Effluent Quality Assessment of Nassau Regional WWTF Nassau County NPDES # FL0116793 Sampled August 22, 24, and 26, 2022

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
November 2022

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Summary of Results

All analytes measured in the effluent grab and time-proportioned composite samples complied with Class III Water Quality Criteria for Fresh Waters and effluent flow-proportioned permit limits. The AGP and nutrients results do not suggest a potential for nutrient enrichment in the receiving waters. Eighteen organic constituents were detected in the effluent grab sample. There are no toxicology results for this event due to delayed receipt of shipped sample.

Facility Overview

The Nassau Regional WWTF Facility is a domestic wastewater treatment facility. A Facility Summary, including a description of the facility, summary of permit limits, and any relevant Administrative Order (AO), Consent Order (CO), and Discharge Monitoring Report (DMR) information is provided in Appendix A. Nassau Regional WWTF is currently operating under Consent Order OGC #16-0025; a second revision was executed on November 25, 2020. The effluent is intermittently discharged into Yulee Swamp, a Class III Fresh Water [waterbody identification (WBID) 2147] which flows to Lofton Creek (Figure 1).

The Yulee Swamp falls within the Peninsular Nutrient Watershed Region for Numeric Nutrient Criteria (NNC). For this region, the NNC, expressed as annual geometric means, are 0.12 mg/L total phosphorus and 1.54 mg/L total nitrogen (Paragraph 62-302.531(2)(c), F.A.C.). The Yulee Swamp falls within the Northeast bioregion; the daily average dissolved oxygen (DO) saturation shall not be below 34 percent in more than 10 percent of the values (Paragraph 62-302.533(1)(a), F.A.C.). This FYI event only provides single sample results. It should be noted that waterbody impairment assessments are based on longer-term data, and individual exceedances of a criterion do not indicate use impairment. http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

Methods

Effluent grab and 24-hour time proportioned composite samples were collected from monitoring site location EFA-1, for outfall D-001 on August 22, 2022. Effluent renewal grab samples were collected on August 24, 2022 and August 26, 2022. The third sample that was collected from the facility arrived late and out of holding time. Due to this, the Toxicology tests were terminated early and reported as “No Result” with an O qualifier. The permit specifies flow proportioned composite samples and time proportioned composite samples were collected due to sampling equipment limitations.

Samples were collected by Conor Lucey, Rodney Christensen, and Jaena Bernard (Northeast District). Analyses were performed by Diversified Environmental Laboratories in Jacksonville, Eurofins Test America Laboratories in Tampa, and DEP Laboratory in Tallahassee.

All field and laboratory methods followed DEP Standard Operating Procedures (see https://floridadep.gov/dear/quality-assurance/content/dep-sops and https://floridadep.gov/dear/florida-dep-laboratory/content/dep-laboratory-quality-assurance-

manual-and-sops for details) and met DEP quality assurance/quality control standards (see https://floridadep.gov/dear/quality-assurance). Explanations of specific methods and measurements can be found in Appendix B.

Class III Water Quality Criteria for Fresh and Marine Waters are found in 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.

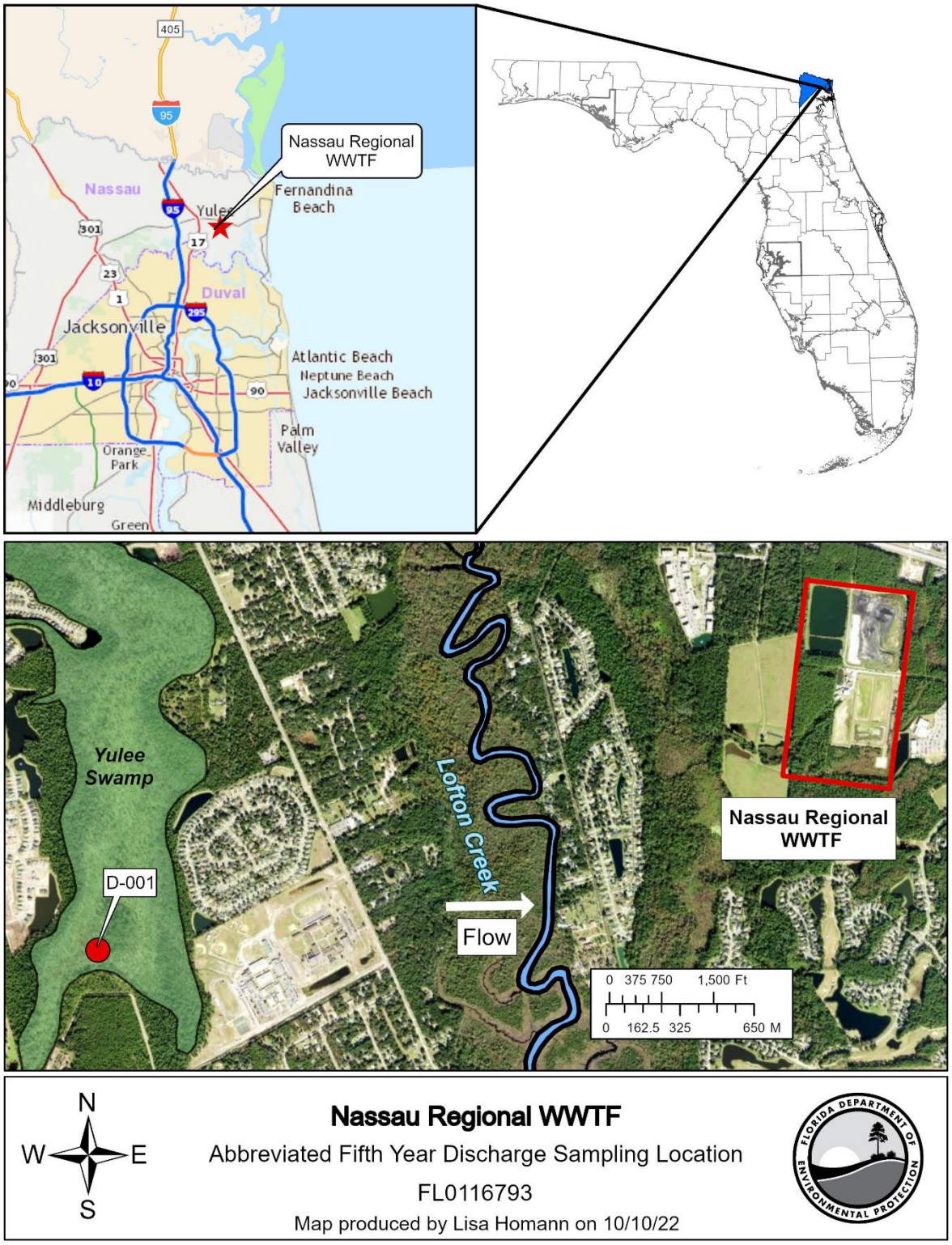


Figure 1. Map of Facility and Discharge Location

Results

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

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

Analytical Water Chemistry (See Table 2 and Appendix D)

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

- For comparative purposes only, the effluent grab and composite single sample values for total phosphorus were greater than the NNC annual geometric mean values for the region.

- Total ammonia, nitrate and nitrite, and total organic carbon were detected in the equipment blank between the MDL and PQL.

Microbiology (See Table 2 and Appendix B)

- Effluent *Escherichia coli* (*E. coli*) levels complied with Class III Water Quality Criteria for Fresh Waters and effluent permit limits. Effluent fecal coliform levels complied with effluent permit limits.

Metals (See Table 3 and Appendix D)

- Effluent metals complied with Class III Water Quality Criteria for Fresh Waters. There are no effluent permit limits for metals.

Algal Growth Potential (See Table 4 and Appendix B)

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

- Result was J-qualified due to estimated result. The volume of algae used for counts is presumed to be slightly less than method requirement.

- 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 5 and Appendix D)

- Atrazine, azinphos methyl, caffeine, chlorfenapyr, cyprodinil, dimethomorph, fipronil, fipronil desulfinyl, fipronil sulfide, fipronil sulfone, fludioxonil, flutolanil, fluxapyroxad, loratadine, propiconazole, simazine, sulfentrazone, and tebuconazole 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 Fresh Waters, and field parameters

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab EFA-1
Temperature	C	Report	Report	30.5
pH	SU	6.0 - 8.5	6.0 - 8.5	7.2
Specific Conductance	µmhos/cm	≤ 1,275	-	1,164
Salinity	ppth	-	-	0.5 c
Dissolved Oxygen	% saturation	≥ 38	-	50.5

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated

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

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Composite Effluent EFA-1	Effluent Grab EFA-1
Ortho-phosphate	mg P/L	-	-	-	0.22
Total Phosphorus	mg P/L	≤ 0.12 g	≤ 2.0 sp	0.17	0.25
Total Ammonia[1]	mg N/L	≤ 2.14 s	Report	0.054	0.12
Un-ionized Ammonia Nitrogen[2]	mg N/L	-	-	-	< 0.02 c
Nitrate and Nitrite[1]	mg N/L		-	0.52	0.36
Total Kjeldahl Nitrogen	mg N/L	-	-	0.88	0.87
Organic Nitrogen	mg N/L	-	-	0.83 c	0.75 c
Total Nitrogen	mg N/L	≤ 1.54 g	≤ 6.0 sp	1.4 c	1.23 c
Total Organic Carbon[1]	mg C/L	-	-	8.1 A	7.8
Chlorophyll *a* - Corrected	µg/L	-	-	-	0.82 U
Phaeophytin	µg/L	-	-	-	0.90 U
CBOD, 5-day, N - inhibited	mg/L	-	≤ 10.0 sp	2.0 U	-
Total Suspended Solids	mg/L	-	≤ 10.0 sp	2 I	2 U
Turbidity	NTU	≤ 29 t	-	-	0.50 I
Color (true)	PCU	-	-	-	25 A
Alkalinity	mg CaCO3/L	≥ 20	-	-	172 A
Chloride	mg Cl/L	-	-	-	160
Fluoride	mg F/L	≤ 10.0	-	-	0.59
Sulfate	mg SO4/L	-	-	-	170
Fecal Coliforms	cfu/100 mL	-	≤ 800 s	-	2
Escherichia coli	MPN/100 mL	≤ 410	≤ 410	-	1.0
Bioassay - Water flea *(C. dubia)*	% effluent	-	≥ 100 s	-	No Result O
Bioassay - Fish *(P. promelas)*	% effluent	-	≥ 100 s	-	No Result O

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
g - Value expressed as an annual geometric mean
p – 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
O - Sampled, but analysis lost or not performed
U - Material analyzed for but not detected; value reported is the method detection limit
1 - Analyte detected in the blank

Table 3. Analytical metals data

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab EFA-1
Hardness	mg CaCO3/L	-	-	260 c
Aluminum	µg/L	-	-	163
Arsenic	µg/L	≤ 50	-	0.20
Cadmium	µg/L	≤ 0.55 b	-	0.020 U
Calcium	mg/L	-	-	56.1
Chromium, Total [2]	µg/L	≤ 189 b	-	0.40 U
Copper	µg/L	≤ 21.1 b	-	0.79 I
Iron	µg/L	≤ 1,000	-	39 I
Lead	µg/L	≤ 10.8 b	-	0.20 U
Magnesium	mg/L	-	-	29.2
Nickel	µg/L	≤ 117 b	-	3.3
Potassium	mg/L	-	-	26.5
Selenium	µg/L	≤ 5.0	-	0.20 U
Silver	µg/L	≤ 0.07	-	0.010 U
Sodium	mg/L	-	-	129
Zinc	µg/L	≤ 270 b	-	121

