Effluent Quality Assessment of City of Bradenton Wastewater Treatment Facility Manatee County NPDES # FL0021369 Sampled December 3, 2018

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
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Contents

Contents 2
List of Tables 2
Summary of Results 3
Facility Overview 3
Methods 3
Results 5
Literature Cited 7
Appendix A. Facility Summary 14
Appendix B. Explanations of Measurements 26
Appendix C. Chain of Custody 28
Appendix D. Chemical Analysis of Effluent 30

List of Tables

Table 1. Measured field parameters 8
Table 2. Analytical water chemistry, microbiological, and toxicological data 9
Table 3. Analytical metals data 11
Table 4. Algal Growth Potential (AGP) 12
Table 5. Detected Organic Constituents 13

List of Figures

Figure 1. Map of Facility and Sampling Locations 4

Summary of Results

The effluent sample value for total nitrogen (calculated) exceeded the permit limit. The effluent sample was determined to be acutely toxic to both test species during the 96-hour acute screen bioassays. All other analytes were within permit limits and/or Class III Marine Water Quality Criteria. Numerous organic constituents (pesticides, herbicides, and fungicides) were detected in the effluent sample, and 2,4,6-Trichlorophenol complied with the Class III Marine Water Quality Criterion (62-302.530(53)(c)4., F.A.C.).

Facility Overview

The City of Bradenton WWTF is an activated sludge advanced wastewater treatment facility designed to collect and treat domestic wastewater. Wastewater is treated and discharged into Robinson's Ditch and then to the Manatee River, a Class III marine water. 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.

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria for the Manatee River Estuary within the Tampa Bay Estuary region (62-302.532, F.A.C.). The NNC thresholds, expressed as annual totals, are 0.37 tons/million cubic meters of water for total phosphorus and 1.80 tons/million cubic meters of water for total nitrogen. The NNC threshold for chlorophyll, expressed as an annual arithmetic mean, is 8.8 µg/L chlorophyll a. 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 composite samples were taken on December 3, 2018. All samples were collected from monitoring site location D-001. Samples were collected by Pete Wenner, Ileana Hernandez, Maggie Dorge, and Lance Kautz.

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.

All references to 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.

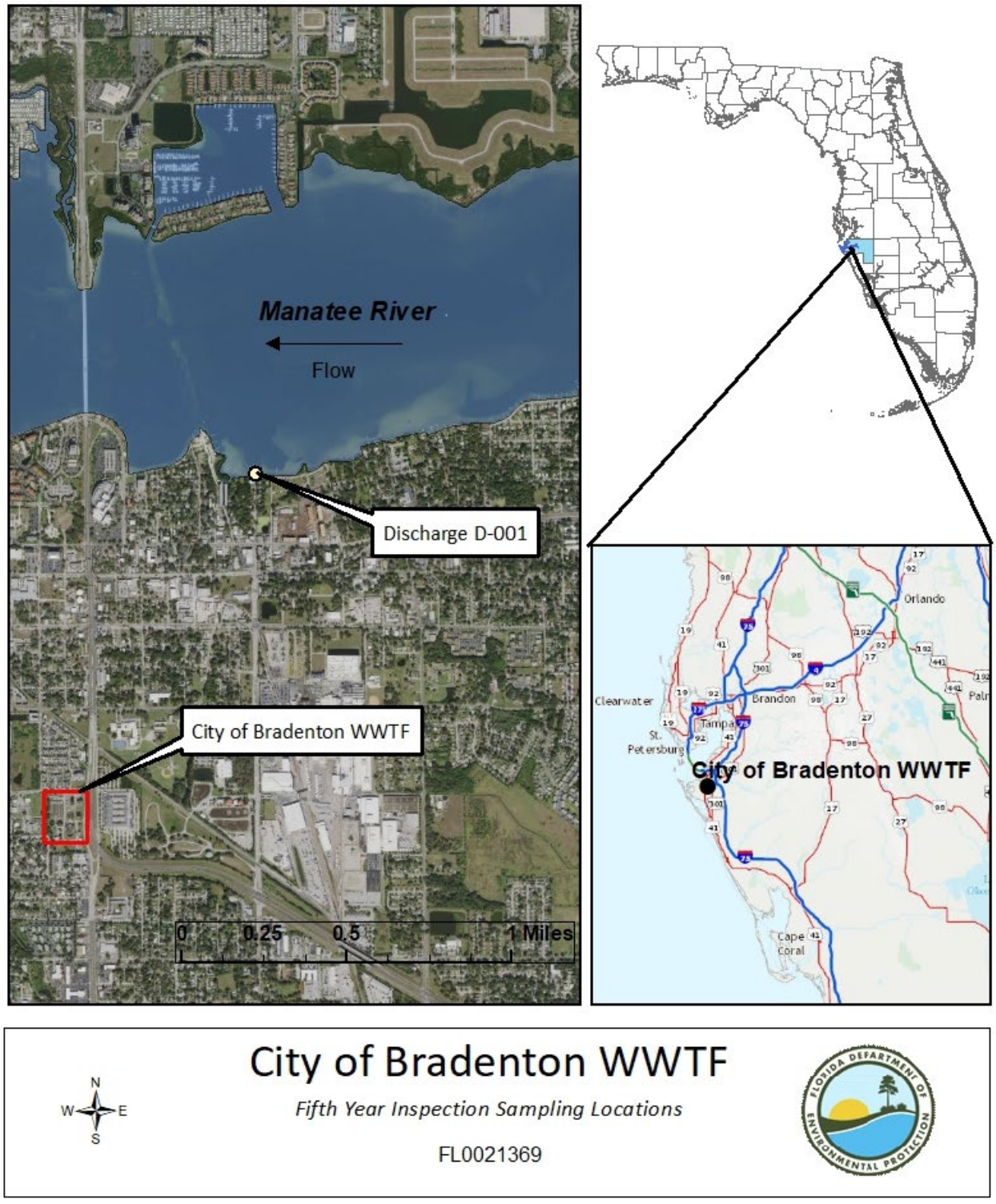


Figure 1. Map of Facility and Sampling Locations

Results

Physical and Chemical Parameters (See Table 1 and Appendix D)

- There is a permit limit for total residual chlorine but it was not measured at the time of sampling. Total residual chlorine measured in the effluent sample received by the laboratory for toxicity testing was less than 0.03 mg/L.

- Measured effluent physical and chemical parameters complied with effluent permit limits and Class III Marine Water Quality Criteria (62-302.530, F.A.C.).

Analytical Water Chemistry (See Table 2 and Appendix D)

- Calculated Total Nitrogen for the effluent sample did not meet the permit limit.

- There is a permit limit for carbonaceous biological oxygen demand (CBOD) but it was not scheduled; nitrogen-uninhibited BOD was scheduled.

- Nitrate/nitrite was detected in the field blank between the MDL and the PQL.

Microbiology (See Table 2 and Appendix D)

- Fecal coliforms were not detected in the effluent sample and therefore complied with facility permit limits.

- *Escherichia coli* (*E. coli*) was not detected in the effluent sample. There is a permit limit for enterococci but it was not scheduled.

Toxicity Whole Effluent Test (See Table 2 and Appendix D)

- Tests were performed December 4 through December 8, 2018.

- An effluent grab sample was collected to perform a 96-hour acute screen. The permit requires a 7-day chronic toxicity test using a 24-hr flow-proportioned composite sample.

