Effluent Quality Assessment of

Port Orange WWTF

Volusia County

NPDES # FL0020559

Sampled January 28, 2019

June 2019

Biology Program

DEP Laboratory

Division of Environmental Assessment and Restoration

DEP Laboratory Quality Manual

NELAC Certification No. E31780

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Summary of Results

Effluent grab samples were collected from monitoring site location EFA-1. Most permit limits apply to the final effluent at EFD-1 and EFD-2 so compliance cannot be determined. Several tests were reported as No Result or qualified due to hold time, control failures, or running the incorrect test. The dechlorinated bioassay samples were not acutely toxic *to Ceriodaphnia dubia*. The cause of toxicity was attributed to the residual chlorine in the sample. The permit limits apply to monitoring site EFD-1 and the sample was collected at EFA-1; therefore, the effluent is expected to comply with permit limits. Copper and nickel were detected in the field blank between the method detection limit (MDL) and practical quantitation limit (PQL). A saltwater algal growth potential (AGP) test was not performed; however, the freshwater AGP results suggest that nutrient enrichment may be an issue. Organic constituents including 2,4,6-trichlorophenol, 2,4-dichlorophenol, bromodichloromethane, chloroform, and dibromochloromethane were detected in the effluent grab sample.

Facility Overview

The Port Orange WWTF 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. The effluent is intermittently discharged depending on rainfall from two outfall locations. D-001 discharges into the Halifax River, a Class III Marine Water, and D-002 discharges to a receiving wetland that flows infrequently to the Spruce Creek Circle Drainage Ditch and has the potential to flow to Sandy Creek, a Class III Fresh Water.

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria for the Lower Halifax River Estuary region (62-302.532, F.A.C.). The NNC thresholds, expressed as annual geometric means, are 0.142 mg/L total phosphorus, 0.72 mg/L total nitrogen, and 6.2 µg/L chlorophyll *a*. This FYI event only provides single sample results; therefore, compliance should be determined with additional sampling events.
http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