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

Table 4. Algal Growth Potential (AGP)

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

Location	Test Species	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent Grab	*Pseudokirchneriella subcapitata*	1.92 AJ	18.2 ± 3.6	94.6 ± 18.9	46.7 ± 9.3	107.5 ± 21.5	2.2	4.9

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

J - Estimated value

Table 5. Detected Organic Constituents

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab EFA-1
Atrazine	ng/L	-	-	26
Azinphos Methyl	ng/L	-	-	4.5 I
Caffeine	ng/L	-	-	61
Chlorfenapyr	ng/L	-	-	2.2
Cyprodinil	ng/L	-	-	0.31 I
Dimethomorph	ng/L	-	-	0.21 I
Fipronil	ng/L	-	-	14
Fipronil Desulfinyl	ng/L	-	-	4.8
Fipronil Sulfide	ng/L	-	-	2.6
Fipronil Sulfone	ng/L	-	-	2.6
Fludioxonil	ng/L	-	-	2.9
Flutolanil	ng/L	-	-	0.39
Fluxapyroxad	ng/L	-	-	0.44
Loratadine	ng/L	-	-	1.7
Propiconazole	ng/L	-	-	2.0
Simazine	ng/L	-	-	1.6 I
Sulfentrazone	ng/L	-	-	2.8
Tebuconazole	ng/L	-	-	9.6

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: Ally Ouellette	**Contact Number:** (904) 256-1519
Facility Name (as it appears on permit): Nassau Regional WWTF	**Former Names:** N/A
NPDES Permit Number: FL0116793	**Permit Expiration Date:** July 30, 2024
Physical Address: 96237 Amelia Concourse Yulee, Florida 32097	
District: Northeast	**County:** Nassau
Function of Facility: Domestic wastewater treatment	
Facility Type: DW NPDES Minor	**Permitted Capacity (MGD):** 2.0 MGD

Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months):

D-001: Flow in Monthly Averages	**D-002: Flow in Monthly Averages**
• 06/30/2022 - .622 • 05/31/2022 - .616 • 04/30/2022 - .532 • 03/31/2022 - .692 • 02/28/2022 - .433 • 01/31/2022 - .377 • 12/31/2021 - .608 • 11/30/2021 - .431 • 10/31/2021 - .424 • 09/30/2021 - .842 • 08/31/2021 - .613 • 07/31/2021 - .778 Annual Average flow D-001: 0.581	• 06/30/2022 - .104 • 05/31/2022 - NOD • 04/30/2022 - .183 • 03/31/2022 - .243 • 02/28/2022 - .398 • 01/31/2022 - .28 • 12/31/2021 - .522 • 11/30/2021 - .411 • 10/31/2021 - .382 • 09/30/2021 - .096 • 08/31/2021 - .15 • 07/31/2021 - .242 Annual Average flow D-002: 0.251

If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months):

R-001: Flow in Monthly Averages	**R-002: Flow in Monthly Averages**
• 06/30/2022 - .197 • 05/31/2022 - .191 • 04/30/2022 - .116 • 03/31/2022 - .079 • 02/28/2022 - .223 • 01/31/2022 - .838 • 12/31/2021 - .018 • 11/30/2021 - .171 • 10/31/2021 - .245 • 09/30/2021 - .006 • 08/31/2021 - .293	• 06/30/2022 - .622 • 05/31/2022 - .804 • 04/30/2022 - .849 • 03/31/2022 - .602 • 02/28/2022 - .588 • 01/31/2022 - .549 • 12/31/2021 - .436 • 11/30/2021 - .556 • 10/31/2021 - .433 • 09/30/2021 - .538 • 08/31/2021 - .503

• 07/31/2021 - .269 Annual Average flow R-001: 0.183	• 07/31/2021 - .187 Annual Average flow R-002: 0.555

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):
CAL-1: Calculated value of total unionized ammonia discharge from the wetland

EFA-1: Sample point at the effluent pump station

FLW-2: Flow meter, on effluent pipeline to Yulee Wetland

PPI-1: Ultraviolet radiation chamber

WEP-01: Sample point at point of discharge from the wetland. Located approximately at latitude 30° 38' 7.71" N, longitude 81° 35' 33.52" W.

WIM-01: Sample point is located in the immediate vicinity of the point of downstream of the point of discharge to the wetland. Located approximately at latitude 30° 36' 45.45" N, longitude 81° 35' 7.17" W

WIM-02: Sample point in the approximate geographic middle of the wetland. Located approximately at latitude 30° 37' 10.01" N, longitude 81° 35' 10.65" W.

WIM-03: Sample location is located in the immediate vicinity of the point of discharge from the wetland. Located approximately at latitude 30° 38' 7.71" N, longitude 81° 35' 33.53" W.

Description of Permitted Outfall(s):
Surface Water:
Surface Water Discharge – Receiving Wetland (D – 001): An existing 0.500 MGD AADF permitted discharge to Yulee Swamp, a receiving wetland (Class III fresh waters; WBID 2147, Grander Creek Basin), from discharge location/outfall D-001. The Yulee Swamp is connected to a tributary, then to Lofton Creek (Class III fresh waters; WBID 2129A; Lofton Creek Upper Segment, Lofton Creek Basin). Outfall location D-001 is located at approximately latitude 30° 36' 42" N, and longitude 81° 35' 16" W.

Surface Water Discharge – Apricot Act (D – 002): An existing 0.315 MGD AADF or 115.00 million gallons maximum annual total volume permitted discharge under the APRICOT Act from discharge location/outfall D-002 which is an overflow from a golf course lake system on Amelia National and North Hampton to an unnamed wetland located west of Amelia National (Called Wetland Area # 1) and/or to an unnamed wetland located in the northeast of North Hampton (Called Wetland Area # 2). The unnamed wetland drains to Lofton Creek, classified as Class III fresh water, (WBID 2129) in the Lofton Creek Basin. The discharge D-002 is located at approximately latitude 30º 36' 26" N, and longitude 81º 41' 25" W.

Reuse:

Land Application System R-001 (Rapid- Rate Land Application/Infiltration/Percolation System):
An existing 0.300 MGD AADF permitted capacity rapid rate land application system (R-001), which consists of four percolation ponds with a total bottom area of 526,790 ft_2. The system R – 001 is located at approximately latitude 30º 37' 17.9" N, and longitude 81º 33' 11" W.

Land Application System R-002 (Slow-Rate Land Application/Public Access Reuse System):
A 0.750 MGD AADF permitted capacity to a slow-rate public access land application system R-002. Land application system R-002 is located at approximately latitude 30° 36' 45" N and longitude 81° 33' 06" W. The land

application system R-002 includes the following major users: Amelia National Golf Course and North Hampton Golf Course

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

Description of Wastewater Treatment
An existing 2.0 million gallon per day (MGD) annual average daily flow (AADF) design capacity Class I reliability domestic wastewater treatment facility (WWTF) utilizing the membrane bioreactor (MBR) process with ultraviolet (UV) irradiation for high-level disinfection of effluent. The Water Reclamation Facility (WRF) consists of following main treatment units:

- A headworks structure including of two self-contained screening units with each unit containing a 2 mm mechanical center-flow perforated screen. Each screen has a capacity of 2.0 MGD AADF and 6.0 MGD PHF;
- A dual train biological treatment tank (bioreactor) with design capacity of 2.00 MGD AADF and total volume of 427,700 gallons. Each train is sized 72.3' x 29.2' x 16.0' and divided into 38,200-gallons first anoxic, 120,650-gallons aerobic and 55,000-gallons for post anoxic. Air is supplied by 870-SCFM blower.

- ❑ Four 69,000-gallon isolatable membrane trains. A flat plate submerged membrane system with design capacity of 2.00 MGD AADF is installed. The system consists of four membrane basins with a total of 22,400 cartridges (8.6 ft_2 each), four 2,300-SCFM membrane scour blowers, four 3,700-GPM mixed liquor recycle pumps, four 1,390-GPM permeate pumps, one lifting device and one sodium hypochlorite/acid cleaning system;
- ❑ Two equal ultraviolet (UV) disinfection channels. Twenty-seven (27) modules (8 lamps per module) arranged in three banks are initially installed in one channel for design capacity of 2.0 MGD AADF;
- ❑ A sodium aluminates (alum) system consists of a 3,500-gallon alum storage tank and two metering pumps;
- ❑ An effluent pumping station with three 3.0-MGD vertical turbine pumps to transfer reclaimed water to reuse system;
- ❑ A non-potable water pumping station with two 400-HP pumps for in-plant reuse;
- ❑ A plant drain pump station with two 100-GPM pumps;
- ❑ A 2,000 KW emergency power generator and fuel system capable of operating all critical process units and providing site safety lighting;
- ❑ An electrical service and power distribution system;
- ❑ A multipurpose air-conditioned building;
- ❑ A 0.40-MG aerobic digester; and
- ❑ A flow-equalization tank which has a diameter of 72 feet, a side water depth of 16 feet, a capacity of 0.464 million gallons.

Biosolids are transported to JEA-Buckman Biosolids Treatment Facility (BTF) for further treatment and final disposal or treated to meet Class B biosolids treatment requirements before applied on DEP-approved land application sites.
Permitted capacity of the WWTF is limited to **1.55 MGD AADF** due to the limited reuse and disposal permitted capacity.

Figure 1: Process Diagram

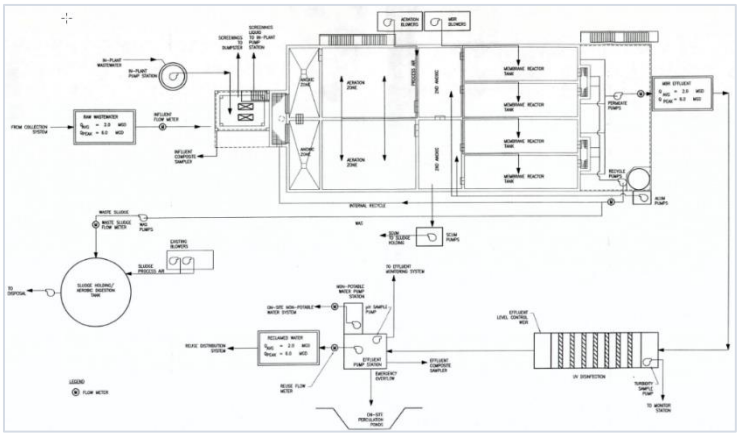


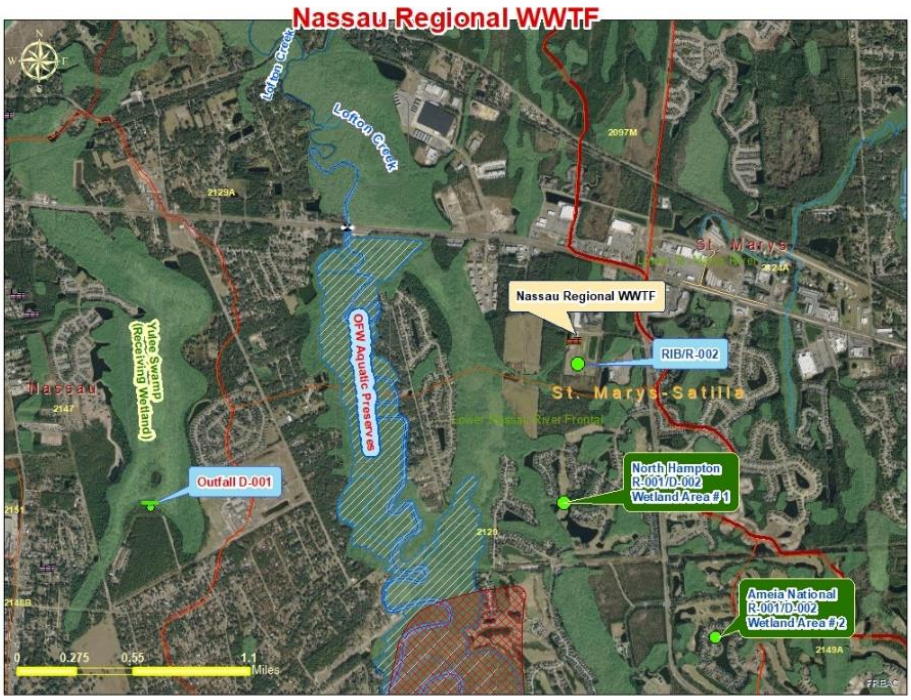
Figure 2: Site Plant – Nassau Regional WWTF



e. Description of Effluent Disposal and Land Application Sites (as reported by applicant)

See the map (figure 3) for effluent disposal and land application site(s).