- Acute bioassay results are reported as the Concentration Lethal to 50% of the test organisms (LC50). In a 96-hour acute screening test of 100% effluent, mortality of <20% provides confidence that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule and 62-302.500(1)a, F.A.C.). Mortality between 20 and 50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of >50% indicates that the effluent fails to meet the minimum requirement to discharge to waters of the state (Rule 62-4.244(3) (a), F.A.C.).

- For the 96-hour acute screening test, the calculated LC50 for the water flea, *Ceriodaphnia dubia*, was <100% effluent with 100% mortality in 100% sample. The calculated LC50 for the fish, *Pimephales promales*, was <100% effluent with 100% mortality in 100% sample.

- The bioassay samples were acutely toxic to both test organisms.

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

Metals (See Table 3 and Appendix D)

- All metals detected in the effluent composite sample were present at levels that complied with effluent permit limits and Class III Marine Water Quality Criteria (62-302.530, F.A.C.).

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata*, and the marine species, *Dunaliella tertiolecta,* were used to determine the AGP values in the effluent. The effluent AGP was 171 mg DryWt/L for the freshwater test and 275 mg DryWt/L for the marine test. The analytical chemistry suggests that the effluent is ortho-phosphate limited (Miller et al. 1978).

- An aliquot of the AGP sample was salinity adjusted from an apparent salinity of approximately 0.80 parts per thousand (ppth) to a salinity of approximately 7.10 ppth by the addition of artificial sea salts to meet the salinity requirements of the test species *Dunaliella tertiolecta*.

Organic Constituents (See Table 5 and Appendix D)

- The following organic constituents were detected in the effluent grab sample: Atrazine, Dithiopyr, Fipronil, Fipronil Desulfinyl, Fipronil Sulfide, Fipronil Sulfone, Metolachlor, Metribuzin, Oxadiazon, Tebuconazole, and 2,4,6-Trichlorophenol.
- 2,4,6-Trichlorophenol complied with Class III Marine Water Quality Criterion (62-302.530(53)(c)4., F.A.C.).

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 Marine Criteria, and field parameters for City of Bradenton WWTF

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Temperature	C	-	-	26.8
pH	SU	6.5 - 8.5	6.5 - 8.5	7.3
Specific Conductance	umhos/cm	-	-	1,597
Salinity	ppt	-	-	0.8 c
Dissolved Oxygen	% saturation	≥ 42	-	93.7
Dissolved Oxygen	mg/L	-	≥ 5	7.4
Total Residual Chlorine (For Dechlorination)	mg/L	-	≤ 0.01	-

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

a - Annual average

c - Value is calculated

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

Effluent limits, Class III Marine Criteria, and analytical water chemistry, microbiological, and toxicological data for City of Bradenton WWTF

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab
Ortho-phosphate	mg P/L	-	-	-	0.40
Total Phosphorus	mg P/L	-	≤ 2.0 s p	0.52	0.57
Total Ammonia	mg N/L	-	-	-	19
Un-ionized Ammonia (calculated salinity)	mg NH3/L	-	-	-	0.3 c
Nitrate and Nitrite [1]	mg N/L	-	-	1.3	0.25
Total Kjeldahl Nitrogen	mg N/L	-	-	17	18
Organic Nitrogen	mg N/L	-	-	-	-1 c
Total Nitrogen	mg N/L	-	≤ 6.0 s p	18 c e	18 c
Total Organic Carbon	mg C/L	-	-	9.9	9.4 A
Chlorophyll *a* - Corrected	ug/L	8.8 [2]	-	-	1.3 I
Phaeophytin	ug/L	-	-	-	0.60 U
Chlorophyll *a*	ug/L	-	-	-	1.3
CBOD, 5 day	mg/L	-	≤ 10.0 s p	-	-
BOD, 5 day, N - uninhibited	mg/L	-	-	15 J	-
Hardness	mg CaCO3/L	-	-	427	-
Total Suspended Solids	mg/L	-	≤ 10.0 s p	3 IA	-
Turbidity	NTU	< 29 t	-	-	1.6
Color (true)	PCU	-	-	-	25
Alkalinity	mg CaCO3/L	-	-	-	312 A
Chloride	mg Cl/L	< 10% [3]	-	-	190
Fluoride	mg F/L	≤ 5.0	-	-	0.71
Sulfate	mg SO4/L	-	-	-	230
Fecal Coliforms	cfu/100 mL	-	< 25 s	-	1 U
Escherichia coli-Membrane Filter	cfu/100 mL	-	-	-	1 U
Bioassay - Water flea *(Ceriodaphnia dubia)*	% effluent	> 100	> 100 p	-	< 100 e
Bioassay - Fish *(Pimephales promales)*	% effluent	> 100	> 100 p	-	< 100 e

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
a - Annual average
c - Value is calculated
e - Value exceeds the Class III Water Quality Criteria or permit limits
p - 24 hr flow proportioned composite
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value
U - Material analyzed for but not detected; value reported is the method detection limit
1 – Analyte detected in blank

2 - Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria for the Manatee River Estuary within the Tampa Bay Estuary region (62-302.532, F.A.C.). Value expressed as an annual arithmetic mean.
3 - Shall not exceed 10% mg Cl/L above background

Table 3. Analytical metals data

Effluent limits, Class III Marine Criteria, and analytical metals data for City of Bradenton WWTF

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite
Aluminum	ug/L	≤ 1500	-	27
Arsenic	ug/L	≤ 50	-	0.51
Cadmium	ug/L	≤ 8.8	-	0.020 U
Calcium	mg/L	-	-	74.1
Chromium, Total [4]	ug/L	≤ 50	-	0.40 U
Copper	ug/L	≤ 3.7	-	0.25 I
Iron	ug/L	≤ 300	-	170
Lead	ug/L	≤ 8.5	-	0.050 U
Magnesium	mg/L	-	-	58.8
Nickel	ug/L	≤ 8.3	≤ 8.3 p	3.08
Potassium	mg/L	-	-	16.6
Selenium	ug/L	≤ 71	-	0.20 U
Silver	ug/L	≤ 2.3	-	0.010 U
Sodium	mg/L	-	-	162
Zinc	ug/L	≤ 86	-	6.4 I

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

p – 24 hour flow proportioned composite

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

4 - Class III Marine Water Quality Criterion (62-302.530(19)(b), F.A.C.) is for chromium-VI

Table 4. Algal Growth Potential (AGP)

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

Location	Test Species	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent Grab	*Dunaliella tertiolecta*	275 *	not applicable [5]	not applicable [5]	not applicable [5]	not applicable [5]	48.1	32
Effluent Grab	*Pseudokirchneriella subcapitata*	171 A	731.5 ± 146.3	172 ± 34.4	693.5 ± 138.7	245.1 ± 49	48.1	32

* - sample salinity adjusted to 7.10 ppth
A - Value reported is the mean of two or more determinations
5 - predictions not applicable to marine matrix

Table 5. Detected Organic Constituents

Effluent limits, Class III Marine Criteria, and analytical organic and pesticide data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Atrazine	ng/L	-	-	43
Dithiopyr	ng/L	-	-	0.12 I
Fipronil	ng/L	-	-	23
Fipronil Desulfinyl	ng/L	-	-	0.64 J
Fipronil Sulfide	ng/L	-	-	8.2
Fipronil Sulfone	ng/L	-	-	4.3
Metolachlor	ng/L	-	-	0.98 I
Metribuzin	ng/L	-	-	5.8 J
Oxadiazon	ng/L	-	-	0.88
Tebuconazole	ng/L	-	-	19
2,4,6-Trichlorophenol	ug/L	≤ 6.6 a	-	0.025 I

