Effluent Quality Assessment of Southwest WRF Duval County NPDES # FL0026468 Sampled October 13, 17, 19, & 21, 2022

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
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Summary of Results

All analytes measured in the effluent grab and time-proportioned composite samples at EFA-1 complied with Class III Water Quality Criteria and effluent flow-proportioned permit limits for EFD-1. The nutrient and algal growth potential (AGP) results do not suggest a potential for nutrient enrichment of the receiving waters. There were twenty-five organic constituents detected in the effluent grab sample.

Facility Overview

The Southwest WRF is an advanced secondary 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. Southwest WRF operated under Administrative Order 198 NE between July 21, 2021 and September 01, 2021. The facility is currently operating under Consent Order 06-1796 for sanitary sewer overflows. The facility reported three failing fecal coliform results between 2021 and 2022. The effluent is continuously discharged into the Lower St. Johns River, a Class III Marine Water [waterbody identification (WBID) 2213E] (Figure 1).

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria (NNC) for the Lower St. Johns River and Tributaries. For this region, the NNC, expressed as an annual load, are 722,834 kg/yr total phosphorus and 1,376,855 kg/yr total nitrogen. The chlorophyll *a* criterion is 5.4 µg/L (Subparagraph 62-302.532(1)(bb)(1), F.A.C.). For Class III predominantly marine waters, the daily average dissolved oxygen (DO) saturation shall not be below 42 percent in more than 10 percent of the values (Subsection 62-302.533(2), 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 grab and 24-hour time-proportioned composite samples were collected from monitoring site location EFA-1, for outfall D-001 on October 17, 2022. Effluent renewal composite samples were collected on October 19, 2022 and October 21, 2022. Equipment blanks were collected on October 13, 2022. Most permit limits apply to monitoring site EFD-1 and all samples were collected at EFA-1; EFD-1 limits are included in the tables for reference. The permit specifies flow-proportioned composite samples and time-proportioned composite samples were collected. There is a permit limit for fecal coliform. *Escherichia coli* analysis was accidentally requested by samplers instead of fecal coliform on the chain of custody.

Samples were collected by Taylor Parks, Conor Lucey, and Philippe Hook (Northeast District). Analyses were performed by Eurofins Pensacola, Eurofins Savannah, Eurofins Tampa, Diversified Environmental Laboratories in Jacksonville, 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 Chapter 62-302, 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.

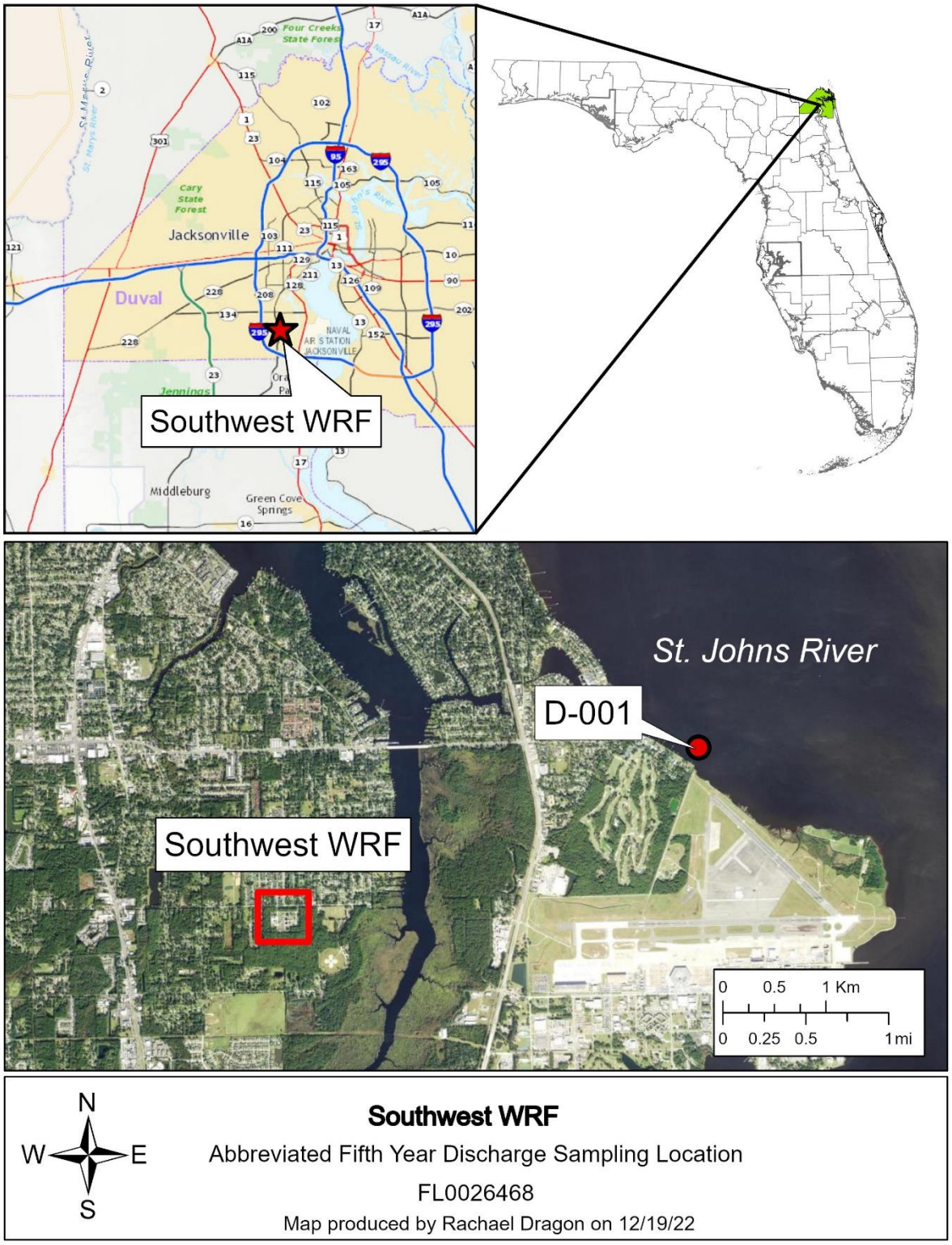


Figure 1. Map of Facility and Discharge Location

Results

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

- All effluent water quality parameters at EFA-1 complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits for EFD-1.

Analytical Water Chemistry (See Table 2 and Appendix D)

- All water chemistry analytes detected in the effluent grab and composite samples at EFA-1 complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits for EFD-1.

- Total phosphorus was detected in the equipment blank. Cyanide was detected in the field blank between the MDL and PQL.

Microbiology (See Table 2 and Appendix B)

- Effluent enterococci levels complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits. There is a permit limit for fecal coliform but it was not analyzed.

Toxicity Whole Effluent Test (See Table 2)

- Tests were performed October 18 through October 25, 2022.

- The sample was aerated for 30 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 16.4 mg/L to 7.8 mg/L.

- Chronic bioassay results are reported as the 25% Inhibition Concentration (IC25). 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 62-302.200(5), Subsection 62-302.530(20) and/or facility permit limits.

- During the chronic definitive bioassay, the effluent composite sample IC25 for the mysid, *Americamysis bahia*, and the IC25 for the fish, *Menidia beryllina*, were calculated as being greater than 100% effluent, and therefore complied with effluent permit limits.

- The result for the fish, *Menidia beryllina*, was J-qualified due to the temperature deviating from test specifications by < 1° C. The test results were not affected.

- Aliquots of the bioassay sample were salinity-adjusted according to method requirements from an apparent salinity of approximately 0.3 parts per thousand (ppth) to a salinity of approximately 20.0 ppth for the *Americamysis bahia* test and to a salinity of approximately 5.0 ppth for the *Menidia beryllina test*. Control mortality, for both the test controls and salt-adjusted control, were within method acceptance criteria.

- 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 effluent metals at EFA-1 complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits for EFD-1.

- Copper was detected in the equipment blank between the MDL and PQL.

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata* and the marine species, *Dunaliella tertiolecta*, were used to determine the AGP values in the effluent grab sample. The analytical chemistry suggests that the effluent is nitrogen-limited (Miller et al. 1978).

- An aliquot of the AGP sample was salinity adjusted from an apparent salinity of approximately 0.2 parts per thousand (ppth) to a salinity of approximately 6.9 ppth by the addition of artificial sea salts to meet the salinity requirements of the test species *Dunaliella tertiolecta*.

- Differences greater than an order of magnitude between actual and predicted AGP values are considered sufficient evidence to warrant follow up testing with the algal growth inhibition bioassay. True algal growth inhibition can only be determined by performing an actual algal growth inhibition test. Should algal growth inhibition be suspected, the district should request that the algal growth inhibition test be performed as a follow-up to the inspection.

Organic Constituents (See Table 7 and Appendix D)

- Atrazine, azoxystrobin, bromacil, caffeine, chlorfenapyr, cyprodinil, dimethomorph, fipronil, fipronil desulfinyl, fipronil sulfide, fipronil sulfone, fludioxonil, flutolanil, fluxapyroxad, imazalil, iprodione, loratadine, metribuzin, prodiamine, propiconazole, simazine, sulfentrazone, tebuconazole, terbufos, and 2,4,6-trichlorophenol were detected in the effluent grab sample.

- There are no effluent permit limits for organic constituents.