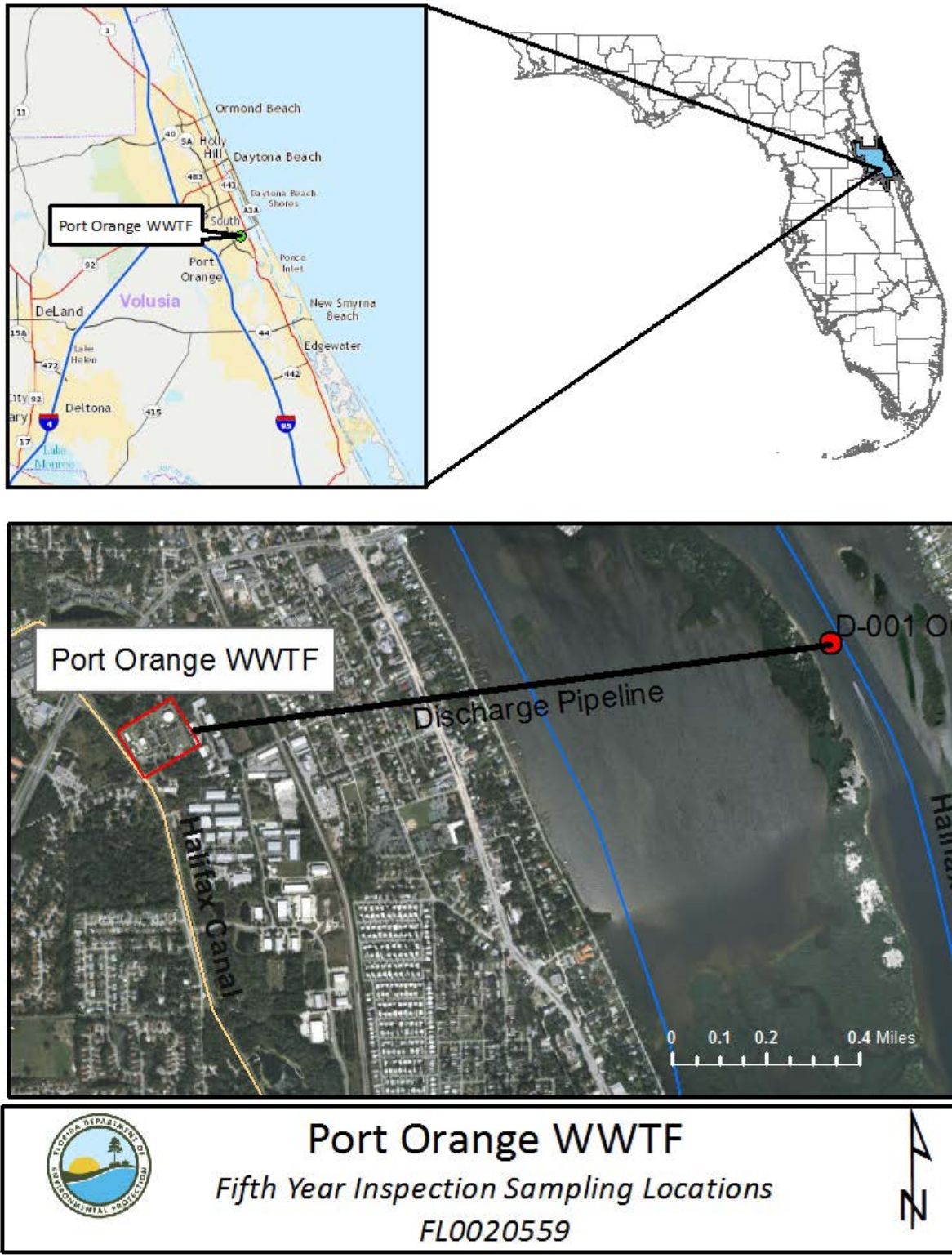
Methods

Effluent grab samples were collected on January 28, 2019 from monitoring site location EFA-1, the sampling point after the chlorine contact chamber prior to transfer pumps. Most permit limits apply to the final effluent at EFD-1 and EFD-2 but could not be collected because the facility was not discharging at the time of the sampling. Samples were collected by Phil Kane, Viviana Useche, and Rebecca Bowden.

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.

Map: Port Orange WWTF, 815 Oak Street, Port Orange, Volusia County, Florida 32127. NPDES #FL0020559.



Results

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

- Effluent physical and chemical parameters complied with effluent permit limits and Class III Marine Water Quality Criteria (62-302.530, F.A.C.). The total residual chlorine level after dechlorination was not measured.

Analytical Water Chemistry (See Table 2 and Appendix C)

- The total ammonia concentration in the grab sample was 3.7 mg N/L and the calculated unionized ammonia concentration was <0.02 mg/L. Chlorophyll *a* (corrected) was undetected in the effluent sample.
- Compliance for nutrients based on permit limits cannot be determined because the effluent was sampled at monitoring location EFA-1 and the permit limits apply to EFD-1 and EFD-2.
- Fluoride and turbidity levels in the effluent sample complied with Class III Marine Water Quality Criteria (62-302.530, F.A.C.). Insufficient data were collected to determine Class III Marine Water Quality compliance for chlorides (62-302.530(17), F.A.C.). A normal background level must be established at the time of sampling to account for daily and seasonal fluctuations.

Microbiology (See Table 2 and Appendix C)

- *Escherichia coli* (*E. coli*), enterococci, and fecal coliform analyses were performed by Pace Analytical Services in Ormond Beach, Florida. Replicate samples were collected and analyzed for all microbiological analyses.
- Enterococci levels in the effluent sample complied with Class III Marine Water Quality Criteria.
- The *E. coli* samples were analyzed for presence/absence instead of numerical result as scheduled and found to be absent of *E. coli*. Results were reported as No Result.

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

- Tests were performed January 29 through February 2, 2019.
- Total residual chlorine (TRC) (3.6 mg/L) was detected in the bioassay sample (LIMS # 2057618) in the laboratory. An aliquot of this sample was dechlorinated by the addition of sodium thiosulfate (0.025 N) at a rate of 25.5 mL per liter of sample to neutralize the chlorine. Bioassays were performed on the dechlorinated aliquot in addition to the bioassays performed on the original sample. The same concentration of sodium thiosulfate was added to the dechlorinated test controls. The purpose of the dechlorinated test controls was to confirm that there was no adverse effect of adding sodium thiosulfate to the sample. There was no mortality in the dechlorinated controls.
- Acute bioassay results are reported as the Concentration Lethal to 50% of the test organisms (LC50). In a 96-hour acute definitive 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 definitive test, the calculated LC50 for the water flea, *Ceriodaphnia dubia*, was 100% effluent with 0% mortality in 100% sample for the dechlorinated effluent. The acute definitive toxicity test for the fish, *Cyprinella leedsi*, was invalidated due to excessive control mortality in the concurrent standard reference toxicant test.
- An acute screening bioassay was performed using the original effluent containing total residual chlorine. There was 100% mortality in the 100% effluent concentration.
- The dechlorinated bioassay samples were not acutely toxic *to Ceriodaphnia dubia*. The cause of toxicity was attributed to the residual chlorine in the sample. A single grab sample was collected for this test. The permit requires four separate grab samples collected over a 24-hour period while the facility is discharging to serve as the bioassay sample. The permit limits apply to monitoring site EFD-1 and the sample was collected at EFA-1; therefore, the effluent is expected to comply with permit limits.
- 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 C)

- All metals detected in the effluent grab samples were present at levels that complied with Class III Marine Water Quality Criteria (62-302.530, F. A. C.).
- Copper and nickel were detected in the field blank between the MDL and PQL.