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
a – annual average
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value

Appendix A. Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Lance Kautz	**Contact Number:** (813) 470-5903
Facility Name (as it appears on permit): City of Bradenton WWTF	**Former Names:** N/A
NPDES Permit Number: FL0021369	**Permit Expiration Date:** May 19, 2020
Physical Address: 1810 1st Street West Bradenton, FL 34208-3504	
District: Southwest	**County:** Manatee
Function of Facility: Electric Generating Plant	
Facility Type: Domestic Wastewater	**Permitted Capacity (MGD): 9.0**
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 4.16MGD (11/29/2017-11/29/2018)	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): R-001&R-002: 1.93MGD (11/29/2018-11/29/2018)	
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):

Monitoring Site Number	Description of Monitoring Site
FLW-04	**Flow to D-001; ultrasonic meter at rectangular weir at the end of the Reuse Pumping Basin (Chlorine Contact Chamber #2)**
EFD-01	**Before modifications at outlet from dechlorination basin, prior to pipe leading to Outfall D-001; After modifications at dechlorination channel, prior to pipe leading to Outfall D-001**
EFB-01	**Filter clearwell discharge; prior to disinfection**
EFA-01	**Inlet to Reuse Pumping Basin; prior to de-chlorination and discharge to R-001, R-002 and in-plant reuse**

Description of Permitted Outfall(s):

Surface Water Discharge D-001: An existing 6.0 MGD annual average daily flow discharge to Robinson's Ditch thence the Manatee River, Class III Marine waters, (WBID# 1848A). The point of discharge is located approximately at latitude 27°29' 54" N, longitude 82°33' 17" W.

Land Application R-001: An existing 1.5 MGD annual average daily flow permitted capacity slow-rate public access reuse system, which consists of an area that generally lies within the City of Bradenton limits east of Business 41 and US 301, north of 26th Avenue, extending into Manatee County to the Manatee River on the north, east of the Braden River and south to the vicinity of Evers Reservoir.

Land Application R-002: An existing 6.0 MGD annual average daily flow permitted capacity slow-rate public access reuse system, which consists of a service area encompassing the Lakewood Ranch Development

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

Operation of an existing 9.0 MGD annual average daily flow (AADF) daily flow type I activated sludge advanced wastewater treatment facility consisting of: headworks with bar screens; grit removal system; biofilter odor control system; two Carrousel-type aeration basins of 2.26 MG each, for a total of 4.52 MG; three clarifiers of 705,000 gallons each, for a total of 2.115 MG and 23,562 square feet total surface area; two below-grade filter lift stations; six single media gravity denitrification filters with air scour and water backwash providing a total of 3,000 square foot filtration surface area; one split compartment chlorine contact chamber of 500,000 gallons; one reclaimed storage basin of 280,000 gallons; and a de-chlorination chamber and post-aeration basin of 200,000 gallons. This plant is operated to provide secondary treatment and high level disinfection

PART I: Continued

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

D-001:

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max	6.0	Annual Average	Monthly	Calculated	FLW-04	
Flow	MGD	Max	Report	Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-04	See I.C.4
BOD, Carbonaceous 5 day, 20C	mg/L	Max	5.0	Annual Average	Monthly	Calculated	EFD-01	
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max	6.25 7.5 10.0	Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFD-01	
Solids, Total Suspended	mg/L	Max	5.0	Annual Average	Monthly	Calculated	EFD-01	
Solids, Total Suspended	mg/L	Max Max Max	6.25 7.5 10.0	Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFD-01	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	4 Days/Week	Grab	EFB-01	
Nitrogen, Total	mg/L	Max	3.0	Annual Average	Monthly	Calculated	EFD-01	
Nitrogen, Total	mg/L	Max Max Max	3.75 4.5 6.0	Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFD-01	
Phosphorus, Total (as P)	mg/L	Max	1.0	Annual Average	Monthly	Calculated	EFD-01	
Phosphorus, Total (as P)	mg/L	Max Max Max	1.25 1.5 2.0	Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFD-01	
pH	s.u.	Min Max	6.5 8.5	Single Sample Single Sample	Continuous	Meter	EFD-01	See I.A.3
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	Monthly	Calculated	EFA-01	See I.A.4
Coliform, Fecal	#/100mL	Max	25	Single Sample	4 Days/Week	Grab	EFA-01	
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-01	See I.A.3 and I.A.5
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Daily; 24 hours	Grab	EFD-01	
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Single Sample	Daily; 24 hours	Grab	EFD-01	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Enterococci	#/100mL	Max Max	35 276	Monthly Geometric Mean Single Sample	5/Month	Grab	EFA-01	See I.A.6
Nickel, Total Recoverable	ug/L	Max	8.3	Single Sample	Quarterly	24-hr FPC	EFD-01	
Nitrogen, Total	ton/mn	Max	Report	Monthly Total	Monthly	Calculated	EFD-01	See I.A.7
Nitrogen, Total	ton/yr	Max Max	23.1 19.2	Annual Total Five Year Average	Monthly	Calculated	EFD-01	See I.A.7
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Quarterly	24-hr FPC	EFD-01	See I.A.8
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	Quarterly	24-hr FPC	EFD-01	See I.A.8

PART I: Continued	
Receiving Waters: Robinson Ditch → Manatee river	**Classification (indicate whether fresh or marine):** Class III Marine Waters

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

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

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

   b. Monitoring Frequency
      (1) Routine toxicity tests shall be conducted once every three months, the first starting within 60 days of the effective date of this permit and lasting for the duration of this permit.
      (2) Upon completion of four consecutive valid routine tests that demonstrate compliance with the effluent limitation in I.A.8.a.(1) above, the permittee may submit a written request to the Department for a reduction in monitoring frequency to once every six months. The request shall include a summary of the data and the complete bioassay laboratory reports for each test used to demonstrate compliance. The Department shall act on the request within 45 days of receipt. Reductions in monitoring shall only become effective upon the Department's written confirmation that the facility has completed four consecutive valid routine tests that demonstrate compliance with the effluent limitation in I.A.8.a.(1) above.
      (3) If a test within the sequence of the four is deemed invalid based on the acceptance criteria in EPA-821-R-02-013, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive valid tests for the purpose of evaluating the reduction of monitoring frequency.

   c. Sampling Requirements
      (1) For each routine test or additional follow-up test conducted, a total of three flow proportional 24-hr composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.
      (2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.
      (3) Samples for routine and additional follow-up tests shall not be collected on the same day.

   d. Test Requirements
      (1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%**, **50%**, **25%**, **12.5%**, and **6.25%** final effluent.
      (2) The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.
      (3) All test species, procedures and quality assurance criteria used shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th Edition, EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.
      (4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.

   e. Quality Assurance Requirements
      (1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.
      (2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or the "test

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

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

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

f. Reporting Requirements

(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:

(a) Routine and Additional Follow-up Test Results: The calculated IC25 for reproduction or growth for each test species shall be entered on the DMR.

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

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

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

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

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

Florida Department of Environmental Protection
Southwest District Office
13051 N Telecom Pkwy
Temple Terrace, Florida 33637-0926
swd_dw@dep.state.fl.us

g. Test Failures

(1) A test fails when the test results do not meet the limits in I.A.8.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the chronic toxicity limitation in I.A.8.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with I.A.8.d.

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

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

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

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

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

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

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

(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with I.A.8.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in I.A.8.b.(1). If a routine test

is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.