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 Marine Waters, and field parameters

Parameter	Units	Class III Criteria	Effluent Permit Limits EFD-1	Effluent EFA-1
Temperature	C	-	Report	28.6
pH	SU	6.5 - 8.5	6.5 - 8.5	7.5
Specific Conductance	µmhos/cm	-	-	568
Dissolved Oxygen	% saturation	≥ 42	-	105
Dissolved Oxygen	mg/L	-	≥ 5.0 s	8.1

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
s - Single sample

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

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

Analyte	Units	Class III Criteria	Effluent Permit Limits EFD-1	Effluent Grab EFA-1	Effluent Composite EFA-1
Ortho-phosphate	mg P/L	-	Report	1.2	-
Total Phosphorus[1]	mg P/L	-	Report	1.5	1.0
Total Ammonia	mg N/L	-	Report	0.23	0.16
Un-ionized Ammonia (calculated salinity)	mg N/L	-	-	< 0.02 c	-
Nitrate and Nitrite	mg N/L	-	Report	0.51	1.8
Total Kjeldahl Nitrogen	mg N/L	-	Report	1.7	1.8
Organic Nitrogen	mg N/L	-	Report	1.5 c	1.6 c
Total Nitrogen	mg N/L	-	Report	2.2 c	3.6 c
Total Organic Carbon	mg C/L	-	-	8.4	-
Chlorophyll *a* - Corrected	µg/L	≤ 5.4 a	-	0.82 U	-
Phaeophytin	µg/L	-	-	0.90 U	-
CBOD, 5-day, N - inhibited	mg/L	-	≤ 42.8 sp	-	2.8
Hardness	mg CaCO3/L	-	-	151 c	-
Total Suspended Solids	mg/L	-	≤ 42.8 sp	-	7 IA
Turbidity	NTU	≤ 29 t	-	2.3 A	-
Color (true)	PCU	-	-	31	-
Alkalinity	mg CaCO3/L	-	-	125 A	-
Chloride	mg Cl/L	-	-	61	-
Cyanide[2]	mg/L	≤ 1.0	≤ 2.5 s	0.0078 IQ	-
Fluoride	mg F/L	≤ 5.0	-	0.38	-
Sulfate	mg SO4/L	-	-	62	-
Escherichia coli	MPN/100 mL	-	-	23.8	-
Enterococci	MPN/100 mL	≤ 130	≤ 130 (EFA-1)	95.9	-
Bioassay - Mysid *(Americamysis bahia)*	% effluent	-	≥ 100 sp	-	> 100
Bioassay - Fish *(Menidia beryllina)*	% effluent	-	≥ 100 sp	-	> 100 J

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
a - Annual average
c - Value is calculated
p - 24-hour flow proportioned composite
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
Q - Sample held beyond normal holding time
U - Material analyzed for but not detected; value reported is the method detection limit
1 - Analyte detected in the equipment blank
2 - Analyte detected in the field blank

Table 3. Analytical metals data

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

Analyte	Units	Class III Criteria	Effluent Permit Limits EFD-1	Effluent Grab EFA-1	Effluent Composite EFA-1
Aluminum	µg/L	≤ 1500	-	18 I	-
Arsenic	µg/L	≤ 50	-	0.23	-
Cadmium	µg/L	≤ 8.8	-	0.020 U	-
Calcium	mg/L	-	-	38.4	-
Chromium, Total [3]	µg/L	≤ 50	-	0.41 I	-
Copper[1]	µg/L	≤ 3.7	≤ 5.8 sp	1.17	1.21
Iron	µg/L	≤ 300	-	150	-
Lead	µg/L	≤ 8.5	-	0.20 U	-
Magnesium	mg/L	-	-	13.4	-
Mercury	µg/L	≤ 0.025	≤ 0.025 s	0.0026	-
Nickel	µg/L	≤ 8.3	-	0.98 I	-
Potassium	mg/L	-	-	11.2	-
Selenium	µg/L	≤ 71	-	0.20 U	-
Silver	µg/L	≤ 2.3	-	0.010 U	-
Sodium	mg/L	-	-	53.2	-
Zinc	µg/L	≤ 86	-	18 I	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
p - 24-hour flow proportioned composite
s - Single sample
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
1 - Analyte detected in the equipment blank
3 - Class III Marine Water Quality Criterion (62-302.530(19)(b), F.A.C.) is for chromium-VI

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 Composite	*Pseudokirchneriella subcapitata*	3.62 A	28.1 ± 5.6	516 ± 103.2	84 ± 16.8	645 ± 129	0.6	1.5
Effluent Composite	*Dunaliella tertiolecta*	3.00 U *	not applicable [4]	not applicable [4]	not applicable [4]	not applicable [4]	0.6	1.5

* - sample salinity adjusted to 6.9 ppth

4 - predictions not applicable to marine matrix

A - Value reported is the mean of two or more determinations

U - Material analyzed for but not detected; value reported is the method detection limit

Table 5. Detected Organic Constituents

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Atrazine	ng/L	-	-	38
Azoxystrobin	ng/L	-	-	3.0
Bromacil	ng/L	-	-	8.0
Caffeine	ng/L			14 I
Chlorfenapyr	ng/L	-	-	2.9
Cyprodinil	ng/L	-	-	0.52
Dimethomorph	ng/L	-	-	0.91 I
Fipronil	ng/L	-	-	34
Fipronil Desulfinyl	ng/L	-	-	2.3
Fipronil Sulfide	ng/L	-	-	4.3
Fipronil Sulfone	ng/L	-	-	3.4
Fludioxonil	ng/L	-	-	3.6
Flutolanil	ng/L	-	-	1.1
Fluxapyroxad	ng/L	-	-	0.35 I
Imazalil	ng/L	-	-	7.9
Iprodione	ng/L	-	-	1.0 I
Loratadine	ng/L	-	-	8.6
Metribuzin	ng/L	-	-	1.6 I
Prodiamine	ng/L	-	-	17
Propiconazole	ng/L	-	-	6.7
Simazine	ng/L	-	-	33
Sulfentrazone	ng/L	-	-	4.0
Tebuconazole	ng/L	-	-	22
Terbufos	ng/L	-	-	0.18 I
2,4,6-Trichlorophenol	µg/L	-	-	0.076 I

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

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event

Prepared By: Herndon Sims	**Contact Number:** 904-256-1612
Facility Name (as it appears on permit): Southwest WRF	**Former Names:**
NPDES Permit Number: FL0026468	**Permit Expiration Date:** May 20, 2024
Physical Address: 5420 118th Street, Jacksonville	
District: NED	**County:** Duval
Function of Facility: Advanced Secondary Domestic Wastewater Treatment	
Facility Type: NPDES Major	**Permitted Capacity (MGD):** 14.0 MGD
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 12.3 MGD	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): NA	
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): FLW-1: Flow measurement through WWTF CAL-1: Calculated value EFD-1: Sample point immediately downstream of post-aeration basin and upstream of outfall pipeline. EFA-1: Immediately downstream of UV treatment and upstream of outfall pipe EFF-1: Ultraviolet radiation chamber	
Description of Permitted Outfall(s): An existing 14.0 MGD annual average daily flow discharge capacity at the Lower St. Johns River (Class III marine waters - WBID 2213E) at discharge location (D-001) from an outfall which is multi diameter diffuser starting 500 feet from the western shoreline, extending 505 feet with a multi-diameter open-ended port diffuser (5 vertical rising ports with each port being approximately 24" diameter spaced at approximately 125 feet on center, and 1 horizontal 24" discharge port located at the end of pipe approximately 5 feet from the last vertical rising diffuser) discharging at a depth of approximately 6 to 15 feet. The point of at which the first/nearest diffuser port begins is located approximately at latitude 30° 14' 48.3" N, longitude 81° 40' 47.8" W and the fifth/furthest diffuser port is located approximately at latitude 30° 14' 51.76" N, longitude 81° 40' 46.27" W.	
Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): One influent screening structure consisting of fine screen units, two grit removal units consist of two 12-foot diameter Fluidyne Hydrogrit AIRCIRC cleaning system, each with a capacity of 10.0 MGD; odor control system, a 5.03-million gallons (MG) activated sludge unit, which is anoxic/aerobic, consists of three treatment trains, named treatment trains # 1, 2, and 3; four secondary clarifiers which will provide an overflow rate of 1171 gpd/ft^2 at 35 MGD at PHF and a solid loading rate of 47 lb/day/ft^2 at 27 MGD MADF; an ultraviolet basic-level disinfection system consisting of UV disinfection channels with a treatment capacity of 50 MGD (peak hourly flow); a post	

aeration system consisting of 80 diffusers and three Hoffman 4207A, 7 stage, 40 hp blowers each with a capacity of 538scfm@6.5psi. D, for a total capacity of 50 MGD; an effluent pumping station consist of 4 WEMCO pumps (3 rated at 8.64 MGD (75 hp each, 30 TDH) and one at 15.55 MGD (125 hp, 29.48 TDH)); one aerated holding tank with a diameter of 80 feet and 18 feet deep; and one sludge thickening tank with a diameter of 65 feet and 12 feet deep, with a capacity of 0.38 MG. Biosolids generated by this facility may be transferred to the JEA Buckman BTF or disposed of in a Class I solid waste landfill. A portion of the effluent flow from this facility is being used by USN NAS Jacksonville WWTF (FL0000957) as make-up water during low flow condition.

PART I: Continued

List current 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)

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Flow, *(Through the WRF)*	MGD	Max	14.0	Annual Average	Continuous	Recording Flow Meter with Totalizer	FLW-1	
	MGD	Max	Report	Monthly Average				
	MGD	Max	Report	3-Mon Rolling Average				
Percent Capacity, (TMADF ÷ Permitted Capacity) x 100	percent	Max	Report	Monthly Average	Monthly	Calculated	CAL-1	
Flow, *(To USN NAS Jax WWTF)*	MGD	Max	Report	Annual Average	Continuous	Meter	OTH-1	
		Max	Report	Monthly Average				
Flow, *(Surface Water Discharge to St. Johns River)*	MGD	Max	14.0	Annual Average	Continuous	Calculated	CAL-1	
	MGD	Max	Report	Monthly Average				
BOD, Carbonaceous 5 day, 20C	mg/L	Max	14.3	Annual Average	5 Days/Week	24-hr FPC	EFD-1	
	mg/L	Max	17.9	Monthly Average				
	mg/L	Max	32.1	Weekly Average				
	mg/L	Max	42.8	Single Sample				
Solids, Total Suspended	mg/L	Max	14.3	Annual Average	5 Days/Week	24-hr FPC	EFD-1	
	mg/L	Max	17.9	Monthly Average				

PART I: Continued

List current 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)

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
	mg/L	Max	32.1	Weekly Average				
	mg/L	Max	42.8	Single Sample				
pH	s.u.	Min	6.5	Single Sample	Continuous	Meter	EFD-1	
	s.u.	Max	8.5	Single Sample				
Coliform, Fecal	#/100mL	Max	800	Single Sample	5 Days/Week	Grab	EFA-1	
	#/100mL	Max	400	90th Percentile				
	#/100mL	Max	200	Monthly Geometric Mean				
	#/100mL	Max	200	Annual Average				
Enterococci	#/100mL	Max	130.0	90th Percentile	5 Days/Week	Grab	EFA-1	
	#/100mL	Max	35.0	Monthly Geometric Mean				
Ultraviolet Light Dosage *(Before Modification)*	mW-s/sqcm	Min	Report	Single Sample	Daily; 24 hours	Meter	EFF-1	See 8 below
Ultraviolet Light Transmittance *(Before Modification)*	percent	Min	Report	Single Sample	Daily; 24 hours	Meter	EFF–1	

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)