Algal Growth Potential (See Table 4 and Appendix C)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata*, was used to determine the AGP values in the effluent sample. The analytical chemistry suggests that the effluent is nitrogen-phosphorus co-limited (Miller et al. 1978).
- The effluent AGP result is greater than the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978). A saltwater AGP test was not performed; however, the freshwater AGP results suggest that nutrient enrichment may be an issue.
- The AGP sample was autoclaved and filtered past the 72 hour holding time, so a Q qualifier was applied.

Organic Constituents (See Table 5 and Appendix C)

- 2,4,6-trichlorophenol, 2,4-dichlorophenol, bromodichloromethane, chloroform, and dibromochloromethane were detected in the effluent grab sample.

Literature Cited

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

Stevenson, R. J. and L. L. Bahls. 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. Effluent limits, Class III Marine Criteria and field parameters

Port Orange WWTF	Units	Class III Criteria	Effluent Permit Limits EFD-1	Effluent Permit Limits EFA-1	Effluent Grab EFA-1
Temperature	C	-	-	-	22.29
pH	SU	6.5 - 8.5	6.5 - 8.5	-	7.05
Specific Conductance	umhos/cm	-	-	-	766
Dissolved Oxygen	% saturation	≥ 42	-	-	72.0
Dissolved Oxygen	mg/L	-	≥ 6.0	-	6.25
Total Residual Chlorine (disinfection)	mg/L	-	-	≥ 0.5	5.0
Total Residual Chlorine (dechlorination)	mg/L	≤ 0.01	≤ 0.01	-	-

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

Table 2. Effluent limits, Class III Marine Criteria and analytical water chemistry, microbiological, and toxicological data

Port Orange WWTF	Units	Class III Criteria	Effluent Permit Limits EFD-1	Effluent Permit Limits EFD-2	Effluent Grab EFA-1
Ortho-phosphate	mg P/L	-	-	-	0.44
Total Phosphorus	mg P/L	0.142 [3]	≤ 6.0	≤ 2.0	0.61
Total Ammonia	mg N/L	-	≤ 2.0	-	3.7
Un-ionized Ammonia (calculated salinity)	mg NH_3/L	-	-	-	< 0.02 c
Nitrate and Nitrite	mg N/L	-	≤ 20.0	-	6.0
Total Kjeldahl Nitrogen	mg N/L	-	-	-	6.0
Organic Nitrogen	mg N/L	-	≤ 10.0	-	2.3 c
Total Nitrogen	mg N/L	0.72 [3]	≤ 32.0	≤ 6.0	12 c
Total Organic Carbon	mg C/L	-	-	-	15
Chlorophyll *a* - Corrected	ug/L	6.2 [3]	-	-	0.55 UJ
Phaeophytin	ug/L	-	-	-	0.60 UJ
Chlorophyll *a*	ug/L	-	-	-	0.40 UJ
CBOD, 5 day, N - inhibited	mg/L	-	≤ 60.0	≤ 10.0	3.9 J
Total Suspended Solids	mg/L	-	≤ 60.0	≤ 10.0	2 U
Turbidity	NTU	< 29 t	-	-	1.7
Color (true)	PCU	-	-	-	35
Alkalinity	mg $CaCO_3$/L	-	-	-	149 A
Chloride	mg Cl/L	< 10% [1]	-	-	120
Fluoride	mg F/L	≤ 5.0	-	-	0.56
Sulfate	mg SO4/L	-	-	-	20
Microbiology [2]					
Fecal Coliforms	cfu/100 mL	-	≤ 800	-	1.0 U
Fecal Coliforms	cfu/100 mL	-	≤ 800	-	1.0
Enterococci	MPN/100 mL	≤ 130	≤ 104	-	1.0 U
Enterococci	MPN/100 mL	≤ 130	≤ 104	-	1.0
Escherichia coli	MPN/100 mL	-	-	-	No Result O
Toxicity (96-hour Acute Definitive, LC50 % effluent)					
Bioassay - Water flea (*C. dubia*) dechlorinated	% effluent	> 100	> 100	-	> 100
Bioassay - Fish (*C. leedsi*) dechlorinated	% effluent	> 100	> 100	-	No Result

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
J - Estimated value
O - Sampled, but analysis lost or not performed
U - Material analyzed for but not detected; value reported is the method detection limit
1 - Shall not exceed 10% mg Cl/L above background
2 - All microbiological analyses performed by Pace Analytical Services
3- Estuary-specific Numeric Interpretation for Numeric Nutrient Criteria (NNC) for the Lower Halifax River Estuary region, (62-302.532, F.A.C.). Value expressed as an annual geometric mean.