(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in I.A.8.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in I.A.8.a.(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.

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

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

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
Draft LFCO currently under review by OGC

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:

D-001	8/31/2018	P 00600	Nitrogen, Total	10.8	3.0	mg/L	AB - Annual Average
D-001	8/31/2018	P 00600	Nitrogen, Total	19.38	3.75	mg/L	MK - Monthly Average
D-001	8/31/2018	P 00600	Nitrogen, Total	30.8	4.5	mg/L	WA - Weekly Average
D-001	8/31/2018	P 00600	Nitrogen, Total	36.4	6.0	mg/L	MB - Maximum
D-001	8/31/2018	P 50060	Chlorine, Total Residual	0.6	1.0	mg/L	ME - Minimum
D-001	8/31/2018	P 00600	Nitrogen, Total	105.7	23.1	ton/yr	AD - Annual Total
D-001	8/31/2018	P 00600	Nitrogen, Total	34.78	19.2	ton/yr	5Y - 5 Year Average
D-001	7/31/2018	P 00530	Solids, Total Suspended	11.28	6.25	mg/L	MK - Monthly Average
D-001	7/31/2018	P 00530	Solids, Total Suspended	84	10.0	mg/L	MB - Maximum
D-001	7/31/2018	P 00530	Solids, Total Suspended	23.9	7.5	mg/L	WA - Weekly Average
D-001	7/31/2018	P 00530	Solids, Total Suspended	33.7	5.0	mg/L	MB - Maximum
D-001	7/31/2018	P 00600	Nitrogen, Total	13.8	3.0	mg/L	AB - Annual Average
D-001	7/31/2018	P 00600	Nitrogen, Total	28.76	3.75	mg/L	MK - Monthly Average
D-001	7/31/2018	P 00600	Nitrogen, Total	43.3	6.0	mg/L	MB - Maximum
D-001	7/31/2018	P 00600	Nitrogen, Total	32.3	4.5	mg/L	WA - Weekly Average
D-001	7/31/2018	P 00665	Phosphorus, Total (as P)	2.1	2.0	mg/L	MB - Maximum
D-001	7/31/2018	P 74055	Coliform, Fecal	200	25.0	#/100mL	MB - Maximum
D-001	7/31/2018	P 00600	Nitrogen, Total	86.8	23.1	ton/yr	AD - Annual Total
D-001	7/31/2018	P 00600	Nitrogen, Total	27.85	19.2	ton/yr	5Y - 5 Year Average
D-001	7/31/2018	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	100	100.0	percent	ME - Minimum
D-001	7/31/2018	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	100	100.0	percent	ME - Minimum
D-001	7/31/2018	P TRP6C	IC25 Statre 7Day Chr Pimephales	100	100.0	percent	ME - Minimum
D-001	7/31/2018	P TRP6C	IC25 Statre 7Day Chr Pimephales	100	100.0	percent	ME - Minimum
D-001	6/30/2018	P 00530	Solids, Total Suspended	9.16	6.25	mg/L	MK - Monthly Average
D-001	6/30/2018	P 00530	Solids, Total Suspended	25.4	7.5	mg/L	WA - Weekly Average
D-001	6/30/2018	P 00530	Solids, Total Suspended	26	10.0	mg/L	MB - Maximum
D-001	6/30/2018	P 00530	Solids, Total Suspended	160	5.0	mg/L	MB - Maximum
D-001	6/30/2018	P 00600	Nitrogen, Total	6.4	3.0	mg/L	AB - Annual Average
D-001	6/30/2018	P 00600	Nitrogen, Total	33.8	6.0	mg/L	MB - Maximum
D-001	6/30/2018	P 00600	Nitrogen, Total	26.59	3.75	mg/L	MK - Monthly Average

D-001	6/30/2018	P 00600	Nitrogen, Total	30.4	4.5	mg/L	WA - Weekly Average
D-001	6/30/2018	P 00600	Nitrogen, Total	68.54	23.1	ton/yr	AD - Annual Total
D-001	6/30/2018	P 00600	Nitrogen, Total	24.03	19.2	ton/yr	5Y - 5 Year Average
D-001	6/30/2018	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	100	100.0	percent	ME - Minimum
D-001	6/30/2018	P TRP6C	IC25 Statre 7Day Chr Pimephales	100	100.0	percent	ME - Minimum
D-001	5/31/2018	P 80082	BOD, Carbonaceous 5 day, 20C	10.7	10.0	mg/L	MB - Maximum
D-001	5/31/2018	P 00530	Solids, Total Suspended	16.2	7.5	mg/L	WA - Weekly Average
D-001	5/31/2018	P 00530	Solids, Total Suspended	9.15	6.25	mg/L	MK - Monthly Average
D-001	5/31/2018	P 00530	Solids, Total Suspended	36	10.0	mg/L	MB - Maximum
D-001	5/31/2018	P 00530	Solids, Total Suspended	115	5.0	mg/L	MB - Maximum
D-001	5/31/2018	P 00600	Nitrogen, Total	9.5	3.0	mg/L	AB - Annual Average
D-001	5/31/2018	P 00600	Nitrogen, Total	35.9	6.0	mg/L	MB - Maximum
D-001	5/31/2018	P 00600	Nitrogen, Total	32.4	4.5	mg/L	WA - Weekly Average
D-001	5/31/2018	P 00600	Nitrogen, Total	28.69	3.75	mg/L	MK - Monthly Average
D-001	5/31/2018	P 00665	Phosphorus, Total (as P)	2.9	1.5	mg/L	WA - Weekly Average
D-001	5/31/2018	P 00665	Phosphorus, Total (as P)	5.8	2.0	mg/L	MB - Maximum
D-001	5/31/2018	P 00600	Nitrogen, Total	21.81	19.2	ton/yr	5Y - 5 Year Average
D-001	5/31/2018	P 00600	Nitrogen, Total	53.66	23.1	ton/yr	AD - Annual Total
D-001	4/30/2018	P 00530	Solids, Total Suspended	13.8	7.5	mg/L	WA - Weekly Average
D-001	4/30/2018	P 00530	Solids, Total Suspended	6.56	6.25	mg/L	MK - Monthly Average
D-001	4/30/2018	P 00530	Solids, Total Suspended	68	10.0	mg/L	MB - Maximum
D-001	4/30/2018	P 00530	Solids, Total Suspended	13.7	5.0	mg/L	MB - Maximum
D-001	4/30/2018	P 00600	Nitrogen, Total	7.3	3.0	mg/L	AB - Annual Average
D-001	4/30/2018	P 00600	Nitrogen, Total	37.5	6.0	mg/L	MB - Maximum
D-001	4/30/2018	P 00600	Nitrogen, Total	33.8	4.5	mg/L	WA - Weekly Average
D-001	4/30/2018	P 00600	Nitrogen, Total	30.09	3.75	mg/L	MK - Monthly Average
D-001	4/30/2018	P 00665	Phosphorus, Total (as P)	1.7	1.5	mg/L	WA - Weekly Average
D-001	4/30/2018	P 00665	Phosphorus, Total (as P)	3.1	2.0	mg/L	MB - Maximum
D-001	4/30/2018	P 51005	Coliform, Fecal, % less than detection	30	75.0	percent	TM - Minimum Total Mon
D-001	4/30/2018	P 74055	Coliform, Fecal	34	25.0	#/100mL	MB - Maximum