Figure 3: Effluent Disposal Site and Reuse system:



a) Monitoring Group D-001: Class III Fresh Waters, Grander Creek Basin

Pollutants which are present in significant quantities or which are subject to permit limitations are as follows:

Parameter	Units	Max/ Min	Reported Value	Statistical Basis
pH (min)	**su**	**Min**	**6.03**	**Maximum Daily Value**
pH (max)	**su**	**Max**	**8.29**	**Maximum Daily Value**
Flow Rate	**MGD**	**Max**	**1.598**	**Maximum Daily Value**
			0.906	**Average Daily Value**
CBOD5	**mg/L**	**Max**	**6.0**	**Maximum Daily Value**
			1.1	**Average Daily Value**
TSS	**mg/L**	**Max**	**66.0**	**Maximum Daily Value**
			1.65	**Average Daily Value**
Fecal Coliform	**#/100mL**	**Max**	**880**	**Maximum Daily Value**
			1.28	**Average Daily Value**
Ammonia (as N)	**mg/L**	**Max**	**2.083**	**Maximum Daily Value**
			0.212	**Average Daily Value**
Total Kjeldahl Nitrogen	**mg/L**	**Max**	**17.28**	**Maximum Daily Value**
			1.09	**Average Daily Value**
Nitrate Plus Nitrite	**mg/L**	**Max**	**6.22**	**Maximum Daily Value**
			1.82	**Average Daily Value**
Nitrogen	**mg/L**	**Max**	**19.59**	**Maximum Daily Value**
			2.91	**Average Daily Value**
Oil and Grease	**mg/L**	**Max**	**1.3**	**Maximum Daily Value**
			0.65	**Average Daily Value**
Phosphorus	**mg/L**	**Max**	**9.754**	**Maximum Daily Value**
			1.035	**Average Daily Value**

****Data reported by the applicant in Form 2A Pages 2A-13 through 2A-14.**

b) Monitoring Group D-002:

The discharge flows to an unnamed wetland then drains to Lofton Creek, classified as Class III fresh water, (WBID 2129) in the Lofton Creek Basin.

Since D-002 is an APRICOT discharge which is sampled at the same monitoring locations as outfall D-001, the pollutants which are present in significant quantities or subject to permit limitations at D-002 are equivalent to those at D-001.

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**
Flow (to Yulee Swamp)	**MGD**	**Max**	**0.50**	**Annual Average**	**Continuous**	**Recording Flow Meter with Totalizer**	**FLW-2**	**See IA4**
		Max	**Report**	**Monthly Average**				
BOD, Carbonaceous 5 day, 20C	**mg/L**	**Max**	**5.0**	**Annual Average**	**Weekly**	**24-hr FPC**	**EFA-1**	
		Max	**6.25**	**Monthly Average**				
		Max	**7.5**	**Weekly Average**				
		Max	**10.0**	**Single Sample**				
Solids, Total Suspended	**mg/L**	**Max**	**5.0**	**Annual Average**	**Weekly**	**24-hr FPC**	**EFA-1**	
		Max	**6.25**	**Monthly Average**				
		Max	**7.5**	**Weekly Average**				
		Max	**10.0**	**Single Sample**				
pH	**s.u.**	**Min**	**6.0**	**Single Sample**	**Continuous**	**Meter**	**EFA-1**	**SEE IA3**
		Max	**8.5**	**Single Sample**				
Ultraviolet Light Intensity	**mW/sqcm**	**Min**	**Report**	**Single Sample**	**Daily *(7days/week)***	**Meter**	**PPI-1**	**SEE IA8**

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Ultraviolet Light Dosage	**mW-s/sqcm**	**Min**	**Report**	**Single Sample**	**Daily** ***(7days/week)***	**Meter**	**PPI-1**	**See IA8**
Ultraviolet Light Transmittance	**percent**	**Min**	**Report**	**Single Sample**	**Daily** ***(7days/week)***	**Meter**	**PPI-1**	**SEE IA8**
Coliform, Fecal	**#/100mL**	**Max**	**200**	**Monthly Geometric Mean**	**Weekly**	**Grab**	**EFA-1**	**SEE IA6**
		Max	**200**	**Annual Average**				
		Max	**800**	**Single Sample**				
Escherichia coli Bacteria	**#/100mL**	**Max**	**126**	**Monthly Geometric Mean**	**Weekly**	**Grab**	**EFA-1**	**SEE IA7**
		Max	**410**	**90th Percentile**				
Temperature (C), Water	**Degree C**	**Max**	**Report**	**Single Sample**	**Weekly**	**Meter**	**EFA-1**	
Total Ammonia (as N)	**mg/L**	**Max**	**Report**	**Annual Average**	**Weekly**	**24-hr FPC**	**EFA-1**	
		Max	**2.0**	**Monthly Average**				
		Max	**Report**	**Weekly Average**				
		Max	**Report**	**Single Sample**				

			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**	**3.0**	**Annual Average**	**Weekly**	**24-hr FPC**	**EFA-1**	
		Max	**3.75**	**Monthly Average**				
		Max	**4.5**	**Weekly Average**				
		Max	**6.0**	**Single Sample**				
Phosphorus, Total (as P)	**mg/L**	**Max**	**1.0**	**Annual Average**	**Weekly**	**24-hr FPC**	**EFA-1**	
		Max	**1.25**	**Monthly Average**				
		Max	**1.5**	**Weekly Average**				
		Max	**2.0**	**Single Sample**				
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Ceriodaphnia dubia*)	**percent**	**Min**	**100**	**Single Sample**	**Semi-Annually; twice per year**	**Grab**	**EFA-1**	**SEE IA9**
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Pimephales promelas*)	**percent**	**Min**	**100**	**Single Sample**	**Semi-Annually; twice per year**	**Grab**	**EFA-1**	**SEE IA9**
Stream Stage	**feet**	**Max**	**Report**	**Single Sample**	**Continuous**	**Meter**	**WEP-01**	
Nitrogen, Total	**mg/L**	**Max**	**3.0**	**Annual Average**	**Quarterly**	**Grab**	**WEP-01**	
		Max	**Report**	**Single Sample**				
Unionized Ammonia,	**mg/L**	**Max**	**0.02**	**Annual Average**	**Quarterly**	**Calculated**	**CAL-1**	**SEE I.A.11**

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
(as N)		**Max**	**Report**	**Single Sample**				
Phosphorus, Total (as P)	**mg/L**	**Max**	**0.20**	**Annual Average**	**Quarterly**	**Grab**	**WEP-01**	
		Max	**Report**	**Single Sample**				
Nitrogen, Ammonia, Total (as N)	**mg/L**	**Max**	**Report**	**Annual Average**	**Quarterly**	**Grab**	**WIM-01 WEP-01**	
		Max	**Report**	**Single Sample**				
Temperature (C), Water	**Deg C**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Meter *(48 hrs. dawn/dusk, max 4 hrs. intervals)***	**WIM-01 WEP-01**	**See IA 10**
Oxygen, Dissolved (DO)	**mg/L**	**Min**	**Report**	**Single Sample**	**Quarterly**	**Meter *(48 hrs. dawn/dusk, max 4 hrs. intervals)***	**WIM-01 WEP-01**	**SEE I.A. 10**
pH	**s.u.**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Meter**	**WIM-01 WEP-01**	
Specific Conductance	**umhos/cm**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Meter**	**WIM-01 WEP-01**	
BOD, Carbonaceous 5 day, 20C	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WIM-01 WEP-01**	
Solids, Total Suspended	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WIM-01 WEP-01**	
Phosphorus, Total (as P)	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WIM-01**	

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Nitrogen, Kjeldahl, Total (as N)	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WIM-01 WEP-01**	
Nitrite plus Nitrate, Total 1 det. (as N)	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WIM-01 WEP-01**	
Sulfate, Total	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WIM-01 WEP-01**	
Coliform, Fecal	**#/100mL**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WIM-01 WEP-01**	
Chlorophyll a	**mg/L**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WIM-01 WEP-01**	
Water Level at sample collection time	**feet**	**Max**	**Report**	**Single Sample**	**Quarterly**	**Grab**	**WEP-01**	
		Min	**Report**	**Single Sample**				
Sulfide (sediment)	**mg/L**	**Max**	**Report**	**Single Sample**	**Annually**	**Grab**	**WIM-01 WIM-02 WEP-01**	
Woody Vegetation	**Yes or No (Yes = 1; No= 0)**	**Max**	**Report**	**Single Sample**	**Annually**	**Grab**	**WIM-01, WIM-02, WIM-03**	**See I.A.12**
Threatened and Endangered Plant & Animal Species List	**Yes or No (Yes = 1; No= 0)**	**Max**	**Report**	**Single Sample**	**Annually**	**Grab**	**WIM-01, WIM-02, WIM-03**	**See I.A.15**

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Herbaceous Vegetation -- Line Intercept Method	**Yes or No (Yes = 1; No= 0)**	**Max**	**Report**	**Single Sample**	**Annually**	**Grab**	**WIM-01, WIM-02, WIM-03**	**See I.A.14**

I.A.3 During the period of required operator attendance hourly measurement of pH may be substituted for continuous measurement. *[62-600.660(1)]*
I.A.4 recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*
I.A 6 The effluent limitation for the monthly geometric mean for fecal coliform is only applicable if 10 or more values are reported. If fewer than 10 values are reported, the monthly geometric mean shall be calculated and reported on the Discharge Monitoring Report to be used to calculate the annual average. *[62-600.440*(5)(b)]
I.A. 7 The effluent limitation for the monthly geometric mean for E. coli is only applicable if 10 or more values are reported. If fewer than 10 values are reported, the monthly geometric mean shall be calculated and reported on the Discharge Monitoring Report. All other E. coli effluent limitations included in permit condition I.A.1 apply regardless of the number of values reported. *[62-302.530(6)(b)]*
I.A.8 -Ultraviolet light shall be utilized as the primary means of disinfection. This 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 verified. The operation and maintenance shall be performed on a regular basis in accordance with the manufacturer recommended factor of safety. *[62-600.440(5)]*
I.A.10 Dissolved oxygen and temperature measurements shall be performed at any of the water quality sampling stations during each sampling event. (48-hour, dawn to dusk maximum of four-hour interval.) *[62-611.700(1) Table 3]*
I.A.11 -Un-ionized ammonia shall be calculated based on a separate single grab sample for total ammonia. The pH and temperature at the time of the grab sample shall be used for the calculation and reported on the DMR.
I.Error! Reference source not found.**.12** Canopy and subcanopy woody vegetation shall be surveyed in each of the three 30x30 meter biological sampling quadrants (WIM-01, WIM-02, WIM-03) along the two 30m transects at each station identified in the supplemental baseline monitoring report. The importance value of each of the species shall be calculated and compared to the supplemental baseline monitoring report. The importance value of any of the most common species in the canopy and subcanopy as averaged over the three quadrants at any station shall not be reduced by more than 50 percent. In addition, the average importance value for all three quadrants of any of the most common plant species occupying the canopy or subcanopy stratum shall not be reduced by more than 25 percent. *[[62-611.700(1)Table 3 62-611.500(3)(d)1]]*
I.A.14 -Herbaceous vegetation shall be surveyed with the line-intercept method along each of the six transects within biological sampling stations (WIM-01, WIM-02, WIM-03) identified in the supplemental baseline monitoring report. After two years of placing the expansion into service, the permittee may request for a modification in the frequency of the monitoring this parameter based on a demonstration that there is an adequate date base to predict future trends in the effects of discharge of reclaimed water on the wetland *[62-611.700(1) Table 3]*
I.A.15 The threatened and endangered species list shall be updated annually based on qualitative observations of flora and fauna.