Table 3. Effluent limits, Class III Marine Criteria and analytical metals data

Port Orange WWTF	Units	Class III Criteria	Effluent Permit Limits EFD-1	Effluent Grab EFA-1	Blank
Hardness	mg $CaCO_3$/L	-	-	170 c	0.35 c
Aluminum	ug/L	≤ 1500	-	44	5.0 U
Arsenic	ug/L	≤ 50	-	0.34	0.050 U
Cadmium	ug/L	≤ 8.8	-	0.020 U	0.020 U
Calcium	mg/L	-	-	35.8	0.075 U
Chromium, Total [4]	ug/L	≤ 50	-	0.40 U	0.40 U
Copper	ug/L	≤ 3.7	≤ 9.4	2.60	0.46 I
Iron	ug/L	≤ 300	-	180	30 U
Lead	ug/L	≤ 8.5	-	0.27 I	0.20 U
Magnesium	mg/L	-	-	19.6	0.040 U
Nickel	ug/L	≤ 8.3	-	1.5 I	0.93 I
Potassium	mg/L	-	-	12.1	0.30 U
Selenium	ug/L	≤ 71	-	0.20 U	0.20 U
Silver	ug/L	≤ 2.3	-	0.010 U	0.010 U
Sodium	mg/L	-	-	85.7	0.50 U
Zinc	ug/L	≤ 86	≤ 205	29	5.0 U

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
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
4 - Class III Marine Water Quality Criterion (62-302.530(19)(b), F.A.C.) is for chromium-VI

Table 4. 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

Port Orange WWTF								
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*	312 Q	368.6 ± 73.7	189.2 ± 37.8	456 ± 91.2	262.3 ± 52.5	22	19.7

Q - Sample held beyond normal holding time

Table 5. Detected Organic Constituents

Port Orange WWTF	Units	Class III Criteria	Effluent Permit Limits EFD-1	Effluent Grab EFA-1
2,4,6-Trichlorophenol	ug/L	-	-	0.23
2,4-Dichlorophenol	ug/L	-	-	0.11 I
Bromodichloromethane	ug/L	-	≤ 27.5	8.6
Chloroform	ug/L	-	-	14
Dibromochloromethane	ug/L	-	-	2.5

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

Appendix A

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event

Prepared By: Jenny E. Farrell	**Contact Number:** 407-897-4173
Facility Name (as it appears on permit): Port Orange WWTF	**Former Names:** N/A
NPDES Permit Number: FL0020559	**Permit Expiration Date:** August 20, 2019
Physical Address: 817 Oak Street, Port Orange, FL 32127-4331	
District: Central	**County:** Volusia
Function of Facility: Domestic Wastewater Treatment Facility	
Facility Type: Domestic Wastewater	**Permitted Capacity (MGD):** 12.0 MGD

Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): D-001 outfall flow: 0.346 million gallons per day (MGD) annual average daily flow (AADF), as reported on the November 2018 DMR (October 2017 through November 2018 reporting period). **D-002** outfall flow: 0.576 MGD AADF, as reported on the November 2018 DMR (October 2017 through November 2018 reporting period).

If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): R-001 public access reuse system: 6.2 MGD AADF, as reported on the November 2018 DMR (October 2017 through November 2018 reporting period).

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):
The sampling location of D-001 is EFD-1, located after de-chlorination at the WWTF. The sampling location of D-002 is EFD-2, located at the discharge from the Reclaimed Reservoir to the Receiving Wetland. The sampling location of R-001 is EFA-1, located at the sampling point after the chlorine contact chamber (CCC), prior to transfer pumps. Total suspended solids grab samples are collected from EFB-1, after filtration and prior to disinfection. Additional sample points listed in the permit for R-001include: EFA-2, sampling point after CCC at Reclaimed Reservoir; EFB-2, sampling point after reservoir & prior to disinfection; EFA-3, sampling point at high service pump discharge at WWTF.