D-001	4/30/2018	P 31639	Enterococci	2420	276.0	#/100mL	MB - Maximum
D-001	4/30/2018	P 00600	Nitrogen, Total	42.48	23.1	ton/yr	AD - Annual Total
D-001	3/31/2018	P 00530	Solids, Total Suspended	14.7	5.0	mg/L	MB - Maximum
D-001	3/31/2018	P 00600	Nitrogen, Total	5	3.0	mg/L	AB - Annual Average
D-001	3/31/2018	P 00600	Nitrogen, Total	38.8	6.0	mg/L	MB - Maximum
D-001	3/31/2018	P 00600	Nitrogen, Total	32.49	3.75	mg/L	MK - Monthly Average
D-001	3/31/2018	P 00600	Nitrogen, Total	33.3	4.5	mg/L	WA - Weekly Average
D-001	3/31/2018	P 00665	Phosphorus, Total (as P)	2.6	2.0	mg/L	MB - Maximum
D-001	3/31/2018	P 74055	Coliform, Fecal	200	25.0	#/100mL	MB - Maximum
D-001	3/31/2018	P 31639	Enterococci	585	35.0	#/100mL	MM - Monthly Geometric Mean
D-001	3/31/2018	P 31639	Enterococci	2420	276.0	#/100mL	MB - Maximum
D-001	3/31/2018	P 00600	Nitrogen, Total	30.48	23.1	ton/yr	AD - Annual Total
D-001	12/31/2017	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	100	100.0	percent	ME - Minimum
D-001	12/31/2017	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia	100	100.0	percent	ME - Minimum
R-001	8/31/2018	P 50060	Chlorine, Total Residual	0.6	1.0	mg/L	ME - Minimum
R-001	7/31/2018	P 00530	Solids, Total Suspended	33.7	5.0	mg/L	MB - Maximum
R-001	7/31/2018	P 74055	Coliform, Fecal	200	25.0	#/100mL	MB - Maximum
R-001	6/30/2018	P 00530	Solids, Total Suspended	160	5.0	mg/L	MB - Maximum
R-001	5/31/2018	P 00530	Solids, Total Suspended	115	5.0	mg/L	MB - Maximum
R-001	4/30/2018	P 00530	Solids, Total Suspended	13.7	5.0	mg/L	MB - Maximum
R-001	4/30/2018	P 51005	Coliform, Fecal, % less than detection	30	75.0	percent	TM - Minimum Total Monthly
R-001	4/30/2018	P 74055	Coliform, Fecal	34	25.0	#/100mL	MB - Maximum
R-001	3/31/2018	P 00530	Solids, Total Suspended	14.7	5.0	mg/L	MB - Maximum
R-001	3/31/2018	P 74055	Coliform, Fecal	200	25.0	#/100mL	MB - Maximum

Describe previous FYI and WQBEL study:
N/A

Describe previous or current Enforcement Actions (including WLs):
Warning letter issued 08/17/2018, Draft Lfco currently under review by OGC

Describe any violations or problems noted in previous inspection: Assorted 2016 effluent exceedances
Discuss whether DMR trends within previous five years are improving or declining: DMR trends over the past five years appear to be declining and more recently due to construction activities at the facility. A review of DMRs from 11/29/2015 to 11/29/2018 revealed the bulk of effluent limitation exceedances starting in August 2016 with assorted exceedances in 2017 and large quantities of exceedances in 2018 when construction activities started.
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse): Facility is currently operating under a Toxicity correction plan.

Appendix B. Explanations of Measurements

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

- **Chemical Analyses of the Effluent**

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

- **Toxicity Bioassays**

  Greater than 50% mortality in an acute toxicity test may constitute an exceedance of 62-302.500(1)a and/or facility permit limits. A 25% inhibition concentration (IC25) is the effluent concentration causing a 25% reduction in a biological response such as biomass or reproduction when compared to a control population. An IC25 of less than 100% in a chronic test may constitute exceedances of 62-302.530(20), 62-302.530(61) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of 62-302.530(61) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

- **Bacteriological Testing**

  High levels of fecal coliform bacteria may constitute an exceedance of 62-302.530(6) and/or facility permit limits. Fecal coliform and enterococci 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 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C. and/or 62-302.530(47)(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 62-302.530(61), F.A.C.

- **Algal Phytoplankton and Periphyton Assemblages**
    - 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 62-302.530(46), F.A.C., 62-302.530(47)(a) F.A.C. and/or 62-302.530(47)(b) F.A.C..
- **Definition of Qualifiers**