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Ultraviolet Light Intensity *(Before Modification)*	mW/sqcm	Min	Report	Single Sample	Daily; 24 hours	Meter	EFF–1	
Ultraviolet Light Dosage *(After placing the new UV disinfection into service)*	mW-s/ sqcm	Min	38.5	Single Sample	Continuous	Meter	EFF–1	See.7, 15, & 16 below
Ultraviolet Light Transmittance *(After placing the new UV disinfection into service)*	percent	Min	Report	Single Sample	Continuous	Meter	EFF–1	See.7, 14, & 16 below
Ultraviolet Light Intensity *(After placing the new UV disinfection into service)*	mW/sqcm	Min	Report	Single Sample	Continuous	Meter	EFF–1	See.7, 13, & 16 below
Reactor Status* *(After placing the new UV disinfection into service)*	On/Off	-	Report**	Single Sample	Continuous	Sensor/Meter	EFF-1	See 8 below

PART I: Continued

List current 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)

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Lamp Status* *(After placing the new UV disinfection into service)*	On/Off	-	Report**	Single Sample	Continuous	Sensor	EFF-1	See 9 below
Lamp Age* *(After placing the UV disinfection into service)*	Hour	Max	Report**	Single Sample	Continuous	Meter *(Interface Elapsed Time Meter)*	EFF-1	See 10 below
Reactor On/Off Cycles* *(After placing the new UV disinfection into service)*	Total Number	Min	Report**	Single Sample	Continuous	Meter	EFF-1	See 16 below
Reactor Power Setpoint* *(After placing the new UV disinfection into service)*	Percent	-	Report**	Single Sample	Continuous	Meter	EFF-1	See 16 below
Water Level in Reactors * *(After placing the new UV disinfection into service)*	Feet	Range	Report**	Single Sample	Continuous	Gate/Meter	EFF-1	See 11 below

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)

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Nitrogen, Total (as N)	mg/L	Max	Report	Annual Average	5 Days/Week	24-hr FPC	EFD-1	
	mg/L	Max	Report	Monthly Average				
	mg/L	Max	Report	Weekly Average				
	mg/L	Max	Report	Single Sample				
Nitrogen, Total Load (as N)	lb/year	Max	Report	Annual Total	Monthly	Calculated	CAL-1	See 19 below
	lb/month	Max	Report	Monthly Total				
Phosphorus, Total (as P)	mg/L	Max	Report	Annual Average	Weekly	24-hr FPC	EFD-1	
	mg/L	Max	Report	Monthly Average				
	mg/L	Max	Report	Weekly Average				
	mg/L	Max	Report	Single Sample				
Phosphorus, Total Load (as P)	lb/year	Max	Report	Annual Total	Monthly	Calculated	CAL-1	See 19 below
	lb/month	Max	Report	Monthly Total				
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Single Sample	Daily; 24 hours	Meter	EFD-1	See 18 below

PART I: Continued

List current 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)

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Copper, Total Recoverable (Mixing Zone)	µg/L	Max	5.8	Single Sample	Monthly	24-hr FPC	EFD-1	
Cyanide, Total (as CN) (Mixing Zone)	µg/L	Max	2.5	Single Sample	Monthly	Grab	EFD-1	
Nitrogen, Organic, Total (as N)	mg/L	Max	Report	Single Sample	Bi-Monthly; Every 2 Months	24-hr FPC	EFD-1	See 21 below
Nitrogen, Total Kjeldahl (as N)	mg/L	Max	Report	Single Sample	Bi-Monthly; Every 2 Months	24-hr FPC	EFD-1	See 21 below
Nitrite plus Nitrate, Total 1 det. (as N)	mg/L	Max	Report	Single Sample	Bi-Monthly; Every 2 Months	24-hr FPC	EFD-1	See 21 below
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Single Sample	Bi-Monthly; Every 2 Months	24-hr FPC	EFD-1	See 21 below
Temperature (°C), Water	Deg °C	Max	Report	Single Sample	Bi-Monthly; Every 2 Months	Meter	EFD-1	See 21 below

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)

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Phosphate, Ortho (as P)	mg/L	Max	Report	Single Sample	Bi-Monthly; Every 2 Months	Grab-filtered	EFD-1	See 21 below
Mercury, Total Recoverable	µg/L	Max	0.025	Single Sample	Quarterly	Grab	EFD-1	
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Americamysis bahia*)	percent	Min	100	Single Sample	Semi-Annually; (Every 6 Months)	24-hr FPC	EFD-1	
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Menidia beryllina*)	percent	Min	100	Single Sample	Semi-Annually; (Every 6 Months)	24-hr FPC	EFD-1	

Note: * These parameters are not required to be reported on the DMR; however, they shall be monitored and operated as described in the Operation Manual
***** Records of UV monitoring shall be maintained for at least five years and made available for inspection upon request.***

7. An ultraviolet (UV) radiation system delivering UV light at the germicidal wavelength of 254 nanometers (nm) shall be used to disinfect the effluent. The UV system shall be monitored for proper operation on each day of operator attendance. The ultraviolet light intensity, ultraviolet light dosage, ultraviolet light transmittance and unit operation shall be monitored and verified. The operation and maintenance shall be performed on a regular basis in accordance with the manufacturer recommended factor of safety. Daily record keeping, routine cleaning and daily system checks of the system shall be conducted and records maintained for review by the Department. [62-600.440(4)(b)]

8. The on/off status of each module shall be monitored continuously. *[62-600.440(1); 62-4.070]*

9. The on/off status of each lamp shall be monitored and logged continuously as part of the UV disinfection process control. Failure of more than 5% of

lamps in a module shall result in a high-priority alarm event. [62-600.440(1); 62-4.070]

10. The lamp age of each lamp shall be monitored continuously. The UV lamps shall be replaced at the appropriate lamp age. [62-600.440(1); 62-4.070]

11. The water level in each reactor shall be monitored continuously. As described by the UV system performance monitoring program, a high or low water level condition shall result in a high-priority alarm event. *[62-600.440(1); 62-4.070]*

12. Ground fault interrupt (GFI) status of the UV disinfection system shall be monitored continuously as described by the UV system performance monitoring program, the tripping of the GFI on a module shall result in a high-priority alarm event. *[62-600.440(1); 62-4.070]*

13. UV intensity shall be monitored by at least one probe per module. UV intensity shall be monitored and logged continuously in each reactor. The UV intensity probe readings are to be verified monthly and calibrated using a reference UV intensity probe. The reference probe and on-line probe measurement are to be taken in an identical location. A UV intensity probe reading below a predetermined set point shall result in a high-priority alarm event. *[62-600.440(1); 62-4.070]*

14. UV transmittance shall be monitored daily along with regularly collected bacterial samples. *[62-600.440(1); 62-4.070]*

15. Operational UV dosage shall be continuously calculated and logged based on a flow rate, and shall be limited as described by the UV system performance monitoring program. A UV dose falling below a predetermined set point shall result in a high-priority alarm event. *[62-600.440(1); 62-4.070]*

16. Operating data for UV light transmittance, UV intensity, UV dose, reactor status, lamp status, lamp age, module on/off cycles, reactor power settings, UV system power consumption and ground fault interrupt status shall be available for inspection at the treatment facility. *[62-600.440(1); 62-4.070]*

17. Operating data for UV light transmittance, UV intensity, UV dose, reactor status, lamp status, lamp age, module on/off cycles, reactor power settings, UV system power consumption and ground fault interrupt status shall be available for inspection at the treatment facility. *[62-600.440(1); 62-4.070]*

18. The effluent limitations for DO and other pollutants such as CBOD5, TKN, etc. shall be met such that the discharge does not degrade the DO concentration of the receiving water below the limit set for in the Site Specific Alternative Criteria (SSACs) for Dissolved Oxygen established for the St. Johns River marine portions (between Julington Creek and the mouth of the river). Pursuant to the SSAC, Dissolved Oxygen concentration of the receiving waterbody shall not be less than a minimum concentration of 4.0 mg/L, and a Total Fractional Exposure not greater than 1.0 over an annual evaluation period as defined by the following equation:

$$\begin{pmatrix} Total\ Fractional \\ Exposure \end{pmatrix} = \left\{\frac{4mg/L<\mathbf{No.\ days\ DO\ Conc.}<4.2\ mg/L}{16\ days\ max}\right\} + \left\{\frac{4.2\ mg/L<\mathbf{No.days\ DO\ Conc.}<4.4\ mg/L}{21\ days\ max}\right\} + \left\{\frac{4.4<No.days\ DO\ Conc.<4.6\ mg/L}{30\ days\ max}\right\} + \left\{\frac{4.6\ mg/L<No.days\ DO\ Conc.<4.8\ mg/L}{47\ days\ max}\right\}$$

$$+ \left\{\frac{4.8<No.days\ DO\ Conc.<5.0\ mg/L}{55\ days\ max}\right\}$$

Where the number days in an interval is based on the daily average Dissolved Oxygen concentration.

[62-302.530(30) & 62-302.800(6)(a)]

19. The permittee, JEA, shall meet the aggregate cap through collectively managing the total nitrogen and total phosphorus loads from each individual JEA facility (Arlington East WRF -FL0026441; Beacon Hills WWTF - FL0026778; Buckman WRF - FL0026000; District II WRF - FL0026450; Jacksonville Heights WWTF-FL0023671; Julington Creek WRF -FL0043591; Mandarin WRF- FL0023493; Monterey WRF- FL0023604; Royal Lakes WWTF - FL0026751; San Jose WWTF -FL0023663; San Pablo WWTF-FL0024767; Southwest District WRF-FL0026468; Woodmere WWTF-FL0026786; and JEA Power Plant-FL0001031), which are listed in the JEA - Aggregated (Permit ID: FL0620564). The monthly mass load and annually mass loads of total nitrogen or total phosphorus shall be calculated as follows:

- Monthly Mass Load (ML)

  ML (Lbs/Mon) = (Flow($\frac{MG}{Mon}$ **)x {TN** or **TP (**$\frac{mg}{L}$**) }x 8.34** $\left(\frac{L}{MG}\right)$ $(\frac{Lbs}{mg})$

  Where:

ML	=	Monthly mass load of total nitrogen; (Lbs/Mon)
Flow	=	Monthly total volume effluent discharged from D-001 in a given month; (million gallons (MG))
TN	=	Monthly average concentration of total nitrogen monitored at EFD-1; (mg/L)
TP	=	Monthly average concentration of total phosphorus monitored at EFD-1; (mg/L)

- Annually Mass Load (AL)

  The annual mass load is computed using a rolling twelve (12) month period. The calculation shall be the sum of the twelve most recent monthly mass loading of total nitrogen or total phosphorus

20. The Florida water quality criteria and standards shall not be violated as a result of the discharge. *[62-620.320(9), 62-302.530]*

21. JEA shall monitor the segment of the waterbody near the Outfall D – 001 for study and reporting on the impact of the discharge to the water quality of the waterbody. The bi-monthly (every two months) effluent-nutrients sample event collected at EFD – 1 as described in Condition I.A.1 shall coincide with the ambient stream sample event specified in the JEA – Nutrients Aggregate (Permit ID: FL0620564). *[BPJ][62-620.100(3)(m)]*