Description of Permitted Outfall(s): The **D-001 Outfall** discharges to the Halifax River, Class III Marine Water, (WBID# 2363A) which is approximately 4000 feet in length and discharges at a depth of approximately 15 feet. The point of discharge is located approximately at latitude 29°8' 23" N, longitude 80°58' 13" W. This permit includes authorization to use the outfall pipe for D-001 to convey stormwater from the Dunlawton Drainage pond to the Halifax River, including construction of the lift station, in accordance with Condition I.C.15. The **D-002 Outfall** discharges to a receiving wetland that flows infrequently and intermittently to the Spruce Creek Circle Drainage Ditch and at times has potential to flow to Sandy Creek, Class III fresh water, (WBID# 2675), which is a tributary to Spruce Creek. The outfall is approximately 300 feet in length and includes a screened intake to a weir box that is piped to an exfiltration trench system discharging via three 12" concrete spreaders, to minimize erosion as the water flows overland to the wetland system. 0416This permit includes the revision to add a 1,400 gpm average daily flow traveling bridge sand filtration system at D-002. The point of discharge is located

approximately at latitude 29°6' 11" N, longitude 81°7' 34" W.

Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): An existing 12.0 mgd annual average daily flow (AADF) permitted capacity anoxic/oxic (A/O) activated sludge domestic wastewater treatment plant consisting of influent screening, grit removal, biological nutrient removal using A/O system, clarification, chemical feed facilities including addition of a carbon source, filtration, re-aeration, chlorination, dechlorination, aerobic digestion and dewatering of biosolids. This permit includes the previously permitted revision to add a traveling bridge sand filtration system at D-002.

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	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Flow (To the River)	**MGD**	**Max**	**0.999**	**Report**	**-**	**-**	**Continuous**	**Recording Flow Meter with Totalizer**	**FLW-2**	**See I.A.4 and footnote e**
BOD, Carbonaceous 5 day, 20C	**mg/L**	**Max**	**-**	**20.0**	**45.0**	**60.0**	**5 Days/Week**	**24-hr FPC**	**EFD-1**	**See Footnote a**
Solids, Total Suspended	**mg/L**	**Max**	**-**	**20.0**	**45.0**	**60.0**	**5 Days/Week**	**24-hr FPC**	**EFD-1**	**See Footnote a**
Coliform, Fecal	**#/100mL**	**Max**	**200**	**200**	**-**	**800**	**5 Days/Week**	**Grab**	**EFD-1**	**See I.A.5**
pH	**s.u.**	**Min** **Max**	**-**	**-**	**-**	**6.5** **8.5**	**Continuous**	**Meter**	**EFD-1**	**See I.A.3**
Chlorine, Total Residual (For Disinfection)	**mg/L**	**Min**	**-**	**-**	**-**	**0.5**	**Continuous**	**Meter**	**EFA-1**	**See I.A.3 and I.A.6**
Chlorine, Total Residual (For Dechlorination)	**mg/L**	**Max**	**-**	**-**	**-**	**0.01**	**Daily; 24 hours**	**Grab**	**EFD-1**	
Acute Whole Effluent Toxicity, 96 Hour LC50 (Ceriodaphnia dubia)	**percent**	**Min**	**-**	**-**	**-**	**100**	**Semi-Annually; twice per year**	**4 grabs/24 hr.period**	**EFD-1**	**See I.A.7**
Acute Whole Effluent Toxicity, 96 Hour LC50 (Cyprinella leedsi)	**percent**	**Min**	**-**	**-**	**-**	**100**	**Semi-Annually; twice per year**	**4 grabs/24 hr.period**	**EFD-1**	**See I.A.7**
Nitrogen, Total	**mg/L**	**Max**	**-**	**16.0**	**24.0**	**32.0**	**Daily; 24 hours**	**24-hr FPC**	**EFD-1**	