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-2018-12-03-28

FYI3 City of Bradenton WWTP Sampling Inspection

Customer: SW-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 4

last revised Jan 25, 2018

Requester: Tanya Welborn

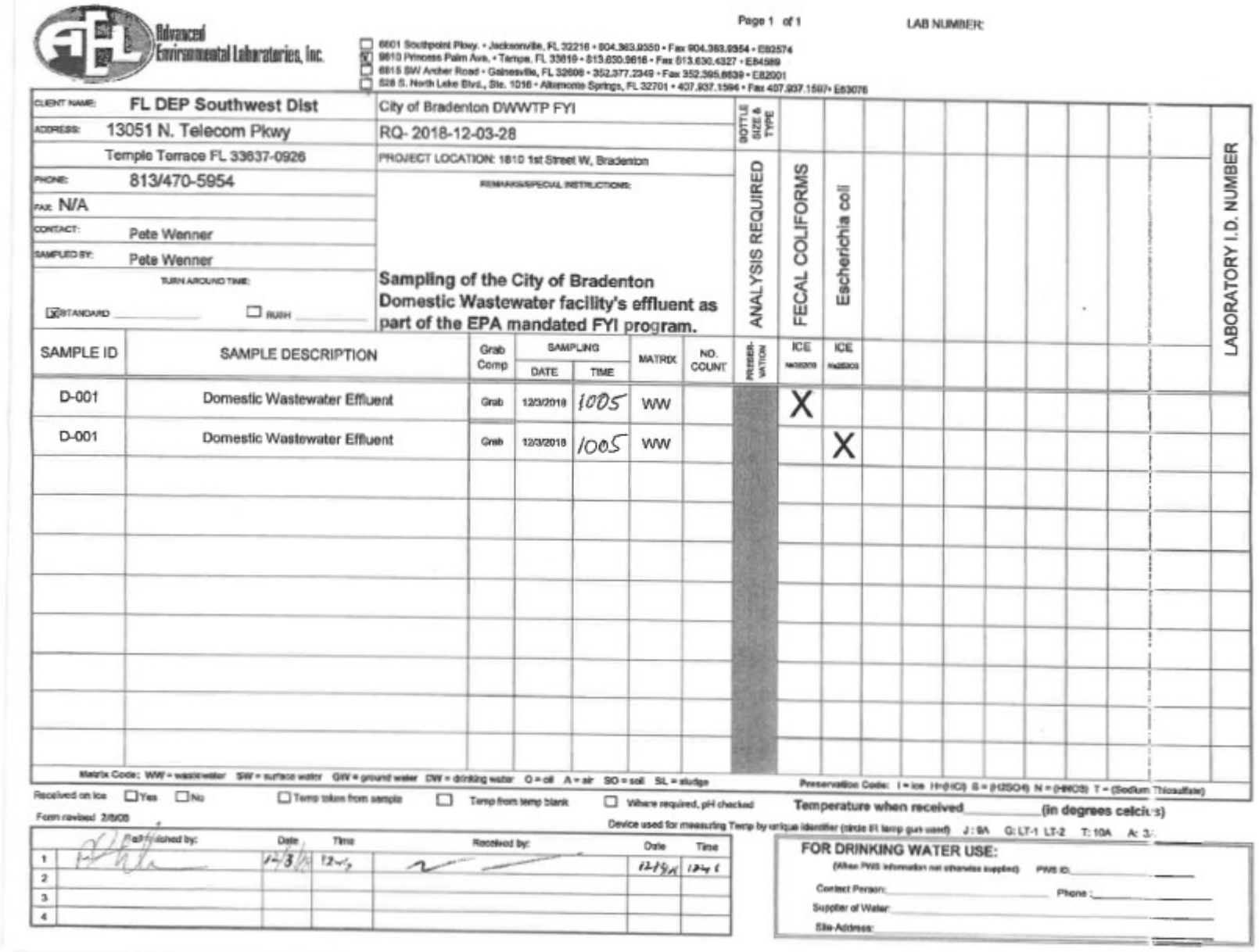
Field Report Prepared By: PETE WENNER

Collected By: PETE WENNER, ILEANA HERNANDEZ, MAGGIE DORGE, LANCE KAMTZ

Sampling Agency: FDEP/SWD

Location: D-001	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 12/3/18 Time 1005	Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2): A			
Field ID	Matrix (type, e.g., Salt, Fresh, etc): FRESH (DW EFFLUENT)	Diss. Oxygen 7.44 93.7	☑ mg/L ☑ % sat	Total Res. Chlorine (mg/L)					
WIN/STORET #	Temp (C) 26.8	pH 7.34	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm) 1597					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: 12/3/18 (PO) 12/3/18						
Location: D-001	☑ Comp ☐ Grab	Collection (comp begin or grab) Date 12/2/18 Time 0730	Eastern Central	Composite end Date 0730 Time 0730		Bottle Group(s): B			
Field ID	Matrix (type, e.g., Salt, Fresh, etc): FRESH (DW EFFLUENT)	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: SAMPLE BOTTLED AT 1000						
Location: FIELD BLANK	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 12/3/18 Time 1007	Eastern Central	Composite end Date	Time	Bottle Group(s): C			
Field ID	Matrix (type, e.g., Salt, Fresh, etc): DI H_2O	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
	12/3/18 / 1700	FEDEX	3	Jessica L. Ickler	12.4.18 / 1045
2 bioassay jugs JL				Tyler R.	12/04/18 @ 10:18



Advanced Environmental Laboratories, Inc.

Page 1 of 1

LAB NUMBER:

6001 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574
9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84589
6816 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.8639 • E82001
528 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E83076

CLIENT NAME: FL DEP Southwest Dist	City of Bradenton DWWTP FYI
ADDRESS: 13051 N. Telecom Pkwy	RQ- 2018-12-03-28
Temple Terrace FL 33637-0926	PROJECT LOCATION: 1810 1st Street W, Bradenton
PHONE: 813/470-5954	REMARKS/SPECIAL INSTRUCTIONS:
FAX: N/A	
CONTACT: Pete Wenner	
SAMPLED BY: Pete Wenner	
TURN AROUND TIME: ☒ STANDARD ____ ☐ RUSH ____	Sampling of the City of Bradenton Domestic Wastewater facility's effluent as part of the EPA mandated FYI program.

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	PRESERVATION	ANALYSIS REQUIRED: FECAL COLIFORMS (ICE)	ANALYSIS REQUIRED: Escherichia coli (ICE)	LABORATORY I.D. NUMBER
D-001	Domestic Wastewater Effluent	Grab	12/3/2018	1005	WW			X		
D-001	Domestic Wastewater Effluent	Grab	12/3/2018	1005	WW				X	

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge

Preservation Code: I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☐ Yes ☐ No ☐ Temp taken from sample ☐ Temp from temp blank ☐ Where required, pH checked

Temperature when received _____ (in degrees celcius)

Form revised 2/5/08

Device used for measuring Temp by unique identifier (circle if temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3

	Relinquished by:	Date	Time	Received by:	Date	Time
1		12/3/18	1241		12/4/18	1241
2						
3						
4						

FOR DRINKING WATER USE:

(When PWS information not otherwise supplied) PWS ID: _____

Contact Person: _____ Phone: _____

Supplier of Water: _____

Site Address: _____

Appendix D. Chemical Analysis of Effluent

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/3/2018	Effluent	AGP/LN	Algal Growth Potential	171 A	mg DryWt/L	0.3	0.9
12/3/2018	Effluent	AGP/LN	Algal Growth Potential-Salinity Adjusted	275	mg DryWt/L	3	3
12/3/2018	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	1.3	ug/L	0.4	1.2
12/3/2018	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day	15 J	mg/L	0.2	2
12/3/2018	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.60 U	ug/L	0.6	1.8
12/3/2018	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.3 I	ug/L	0.55	1.7
12/3/2018	Effluent	Overflow	Escherichia coli-Membrane Filter	1 U	cfu/100 mL	1	1
12/3/2018	Effluent	Overflow	Fecal Coliforms-Membrane Filter	1 U	cfu/100 mL	1	1
12/3/2018	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100 K	LC50		
12/3/2018	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100 K	LC50		
12/3/2018	Effluent	Metals	Arsenic	0.51	ug/L	0.05	0.2
12/3/2018	Effluent	Metals	Zinc	6.4 I	ug/L	5	20
12/3/2018	Effluent	Metals	Lead	0.050 U	ug/L	0.05	0.2
12/3/2018	Effluent	Metals	Calcium	74.1	mg/L	0.075	0.3
12/3/2018	Effluent	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
12/3/2018	Effluent	Metals	Sodium	162	mg/L	0.5	2
12/3/2018	Effluent	Metals	Selenium	0.20 U	ug/L	0.2	0.8
12/3/2018	Effluent	Metals	Copper	0.25 I	ug/L	0.2	0.8
12/3/2018	Effluent	Metals	Potassium	16.6	mg/L	0.3	1.2
12/3/2018	Effluent	Metals	Silver	0.010 U	ug/L	0.01	0.04
12/3/2018	Effluent	Metals	Nickel	3.08	ug/L	0.2	0.8
12/3/2018	Effluent	Metals	Iron	170	ug/L	30	120
12/3/2018	Effluent	Metals	Chromium	0.40 U	ug/L	0.4	1.6
12/3/2018	Effluent	Metals	Aluminum	27	ug/L	3	12
12/3/2018	Effluent	Metals	Magnesium	58.8	mg/L	0.04	0.16
12/3/2018	Effluent	Nutrients	Total Alkalinity	312 A	mg CaCO3/L	0.65	2.5
12/3/2018	Effluent	Nutrients	Organic Carbon	9.9	mg C/L	0.5	1
12/3/2018	Effluent	Nutrients	Organic Carbon	9.4 A	mg C/L	0.5	1
12/3/2018	Effluent	Nutrients	Ammonia-N	19	mg N/L	2	5
12/3/2018	Effluent	Nutrients	Sulfate	230	mg SO4/L	2	6
12/3/2018	Effluent	Nutrients	NO2NO3-N	1.3	mg N/L	0.04	0.1
12/3/2018	Effluent	Nutrients	TSS	3 IA	mg/L	2	10