22. The Department reserves the right to require the Permittee to conduct a reconnaissance sediment sampling event to include up to six transects with a minimum of three transects located (1) along the outfall, D-001, and approximately 300 feet upstream and 300 feet downstream of the outfall, D-001,

for the purpose of establishing final sampling locations for permit monitoring. *[BPJ]*

23. JEA shall provide an annual report by January 1 of each year concerning the integrity of the outfall and make any necessary repairs within a Department approved timeframe. *[BPJ] [62-620.100(3)(m)]*

PART I: Continued	
Receiving Waters: Lower St. Johns River	**Classification (indicate whether fresh or marine):** Class III marine waters

Toxicity Test Requirements (routine and/or additional test language, test species, salinity adjustment, etc.):

a. Effluent Limitation
   (1) In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) 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 6 months of the most recent tests 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-02-014, 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 7-day survival and growth chronic toxicity tests with the mysid shrimp, *Americamysis (Mysidopsis) bahia*, Method 1007.0, and the inland silverside, *Menidia beryllina*, Method 1006.0, 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 Marine and Estuarine Organisms, 3rd Edition, EPA-821-R-02-014. 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 used shall be artificial sea salts as described in EPA-821-R-02-014, Section 7.2. The test salinity shall be determined as follows:
      (a) For the *Americamysis bahia* bioassays, the effluent shall be adjusted to a salinity of 20 parts per thousand (ppt) with artificial sea salts. The salinity of the control/dilution water shall be 20 ppt. If the salinity of the effluent is greater than 20 ppt, no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.
      (b) For the *Menidia beryllina* bioassays, if the effluent salinity is less that 5 ppt, the salinity shall be adjusted to 5 ppt with artificial sea salts. The salinity of the control/dilution water shall be 5 ppt. If the salinity of the effluent is greater than 5 ppt, no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.
      (c) If the salinity of the effluent requires adjustment, a salinity adjustment control should be prepared and included with each bioassay. The salinity adjustment control is intended to identify toxicity resulting from adjusting the effluent salinity with artificial sea salts. To prepare the salinity adjustment control, dilute the control/dilution water to the salinity of the effluent and adjust the salinity of the salinity adjustment control at the same time and to the same salinity that the salinity of the effluent is adjusted using the same artificial sea

salts.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):

Administrative Order (AO 198NE) effective date-July 21, 2021: issue for Enterococci, AO interim limit was report only. Required to submit a plan of action to achieve compliance of the limitations for enterococci. Comply with final permit limits for enterococci by September 1, 2021. Action items noted in table below. The AO has been closed.

	ACTION ITEM	DUE DATE
i	The discharge shall be in compliance with all limits specified in the permit except for enterococci.	Completed
ii	Submit a plan of action to achieve compliance of the limitations for enterococci.	Completed
iii	Submit first report summarizing progress toward compliance with final limit for enterococci.	Completed
iv.	Submit second report summarizing progress toward compliance with final limit for enterococci.	Completed
v.	Submit third report summarizing progress toward compliance with final limit for enterococci.	Completed
vi	Comply with final permit limits for enterococci or obtain department-approved regulatory relief.	September 01, 2021

Consent Order (CO 06-1796): was executed for the purpose of enforcement for sanitary sewer overflows that occurs from the facility collection system.

Facility Mixing Zone Details (if applicable):

A mixing zone for concentration of total cyanide in the effluent discharged through the existing outfall D-001 to St. Johns River has been established. The mixing zone has polygon shape which was delineated based on a longitudinal distance of 197 m (upstream and downstream) and a total with of 212 m. The total mixing zone area shall be 83,000 m^2, centered over the five diffuser ports and the end-of-pipe of the Outfall D-001 perpendicular to the shore. Within the mixing zone, a minimum dilution ration of 1:4 is achieved at critical/worse care hydrologic scenarios. The maximum concentration limit at the end-of-pipe for cyanide is 2.5 µg/L (95th percentile effluent concentration) at the permitted capacity of 14.0 MGD AADF. The dischargers shall meet the water quality criterion of 1.0 µg/L for cyanide at the edge of mixing area. The coordinates of the vertices of the cyanide mixing zone and the Outfall D-001 are listed in the Table 1, and mixing zone delineation is shown on Figure 1 below.

Table 1: Coordinates of the Vertices of Mixing Zone for Cyanide

Coordinate Label	Latitude	Longitude
A	**30° 14’ 57.75” N**	**81° 40’ 52.10” W**
B	**30° 14’ 50.72” N**	**81° 40’ 39.71” W**
C	**30° 14’44.01” N**	**81° 40’ 41.82” W**
D	**30° 14’ 51.07” N**	**81° 40’ 53.083” W**



Figure 1:

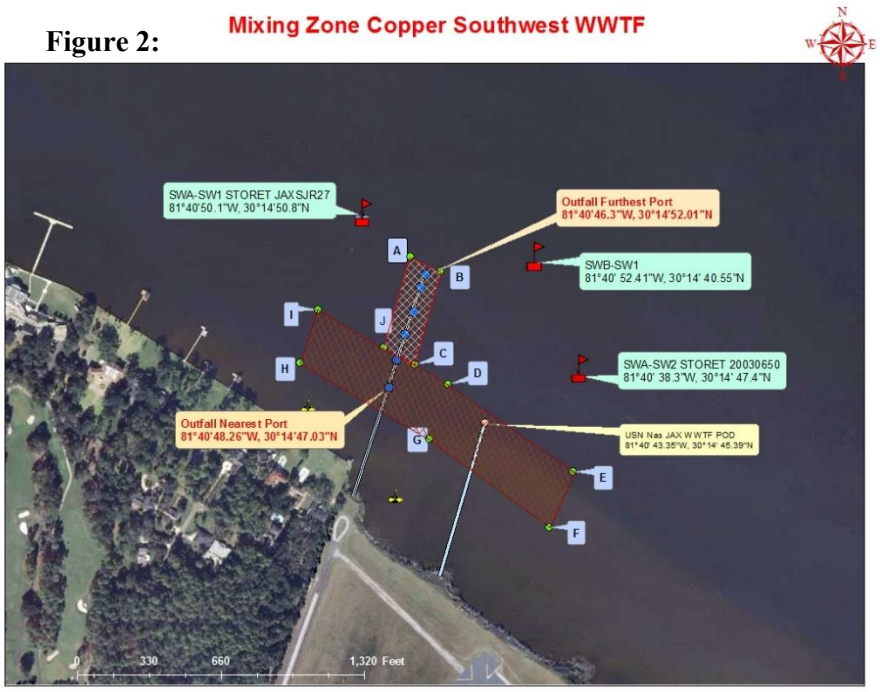
A mixing zone for concentration of copper (total recoverable) in the effluent discharged through the existing outfall D-001 to St. Johns River has been established. The mixing zone area consists of two portions in polygonal shape adjoining along the diffusers ports. The first portion of the mixing zone (based on the JEA – Southwest WRF discharge only) was delineated based on a longitudinal distance of 25 m (upstream and downstream) and a total width of 135 m. The mixing zone area of the first portion shall be 6,750 m^2, centered over the three further diffuser ports and end-open-pipe. The other the portion of the mixing zone is delineated based on discharge from the two nearest diffuser ports overlap with the discharge from the USN NAS Jax WWTF. The second portion of the mixing zone (combined discharge from JEA – Southwest WRF and USN NAS Jax WWTF) was delineated based on a longitudinal distance of 211 m (upstream and downstream) and a width of 80 m. The mixing zone

area of the second portion shall be 33,760 m^2. The total mixing zone shall be 40,510 m^2. Within the mixing zone, a minimum dilution ration of 1:3 is achieved at critical/worse care hydrologic scenarios. The maximum concentration limit at the end-of-pipe for copper is 5.8 µg/ (95th percentile effluent concentration) at the permitted capacity of 14.0 MGD AADF. The dischargers shall meet the water quality criterion of 3.7 µg/L for copper at the edge of mixing area. The coordinates of the vertices of the copper mixing zone and the Outfall D-001 are listed in the Table 2, and mixing zone delineation is shown on Figure 2.

Table 2: Coordinates of the Vertices of Mixing Zone Polygon for Copper

Point	Latitude	Longitude
Nearest Diffuser Port	**30° 14′ 52.93′′ N**	**81° 40′ 47.03′′ W**
Furthest Diffuser Port	**30° 14′ 48.79′′ N**	**81° 40′ 48.50′′ W**
A	**30° 14′ 52.27′′ N**	**81° 40′ 45.40′′ W**
B	**30° 14′ 48.79′′ N**	**81° 40′ 48.50′′ W**
C	**30° 14′ 47.99′′ N**	**81° 40′ 46.90′′ W**
D	**30° 14′ 47.09′′ N**	**81° 40′ 45.14′′ W**
E	**30° 14′ 42.98′′ N**	**81° 40′ 38.67′′ W**
F	**30° 14′ 40.50′′ N**	**81° 40′ 39.98′′ W**
G	**30° 14′ 44.59′′ N**	**81° 40′ 46.21′′ W**
H	**30° 14′ 48.17′′ N**	**81° 40′ 52.91′′ W**
I	**30° 14′ 50.57′′ N**	**81° 40′ 51.93′′ W**
J	**30° 14′ 48.79′′ N**	**81° 40′ 48.50′′ W**

Figure 2:



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

Date	Parameter and Units	Limit	Result
06/30/2022	Coliform, Fecal 90th Percentile	40	638.9
06/30/2022	Coliform, Fecal #/100 mL	800	2420
10/31/2021	Coliform, Fecal #/100 mL	800	1410
07/31/2021	Coliform, Fecal #/100 mL	800	921

Plant upsets that occurred at the plant within the last year (cont): Facility had several sanitary sewer overflows that occurred within their collection system between July 2021 and August 2022**.**

Describe previous FYI and WQBEL study:

A FYI3 was conducted May 2013 for effluent discharging through outfall D-001.

Results of the Water Chemistry:

The total ammonia concentration in the bioassay sample was 1.06 mg N/L. An ammonia analysis was not performed on the effluent samples collected and preserved for chemical analysis; therefore, unionized ammonia cannot be calculated for this sample.

Copper, Nickel, and Aluminum were detected in the effluent at levels that comply with Class III Marine Water Quality Criteria (62-302.530, F.A.C.) and/or permitted limits. Chromium III, Iron and Zinc were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

Summary Toxicity Testing of Effluent at D-001

The discharge has been in compliance with the whole effluent toxicity (WET) test for the last five years of the permit cycle.