Nitrogen, Organic, Total (as N)	**mg/L**	**Max**	**-**	**5.0**	**7.5**	**10.0**	**Daily; 24 hours**	**24-hr FPC**	**EFD-1**	
Nitrite plus Nitrate, Total 1 det. (as N)	**mg/L**	**Max**	**-**	**12.0**	**15.0**	**20.0**	**Daily; 24 hours**	**24-hr FPC**	**EFD-1**	
Nitrogen, Ammonia, Total (as N)	**mg/L**	**Max**	**-**	**1.0**	**1.5**	**2.0**	**Daily; 24 hours**	**24-hr FPC**	**EFD-1**	
Phosphorus, Total (as P)	**mg/L**	**Max**	**-**	**3.0**	**4.5**	**6.0**	**Daily; 24 hours**	**24-hr FPC**	**EFD-1**	
Oxygen, Dissolved (DO)	**mg/L**	**Min**	**-**	**-**	**-**	**6.0**	**Daily; 24 hours**	**Grab**	**EFD-1**	
Enterococci	**#/100mL**	**Max**	**-**	**35**	**-**	**104**	**5 Days/Week**	**Grab**	**EFD-1**	**See I.A.7**
Copper, Total Recoverable	**ug/L**	**Max**	**-**	**-**	**-**	**9.4**	**Monthly**	**24-hr FPC**	**EFD-1**	**See Footnote b**
Zinc, Total Recoverable	**ug/L**	**Max**	**-**	**-**	**-**	**205**	**Monthly**	**24-hr FPC**	**EFD-1**	**See Footnote c**
Dichlorobromomethane	**ug/L**	**Max**	**-**	**-**	**-**	**27.5**	**Monthly**	**24-hr FPC**	**EFD-1**	**See Footnote d**
Nitrogen, Total	**lb/yr**	**Max**	**48686**	**Report**	**-**	**-**	**5 Days/Week**	**Grab**	**EFD-1**	**See I.A.7**
Nitrite plus Nitrate, Total 1 det. (as N)	**lb/yr**	**Max**	**36515**	**Report**	**-**	**-**	**Monthly**	**24-hr FPC**	**EFD-1**	**See Footnote b**
Nitrogen, Organic, Total (as N)	**lb/yr**	**Max**	**15214**	**Report**	**-**	**-**	**Monthly**	**24-hr FPC**	**EFD-1**	**See Footnote c**
Nitrogen, Ammonia, Total (as N)	**lb/yr**	**Max**	**3043**	**Report**	**-**	**-**	**Monthly**	**24-hr FPC**	**EFD-1**	**See Footnote d**
Phosphorus, Total (as P)	**lb/yr**	**Max**	**9129**	**Report**	**-**	**-**	**5 Days/Week**	**Grab**	**EFD-1**	**See I.A.7**

D-002			Effluent Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Flow (To the receiving Wetland)	**MGD**	**Max**	**0.999**	**Report**	**-**	**-**	**Continuous**	**Recording Flow Meter with Totalizer**	**FLW-8**	**See I.A.11 & footnote e**
BOD, Carbonaceous 5 day, 20C	**mg/L**	**Max**	**-**	**5.0**	**7.5**	**10.0**	**5 Days/Week**	**Grab**	**EFD-2**	
Solids, Total Suspended	**mg/L**	**Max**	**-**	**5.0**	**7.5**	**10.0**	**5 Days/Week**	**Grab**	**EFD-2**	
Nitrogen, Total	**mg/L**	**Max**	**-**	**3.0**	**4.5**	**6.0**	**5 Days/Week**	**Grab**	**EFD-2**	
Phosphorus, Total (as P)	**mg/L**	**Max**	**-**	**1.0**	**1.5**	**2.0**	**5 Days/Week**	**Grab**	**EFD-2**	
Nitrogen, Ammonia, Total (as N)	**mg/L**	**Max**	**-**	**2.0**	**-**	**-**	**5 Days/Week**	**Grab**	**EFD-2**	

PART I: Continued	
Receiving Waters: Halifax River (D-001) Wetland to Spruce Creek Circle Drainage Ditch (D-002), possibly to Sandy Creek	**Classification (indicate whether fresh or marine):** Class III Marine waters, (WBID# 2363A) Class III fresh waters, (WBID# 2675)

Toxicity Test Requirements (routine and/or additional test language, test species, salinity adjustment, etc.): D-001 Only

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

a. Effluent Limitation
   (1) In any routine or additional follow-up test for acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent. [Rules 62-302.200(1), 62-302.500(1)(a)4., 62-4.244(3)(a), and 62-4.241, F.A.C.]

b. Monitoring Frequency
   (1) Routine toxicity tests shall be conducted once every six months, the first starting in accordance with the existing sampling schedule and lasting for the duration of this permit.

c. Sampling Requirements
   (1) Routine tests shall be conducted on four separate grab samples collected at evenly-spaced (6-hr) intervals over a 24-hour period. The four grab samples shall be used in eight bioassays (four bioassays for each species) and shall represent one test. If the duration of the discharge is less than 24-hours, the duration of discharge shall be documented on the chain of custody.
   (2) For additional follow-up tests, the first test shall be conducted on four separate grab samples collected at evenly-spaced (6-hr) intervals over a 24-hour period. The four grab samples shall be used in four separate bioassays for each species that failed the routine test. The four grab samples represent one test. The second follow-up test shall be run on a single grab sample collected on the day and time when the greatest toxicity was identified in the routine or first additional follow-up test.