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/3/2018	Effluent	Nutrients	Kjeldahl Nitrogen	18	mg N/L	0.8	2
12/3/2018	Effluent	Nutrients	Color (true)	25	PCU	2.5	6
12/3/2018	Effluent	Nutrients	Total-P	0.57	mg P/L	0.005	0.05
12/3/2018	Effluent	Nutrients	Chloride	190	mg Cl/L	2	6
12/3/2018	Effluent	Nutrients	Turbidity	1.6	NTU	0.1	0.13
12/3/2018	Effluent	Nutrients	Kjeldahl Nitrogen	17	mg N/L	0.8	2
12/3/2018	Effluent	Nutrients	Total-P	0.52	mg P/L	0.005	0.05
12/3/2018	Effluent	Nutrients	NO2NO3-N	0.25	mg N/L	0.004	0.01
12/3/2018	Effluent	Nutrients	Fluoride	0.71	mg F/L	0.035	0.1
12/3/2018	Effluent	Nutrients	O-Phosphate-P	0.40	mg P/L	0.08	0.2
12/3/2018	Effluent	Pesticides	Ethoprop	0.10 U	ng/L	0.1	0.4
12/3/2018	Effluent	Pesticides	Parathion Ethyl	0.25 U	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Prodiamine	0.18 U	ng/L	0.18	0.7
12/3/2018	Effluent	Pesticides	Simazine	0.50 U	ng/L	0.5	2
12/3/2018	Effluent	Pesticides	Tebuconazole	19	ng/L	0.5	2
12/3/2018	Effluent	Pesticides	Sucralose	53	ug/L	0.1	0.4
12/3/2018	Effluent	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	6
12/3/2018	Effluent	Pesticides	Bromacil	0.50 U	ng/L	0.5	2
12/3/2018	Effluent	Pesticides	Chlorpyrifos Ethyl	0.25 U	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Ethion	0.15 U	ng/L	0.15	0.6
12/3/2018	Effluent	Pesticides	Phorate	0.25 U	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Terbuthylazine	0.43 U	ng/L	0.43	1.7
12/3/2018	Effluent	Pesticides	EPTC	1.3 U	ng/L	1.3	5
12/3/2018	Effluent	Pesticides	Oxadiazon	0.88	ng/L	0.1	0.4
12/3/2018	Effluent	Pesticides	Prometon	0.90 U	ng/L	0.9	3.5
12/3/2018	Effluent	Pesticides	Azinphos Methyl	2.3 U	ng/L	2.3	9
12/3/2018	Effluent	Pesticides	Fipronil Sulfide	8.2	ng/L	0.15	0.6
12/3/2018	Effluent	Pesticides	Fipronil Sulfone	4.3	ng/L	0.15	0.6
12/3/2018	Effluent	Pesticides	Terbufos	0.10 U	ng/L	0.1	0.4
12/3/2018	Effluent	Pesticides	Atrazine	43	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Acetochlor	0.25 U	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Chlorpyrifos Methyl	0.10 U	ng/L	0.1	0.4
12/3/2018	Effluent	Pesticides	Cyanazine	0.50 U	ng/L	0.5	2
12/3/2018	Effluent	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.5
12/3/2018	Effluent	Pesticides	Disulfoton	0.50 U	ng/L	0.5	2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/3/2018	Effluent	Pesticides	Fenamiphos	0.25 U	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Metribuzin	5.8 J	ng/L	0.2	0.8
12/3/2018	Effluent	Pesticides	Norflurazon	0.50 U	ng/L	0.5	2
12/3/2018	Effluent	Pesticides	Parathion Methyl	0.25 U	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Pendimethalin	1.0 U	ng/L	1	4
12/3/2018	Effluent	Pesticides	Ibuprofen	0.026 I	ug/L	0.02	0.08
12/3/2018	Effluent	Pesticides	Naproxen	0.0096 I	ug/L	0.008	0.032
12/3/2018	Effluent	Pesticides	Fipronil Desulfinyl	0.64 J	ng/L	0.13	0.5
12/3/2018	Effluent	Pesticides	Fonofos	0.20 U	ng/L	0.2	0.8
12/3/2018	Effluent	Pesticides	Hexazinone	0.50 U	ng/L	0.5	2
12/3/2018	Effluent	Pesticides	Malathion	0.35 U	ng/L	0.35	1.4
12/3/2018	Effluent	Pesticides	Mevinphos	0.50 U	ng/L	0.5	2
12/3/2018	Effluent	Pesticides	Prometryn	0.20 U	ng/L	0.2	0.8
12/3/2018	Effluent	Pesticides	Ametryn	0.33 UJ	ng/L	0.33	1.3
12/3/2018	Effluent	Pesticides	Dithiopyr	0.12 I	ng/L	0.1	0.4
12/3/2018	Effluent	Pesticides	Metolachlor	0.98 I	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Alachlor	0.25 U	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Butylate	0.40 U	ng/L	0.4	1.6
12/3/2018	Effluent	Pesticides	Dimethenamid	0.10 U	ng/L	0.1	0.4
12/3/2018	Effluent	Pesticides	Fipronil	23	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Metalaxyl	0.25 U	ng/L	0.25	1
12/3/2018	Effluent	Pesticides	Molinate	0.30 U	ng/L	0.3	1.2
12/3/2018	Effluent	Pesticides	Demeton	2.0 UJ	ng/L	2	8
12/3/2018	Effluent	Priority Organic Pollutants	Benzidine	4.8 U	ug/L	4.8	19
12/3/2018	Effluent	Priority Organic Pollutants	Phenol	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	0.95 U	ug/L	0.95	3.8
12/3/2018	Effluent	Priority Organic Pollutants	Naphthalene	0.048 U	ug/L	0.048	0.19
12/3/2018	Effluent	Priority Organic Pollutants	Nitrobenzene	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.012 U	ug/L	0.012	0.048

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/3/2018	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	0.48 U	ug/L	0.48	1.9
12/3/2018	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	0.95 U	ug/L	0.95	3.8
12/3/2018	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.95 U	ug/L	0.95	3.8
12/3/2018	Effluent	Priority Organic Pollutants	Fluoranthene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.024 UJ	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Hexachloroethane	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Dimethyl phthalate	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Pyrene	0.048 U	ug/L	0.048	0.19
12/3/2018	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.025 I	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	1.4 U	ug/L	1.4	5.7
12/3/2018	Effluent	Priority Organic Pollutants	Acenaphthylene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Anthracene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Pentachlorophenol	0.24 U	ug/L	0.24	0.95
12/3/2018	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Acenaphthene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Fluorene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Isophorone	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	0.048 U	ug/L	0.048	0.19
12/3/2018	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	4.8 U	ug/L	4.8	19
12/3/2018	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	4.8 UJ	ug/L	4.8	19
12/3/2018	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Chrysene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.024 U	ug/L	0.024	0.095