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Flow (Apricot)	**MGD**	**Max**	**0.315**	**Annual Average**	**Continuous**	**Recording Flow Meter with Totalizer**	**EFD-1**	**See I.B.4**
		Max	**Report**	**Monthly Average**				
Flow, **Volume of Effluent Discharge under the APRICOT Act**	**MG**	**Max**	**115.00**	**Annual Total**	**Daily During Discharge**	**Calculated**	**CAL-2**	
		Max	**Report**	**Monthly Total**				
		Max	**Report**	**Daily Maximum**				
BOD, Carbonaceous **5 day, 20C**	**mg/L**	**Max**	**5.0**	**Annual Average**	**Weekly**	**24-hr FPC**	**EFA-1**	
		Max	**6.25**	**Monthly Average**				
		Max	**7.5**	**Weekly Average**				
		Max	**10.0**	**Single Sample**				
Solids, Total Suspended	**mg/L**	**Max**	**5.0**	**Single Sample**	**Daily *(7days/week)***	**Grab**	**EFB-1**	
Ultraviolet Light Operational Dose	**MW-s/cm^2**	**Min**	**100**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	**See I.D.16**
Ultraviolet Light Transmittance	**%**	**Min**	**65**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	**See I.D.15**
Ultraviolet Light Intensity	**mW/cm^2**	**Min**	**Report**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	**See I.D.14**
Water Level in Reactors	**Ft**	**Min**	**Report**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	**See I.D.14**
		Max	**Report**	**Single Sample**				

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Reactor Status	**On/off**		**Report**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	
Lamp Status	**On/off**		**Report**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	**See I.D.9**
Lamp Age	**Hrs**		**Report**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	**See I.D.10**
Reactor On/Off Cycles	**Total Number**		**Report**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	
Reactor Power Setpoint	**-**	**-**	**Report**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	**See I.D.12**
Ground Fault Interrupt Status	**Yes/No**	**-**	**Report**	**Single Sample**	**Continuous**	**Meter**	**PPI-1**	**See I.D.13**
pH	**s.u.**	**Min**	**6.0**	**Single Sample**	**Continuous**	**Meter**	**EFA-1**	**See I.B.3**
		Max	**8.5**	**Single Sample**				
Coliform, Fecal	**#/100mL**	**Max**	**25**	**Single Sample**	**Daily; 24 hours**	**Grab**	**EFA-2**	**See I.B.5**
Coliform, Fecal, % less than detection	**percent**	**Min**	**75**	**Monthly Total**	**Monthly**	**Calculated**	**CAL-4**	**See I.B.5**
E. Coli	**#/100 mL**	**Max**	**126**	**Monthly Geometric Mean**	**Weekly**	**Grab**	**EFA-1**	**See I.A.7**
	#/100 mL	**Max**	**410**	**90th Percentile**				

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/ Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Oxygen, Dissolved (DO)	**mg/L**	**Min**	**Report**	**Single Sample**	**Daily, 24 hours**	**Meter**	**EFA-1**	
Nitrogen, Total	**mg/L**	**Max**	**3.0**	**Annual Average**	**Weekly**	**24-hr FPC**	**EFA-1**	
		Max	**3.75**	**Monthly Average**				
		Max	**4.5**	**Weekly Average**				
		Max	**6.0**	**Single Sample**				
Phosphorus, Total (as P)	**mg/L**	**Max**	**1.0**	**Annual Average**	**Weekly**	**24-hr FPC**	**EFA-1**	
		Max	**1.25**	**Monthly Average**				
		Max	**1.5**	**Weekly Average**				
		Max	**2.0**	**Single Sample**				
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Ceriodaphnia dubia*)	**percent**	**Min**	**100**	**Single Sample**	**Semi-Annually; twice per year**	**Grab**	**EFA-1**	**See I.A.9**
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Pimephales promelas*)	**percent**	**Min**	**100**	**Single Sample**	**Semi-Annually; twice per year**	**Grab**	**EFA-1**	**See I.A.9**

I.B. Error! Reference source not found. During the period of required operator attendance hourly measurement of pH may be substituted for continuous measurement

I.B.4 A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

I.B.5 Over a 30-day period, at least 75 percent of the fecal coliform values shall be below the detection limits. No sample shall exceed 25 fecal coliform values per 100 mL. No sample shall exceed 5.0 mg/L of total suspended solids (TSS) at a point before the application of the disinfectant. Note: To report the "% less than detection," count the number of fecal coliform observations that were less than detection, divide by the total number of fecal coliform observations in the month, and multiply by 100% (round to the nearest integer). *[62-600.440(6)(a)]*

I.D.9 The on/off status of each lamp shall be monitored and logged continuously. As described in the approved operating protocol, failure of two or more adjacent lamps in a bank, shall result in reclaimed water being diverted away from both the system storage and reuse systems. Failure of more than five percent of lamps in a bank also shall result in reclaimed water being diverted away from both the system storage and reuse systems. *[62-600.440(1); 62-4.070; 62-610.463(2)]*

I.D.10 The lamp age of each lamp shall be monitored and logged continuously. As described in the approved operating protocol, lamps shall be replaced at the appropriate lamp age. *[62-600.440(1); 62-4.070; 62-610.463(2)]*

I.D.11 The water level in each reactor shall be monitored and logged continuously. As described in the approved operating protocol, a high or low water level condition shall result in reclaimed water being diverted away from both the system storage and reuse systems. *([62-600.440(1); 62-4.070; 62-610.463(2)]*

I.D.12 The reactor power settings shall be as described in the approved operating protocol. The occurrence of power settings below that prescribed in the operating protocol shall result in reclaimed water being diverted away from both the system storage and reuse systems. *[62-600.440(1); 62-4.070; 62-610.463(2)]*

I.D.13 Ground fault interrupt (GFI) status of the UV disinfection system shall be monitored and logged continuously. As described in the approved operating protocol, a GFI condition shall result in reclaimed water being diverted away from both the system storage and reuse systems. *[62-600.440(1); 62-4.070; 62-610.463(2)]*

I.D.14 UV intensity shall be monitored and logged continuously in each reactor. The location of the probe shall be at the same point as was used in the validation testing. *[62-600.440(1); 62-4.070; 62-610.463(2)]*

I.D.15 UV transmittance shall be monitored and logged continuously, and shall be limited as described in the approved operating protocol. *[62-600.440(1); 62-4.070; 62-610.463(2)]*

I.D.16 Operational UV dosage shall be continuously calculated and logged and shall be limited as described in the approved operating protocol. *[62-600.440(1); 62-4.070; 62-610.463(2)]*

PART I: Continued	
Receiving Waters: **Yulee Swamp**	**Classification (indicate whether fresh or marine):** **Class III Fresh Waters**

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

9. The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall **D-001** and **D-002**. 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 6 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 grab samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.

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

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

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

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

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

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

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

(2) If the mortality in the control exceeds 20% for either species in any test, or any other test acceptability criteria are not met, then the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (***Ceriodaphnia dubia***) and

Section 11.11 (***Pimephales promelas***). The repeat test shall begin within 21 days after the last day of the invalid test.

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

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

f. Reporting Requirements (1) Results from all required tests shall be entered on the MONTHLY Discharge Monitoring Report (DMR) as the calculated IC_{25} for each test species.
(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.

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

(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall **notify** the Department **within 21 days** after the last day of the third test failure. (a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.

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

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

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

(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 9.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 9.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.

(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 9.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests.

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

(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in 9.a.(2), then the Department may revise this permit to require acute definitive whole effluent toxicity testing.

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

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

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

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

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

(6) All bioassay laboratory reports shall be mailed or ***e-mailed*** to *Jacksonville* only:

Florida Department of Environmental Protection
Northeast District – Wastewater Compliance
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256
g. Test Failures (1) A test fails when the test results do not meet the limits in 9.a.(1).

(2) Additional Follow-up Tests: (a) If a routine test does not meet the chronic toxicity limitation in 9.a.(1) above, the permittee shall **notify** the Department at the address above **within 21 days** after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 9.d.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
Consent Order- OGC #16-0025
2nd revision Executed on November 25, 2020

ORDERED:
6. Respondent shall continue to implement the WRF BNR/MBR Process Evaluation and Compliance Plan (Hazen and Sawyer, dated July 22, 2016), JEA letter dated August 20, 2018, submit findings and propose a plan to be in full compliance with permit requirements for the Department review and approval.

a) No later than March 31, 2024, Respondent shall complete all steps required by the Plan and JEA Letter.