WQBEL Study:

Water Quality Based Effluent Limitation (WQBEL)

Bacteriological Qualities:

Enterococci: In 2004, EPA promulgated bacteriological water quality criteria for Florida in 40 CFR 131.41. A requirement for discharges from the Outfall D-001 to meet the federal criteria was adopted in subsection 62-600.520(5), F.A.C, but the facility discharges to WBID 2213E which is more than 15 miles away from coastal recreation waters of the U.S. Thus, in the previous permit cycle, monitoring requirement for enterococci was exempted.

In July 2017, EPA approved Florida's bacteriological water quality standards in Rule 62-302.530, F.A.C., superseding the criteria in 40 CFR 131.41. Therefore, the exemption of enterococci limitations previously has been removed and replaced with enterococci effluent limitations consistent with the bacteriological water quality standards for enterococci in Rule 62-302.530, F.A.C. The enterococci pilot testing data shows that the effluent would not consistently meet the 90th percentile limitation for parameter. An administrative order was issued in conjunction with the permit.

Fecal Coliform: Because there is no established relationship between fecal coliform and enterococci bacteria, limitations based on both the disinfection requirements for fecal coliform from Rule 62-600.440, F.A.C., and based on the bacteriological water quality standards for enterococci for discharges to Class III predominately marine waters under Rule 62-302.530, F.A.C., was included in the permit

Iron: Iron is listed as an impaired parameter of the segments of the river WBIDs 2213D and 2213F (adjacent north and south of the segment waterbody where outfall is located). The chemical data included in the third year sampling inspection report showed that the concentration of iron (120 µg/L) was at a level that complied with the water quality standard (maximum 300 µg/L). In addition, the facility receives 100% domestic wastewater (there are no known industrial wastewater connections to the facility). There is no evidence to show that the iron concentration in the effluent is impacting the iron level of the water body. The facility was not required to monitor for iron at this time.

Mercury: The analytical results indicate that the discharge has complied with the permit limit for mercury. Based on the Statewide mercury TMDL, the permittee is required to continue to monitor for mercury. EPA Method 1631E is recommended. However, an alternative EPA approved method such as Method 245.1 or 245.7 with a MDL of 14.0 ng/L or less operated in the high sensitivity mode can be used as for initial screening for mercury. If

mercury is not detected (e.g., the results are less than the MDL of 14.0 ng/L), then mercury is in compliance with the water quality criterion of Rule 62-302.530(41), FAC. However, for any sample results that have a value greater than the MDL but less than the PQL, the permittee shall conduct an additional evaluation for mercury using clean sampling techniques such as Method 1631E. If test results show quantifiable mercury levels in the effluent, the permittee shall prepare and implement a mercury minimization plan addressing source of mercury.

Copper: JEA has monitored for concentration of copper in the effluent before discharge, and compared the results with the water quality standards (WQS) of 3.7µg/L. Exceedances of WQS in surface water discharge are not authorized, excepted within an approved mixing zone area.

The Facility Fact Sheet can be provided if more information is required on the WQBEL.

Describe previous or current Enforcement Actions (including WLs):
Currently, enforcement is being tracked and taken for sanitary sewer overflows.

Describe any violations or problems noted in previous inspection:
The last compliance inspection was conducted February 2021. Facility was in compliance and no compliance issues were noted.

Discuss whether DMR trends within previous five years are improving or declining:
Facility treatment processes appears to be operating satisfactory. Fecal coliform was noted as exceeding the permit limit. These exceedances were not chronic. Toxicity, nutrients, metals and conventional parameters were well within the permit limits.

Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):
No Reuse requirement.

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 (Chapter 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-2022-10-03-36

FYI3 Southwest District WWTF NED FL0026468
Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann
Collected By: CL, TP, RC
Field Report Prepared By: Conor Lucey
Sampling Agency: NED & FDEP

Location: SW Dist WWTF FYI3 2022	☐ Comp ☐ Grab	Collection (comp begin or grab) Date 10/13/22 Time 10:07am	Eastern Central	Composite end Date	Time	Matrix (type, e.g., Salt, Fresh, etc): DI water	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L): X	Bottle Group(s) (See pg 2): D	
Field ID: FL0026468 EFA-1	Temp (C): X	pH: X	Sample Depth: X	☐ ft ☐ m	Sp. Conductance (umho/cm): X						
WIN/STORET #: Bottle Grp D - Equip Blank	Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)	Comments: Slight rain on collection. Collected in Field					
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date	Time	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	Bottle Group(s)	
Field ID	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)						
WIN/STORET #	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	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	Bottle Group(s)	
Field ID	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)						
WIN/STORET #	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	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	Bottle Group(s)	
Field ID	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)						
WIN/STORET #	Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)	Comments					

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Taylor Ford	10/13/22 1630	FedEx	1	R	10-14-2022 1:30

Request Number: RQ-2022-10-03-36

FYI3 Southwest District WWTF NED FL0026468 Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Normann

Field Report Prepared By: Conor Lucey

Collected By: Taylor Parks, Conor Lucey, Phillip Hoeke

Sampling Agency: FDEP

Loc SW Dist WWTF FYI3 2022
Fiel FL0026468
EFA-1
Wil Bottle Grp B - Effluent Composite

Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms

☑ Comp ☐ Grab | Collection (comp begin or grab) Date 10/17/22 Time 1060 Eastern Central | Composite end Date 10/17/22 Time 1060 | Bottle Group(s) (See pg 2): B

Matrix (type, e.g., Salt, Fresh, etc): Wastewater effluent | Diss. Oxygen ☐ mg/L ☐ % sat | Total Res. Chlorine (mg/L)

Temp (C): — | pH: — | Sample Depth: — ☐ ft ☐ m | Sp. Conductance (umho/cm): —

Salinity (ppt): — | Comments: DN2 lid broke in field parafilmed in field

---

L SW Dist WWTF FYI3 2022
F FL0026468
EFA-1
V Bottle Grp C - Field Blank

Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms

☐ Comp ☑ Grab | Collection (comp begin or grab) Date 10/17/22 Time 10:25 Eastern Central | Composite end Date N/A Time/ N/A | Bottle Group(s): C

Matrix (type, e.g., Salt, Fresh, etc): DI water | Diss. Oxygen N/A ☐ mg/L ☐ % sat | Total Res. Chlorine (mg/L) N/A

Temp (C) N/A | pH * | Sample Depth N/A ☐ ft ☐ m | Sp. Conductance (umho/cm) N/A

Salinity (ppt): | Comments:

Locati SW Dist WWTF FYI3 2022
Field I FL0026468
EFA-1
WIN/S Bottle Grp A - Effluent Grab

Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms

☐ Comp ☑ Grab | Collection (comp begin or grab) Date 10/17/22 Time 11:10 Eastern Central | Composite end Date N/A Time | Bottle Group(s): A

Matrix (type, e.g., Salt, Fresh, etc): Waste water | Diss. Oxygen 8.13 105% ☒ mg/L ☐ % sat | Total Res. Chlorine (mg/L) UV facility

Temp (C) 28.6 | pH 7.47 | Sample Depth N/A ☐ ft ☐ m | Sp. Conductance (umho/cm) 568

Salinity (ppt) N/A | Comments: Fin. sweep grabs after 15 min (10:35)

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

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Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Taylor Parks	10/17/22 1630	Fed Ex	4 TP (5)	Devon Witcraft	10.18.22/0936

Request Number: RQ-2022-10-03-36

FYI3 Southwest District WWTF NED FL0026468
Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann

Field Report Prepared By: Taylor Parks

Collected By: Taylor Parks, Conor Lucey, Philippe Hooke

Sampling Agency: FDEP

Location: SW Dist WWTF FYI3 2022	☐ Comp ☐ Grab	Collection (comp begin or grab) Date 10/18/22 Time 1000	Eastern Central	Composite end Date 10/19/22 Time 1000						Bottle Group(s) (See pg 2) B
Field ID: FL0026468 EFA-1	Matrix (type, e.g., Salt, Fresh, etc): WW effluent			Diss. Oxygen NA	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L) NA				
WIN/STORET #: Bottle Grp B - Effluent Composite	Temp (C) NA	pH NA		Sample Depth NA	☐ ft ☐ m	Sp. Conductance (umho/cm) NA				
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt) NA	Comments: 3rd TOK Bottle 3/4 full Parafilmed in field							
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							
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
	10/19/22 11:30am	FedEX	2	K/CP	10-26-2022 9:20

Devon Witczak 10.20.22/0940

Request Number: RQ-2022-10-03-36

FYI3 Southwest District WWTF NED FL0026468
Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann

Collected By: Conor Lucey

Field Report Prepared By: Conor Lucey

Sampling Agency: FDEP NED

Location: Southwest district WWTF (FL0026468) EFF-1	☐ Comp ☐ Grab	Collection (comp begin or grab) Date 10-21-22 Time 10:05	Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2)	13
Field ID: SWdistrict tox 10-21-22	Matrix (type, e.g., Salt, Fresh, etc): WW	Diss. Oxygen N/A ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L) N/A				
WIN/STORET #	Temp (C) N/A	pH N/A	Sample Depth N/A ☐ ft ☐ m	Sp. Conductance (umho/cm) N/A			
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt) N/A	Comments: one bottle half full				
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				
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
CL	10-21-22 11:05	FedEX	2	Raven Baxter	10.22.22/0910



CHAIN OF CUSTODY RECORD

Project Number: (Lab Use Only) 221017.06

3553 Regent Boulevard, Suite # 509
Jacksonville, FL 32224
P. (904) 807-9625 E. info@delilab.com
F. (904) 807-9627

Page 1 of 1

Company Name: Florida Department of Environmental Protection
Address: 8800 Baymeadows Way West
City: Jacksonville State: Fl Zip: 32256
Attn: ~~Dep-overflowmicro@fldep.state.fl.us~~ Rodney.Christensen@FloridaDEP
Tel. 904 256 1521 E-mail or Fax Taylor.Parks@FloridaDEP.gov
Project Name: JEA SW FY13 2022
Project Number: 2022-10-03-36
Project Location: Southwest District WWTF
Sampler Name/Signature: Taylor

Transfer #	Sample # (Lab Use Only)	Sample Identification	Date Sampled	Time Sampled	Sample Matrix Code	Specific Cond. (Field)	Comp	Grab	E. Coli - Quantitray	Enterococci - Quantitray	Coliform, Fecal - MF 3 Dilutions	Container Information (Qty, Size, & Type)								
												250 mL NPW	250 mL NPW	NPW						
												Container Preservation Codes								
												6	6	6						
									Parameters											
1	61193	~~EFA-1~~ group A	10/17/22	1110	NPW	568		X	1	1										
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
0																				

Sample Matrix Codes:
A. Air P. Petroleum
B. Bulk S. Soil/Sludge
W. Wipe O. Other _____
PW. Potable Water
NPW. Non-Potable Water

Sample Kit or Container Lot #: NA

Preservation Codes:
0. None 5. $Na_2S_2O_3$
1. H_2SO_4 6. Crushed Ice (4C)
2. HNO_3 7. $C_6H_8O_6$
3. HCl 8. NH_4Cl
4. NaOH 9. Other: (List)

Thermal Preservation:
In Crushed Ice? (Yes) / No
Cooler Temp: 0.2 °C
Sample Cont. Temp: 5.8 °C

Turnaround Requested:
X Standard (10 Business Days)
___ Semi-Rush (3-5 Business Days)
___ Rush (1-2 Business Days)
Turnaround times are estimated & subject to change. Surcharges apply for all Rush samples.