d. Test Requirements
   (1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five dilutions: **100%, 75%, 50%, 25%**, and **12.5%** effluent.
   (2) The permittee shall conduct 96-hour acute static renewal multi-concentration toxicity tests using the daphnid, **Ceriodaphnia dubia**, and the bannerfin shiner, **Cyprinella leedsi**, concurrently.
   (3) All test species, procedures and quality assurance criteria used shall be in accordance with **Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms**, 5th Edition, EPA-821-R-02-012. 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 acute 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-02-012, Table 7.

e. Quality Assurance Requirements
   (1) A standard reference toxicant (SRT) quality assurance (QA) acute 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 acute 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 10% for either species in any test, the test for that species (including the control) shall be invalidated and the test repeated. The repeat test shall begin within 14 days after the last day of the invalid test.
   (3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 10% 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 concentration-response relationship, as required by EPA-821-R-02-012, Section 12.2.6.2., and 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 Test Results: If an LC50 >100% effluent occurs in all four separate grab sample tests for the test species, ">100%" shall be entered on the DMR for that test species. If in any of the four

separate grab sample tests for the test species an LC50 <100% effluent occurs, the lowest calculated LC50 effluent concentration shall be entered on the DMR for that test species.

(b) Additional Follow-up Test Results: For each additional test required, the calculated LC50 value shall be entered on the DMR for that test species.

(2) A bioassay laboratory report for the routine test shall be prepared according to EPA-821-R-02-012, Section 12, 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-02-012, Section 12, 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
Central District Office
3319 Maguire Blvd, Suite 232
Orlando, Florida 32803-3767

g. Test Failures

(1) A test fails when the test results do not meet the limits in 7.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the acute toxicity limitation in 7.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 7.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%, 75%, 50%, 25%, and 12.5% 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 statistically analyzed according to the procedures in EPA-821-R-02-012.

(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 7.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 7.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-012, a repeat test shall be initiated within 14 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 7.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 14 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) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for 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.): No administrative or consent orders were active or issued during this current permit cycle. A draft long form consent order (LFCO) will be sent for signature soon. At the moment this draft LFCO has interim limits for Flow and TSS for D-002 only. This draft LFCO will not be executed prior to FYI scheduled for 01/28/2019.

Facility Mixing Zone Details (if applicable): D-001 ONLY – see information below:

a. A mixing zone for copper has been approved in accordance with DEP permit file number: FL0020559-011-DW1P and is described as a rectangle centered along the diffuser with a mixing zone of 179,294 square feet or 16,657 square meters.

b. A mixing zone for zinc has been approved in accordance with DEP permit file number: FL0020559-011-DW1P and is described as a rectangle centered along the diffuser with a mixing zone of 899 square feet or 84 square meters.

c. A mixing zone for dichlorobromomethane (DCBM) has been approved in accordance with DEP permit file number: FL0020559-011-DW1P and is described as a rectangle centered along the diffuser with a mixing zone of 559 square feet or 52 square meters.

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

Date	Parameter and Units	Limit	Result
11/2017	TSS Monthly Average, mg/L (D-002)	5.0 mg/L	6.5 mg/L
12/2017	TSS Monthly Average, mg/L (D-002)	5.0 mg/L	6.2 mg/L
01/2018	TSS Maximum, mg/L (D-002)	10.0 mg/L	21.5 mg/L and 10.2 mg/L
01/2018	Total Nitrogen Monthly Average, mg/L (D-002)	3.0 mg/L	3.5 mg/L
01/2018	Fecal Coliform % Non-Detect, % (R-001)	75 %	74.2 %
07/2018	TSS Monthly Average, mg/L (D-002)	5.0 mg/L	7.9 mg/L
07/2018	TSS Weekly Average, mg/L (D-002)	7.5 mg/L	8.0 mg/L
07/2018	TSS Maximum, mg/L (D-002)	10.0 mg/L	12.0 mg/L
08/2018	TSS Monthly Average, mg/L (D-002)	5.0 mg/L	9.9 mg/L
08/2018	TSS Weekly Average, mg/L (D-002)	7.5 mg/L	9.8 mg/L
08/2018	TSS Maximum, mg/L (D-002)	10.0 mg/L	13.2 mg/L
09/2018	TSS Monthly Average, mg/L (D-002)	5.0 mg/L	7.5 mg/L
09/2018	TSS Maximum, mg/L (D-002)	10.0 mg/L	14.8 mg/L

Describe previous FYI and WQBEL study: None were noted in the last 5 years.

Describe previous or current Enforcement Actions (including WLs):
There have been no enforcement actions within the last 5 years. A draft long form consent order (LFCO) will be sent for signature soon. At the moment this draft LFCO has interim limits for Flow and TSS for D-002 only. This draft LFCO will not be executed prior to FYI scheduled for 01/28/2019.