7. Respondent shall comply with the following discharge limitations, and other requirements set forth in the Facility's Permit:

a) Beginning on the effective date of this Order and lasting until March 31, 2024, the interim limits at EFD-1 for Total Nitrogen are as shown in Table 2a, the interim limit at EFA-1 for flow is shown in Table 2b and the interim limit at EFA-2 for flow is shown in Table 2c below:

Table 2a – Total Nitrogen Interim Limits at EFA-1

Outfall Number	Annual Average	Monthly Average	Weekly Average	Daily Max.	Measurement Frequency	Sample Type
D001	4.0 mg/1	6.0 mg/l	7.0 mg/l	7.0 mg/l	Weekly during discharge	24-hr. FPC
D002	4.0 mg/1	6.0 mg/l	7.0 mg/l	7.0 mg/l	Weekly during discharge	24-hr. FPC

Table 2b – Flow Interim Limit at EFA-1 (D001)

Outfall Number	Annual Average	Measurement Frequency	Sample Type
D001	0.75 MGD	Continuously at FLW-1, FLW-2 and FLW-3	Calculated

Table 2c – Flow Interim Limit at EFA-2 (R001)

Outfall Number	Annual Average	Measurement Frequency	Sample Type
R001	0.5 MGD	Continuously at FLW-2 and FLW-3	Calculated

b) The total permitted capacity of 1.55 million gallons per day (MGD) annual

average daily flow (AADF) limit through the treatment facility shall be increased to an interim limit of 2.0 MGD AADF. The total permitted capacity includes the interim flow 0.75 MGD (D-001), interim flow 0.50 MGD (R-001) and 0.75 MGD (R-002).

c) Due to the adverse impact that the beaver population has had on the health of the receiving wetland, beginning on the effective date of this Order, and lasting until March 31, 2024, the interim limits for Total Nitrogen and for Total Phosphorus are as shown in Table 3, below:

Table 3 – Interim Limits for receiving wetland at WEP-01

Parameter	Annual Average	Measurement Frequency	Sample Type
Total Nitrogen	5.0 mg/l	Quarterly	Grab
Total Phosphorus (*)	1.5 mg/l	Quarterly	Grab

(*) Note – AO-169-NE has a limit of 0.8 mg/l for Total Phosphorus

d) Furthermore, NPDES Permit condition I.A.9 is hereby changed to require only monitoring and reporting for canopy and sub canopy vegetative importance values.

e) Tests conducted pursuant to this monitoring program shall conform to Rule 62-4.246, Chapters 62-160 and 62-660, Fla. Admin. Code, and 40 Code of Federal Regulations 136, as appropriate.

f) These monitoring requirements do not act as State of Florida Department of Environmental Protection Wastewater Permit effluent limitations, nor do they authorize or otherwise justify violation of the Florida Air and Water Pollution Control Act (Act), Part I, Chapter 403, Fla. Stat., during the pendency of this Order.

g) Every calendar quarter after the effective date of this Order, Respondent shall submit in writing to the Department a report containing information concerning the status and progress of projects being completed under this Order, information as to compliance or noncompliance with the applicable requirements of this Order including construction requirements and effluent limitations, and any reasons for noncompliance. These reports shall also include a projection of the work to be performed pursuant to this Order during the 12-month period which will follow the report. These reports shall be submitted to the Department within 30 days following the end of the quarter. Reports shall be due October 30, 2020; January 30, 2021; April 30, 2021; July 30, 2021; October 30, 2021; January 30, 2022; April 30, 2022; July 30, 2022; October 30, 2022; January 30, 2023; April 30, 2023; July 30, 2023; October 30, 2023; January 30, 2024; and a final report by March 30, 2024.

8. Notwithstanding the time periods described in the paragraphs above, Respondent shall complete all corrective actions required by paragraphs 6 & 7 by March 31, 2024, and be in full compliance with Rule 62-4.160 and 62-600.410(1), Fla. Admin. Code, regardless of any intervening events or alternative time frames imposed in this Order, other than those excused delays agreed to by the

Department, as described in paragraph 15.

9. Within 30 days of the effective date of this Order, Respondent shall pay $250.00 for Department costs and expenses incurred during the investigation of this matter and the preparation and tracking of this Order.

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

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

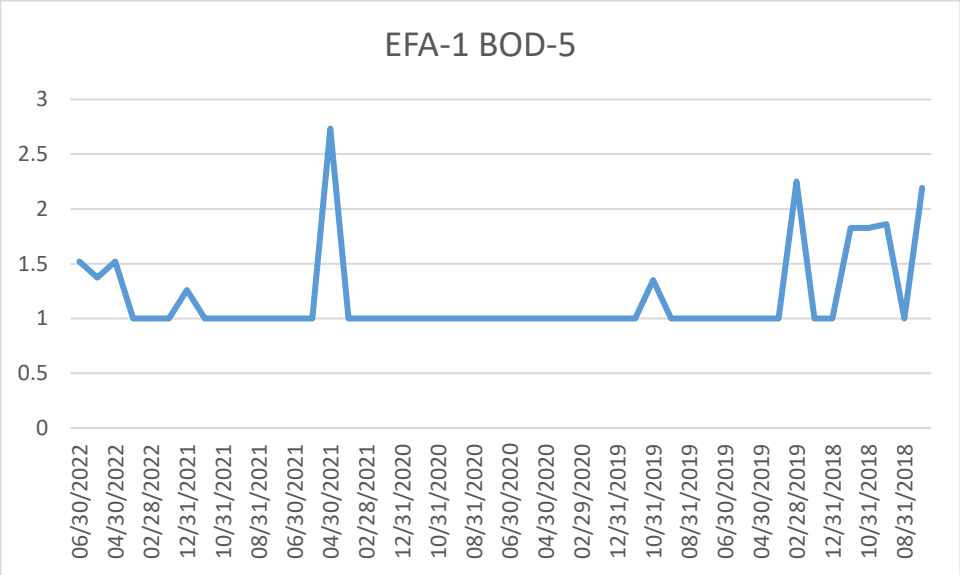
Monitoring Group	Date	Monitoring Location	Description	Result	Limit	Units	Statistical Base
D-001	05/31/2022	INF-1	Flow	1.581	1.55	MGD	AB - Annual Average
MWC-2	12/31/2021	MWC-2	Solids, Total Dissolved (TDS)	670	650	mg/L	MB - Maximum
MWC-3	12/31/2021	MWC-3	Solids, Total Dissolved (TDS)	667	650	mg/L	MB - Maximum
MWC-3	06/30/2021	MWC-3	Solids, Total Dissolved (TDS)	653	650	mg/L	MB - Maximum

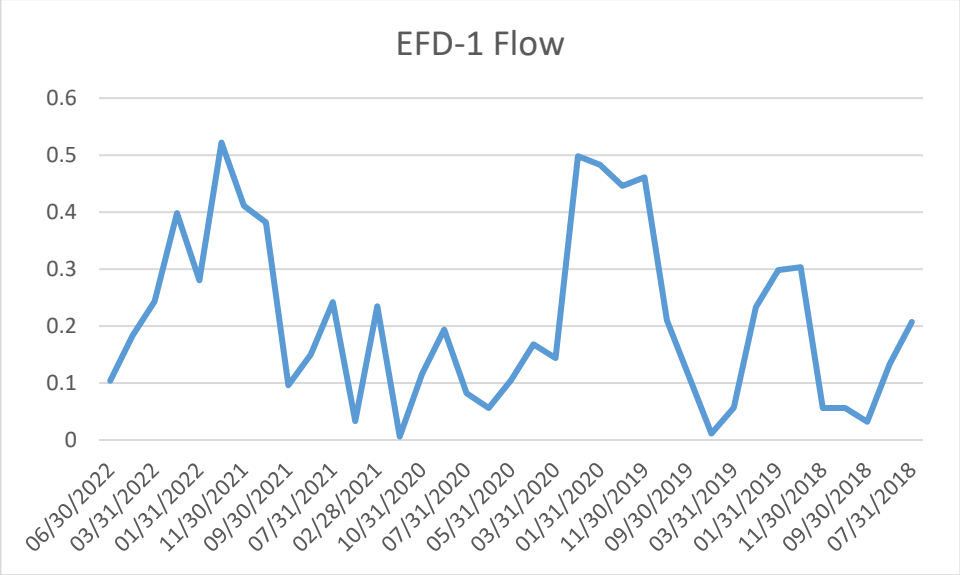
Describe previous FYI and WQBEL study:
During the previous inspection the facility was found to be out of compliance due to Effluent quality, DMR exceedances and groundwater exceedances.

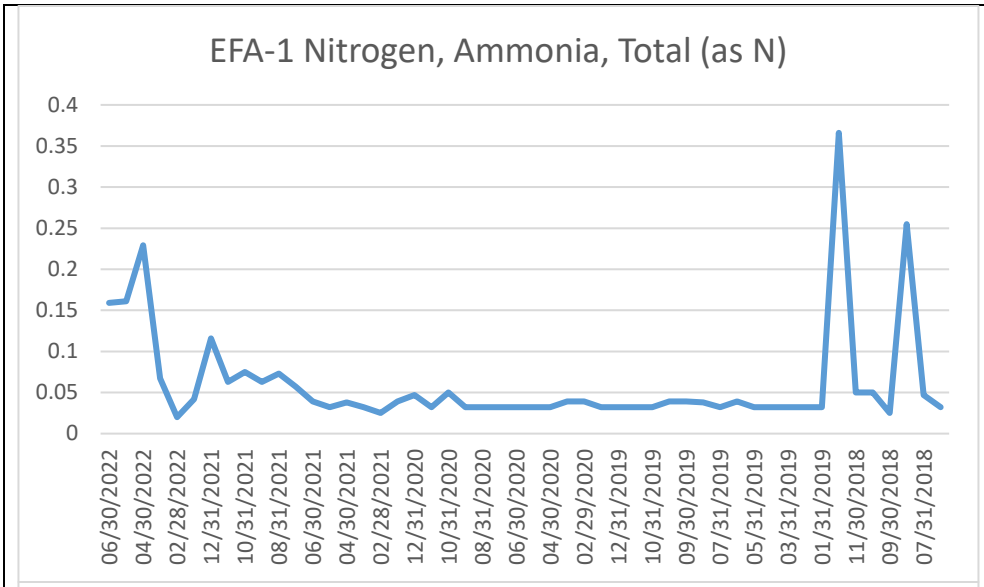
Describe previous or current Enforcement Actions (including WLs):
Facility is currently under a CO #16-0025
Facility has multiple Warning Letters for SSOs, #22-162, #22-157, #21-226, #21-163.

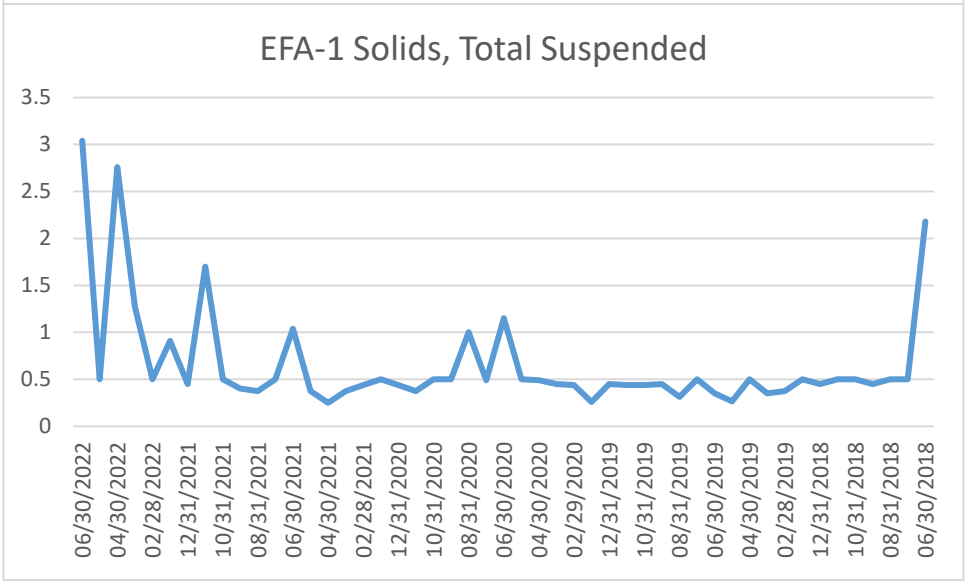
Describe any violations or problems noted in previous inspection:
During the previous inspection the facility was determined to be out of compliance due to effluent and groundwater exceedances.

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









Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):
This facility is a reuse facility. The following major users of reclaimed water is Amelia national Golf Course and North Hampton Golf Course.

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.

- **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.