Billing Information:
_____ Invoice with Report
_____ Invoice to Accounting
Req. #: _____
P.O. #: C0319A

NELAP ACCREDITED TNI LABORATORY
Certification #E821059

Special Instructions:
WW effluent
pH 7.47

Transfer Numbers	Relinquished By	Date / Time	Received By	Date / Time
1	Taylor Parks	10/17/22 2PM	DC VC	10/17/22 1405

Lab General Form 059, Rev. #1, Rev. Date: 02/07/22, Effective Date: 02/07/22.

Visit us online & order kits at: www.delilab.com

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

Contract Manager: Linda Allen /Devan Cobb (850) 245-8084/ (850) 245-8078
2600 Blair Stone Rd., MS 6512
Tallahassee, FL 32399-2400

Contractor: Eurofins Environmental Testing Southeast, LLC
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: 10/20/2022
Means of Contact: Email

Task Assignment Numl OV398 Maximum Cost: **$224.00** 400-227646 COC rnaround Time: 10 BD

Sample Delivery Date: 10/20/2022

Project Name/Description:
RQ-2022-10-03-36; NE-DIST-2022-10-18-02; FYI3 South West District WWTF NED FL0036468

Deliverable Number/ Parameter Group/	Sample Matrix	# of Samples	# of Containers	DEP ID #	Unit Cost	% Mark-up (if any)	Cost
Method							
58/ Cyanide OV-CN-W EPA 335.4	W	2	2	2362878, 2362880	$37.00		$74.00
65/mercury, Low Level (LL CVAFS)1631E	W	2	8 vials	2362879, 2362881	$70.00		$140.00
217/Sample Disposal Fe	4				$2.50		$10.00
otal Number of Containers Shippe		10				**Total:**	**$224.00**

QC Instructions:

Comments:

Samples released to Contract Lab by: _____ Date/Time: 10/20/22 1130

Delivery Method: ____HD____

Samples Accepted by: Noel Savoie Date/Time 10-20-2022 1130

* **Please sign and return by email to** Linda.S.Allen@FloridaDEP.gov and Devan.R.Cobb@dep.state.fl.us

Relig. 10-20-22 1600

rec: 10/21/22 0900 Page 16 of 20 1129

11/1/2022

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

Contract Manager: Linda Allen/Devan Cobb (850)-245-8084 / (850) 245-8078
2600 Blair Stone Rd., MS 6512
Tallahassee, FL 32399-2400

Contractor: Eurofins Environmental Testing Southeast, LLC
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: 9/21/2022
Means of Contact: Email

Task Assignment Number: OV389 Maximum Cost: **$41.50** Turnaround Time: 5 BD

Sample Delivery Date: 10/18/2022

Project Name/Description:
RQ-2022-10-03-36; FY13 Southwest District WWTF NED FL0026468 Sampling Inspection

Deliverable Number/ Parameter Group/ Method	**Sample Matrix**	**# of Samples**	**# of Containers**	**DEP ID #**	**Unit Cost**	**% Mark-up (if any)**	**Cost**
Quote/OV-CBOD-1N CBOD, nitrogen-inhibited 5210B-2011	W	1	1		$39.00		$39.00
217/Sample Disposal Fee:	1				$2.50		$2.50
Total Number of Containers Shipped:	1					**Total:**	**$41.50**

660-124512 Chain of Custody

Loc: 660
124512

QC Instructions:

Comments: Quote # 66018208 - 0 Taylor Parks

Samples released to Contract Lab by: Taylor Parks Date/Time: 10/19/22 ~~1~~ 1630

Delivery Method: FedEx Shipping 1

Samples Accepted by: _____ Date/Time 10/20/22 8:55

* **Please sign and return by email to** Linda.S.Allen@FloridaDEP.gov and Magan.Bowden@dep.state.fl.us

1.4 1.8

Appendix D. Chemical Analysis of Effluent

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 11:10	Effluent Grab	AGP/LN	Algal Growth Potential-Salinity Adjusted	3.00 U	mg DryWt/L	3.00	3.00
10/17/2022 11:10	Effluent Grab	AGP/LN	Algal Growth Potential	3.62 A	mg DryWt/L	0.300	0.900
10/17/2022 11:10	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
10/17/2022 11:10	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.82 U	µg/L	0.82	2.5
10/17/2022 11:10	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.60 U	µg/L	0.60	1.8
10/17/2022 11:10	Effluent Grab	Overflow	Enterococci-Quanti-Tray	95.9	MPN/100 mL	1	1
10/17/2022 11:10	Effluent Grab	Overflow	Escherichia Coli-Quanti-Tray	23.8	MPN/100 mL	1	1
10/17/2022 10:00	Effluent Composite	Toxicology	Bioassay-Chron-Def-SW-Fish, NOEC	100 LJ	NOEC		
10/17/2022 10:00	Effluent Composite	Toxicology	Bioassay-Chron-Def-SW-Mysid, NOEC	100 L	NOEC		
10/17/2022 10:00	Effluent Composite	Toxicology	Bioassay-Chron-Def-SW-Mysid, IC25	100 L	IC25		
10/17/2022 10:00	Effluent Composite	Toxicology	Bioassay-Chron-Def-SW-Fish, IC25	100 LJ	IC25		
10/17/2022 11:10	Effluent Grab	Metals	Sodium	53.2	mg/L	0.50	2.0
10/17/2022 11:10	Effluent Grab	Metals	Chromium	0.41 I	µg/L	0.40	1.6
10/17/2022 11:10	Effluent Grab	Metals	Nickel	0.98 I	µg/L	0.50	2.0
10/17/2022 10:25	Field Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
10/17/2022 10:25	Field Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
10/17/2022 11:10	Effluent Grab	Metals	Silver	0.010 U	µg/L	0.010	0.040
10/17/2022 11:10	Effluent Grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80
10/17/2022 11:10	Effluent Grab	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
10/17/2022 11:10	Effluent Grab	Metals	Arsenic	0.23	µg/L	0.050	0.20
10/17/2022 10:25	Field Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
10/17/2022 10:25	Field Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
10/17/2022 10:25	Field Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
10/17/2022 11:10	Effluent Grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
10/17/2022 10:25	Field Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
10/17/2022 11:10	Effluent Grab	Metals	Zinc	18 I	µg/L	5.0	20
10/17/2022 10:25	Field Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
10/17/2022 10:25	Field Blank	Metals	Iron	30 U	µg/L	30	120
10/17/2022 11:10	Effluent Grab	Metals	Calcium	38.4	mg/L	0.075	0.30

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 11:10	Effluent Grab	Metals	Potassium	11.2	mg/L	0.30	1.2
10/17/2022 11:10	Effluent Grab	Metals	Iron	150	µg/L	30	120
10/17/2022 10:25	Field Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
10/17/2022 10:25	Field Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
10/17/2022 10:25	Field Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
10/17/2022 11:10	Effluent Grab	Metals	Magnesium	13.4	mg/L	0.040	0.16
10/17/2022 10:25	Field Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
10/17/2022 10:25	Field Blank	Metals	Chromium	0.40 U	µg/L	0.40	1.6
10/17/2022 10:25	Field Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
10/17/2022 10:25	Field Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
10/17/2022 11:10	Effluent Grab	Metals	Aluminum	18 I	µg/L	5.0	20
10/17/2022 11:10	Effluent Grab	Metals	Copper	1.17	µg/L	0.40	0.80
10/17/2022 10:25	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.10
10/17/2022 10:25	Field Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
10/17/2022 10:25	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
10/17/2022 10:25	Field Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
10/17/2022 11:10	Effluent Grab	Nutrients	Chloride	61	mg Cl/L	0.40	1.0
10/17/2022 11:10	Effluent Grab	Nutrients	Total Alkalinity	125 A	mg CaCO3/L	0.65	2.5
10/17/2022 11:10	Effluent Grab	Nutrients	Turbidity	2.3 A	NTU	0.10	1.0
10/17/2022 11:10	Effluent Grab	Nutrients	O-Phosphate-P	1.2	mg P/L	0.20	0.50
10/17/2022 11:10	Effluent Grab	Nutrients	Ammonia-N	0.23	mg N/L	0.020	0.050
10/17/2022 11:10	Effluent Grab	Nutrients	Color (true)	31	PCU	2.5	6.0
10/17/2022 11:10	Effluent Grab	Nutrients	Organic Carbon	8.4	mg C/L	0.50	1.0
10/17/2022 11:10	Effluent Grab	Nutrients	Sulfate	62	mg SO4/L	0.40	1.0
10/17/2022 10:25	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
10/17/2022 10:25	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
10/17/2022 10:25	Field Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.50	1.0
10/17/2022 10:25	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
10/17/2022 11:10	Effluent Grab	Nutrients	NO2NO3-N	0.51	mg N/L	0.0080	0.020
10/17/2022 10:25	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
10/17/2022 10:25	Field Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
10/17/2022 10:25	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.10	1.0
10/17/2022 11:10	Effluent Grab	Nutrients	Kjeldahl Nitrogen	1.7	mg N/L	0.16	0.40
10/17/2022 11:10	Effluent Grab	Nutrients	Fluoride	0.38	mg F/L	0.035	0.10

