
2/22/2021 10:40	Blank	Pesticides	Ethion	0.15 UJ	ng/L	0.15	0.61
2/22/2021 10:40	Blank	Pesticides	Fenbuconazole	0.13 U	ng/L	0.13	0.51
2/22/2021 10:40	Blank	Pesticides	Fipronil Sulfide	0.15 U	ng/L	0.15	0.61

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:40	Blank	Pesticides	Terbufos	0.10 U	ng/L	0.10	0.41
2/22/2021 10:40	Blank	Pesticides	Caffeine	15 I	ng/L	5.1	20
2/22/2021 10:40	Blank	Pesticides	Disulfoton	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Fenamiphos	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Flutolanil	0.10 U	ng/L	0.10	0.41
2/22/2021 10:40	Blank	Pesticides	Iprodione	0.61 U	ng/L	0.61	2.4
2/22/2021 10:40	Blank	Pesticides	Metalaxyl	0.76 U	ng/L	0.76	3.0
2/22/2021 10:40	Blank	Pesticides	Parathion Methyl	0.56 U	ng/L	0.56	2.2
2/22/2021 10:40	Blank	Pesticides	Propiconazole	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Pyriproxyfen	0.13 U	ng/L	0.13	0.51
2/22/2021 10:40	Blank	Pesticides	Simazine	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Sulfentrazone	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Ametryn	0.61 U	ng/L	0.61	2.4
2/22/2021 10:40	Blank	Pesticides	Bromacil	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Carfentrazone Ethyl	0.10 U	ng/L	0.10	0.41
2/22/2021 10:40	Blank	Pesticides	Chlorpyrifos Methyl	0.051 U	ng/L	0.051	0.20
2/22/2021 10:40	Blank	Pesticides	EPTC	1.3 U	ng/L	1.3	5.1
2/22/2021 10:40	Blank	Pesticides	Fonofos	0.20 U	ng/L	0.20	0.81
2/22/2021 10:40	Blank	Pesticides	Norflurazon	0.51 U	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Pesticides	Phorate	0.53 U	ng/L	0.53	2.1
2/22/2021 10:40	Blank	Pesticides	Prometon	0.91 U	ng/L	0.91	3.6
2/22/2021 10:40	Blank	Pesticides	Tebuconazole	0.51 UJ	ng/L	0.51	2.0
2/22/2021 10:40	Blank	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.5
2/22/2021 10:40	Blank	Priority Organic Pollutants	Acenaphthylene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	2-Nitrophenol	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	4-Nitrophenol	9.3 U	µg/L	9.3	37
2/22/2021 10:40	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	Phenanthrene	0.093 U	µg/L	0.093	0.37
2/22/2021 10:40	Blank	Priority Organic Pollutants	2-Chlorophenol	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	µg/L	2.8	11
2/22/2021 10:40	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	9.3 U	µg/L	9.3	37

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:40	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Isophorone	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	Fluorene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Naphthalene	0.093 U	µg/L	0.093	0.37
2/22/2021 10:40	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.5
2/22/2021 10:40	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Nitrobenzene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	9.3 U	µg/L	9.3	37
2/22/2021 10:40	Blank	Priority Organic Pollutants	Chrysene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.19 U	µg/L	0.19	0.75
2/22/2021 10:40	Blank	Priority Organic Pollutants	Phenol	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Pyrene	0.093 U	µg/L	0.093	0.37
2/22/2021 10:40	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Benzidine	9.3 U	µg/L	9.3	37
2/22/2021 10:40	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	4.7 U	µg/L	4.7	19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Fluoranthene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Hexachloroethane	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	µg/L	1.9	7.5
2/22/2021 10:40	Blank	Priority Organic Pollutants	Pentachlorophenol	0.47 U	µg/L	0.47	1.9
2/22/2021 10:40	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Acenaphthene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	Anthracene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.023 U	µg/L	0.023	0.093

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
2/22/2021 10:40	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.023 U	µg/L	0.023	0.093
2/22/2021 10:40	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	0.93 U	µg/L	0.93	3.7
2/22/2021 10:40	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.047 U	µg/L	0.047	0.19
2/22/2021 10:40	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.047 U	µg/L	0.047	0.19