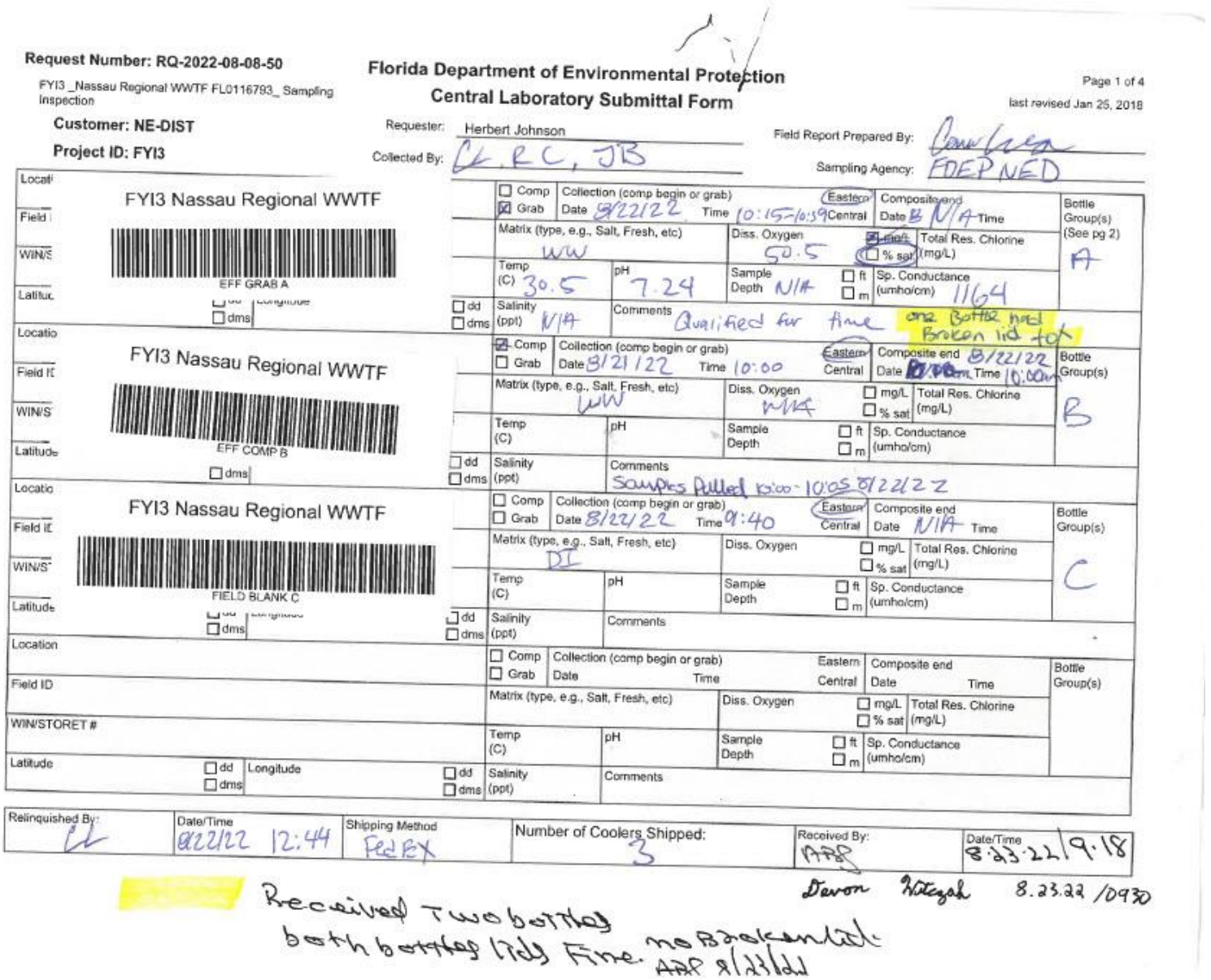
  The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble 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-2022-08-08-50

FYI3 _Nassau Regional WWTF FL0116793_ Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Page 1 of 4
last revised Jan 25, 2018

Requester: Herbert Johnson
Collected By: C.L. R.C, J.B
Field Report Prepared By: Dawn Lucas
Sampling Agency: FDEP NED

FYI3 Nassau Regional WWTF
EFF GRAB A
Comp ☐ Grab ☑ Collection (comp begin or grab) Date 8/22/22 Time 10:15-10:39 Eastern/Central Composite end Date B N/A Time
Matrix (type, e.g., Salt, Fresh, etc) WW
Diss. Oxygen 5.0.5 ☐ mg/L ☐ % sat Total Res. Chlorine (mg/L)
Temp (C) 30.5 pH 7.24 Sample Depth N/A ☐ ft ☐ m Sp. Conductance (umho/cm) 1164
☐ dd ☐ dms Salinity (ppt) N/A Comments Qualified for time and Bottle mod Broken lid tot
Bottle Group(s) (See pg 2) A

FYI3 Nassau Regional WWTF
EFF COMP B
Comp ☑ Grab ☐ Collection (comp begin or grab) Date 8/21/22 Time 10:00 Eastern/Central Composite end Date 8/22/22 Time 10:00am
Matrix (type, e.g., Salt, Fresh, etc) WW
Diss. Oxygen N/A ☐ mg/L ☐ % sat Total Res. Chlorine (mg/L)
Temp (C) pH Sample Depth ☐ ft ☐ m Sp. Conductance (umho/cm)
☐ dd ☐ dms Salinity (ppt) Comments Samples Pulled 10:00-10:05 8/22/22
Bottle Group(s) B

FYI3 Nassau Regional WWTF
FIELD BLANK C
Comp ☐ Grab ☐ Collection (comp begin or grab) Date 8/22/22 Time 9:40 Eastern/Central Composite end Date N/A Time
Matrix (type, e.g., Salt, Fresh, etc) DI
Diss. Oxygen ☐ mg/L ☐ % sat Total Res. Chlorine (mg/L)
Temp (C) pH Sample Depth ☐ ft ☐ m Sp. Conductance (umho/cm)
☐ dd ☐ dms Salinity (ppt) Comments
Bottle Group(s) C

Location
Field ID
WIN/STORET #
Latitude ☐ dd ☐ dms Longitude ☐ dd ☐ dms
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)
Temp (C) pH Sample Depth ☐ ft ☐ m Sp. Conductance (umho/cm)
☐ dd ☐ dms Salinity (ppt) Comments
Bottle Group(s)

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
CL	8/22/22 12:44	FedEx	3	AAP	8.23.22 / 9:18

Devon Wetzel 8.23.22 /0930

Received Two bottles both bottles Idy Fine. no Broken lids AAP 8/23/22

Request Number: RQ-2022-08-08-50

FYI3 _Nassau Regional WWTF FL0116793_ Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 4

last revised Jan 25, 2018

Requester: Herbert Johnson

Collected By: CL, SS, AO

Field Report Prepared By: Conor Lucey

Sampling Agency: FDEP NED

Location: FYI3 Nassau Regional WWTF

Field ID: EFF GRAB A

WIN/S

☐ Comp ☐ Grab | Collection (comp begin or grab) Date 9/24/2022 Time 9:30 | Eastern / Central | Composite end Date N/A Time | Bottle Group(s) (See pg 2): A

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

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

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: CL	Date/Time 9/24/22 10:30	Shipping Method	Number of Coolers Shipped:	Received By: R	Date/Time 3-25-2022 9:21

Devon Witzel 8.25.22/0938

Request Number: RQ-2022-08-08-50

FYI3 _Nassau Regional WWTF FL0116793_ Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 4

last revised Jan 25, 2018

Requester: Herbert Johnson

Collected By: CL PH

Field Report Prepared By: Conor Lucy

Sampling Agency: FDEP NED

FYI3 Nassau Regional WWTF

EFF GRAB A

Latitude ☐ dd ☐ dms		☐ dd ☐ dms	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 8/26/22 Time 9:10	Eastern Central	Composite end Date — Time —	Bottle Group(s) (See pg 2) A	
			Matrix (type, e.g., Salt, Fresh, etc) WW		Diss. Oxygen —	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L) —	
			Temp (C) —	pH —	Sample Depth —	☐ ft ☐ m	Sp. Conductance (umho/cm) —	
			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				
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	8/26/22 10:25	FedEX	1	gg	08/29/22 8:36

DIVERSIFIED ENVIRONMENTAL LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

Project Number: (Lab Use Only) 220822.01

3653 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 W Ste 100
City: Jacksonville State: FL Zip: 32256
Attn: Taylor Parks Taylor.Parks@FloridaDEP.gov
Tel: 904 256 1700 E-mail or Fax: DEP-Overflowmicro@dep.state.fl.us
Project Name: Nassau Regional
Project Number: RQ-2022-08-08-50
Project Location:
Sampler Name/Signature: Shannon 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
1	60517	NE-DIV-ECQ 1	8/22/22	10:15	O	✓		✓	✓		
2	60518	NE DIV ECQ 2	8/22/22	10:15	O	✓		✓			✓
3											
4											
5											
6											
7											
8											
9											
0											

Container Information (Qty, Size, & Type): 250mL HNO3 Tuv ecoli/ent; NPW; 250mL HNO3 Tuv ecoli/ent; NPW
Container Preservation Codes: 6 | 6 | 6
Parameters

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

Sample Kit or Container Lot #: NA

Preservation Codes:
0. None 5. Na2S2O3
1. H2SO4 6. Crushed Ice (4C)
2. HNO3 7. C6H8O6
3. HCl 8. NH4Cl
4. NaOH 9. Other: (List)

Thermal Preservation:
In Crushed Ice? Yes / No
Cooler Temp: 0.9 °C
Sample Cont. Temp: 30.5 °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

Special Instructions: FlowField

Transfer Numbers	Relinquished By	Date / Time	Received By	Date / Time
1-2	Shannon Taylor	8/22/22 1133	Megan Rick	8/22/22 11:33

NELAP ACCREDITED TNI LABORATORY
Certification #E82105

Lab General Form 069, 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/Magan Bowden (850)-245-8084 / (850) 245-8095
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: Linda S. Allen Contractor Approval By: Neil Savoie
Project Manager

Contractor Representatives Contacted: Noel Savoie

Date: 7/21/2022
Means of Contact: Email

Task Assignment Number: OV373 Maximum Cost: **$83.00** Turnaround Time: 5 BD

Sample Delivery Date: 8/23/2022

Project Name/Description:
RQ-2022-08-08-50: FY13 _Nassau Regional WWTF FL0116793_ 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	2	2 / (2)		$39.00		$78.00
217/Sample Disposal Fee:		2			$2.50		$5.00
Total Number of Containers Shipped:		2				**Total:**	**$83.00**

660-123103 Chain of Custody

Loc: 660
12310:

QC Instructions:

Comments: Quote # 66018208 - 0

Samples released to Contract Lab by: FDEP courier Date/Time: 8/24/22 12:11

Delivery Method: _____ Shipping X

Samples Accepted by: _____ Date/Time 8/23/22 9:06

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

1.8 / 1.7

Appendix D. Chemical Analysis of Effluent

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 10:00	Effluent Composite	Overflow	Carbonaceous Biochemical Oxygen Demand	2.0 U	mg/L	2.0	2.0
8/22/2022 10:00	Effluent Composite	Nutrients	Kjeldahl Nitrogen	0.88	mg N/L	0.080	0.20
8/22/2022 10:00	Effluent Composite	Nutrients	Ammonia-N	0.054	mg N/L	0.0020	0.0050
8/22/2022 10:00	Effluent Composite	Nutrients	Organic Carbon	8.1 A	mg C/L	0.50	1.0
8/22/2022 10:00	Effluent Composite	Nutrients	Total-P	0.17	mg P/L	0.010	0.050
8/22/2022 10:00	Effluent Composite	Nutrients	TSS	2 I	mg/L	2.0	10
8/22/2022 10:00	Effluent Composite	Nutrients	NO2NO3-N	0.52	mg N/L	0.0080	0.020
8/22/2022 10:15	Effluent Grab	AGP/LN	Algal Growth Potential	1.92 AJ	mg DryWt/L	0.300	0.900
8/22/2022 10:15	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.82 U	µg/L	0.82	2.5
8/22/2022 10:15	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
8/22/2022 10:15	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.60 U	µg/L	0.60	1.8
8/22/2022 10:15	Effluent Grab	Overflow	Fecal Coliforms-Membrane Filter	2	cfu/100 mL	2	2
8/22/2022 10:15	Effluent Grab	Overflow	Escherichia Coli-Quanti-Tray	1.0	MPN/100 mL	1.0	1.0
8/22/2022 10:15	Effluent Grab	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	No Result O	NOEC		
8/22/2022 10:15	Effluent Grab	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	No Result O	IC25		
8/22/2022 10:15	Effluent Grab	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	No Result O	NOEC		
8/22/2022 10:15	Effluent Grab	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	No Result O	IC25		
8/22/2022 10:15	Effluent Grab	Metals	Magnesium	29.2	mg/L	0.040	0.16
8/22/2022 10:15	Effluent Grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
8/22/2022 10:15	Effluent Grab	Metals	Copper	0.79 I	µg/L	0.40	0.80
8/22/2022 10:15	Effluent Grab	Metals	Nickel	3.3	µg/L	0.50	2.0
8/22/2022 10:15	Effluent Grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80
8/22/2022 10:15	Effluent Grab	Metals	Sodium	129	mg/L	0.50	2.0
8/22/2022 10:15	Effluent Grab	Metals	Silver	0.010 U	µg/L	0.010	0.040
8/22/2022 10:15	Effluent Grab	Metals	Arsenic	0.20	µg/L	0.050	0.20
8/22/2022 10:15	Effluent Grab	Metals	Iron	39 I	µg/L	30	120
8/22/2022 10:15	Effluent Grab	Metals	Calcium	56.1	mg/L	0.075	0.30
8/22/2022 10:15	Effluent Grab	Metals	Potassium	26.5	mg/L	1.5	6.0
8/22/2022 10:15	Effluent Grab	Metals	Aluminum	163	µg/L	5.0	20
8/22/2022 10:15	Effluent Grab	Metals	Zinc	121	µg/L	5.0	20

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 10:15	Effluent Grab	Metals	Chromium	0.40 U	µg/L	0.40	1.6
8/22/2022 10:15	Effluent Grab	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
8/22/2022 10:15	Effluent Grab	Nutrients	Sulfate	170	mg SO4/L	2.0	5.0
8/22/2022 10:15	Effluent Grab	Nutrients	Chloride	160	mg Cl/L	2.0	5.0
8/22/2022 10:15	Effluent Grab	Nutrients	O-Phosphate-P	0.22	mg P/L	0.012	0.030
8/22/2022 10:15	Effluent Grab	Nutrients	Organic Carbon	7.8	mg C/L	0.50	1.0
8/22/2022 10:15	Effluent Grab	Nutrients	NO2NO3-N	0.36	mg N/L	0.0080	0.020
8/22/2022 10:15	Effluent Grab	Nutrients	Turbidity	0.50 I	NTU	0.10	1.0
8/22/2022 10:15	Effluent Grab	Nutrients	Total Alkalinity	172 A	mg CaCO3/L	0.65	2.5
8/22/2022 10:15	Effluent Grab	Nutrients	Total-P	0.25	mg P/L	0.010	0.050
8/22/2022 10:15	Effluent Grab	Nutrients	Ammonia-N	0.12	mg N/L	0.0020	0.0050
8/22/2022 10:15	Effluent Grab	Nutrients	Color (true)	25 A	PCU	2.5	6.0
8/22/2022 10:15	Effluent Grab	Nutrients	Kjeldahl Nitrogen	0.87	mg N/L	0.080	0.20
8/22/2022 10:15	Effluent Grab	Nutrients	Fluoride	0.59	mg F/L	0.035	0.10
8/22/2022 10:15	Effluent Grab	Nutrients	TSS	2 U	mg/L	2.0	10
8/22/2022 10:15	Effluent Grab	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.77
8/22/2022 10:15	Effluent Grab	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.48
8/22/2022 10:15	Effluent Grab	Pesticides	Pyridaben	0.43 U	ng/L	0.43	2.2
8/22/2022 10:15	Effluent Grab	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Atrazine Desethyl	1.4 U	ng/L	1.4	5.8
8/22/2022 10:15	Effluent Grab	Pesticides	Dimethenamid	0.096 U	ng/L	0.096	0.38
8/22/2022 10:15	Effluent Grab	Pesticides	Dithiopyr	0.17 U	ng/L	0.17	0.67
8/22/2022 10:15	Effluent Grab	Pesticides	Fipronil Desulfinyl	4.8	ng/L	0.12	0.48
8/22/2022 10:15	Effluent Grab	Pesticides	Fipronil Sulfide	2.6	ng/L	0.14	0.58
8/22/2022 10:15	Effluent Grab	Pesticides	Fluazifop-P-butyl	0.096 U	ng/L	0.096	0.38
8/22/2022 10:15	Effluent Grab	Pesticides	Fluxapyroxad	0.44	ng/L	0.096	0.38
8/22/2022 10:15	Effluent Grab	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.0
8/22/2022 10:15	Effluent Grab	Pesticides	Oxadiazon	0.29 U	ng/L	0.29	1.2
8/22/2022 10:15	Effluent Grab	Pesticides	Prodiamine	0.17 U	ng/L	0.17	0.67
8/22/2022 10:15	Effluent Grab	Pesticides	Simazine	1.6 I	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.6
8/22/2022 10:15	Effluent Grab	Pesticides	Dimethomorph	0.21 I	ng/L	0.17	1.0
8/22/2022 10:15	Effluent Grab	Pesticides	Butylate	0.38 U	ng/L	0.38	1.5
8/22/2022 10:15	Effluent Grab	Pesticides	Carfentrazone Ethyl	0.096 U	ng/L	0.096	0.38

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 10:15	Effluent Grab	Pesticides	Cyanazine	3.1 U	ng/L	3.1	12
8/22/2022 10:15	Effluent Grab	Pesticides	Disulfoton	0.48 U	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Flutolanil	0.39	ng/L	0.096	0.38
8/22/2022 10:15	Effluent Grab	Pesticides	Malathion	0.34 U	ng/L	0.34	1.3
8/22/2022 10:15	Effluent Grab	Pesticides	Parathion Methyl	0.53 U	ng/L	0.53	2.1
8/22/2022 10:15	Effluent Grab	Pesticides	Pendimethalin	0.96 U	ng/L	0.96	3.8
8/22/2022 10:15	Effluent Grab	Pesticides	Pronamide	0.14 U	ng/L	0.14	0.58
8/22/2022 10:15	Effluent Grab	Pesticides	Pyraflufen Ethyl	0.24 U	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Caffeine	61	ng/L	7.2	29
8/22/2022 10:15	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.048 U	ng/L	0.048	0.19
8/22/2022 10:15	Effluent Grab	Pesticides	Ethion	0.14 U	ng/L	0.14	0.58
8/22/2022 10:15	Effluent Grab	Pesticides	Flumioxazin	1.7 U	ng/L	1.7	6.7
8/22/2022 10:15	Effluent Grab	Pesticides	Norflurazon	0.48 U	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Sulfentrazone	2.8	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
8/22/2022 10:15	Effluent Grab	Pesticides	Propanil	0.12 U	ng/L	0.12	0.48
8/22/2022 10:15	Effluent Grab	Pesticides	Carbophenothion	0.19 U	ng/L	0.19	0.77
8/22/2022 10:15	Effluent Grab	Pesticides	EPTC	1.2 U	ng/L	1.2	4.8
8/22/2022 10:15	Effluent Grab	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.48
8/22/2022 10:15	Effluent Grab	Pesticides	Fipronil Sulfone	2.6	ng/L	0.14	0.58
8/22/2022 10:15	Effluent Grab	Pesticides	Imazalil	0.72 U	ng/L	0.72	2.9
8/22/2022 10:15	Effluent Grab	Pesticides	Metribuzin	2.4 U	ng/L	2.4	9.6
8/22/2022 10:15	Effluent Grab	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2
8/22/2022 10:15	Effluent Grab	Pesticides	Naled	1.4 U	ng/L	1.4	5.8
8/22/2022 10:15	Effluent Grab	Pesticides	Loratadine	1.7	ng/L	0.096	0.38
8/22/2022 10:15	Effluent Grab	Pesticides	Stirophos	0.12 U	ng/L	0.12	0.48
8/22/2022 10:15	Effluent Grab	Pesticides	Triadimefon	0.24 U	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Cyprodinil	0.31 I	ng/L	0.096	0.48
8/22/2022 10:15	Effluent Grab	Pesticides	Demeton	1.4 U	ng/L	1.4	5.8
8/22/2022 10:15	Effluent Grab	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.48
8/22/2022 10:15	Effluent Grab	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Propiconazole	2.0	ng/L	0.48	1.9

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 10:15	Effluent Grab	Pesticides	Tebuconazole	9.6	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Etridiazole	0.14 U	ng/L	0.14	0.58
8/22/2022 10:15	Effluent Grab	Pesticides	Phenytoin	3.4 U	ng/L	3.4	13
8/22/2022 10:15	Effluent Grab	Pesticides	Propargite	1.4 U	ng/L	1.4	5.8
8/22/2022 10:15	Effluent Grab	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Atrazine	26	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Bromacil	0.48 U	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Chlorfenapyr	2.2	ng/L	0.17	0.67
8/22/2022 10:15	Effluent Grab	Pesticides	Coumaphos	0.48 U	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Fipronil	14	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Myclobutanil	0.24 U	ng/L	0.24	0.96
8/22/2022 10:15	Effluent Grab	Pesticides	Phorate	0.50 U	ng/L	0.50	2.0
8/22/2022 10:15	Effluent Grab	Pesticides	Naproxen	0.090	µg/L	0.0080	0.032
8/22/2022 10:15	Effluent Grab	Pesticides	Ametryn	0.58 U	ng/L	0.58	2.3
8/22/2022 10:15	Effluent Grab	Pesticides	Azinphos Methyl	4.5 I	ng/L	1.9	7.7
8/22/2022 10:15	Effluent Grab	Pesticides	Ethoprop	0.096 U	ng/L	0.096	0.38
8/22/2022 10:15	Effluent Grab	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.77
8/22/2022 10:15	Effluent Grab	Pesticides	Iprodione	0.58 U	ng/L	0.58	2.3
8/22/2022 10:15	Effluent Grab	Pesticides	Prometon	0.86 U	ng/L	0.86	3.5
8/22/2022 10:15	Effluent Grab	Pesticides	Terbufos	0.096 U	ng/L	0.096	0.38
8/22/2022 10:15	Effluent Grab	Pesticides	Sucralose	130	µg/L	1.0	4.0
8/22/2022 10:15	Effluent Grab	Pesticides	Napropamide	0.38 U	ng/L	0.38	1.5
8/22/2022 10:15	Effluent Grab	Pesticides	Thiobencarb	0.58 U	ng/L	0.58	2.3
8/22/2022 10:15	Effluent Grab	Pesticides	Azoxystrobin	0.48 U	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Difenoconazole	0.58 U	ng/L	0.58	2.3
8/22/2022 10:15	Effluent Grab	Pesticides	Fludioxonil	2.9	ng/L	0.12	0.48
8/22/2022 10:15	Effluent Grab	Pesticides	Hexazinone	0.48 U	ng/L	0.48	1.9
8/22/2022 10:15	Effluent Grab	Pesticides	Metalaxyl	0.72 U	ng/L	0.72	2.9
8/22/2022 10:15	Effluent Grab	Pesticides	Metolachlor	0.34 U	ng/L	0.34	1.3
8/22/2022 10:15	Effluent Grab	Pesticides	Oxyfluorfen	0.14 U	ng/L	0.14	0.58
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Isophorone	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.052 U	µg/L	0.052	0.21