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 10:25	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
10/17/2022 11:10	Effluent Grab	Nutrients	Total-P	1.5	mg P/L	0.050	0.25
10/17/2022 10:25	Field Blank	Overflow	Mercury	0.20 U	ng/L	0.20	0.50
10/17/2022 10:25	Field Blank	Overflow	Cyanide	0.0061 IQ	mg/L	0.0025	0.010
10/17/2022 11:10	Effluent Grab	Overflow	Mercury	2.6	ng/L	0.20	0.50
10/17/2022 11:10	Effluent Grab	Overflow	Cyanide	0.0078 IQ	mg/L	0.0025	0.010
10/17/2022 11:10	Effluent Grab	Pesticides	Coumaphos	0.49 U	ng/L	0.49	2.0
10/17/2022 11:10	Effluent Grab	Pesticides	Pyridaben	0.44 U	ng/L	0.44	2.2
10/17/2022 11:10	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.049 U	ng/L	0.049	0.20
10/17/2022 11:10	Effluent Grab	Pesticides	Cyanazine	3.2 U	ng/L	3.2	13
10/17/2022 11:10	Effluent Grab	Pesticides	Dimethenamid	0.099 U	ng/L	0.099	0.39
10/17/2022 11:10	Effluent Grab	Pesticides	Dithiopyr	0.62 U	ng/L	0.62	2.5
10/17/2022 11:10	Effluent Grab	Pesticides	EPTC	1.2 U	ng/L	1.2	4.9
10/17/2022 11:10	Effluent Grab	Pesticides	Fipronil Sulfone	3.4	ng/L	0.15	0.59
10/17/2022 11:10	Effluent Grab	Pesticides	Flumioxazin	4.4 U	ng/L	4.4	18
10/17/2022 11:10	Effluent Grab	Pesticides	Hexazinone	0.49 U	ng/L	0.49	2.0
10/17/2022 10:25	Field Blank	Pesticides	Bromacil	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Dimethenamid	0.10 U	ng/L	0.10	0.40
10/17/2022 10:25	Field Blank	Pesticides	Ethion	0.15 UJ	ng/L	0.15	0.60
10/17/2022 10:25	Field Blank	Pesticides	Ethoprop	0.10 U	ng/L	0.10	0.40
10/17/2022 10:25	Field Blank	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.50
10/17/2022 10:25	Field Blank	Pesticides	Fluazifop-P-butyl	0.10 U	ng/L	0.10	0.40
10/17/2022 10:25	Field Blank	Pesticides	Metolachlor	0.35 U	ng/L	0.35	1.4
10/17/2022 11:10	Effluent Grab	Pesticides	Flutolanil	1.1	ng/L	0.099	0.39
10/17/2022 11:10	Effluent Grab	Pesticides	Prodiamine	17	ng/L	0.17	0.69
10/17/2022 11:10	Effluent Grab	Pesticides	Simazine	33	ng/L	0.49	2.0
10/17/2022 11:10	Effluent Grab	Pesticides	Acetochlor	0.25 U	ng/L	0.25	0.99
10/17/2022 11:10	Effluent Grab	Pesticides	Atrazine	38	ng/L	0.25	0.99
10/17/2022 10:25	Field Blank	Pesticides	Loratadine	0.35 U	ng/L	0.35	1.4
10/17/2022 10:25	Field Blank	Pesticides	Napropamide	0.40 UJ	ng/L	0.40	1.6
10/17/2022 10:25	Field Blank	Pesticides	Propanil	0.12 U	ng/L	0.12	0.50
10/17/2022 10:25	Field Blank	Pesticides	Fludioxonil	0.12 U	ng/L	0.12	0.50
10/17/2022 10:25	Field Blank	Pesticides	Imazalil	0.75 U	ng/L	0.75	3.0
10/17/2022 10:25	Field Blank	Pesticides	Pendimethalin	1.0 U	ng/L	1.0	4.0

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 11:10	Effluent Grab	Pesticides	Naproxen	0.022 I	µg/L	0.0080	0.032
10/17/2022 11:10	Effluent Grab	Pesticides	Sucralose	60	µg/L	0.10	0.40
10/17/2022 11:10	Effluent Grab	Pesticides	Cyprodinil	0.52	ng/L	0.099	0.49
10/17/2022 11:10	Effluent Grab	Pesticides	Dimethomorph	0.91 I	ng/L	0.17	1.0
10/17/2022 11:10	Effluent Grab	Pesticides	Napropamide	0.39 UJ	ng/L	0.39	1.6
10/17/2022 11:10	Effluent Grab	Pesticides	Demeton	1.5 U	ng/L	1.5	5.9
10/17/2022 11:10	Effluent Grab	Pesticides	Fenamiphos	0.49 U	ng/L	0.49	2.0
10/17/2022 11:10	Effluent Grab	Pesticides	Iprodione	1.0 I	ng/L	0.59	2.4
10/17/2022 11:10	Effluent Grab	Pesticides	Naled	1.5 U	ng/L	1.5	5.9
10/17/2022 11:10	Effluent Grab	Pesticides	Terbufos	0.18 I	ng/L	0.099	0.39
10/17/2022 11:10	Effluent Grab	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	5.9
10/17/2022 11:10	Effluent Grab	Pesticides	Bromacil	8.0	ng/L	0.49	2.0
10/17/2022 10:25	Field Blank	Pesticides	Propiconazole	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.50
10/17/2022 10:25	Field Blank	Pesticides	Simazine	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Cyprodinil	0.10 U	ng/L	0.10	0.50
10/17/2022 10:25	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.25 U	ng/L	0.25	1.0
10/17/2022 10:25	Field Blank	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.50
10/17/2022 10:25	Field Blank	Pesticides	Flutolanil	0.10 U	ng/L	0.10	0.40
10/17/2022 10:25	Field Blank	Pesticides	Hexazinone	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Naled	1.5 U	ng/L	1.5	6.0
10/17/2022 10:25	Field Blank	Pesticides	Oxadiazon	0.30 U	ng/L	0.30	1.2
10/17/2022 10:25	Field Blank	Pesticides	Parathion Methyl	0.55 U	ng/L	0.55	2.2
10/17/2022 11:10	Effluent Grab	Pesticides	Stirophos	0.12 U	ng/L	0.12	0.49
10/17/2022 11:10	Effluent Grab	Pesticides	Carbophenothion	0.20 U	ng/L	0.20	0.79
10/17/2022 11:10	Effluent Grab	Pesticides	Difenoconazole	0.59 U	ng/L	0.59	2.4
10/17/2022 11:10	Effluent Grab	Pesticides	Disulfoton	0.49 U	ng/L	0.49	2.0
10/17/2022 11:10	Effluent Grab	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.49
10/17/2022 11:10	Effluent Grab	Pesticides	Fipronil Desulfinyl	2.3	ng/L	0.12	0.49
10/17/2022 11:10	Effluent Grab	Pesticides	Imazalil	7.9	ng/L	0.74	3.0
10/17/2022 11:10	Effluent Grab	Pesticides	Pendimethalin	0.99 U	ng/L	0.99	3.9
10/17/2022 11:10	Effluent Grab	Pesticides	Sulfentrazone	4.0	ng/L	0.49	2.0
10/17/2022 11:10	Effluent Grab	Pesticides	Tebuconazole	22	ng/L	0.49	2.0
10/17/2022 11:10	Effluent Grab	Pesticides	Ametryn	0.59 U	ng/L	0.59	2.4

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 11:10	Effluent Grab	Pesticides	Butylate	0.39 U	ng/L	0.39	1.6
10/17/2022 10:25	Field Blank	Pesticides	Dimethomorph	0.17 U	ng/L	0.17	1.0
10/17/2022 10:25	Field Blank	Pesticides	Etridiazole	0.15 U	ng/L	0.15	0.60
10/17/2022 10:25	Field Blank	Pesticides	Stirophos	0.12 U	ng/L	0.12	0.50
10/17/2022 10:25	Field Blank	Pesticides	Thiobencarb	0.60 U	ng/L	0.60	2.4
10/17/2022 10:25	Field Blank	Pesticides	Triadimefon	0.25 U	ng/L	0.25	1.0
10/17/2022 10:25	Field Blank	Pesticides	Alachlor	0.25 U	ng/L	0.25	1.0
10/17/2022 10:25	Field Blank	Pesticides	Azinphos Methyl	2.0 U	ng/L	2.0	8.0
10/17/2022 10:25	Field Blank	Pesticides	Ametryn	0.60 U	ng/L	0.60	2.4
10/17/2022 10:25	Field Blank	Pesticides	Cyanazine	3.2 U	ng/L	3.2	13
10/17/2022 10:25	Field Blank	Pesticides	Dithiopyr	0.62 U	ng/L	0.62	2.5
10/17/2022 10:25	Field Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
10/17/2022 11:10	Effluent Grab	Pesticides	Thiobencarb	0.59 U	ng/L	0.59	2.4
10/17/2022 11:10	Effluent Grab	Pesticides	Caffeine	14 I	ng/L	7.4	30
10/17/2022 11:10	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.25 U	ng/L	0.25	0.99
10/17/2022 11:10	Effluent Grab	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.49
10/17/2022 11:10	Effluent Grab	Pesticides	Ethion	0.15 UJ	ng/L	0.15	0.59
10/17/2022 11:10	Effluent Grab	Pesticides	Fipronil Sulfide	4.3	ng/L	0.15	0.59
10/17/2022 11:10	Effluent Grab	Pesticides	Metribuzin	1.6 I	ng/L	1.5	5.9
10/17/2022 11:10	Effluent Grab	Pesticides	Oxadiazon	0.30 U	ng/L	0.30	1.2
10/17/2022 11:10	Effluent Grab	Pesticides	Prometon	0.89 U	ng/L	0.89	3.6
10/17/2022 11:10	Effluent Grab	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.59
10/17/2022 11:10	Effluent Grab	Pesticides	Azinphos Methyl	2.0 U	ng/L	2.0	7.9
10/17/2022 10:25	Field Blank	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.60
10/17/2022 10:25	Field Blank	Pesticides	Tebuconazole	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Atrazine	0.25 U	ng/L	0.25	1.0
10/17/2022 10:25	Field Blank	Pesticides	Butylate	0.40 U	ng/L	0.40	1.6
10/17/2022 10:25	Field Blank	Pesticides	Caffeine	7.5 U	ng/L	7.5	30
10/17/2022 10:25	Field Blank	Pesticides	Carbophenothion	0.20 U	ng/L	0.20	0.80
10/17/2022 10:25	Field Blank	Pesticides	Difenoconazole	0.60 U	ng/L	0.60	2.4
10/17/2022 10:25	Field Blank	Pesticides	Disulfoton	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	EPTC	1.2 U	ng/L	1.2	5.0
10/17/2022 10:25	Field Blank	Pesticides	Fipronil	0.25 U	ng/L	0.25	1.0
10/17/2022 10:25	Field Blank	Pesticides	Fipronil Sulfide	0.15 U	ng/L	0.15	0.60