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/3/2018	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Priority Organic Pollutants	Phenanthrene	0.048 U	ug/L	0.048	0.19
12/3/2018	Effluent	Priority Organic Pollutants	4-Nitrophenol	4.8 U	ug/L	4.8	19
12/3/2018	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.4 U	ug/L	2.4	9.5
12/3/2018	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.012 U	ug/L	0.012	0.048
12/3/2018	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.024 U	ug/L	0.024	0.095
12/3/2018	Effluent	Nutrients	Dissolved Oxygen	93.7	%Sat		
12/3/2018	Effluent	Nutrients	Specific Conductance	1597	umhos/cm		
12/3/2018	Effluent	Nutrients	pH	7.34			
12/3/2018	Effluent	Nutrients	Temperature	26.8	C		
12/3/2018	Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
12/3/2018	Blank	Metals	Nickel	0.20 U	ug/L	0.2	0.8
12/3/2018	Blank	Metals	Lead	0.050 U	ug/L	0.05	0.2
12/3/2018	Blank	Metals	Chromium	0.40 U	ug/L	0.4	1.6
12/3/2018	Blank	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
12/3/2018	Blank	Metals	Aluminum	3.0 U	ug/L	3	12
12/3/2018	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
12/3/2018	Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
12/3/2018	Blank	Metals	Copper	0.20 U	ug/L	0.2	0.8
12/3/2018	Blank	Metals	Arsenic	0.050 U	ug/L	0.05	0.2
12/3/2018	Blank	Metals	Iron	30 U	ug/L	30	120
12/3/2018	Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
12/3/2018	Blank	Metals	Silver	0.010 U	ug/L	0.01	0.04
12/3/2018	Blank	Metals	Zinc	5.0 U	ug/L	5	20
12/3/2018	Blank	Metals	Selenium	0.20 U	ug/L	0.2	0.8
12/3/2018	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.6
12/3/2018	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
12/3/2018	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
12/3/2018	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
12/3/2018	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
12/3/2018	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
12/3/2018	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.6
12/3/2018	Blank	Nutrients	NO2NO3-N	0.006 I	mg N/L	0.004	0.01
12/3/2018	Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.13
12/3/2018	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/3/2018	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
12/3/2018	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
12/3/2018	Blank	Pesticides	Alachlor	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.52
12/3/2018	Blank	Pesticides	Tebuconazole	0.52 U	ng/L	0.52	2.1
12/3/2018	Blank	Pesticides	Terbuthylazine	0.44 U	ng/L	0.44	1.8
12/3/2018	Blank	Pesticides	Acetochlor	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Azinphos Methyl	2.3 U	ng/L	2.3	9.4
12/3/2018	Blank	Pesticides	Dimethenamid	0.10 U	ng/L	0.1	0.42
12/3/2018	Blank	Pesticides	Malathion	0.36 U	ng/L	0.36	1.5
12/3/2018	Blank	Pesticides	Parathion Ethyl	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Demeton	2.1 UJ	ng/L	2.1	8.3
12/3/2018	Blank	Pesticides	Dithiopyr	0.10 U	ng/L	0.1	0.42
12/3/2018	Blank	Pesticides	Fipronil Sulfide	0.16 U	ng/L	0.16	0.62
12/3/2018	Blank	Pesticides	Fipronil Sulfone	0.16 U	ng/L	0.16	0.62
12/3/2018	Blank	Pesticides	Mevinphos	0.52 U	ng/L	0.52	2.1
12/3/2018	Blank	Pesticides	Molinate	0.31 U	ng/L	0.31	1.2
12/3/2018	Blank	Pesticides	Sucralose	0.010 U	ug/L	0.01	0.04
12/3/2018	Blank	Pesticides	Ibuprofen	0.020 U	ug/L	0.02	0.08
12/3/2018	Blank	Pesticides	Atrazine Desethyl	1.6 U	ng/L	1.6	6.2
12/3/2018	Blank	Pesticides	Fenamiphos	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Norflurazon	0.52 U	ng/L	0.52	2.1
12/3/2018	Blank	Pesticides	Pendimethalin	1.0 U	ng/L	1	4.2
12/3/2018	Blank	Pesticides	Terbufos	0.10 U	ng/L	0.1	0.42
12/3/2018	Blank	Pesticides	Chlorpyrifos Ethyl	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Cyanazine	0.52 U	ng/L	0.52	2.1
12/3/2018	Blank	Pesticides	Disulfoton	0.52 U	ng/L	0.52	2.1
12/3/2018	Blank	Pesticides	Ethoprop	0.10 U	ng/L	0.1	0.42
12/3/2018	Blank	Pesticides	Fonofos	0.21 U	ng/L	0.21	0.83
12/3/2018	Blank	Pesticides	Metalaxyl	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Prometon	0.94 U	ng/L	0.94	3.6
12/3/2018	Blank	Pesticides	Prometryn	0.21 U	ng/L	0.21	0.83
12/3/2018	Blank	Pesticides	Ametryn	0.34 UJ	ng/L	0.34	1.4
12/3/2018	Blank	Pesticides	Atrazine	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Chlorpyrifos Methyl	0.10 U	ng/L	0.1	0.42

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/3/2018	Blank	Pesticides	Fipronil Desulfinyl	0.13 UJ	ng/L	0.13	0.52
12/3/2018	Blank	Pesticides	Hexazinone	0.52 U	ng/L	0.52	2.1
12/3/2018	Blank	Pesticides	Metribuzin	0.21 UJ	ng/L	0.21	0.83
12/3/2018	Blank	Pesticides	Simazine	0.52 U	ng/L	0.52	2.1
12/3/2018	Blank	Pesticides	Butylate	0.42 U	ng/L	0.42	1.7
12/3/2018	Blank	Pesticides	Fipronil	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Phorate	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Prodiamine	0.18 U	ng/L	0.18	0.73
12/3/2018	Blank	Pesticides	Naproxen	0.0080 U	ug/L	0.008	0.032
12/3/2018	Blank	Pesticides	Bromacil	0.52 U	ng/L	0.52	2.1
12/3/2018	Blank	Pesticides	EPTC	1.3 U	ng/L	1.3	5.2
12/3/2018	Blank	Pesticides	Ethion	0.16 U	ng/L	0.16	0.62
12/3/2018	Blank	Pesticides	Metolachlor	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Pesticides	Oxadiazon	0.10 U	ng/L	0.1	0.42
12/3/2018	Blank	Pesticides	Parathion Methyl	0.26 U	ng/L	0.26	1
12/3/2018	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Phenol	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	2-Chlorophenol	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	4-Nitrophenol	5.0 U	ug/L	5	20
12/3/2018	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.025 UJ	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	5.0 U	ug/L	5	20
12/3/2018	Blank	Priority Organic Pollutants	2-Nitrophenol	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Anthracene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.5 U	ug/L	2.5	9.9
12/3/2018	Blank	Priority Organic Pollutants	Pentachlorophenol	0.25 U	ug/L	0.25	0.99
12/3/2018	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.025 U	ug/L	0.025	0.099

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/3/2018	Blank	Priority Organic Pollutants	Hexachloroethane	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Fluorene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	0.50 U	ug/L	0.5	2
12/3/2018	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Benzidine	5.0 U	ug/L	5	20
12/3/2018	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	0.99 U	ug/L	0.99	4
12/3/2018	Blank	Priority Organic Pollutants	Fluoranthene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	0.050 U	ug/L	0.05	0.2
12/3/2018	Blank	Priority Organic Pollutants	Phenanthrene	0.050 U	ug/L	0.05	0.2
12/3/2018	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	1.5 U	ug/L	1.5	5.9
12/3/2018	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Acenaphthylene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	5.0 UJ	ug/L	5	20
12/3/2018	Blank	Priority Organic Pollutants	Acenaphthene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Naphthalene	0.050 U	ug/L	0.05	0.2
12/3/2018	Blank	Priority Organic Pollutants	Nitrobenzene	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Pyrene	0.050 U	ug/L	0.05	0.2
12/3/2018	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	Chrysene	0.012 U	ug/L	0.012	0.05
12/3/2018	Blank	Priority Organic Pollutants	Diethyl phthalate	0.99 U	ug/L	0.99	4
12/3/2018	Blank	Priority Organic Pollutants	Isophorone	0.025 U	ug/L	0.025	0.099
12/3/2018	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	0.99 U	ug/L	0.99	4