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	42
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	42
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.3
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.42
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	42
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Anthracene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	42
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	µg/L	1.0	4.2
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.3
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.52 U	µg/L	0.52	2.1
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.2 U	µg/L	5.2	21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.83
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.052 U	µg/L	0.052	0.21

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.3
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.42
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.42
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Phenol	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.052 U	µg/L	0.052	0.21
8/22/2022 10:15	Effluent Grab	Nutrients	pH	7.24			
8/22/2022 10:15	Effluent Grab	Nutrients	Dissolved Oxygen %Sat	50.5	%Sat		
8/22/2022 10:15	Effluent Grab	Nutrients	Specific Conductance	1,164	umhos/cm		
8/22/2022 10:15	Effluent Grab	Nutrients	Temperature	30.5	C		
8/22/2022 9:40	Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
8/22/2022 9:40	Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
8/22/2022 9:40	Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
8/22/2022 9:40	Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
8/22/2022 9:40	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
8/22/2022 9:40	Blank	Metals	Iron	30 U	µg/L	30	120
8/22/2022 9:40	Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
8/22/2022 9:40	Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
8/22/2022 9:40	Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
8/22/2022 9:40	Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
8/22/2022 9:40	Blank	Metals	Chromium	0.40 U	µg/L	0.40	1.6
8/22/2022 9:40	Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
8/22/2022 9:40	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
8/22/2022 9:40	Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
8/22/2022 9:40	Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
8/22/2022 9:40	Blank	Nutrients	Turbidity	0.10 U	NTU	0.10	1.0

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 9:40	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
8/22/2022 9:40	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
8/22/2022 9:40	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.50	1.0
8/22/2022 9:40	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
8/22/2022 9:40	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.10
8/22/2022 9:40	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
8/22/2022 9:40	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
8/22/2022 9:40	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
8/22/2022 9:40	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
8/22/2022 9:40	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
8/22/2022 9:40	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
8/22/2022 9:40	Blank	Pesticides	Chlorfenapyr	0.17 U	ng/L	0.17	0.68
8/22/2022 9:40	Blank	Pesticides	Etridiazole	0.15 U	ng/L	0.15	0.58
8/22/2022 9:40	Blank	Pesticides	Flumioxazin	1.7 U	ng/L	1.7	6.8
8/22/2022 9:40	Blank	Pesticides	Azinphos Methyl	1.9 U	ng/L	1.9	7.8
8/22/2022 9:40	Blank	Pesticides	Norflurazon	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Parathion Methyl	0.53 U	ng/L	0.53	2.1
8/22/2022 9:40	Blank	Pesticides	Prodiamine	0.17 U	ng/L	0.17	0.68
8/22/2022 9:40	Blank	Pesticides	Propiconazole	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Terbufos	0.097 U	ng/L	0.097	0.39
8/22/2022 9:40	Blank	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.6
8/22/2022 9:40	Blank	Pesticides	Azoxystrobin	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Butylate	0.39 U	ng/L	0.39	1.6
8/22/2022 9:40	Blank	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.48
8/22/2022 9:40	Blank	Pesticides	Coumaphos	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Dimethomorph	0.17 U	ng/L	0.17	1.0
8/22/2022 9:40	Blank	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Atrazine	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Hexazinone	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Caffeine	7.3 U	ng/L	7.3	29
8/22/2022 9:40	Blank	Pesticides	Carbophenothion	0.19 U	ng/L	0.19	0.78
8/22/2022 9:40	Blank	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
8/22/2022 9:40	Blank	Pesticides	Propargite	1.5 U	ng/L	1.5	5.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 9:40	Blank	Pesticides	Stirophos	0.12 U	ng/L	0.12	0.48
8/22/2022 9:40	Blank	Pesticides	Loratadine	0.097 U	ng/L	0.097	0.39
8/22/2022 9:40	Blank	Pesticides	Fluazifop-P-butyl	0.097 U	ng/L	0.097	0.39
8/22/2022 9:40	Blank	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Iprodione	0.58 U	ng/L	0.58	2.3
8/22/2022 9:40	Blank	Pesticides	Malathion	0.34 U	ng/L	0.34	1.4
8/22/2022 9:40	Blank	Pesticides	Metribuzin	2.4 U	ng/L	2.4	9.7
8/22/2022 9:40	Blank	Pesticides	Sulfentrazone	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Disulfoton	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Fipronil	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Propanil	0.12 U	ng/L	0.12	0.48
8/22/2022 9:40	Blank	Pesticides	Pyridaben	0.44 U	ng/L	0.44	2.2
8/22/2022 9:40	Blank	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.78
8/22/2022 9:40	Blank	Pesticides	Myclobutanil	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Oxadiazon	0.29 U	ng/L	0.29	1.2
8/22/2022 9:40	Blank	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.58
8/22/2022 9:40	Blank	Pesticides	Dimethenamid	0.097 U	ng/L	0.097	0.39
8/22/2022 9:40	Blank	Pesticides	Thiobencarb	0.58 U	ng/L	0.58	2.3
8/22/2022 9:40	Blank	Pesticides	Triadimefon	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Pyraflufen Ethyl	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Fludioxonil	0.12 U	ng/L	0.12	0.48
8/22/2022 9:40	Blank	Pesticides	Metalaxyl	0.73 U	ng/L	0.73	2.9
8/22/2022 9:40	Blank	Pesticides	Metolachlor	0.34 U	ng/L	0.34	1.4
8/22/2022 9:40	Blank	Pesticides	Pendimethalin	0.97 U	ng/L	0.97	3.9
8/22/2022 9:40	Blank	Pesticides	Prometon	0.87 U	ng/L	0.87	3.5
8/22/2022 9:40	Blank	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.48
8/22/2022 9:40	Blank	Pesticides	Demeton	1.5 U	ng/L	1.5	5.8
8/22/2022 9:40	Blank	Pesticides	Dithiopyr	0.31 I	ng/L	0.17	0.68
8/22/2022 9:40	Blank	Pesticides	Ethoprop	0.097 U	ng/L	0.097	0.39
8/22/2022 9:40	Blank	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
8/22/2022 9:40	Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
8/22/2022 9:40	Blank	Pesticides	Cyprodinil	0.097 U	ng/L	0.097	0.48
8/22/2022 9:40	Blank	Pesticides	Ametryn	0.58 U	ng/L	0.58	2.3
8/22/2022 9:40	Blank	Pesticides	Imazalil	0.73 U	ng/L	0.73	2.9

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 9:40	Blank	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.1
8/22/2022 9:40	Blank	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2
8/22/2022 9:40	Blank	Pesticides	Naled	1.5 U	ng/L	1.5	5.8
8/22/2022 9:40	Blank	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.58
8/22/2022 9:40	Blank	Pesticides	Simazine	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Tebuconazole	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Carfentrazone Ethyl	0.097 U	ng/L	0.097	0.39
8/22/2022 9:40	Blank	Pesticides	Chlorpyrifos Methyl	0.048 U	ng/L	0.048	0.19
8/22/2022 9:40	Blank	Pesticides	Cyanazine	3.1 U	ng/L	3.1	13
8/22/2022 9:40	Blank	Pesticides	EPTC	1.2 U	ng/L	1.2	4.8
8/22/2022 9:40	Blank	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.48
8/22/2022 9:40	Blank	Pesticides	Fipronil Sulfone	0.15 U	ng/L	0.15	0.58
8/22/2022 9:40	Blank	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	5.8
8/22/2022 9:40	Blank	Pesticides	Fluxapyroxad	0.097 U	ng/L	0.097	0.39
8/22/2022 9:40	Blank	Pesticides	Phorate	0.51 U	ng/L	0.51	2.0
8/22/2022 9:40	Blank	Pesticides	Bromacil	0.48 U	ng/L	0.48	1.9
8/22/2022 9:40	Blank	Pesticides	Phenytoin	3.4 U	ng/L	3.4	14
8/22/2022 9:40	Blank	Pesticides	Napropamide	0.39 U	ng/L	0.39	1.6
8/22/2022 9:40	Blank	Pesticides	Flutolanil	0.097 U	ng/L	0.097	0.39
8/22/2022 9:40	Blank	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.97
8/22/2022 9:40	Blank	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.78
8/22/2022 9:40	Blank	Pesticides	Difenoconazole	0.58 U	ng/L	0.58	2.3
8/22/2022 9:40	Blank	Pesticides	Ethion	0.15 U	ng/L	0.15	0.58
8/22/2022 9:40	Blank	Pesticides	Fipronil Desulfinyl	0.12 U	ng/L	0.12	0.48
8/22/2022 9:40	Blank	Pesticides	Fipronil Sulfide	0.15 U	ng/L	0.15	0.58
8/22/2022 9:40	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
8/22/2022 9:40	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.42
8/22/2022 9:40	Blank	Priority Organic Pollutants	Isophorone	0.052 U	µg/L	0.052	0.21

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
8/22/2022 9:40	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.2 U	µg/L	5.2	21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Nitrobenzene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Phenol	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	42
8/22/2022 9:40	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.3
8/22/2022 9:40	Blank	Priority Organic Pollutants	Fluoranthene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Hexachloroethane	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.3
8/22/2022 9:40	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	µg/L	1.0	4.2
8/22/2022 9:40	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.42
8/22/2022 9:40	Blank	Priority Organic Pollutants	2-Chlorophenol	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	42
8/22/2022 9:40	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.83
8/22/2022 9:40	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	42
8/22/2022 9:40	Blank	Priority Organic Pollutants	Anthracene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.42
8/22/2022 9:40	Blank	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	42
8/22/2022 9:40	Blank	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10

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8/22/2022 9:40	Blank	Priority Organic Pollutants	Pentachlorophenol	0.52 U	µg/L	0.52	2.1
8/22/2022 9:40	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	2-Nitrophenol	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
8/22/2022 9:40	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
8/22/2022 9:40	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.3
8/18/2022 9:02	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
8/18/2022 9:02	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
8/18/2022 9:02	Blank	Nutrients	Organic Carbon	0.74 I	mg C/L	0.50	1.0
8/18/2022 9:02	Blank	Nutrients	NO2NO3-N	0.004 I	mg N/L	0.0040	0.010
8/18/2022 9:02	Blank	Nutrients	Ammonia-N	0.004 I	mg N/L	0.0020	0.0050