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 10:25	Field Blank	Pesticides	Flumioxazin	4.5 U	ng/L	4.5	18
10/17/2022 10:25	Field Blank	Pesticides	Metalaxyl	0.75 U	ng/L	0.75	3.0
10/17/2022 10:25	Field Blank	Pesticides	Metribuzin	1.5 U	ng/L	1.5	6.0
10/17/2022 10:25	Field Blank	Pesticides	Prodiamine	0.17 U	ng/L	0.17	0.70
10/17/2022 10:25	Field Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
10/17/2022 11:10	Effluent Grab	Pesticides	Etridiazole	0.15 U	ng/L	0.15	0.59
10/17/2022 11:10	Effluent Grab	Pesticides	Propanil	0.12 U	ng/L	0.12	0.49
10/17/2022 11:10	Effluent Grab	Pesticides	Fipronil	34	ng/L	0.25	0.99
10/17/2022 11:10	Effluent Grab	Pesticides	Malathion	0.35 U	ng/L	0.35	1.4
10/17/2022 11:10	Effluent Grab	Pesticides	Metalaxyl	0.74 U	ng/L	0.74	3.0
10/17/2022 11:10	Effluent Grab	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.59
10/17/2022 11:10	Effluent Grab	Pesticides	Parathion Methyl	0.54 U	ng/L	0.54	2.2
10/17/2022 11:10	Effluent Grab	Pesticides	Prometryn	0.20 U	ng/L	0.20	0.79
10/17/2022 11:10	Effluent Grab	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.49
10/17/2022 10:25	Field Blank	Pesticides	Prometryn	0.20 U	ng/L	0.20	0.80
10/17/2022 10:25	Field Blank	Pesticides	Terbuthylazine	0.42 U	ng/L	0.42	1.7
10/17/2022 10:25	Field Blank	Pesticides	Propargite	1.5 U	ng/L	1.5	6.0
10/17/2022 10:25	Field Blank	Pesticides	Acetochlor	0.25 U	ng/L	0.25	1.0
10/17/2022 10:25	Field Blank	Pesticides	Demeton	1.5 U	ng/L	1.5	6.0
10/17/2022 10:25	Field Blank	Pesticides	Fenamiphos	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Fipronil Sulfone	0.15 U	ng/L	0.15	0.60
10/17/2022 10:25	Field Blank	Pesticides	Iprodione	0.60 U	ng/L	0.60	2.4
10/17/2022 10:25	Field Blank	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.2
10/17/2022 10:25	Field Blank	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.60
10/17/2022 10:25	Field Blank	Pesticides	Parathion Ethyl	0.25 U	ng/L	0.25	1.0
10/17/2022 11:10	Effluent Grab	Pesticides	Ibuprofen	0.20 U	µg/L	0.20	0.80
10/17/2022 11:10	Effluent Grab	Pesticides	Phenytoin	3.5 U	ng/L	3.5	14
10/17/2022 11:10	Effluent Grab	Pesticides	Propargite	1.5 U	ng/L	1.5	5.9
10/17/2022 11:10	Effluent Grab	Pesticides	Pyraflufen Ethyl	0.25 U	ng/L	0.25	0.99
10/17/2022 11:10	Effluent Grab	Pesticides	Carfentrazone Ethyl	0.099 U	ng/L	0.099	0.39
10/17/2022 11:10	Effluent Grab	Pesticides	Fluazifop-P-butyl	0.099 U	ng/L	0.099	0.39
10/17/2022 11:10	Effluent Grab	Pesticides	Fludioxonil	3.6	ng/L	0.12	0.49
10/17/2022 11:10	Effluent Grab	Pesticides	Metolachlor	0.35 U	ng/L	0.35	1.4
10/17/2022 11:10	Effluent Grab	Pesticides	Molinate	0.30 U	ng/L	0.30	1.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 11:10	Effluent Grab	Pesticides	Alachlor	0.25 U	ng/L	0.25	0.99
10/17/2022 10:25	Field Blank	Pesticides	Prometon	0.90 U	ng/L	0.90	3.6
10/17/2022 10:25	Field Blank	Pesticides	Terbufos	0.10 U	ng/L	0.10	0.40
10/17/2022 10:25	Field Blank	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	6.0
10/17/2022 10:25	Field Blank	Pesticides	Chlorpyrifos Methyl	0.050 U	ng/L	0.050	0.20
10/17/2022 10:25	Field Blank	Pesticides	Phorate	0.52 U	ng/L	0.52	2.1
10/17/2022 10:25	Field Blank	Pesticides	Ibuprofen	0.20 U	µg/L	0.20	0.80
10/17/2022 11:10	Effluent Grab	Pesticides	Loratadine	8.6	ng/L	0.35	1.4
10/17/2022 11:10	Effluent Grab	Pesticides	Chlorfenapyr	2.9	ng/L	0.17	0.69
10/17/2022 11:10	Effluent Grab	Pesticides	Triadimefon	0.25 U	ng/L	0.25	0.99
10/17/2022 11:10	Effluent Grab	Pesticides	Ethoprop	0.099 U	ng/L	0.099	0.39
10/17/2022 11:10	Effluent Grab	Pesticides	Fluxapyroxad	0.35 I	ng/L	0.099	0.39
10/17/2022 11:10	Effluent Grab	Pesticides	Fonofos	0.20 U	ng/L	0.20	0.79
10/17/2022 11:10	Effluent Grab	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.1
10/17/2022 11:10	Effluent Grab	Pesticides	Myclobutanil	0.25 U	ng/L	0.25	0.99
10/17/2022 11:10	Effluent Grab	Pesticides	Norflurazon	0.49 U	ng/L	0.49	2.0
10/17/2022 11:10	Effluent Grab	Pesticides	Parathion Ethyl	0.25 U	ng/L	0.25	0.99
10/17/2022 11:10	Effluent Grab	Pesticides	Phorate	0.52 U	ng/L	0.52	2.1
10/17/2022 11:10	Effluent Grab	Pesticides	Propiconazole	6.7	ng/L	0.49	2.0
10/17/2022 11:10	Effluent Grab	Pesticides	Terbuthylazine	0.42 U	ng/L	0.42	1.7
10/17/2022 11:10	Effluent Grab	Pesticides	Azoxystrobin	3.0	ng/L	0.49	2.0
10/17/2022 10:25	Field Blank	Pesticides	Sulfentrazone	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Chlorfenapyr	0.17 U	ng/L	0.17	0.70
10/17/2022 10:25	Field Blank	Pesticides	Coumaphos	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Phenytoin	3.5 U	ng/L	3.5	14
10/17/2022 10:25	Field Blank	Pesticides	Pyridaben	0.45 U	ng/L	0.45	2.2
10/17/2022 10:25	Field Blank	Pesticides	Pyraflufen Ethyl	0.25 U	ng/L	0.25	1.0
10/17/2022 10:25	Field Blank	Pesticides	Azoxystrobin	0.50 U	ng/L	0.50	2.0
10/17/2022 10:25	Field Blank	Pesticides	Carfentrazone Ethyl	0.10 U	ng/L	0.10	0.40
10/17/2022 10:25	Field Blank	Pesticides	Fipronil Desulfinyl	0.12 U	ng/L	0.12	0.50
10/17/2022 10:25	Field Blank	Pesticides	Fluxapyroxad	0.10 U	ng/L	0.10	0.40
10/17/2022 10:25	Field Blank	Pesticides	Fonofos	0.20 U	ng/L	0.20	0.80
10/17/2022 10:25	Field Blank	Pesticides	Malathion	0.35 U	ng/L	0.35	1.4
10/17/2022 10:25	Field Blank	Pesticides	Molinate	0.30 U	ng/L	0.30	1.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 10:25	Field Blank	Pesticides	Myclobutanil	0.25 U	ng/L	0.25	1.0
10/17/2022 10:25	Field Blank	Pesticides	Norflurazon	0.50 U	ng/L	0.50	2.0
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.052 U	µg/L	0.052	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Naphthalene	0.11 U	µg/L	0.11	0.43
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	11 U	µg/L	11	43
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.85
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Isophorone	0.053 U	µg/L	0.053	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.076 I	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	42
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Anthracene	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.3
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.052 UJ	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	42
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.2 U	µg/L	3.2	13
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.5
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.5
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Fluoranthene	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.053 U	µg/L	0.053	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Isophorone	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Phenol	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.052 U	µg/L	0.052	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Pentachlorophenol	0.53 U	µg/L	0.53	2.1

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	11 U	µg/L	11	43
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	4-Nitrophenol	11 U	µg/L	11	43
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Hexachloroethane	0.053 U	µg/L	0.053	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.3
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.42
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.053 U	µg/L	0.053	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.52 U	µg/L	0.52	2.1
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.052 U	µg/L	0.052	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Nitrobenzene	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2-Chlorophenol	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	µg/L	1.1	4.3
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Fluorene	0.027 U	µg/L	0.027	0.11
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	42
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	µg/L	1.0	4.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.42
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Phenanthrene	0.11 U	µg/L	0.11	0.43
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Chrysene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	0.053 U	µg/L	0.053	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.3
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.83
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Anthracene	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Benzidine	11 U	µg/L	11	43
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.027 U	µg/L	0.027	0.11
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.2 U	µg/L	5.2	21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.42
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.5
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Phenol	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Pyrene	0.11 U	µg/L	0.11	0.43
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2-Nitrophenol	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.053 U	µg/L	0.053	0.21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Acenaphthene	0.027 U	µg/L	0.027	0.11
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.3 U	µg/L	5.3	21
10/17/2022 10:25	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.053 U	µg/L	0.053	0.21

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	42
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
10/17/2022 11:10	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.052 U	µg/L	0.052	0.21
10/17/2022 11:10	Effluent Grab	Nutrients	pH	7.47			
10/17/2022 11:10	Effluent Grab	Nutrients	Temperature	28.6	C		
10/17/2022 11:10	Effluent Grab	Nutrients	Specific Conductance	568	umhos/cm		
10/17/2022 11:10	Effluent Grab	Nutrients	Dissolved Oxygen %Sat	105	%Sat		
10/19/2022 10:00	Effluent Composite	Overflow	Carbonaceous Biochemical Oxygen Demand	2.8	mg/L	2.0	2.0
10/19/2022 10:00	Effluent Composite	Metals	Copper	1.21	µg/L	0.40	0.80
10/19/2022 10:00	Effluent Composite	Nutrients	Ammonia-N	0.16	mg N/L	0.0020	0.0050
10/19/2022 10:00	Effluent Composite	Nutrients	NO2NO3-N	1.8	mg N/L	0.040	0.10
10/19/2022 10:00	Effluent Composite	Nutrients	TSS	7 IA	mg/L	2.0	10
10/19/2022 10:00	Effluent Composite	Nutrients	Total-P	1.0	mg P/L	0.050	0.25
10/19/2022 10:00	Effluent Composite	Nutrients	Kjeldahl Nitrogen	1.8	mg N/L	0.080	0.20
10/13/2022 10:07	Blank	Metals	Copper	0.40 I	µg/L	0.40	0.80
10/13/2022 10:07	Blank	Nutrients	Total-P	0.005	mg P/L	0.0020	0.0050
10/13/2022 10:07	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
10/13/2022 10:07	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
10/13/2022 10:07	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010