Describe any violations or problems noted in previous inspection: Some bench meter verification errors, plant process waters were part of the influent stream, DMR reporting errors, a few TSS and Fecal Coliform maximum exceedances for R-001, and appropriate public access reuse signs were not posted.

Discuss whether DMR trends within previous five years are improving or declining: Flow, TN, TP, TSS, and most other parameters have been trending down since 11/2013. The flow to D-001 has decreased with an increase in flow to R-001 (public access reuse) and only utilized during wet-weather conditions. Also with the addition of D-002 Outfall flow has increased to this location since placed into service in late 2017. TSS has also trended upward and will be addressed through a LFCO issued by the Department.
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):

PART II: Sampling Event Information

Date(s) sample collected: **1/28/2019**	**Sampler(s):** **Kane, Bowden, Useche**
Temperature (Deg C): **On field sheet**	**pH (SU):** **On field sheet**
Dissolved Oxygen (mg/L): **On field sheet**	**Conductivity (umhos/cm):** **On field sheet**
Total Residual Chlorine (mg/L): 5.0	**Total Residual Chlorine - after Disinfection (mg/L):** **N/A**
Method of Chlorination: **Sodium Hypochlorite**	**Method of De-chlorination:** **N/A**

Flow During Sample Collection for each outfall(MGD): N/A

Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day): In report

Describe Discharge during Sampling Event:

☐ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent**

X☐ Other, please specify: Not discharging

Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here: Parameter information is on field sheet. Public access reuse system in use at time of sampling.

Appendix B

Explanation 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.

1) Quality Assurance and Quality Control

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).

2) 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.

3) Toxicity Bioassays

Greater than 50% mortality in an acute toxicity test may constitute an exceedance of 62-302.200(1), F.A.C., and 62-302.500(1)a, F.A.C., 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 62-302.200(5), F.A.C., and 62-302.530(20), F.A.C., 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(20), F.A.C., and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

4) 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.

5) 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(89), F.A.C., 62-302.530(90)(a) F.A.C. and/or 62-302.530(90)(b) F.A.C.

6) 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(89), F.A.C., 62-302.530(90)(a), F.A.C. and/or 62-302.530(90)(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 $\pm$ 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(108), F.A.C. Expected AGP is not calculated for marine samples incubated with *Dunaliella*.

7) 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

Chemical analysis of effluent

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Effluent Grab	AGP/LN	Algal Growth Potential	312 Q	mg DryWt/L	0.3	0.9
1/28/19	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55 UJ	ug/L	0.55	1.7
1/28/19	Effluent Grab	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	3.9 J	mg/L	0.2	2
1/28/19	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.40 UJ	ug/L	0.4	1.2
1/28/19	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.60 UJ	ug/L	0.6	1.8
1/28/19	Effluent Grab	Overflow	Enterococci-Quanti-Tray	1.0 U	MPN/100 mL	1	1
1/28/19	Effluent Grab	Overflow	Enterococci-Quanti-Tray	1.0	MPN/100 mL	1	1
1/28/19	Effluent Grab	Overflow	Escherichia Coli-Quanti-Tray	No Result O	MPN/100 mL	1	1
1/28/19	Effluent Grab	Overflow	Enterococci-Quanti-Tray	1.0	MPN/100 mL	1	1
1/28/19	Effluent Grab	Overflow	Fecal Coliforms-Membrane Filter	1.0	cfu/100 mL	1	1
1/28/19	Effluent Grab	Overflow	Escherichia Coli-Quanti-Tray	No Result O	MPN/100 mL	1	1
1/28/19	Effluent Grab	Overflow	Fecal Coliforms-Membrane Filter	1.0 U	cfu/100 mL	1	1
1/28/19	Effluent Grab	Overflow	Escherichia Coli-Quanti-Tray	No Result O	MPN/100 mL	1	1
1/28/19	Effluent Grab	Overflow	Fecal Coliforms-Membrane Filter	1.0 U	cfu/100 mL	1	1
1/28/19	Effluent Grab	Metals	Potassium	12.1	mg/L	0.3	1.2
1/28/19	Effluent Grab	Metals	Silver	0.010 U	ug/L	0.01	0.04
1/28/19	Effluent Grab	Metals	Nickel	1.5 I	ug/L	0.5	2
1/28/19	Effluent Grab	Metals	Zinc	29	ug/L	5	20
1/28/19	Effluent Grab	Metals	Copper	2.60	ug/L	0.4	0.8
1/28/19	Effluent Grab	Metals	Chromium	0.40 U	ug/L	0.4	1.6
1/28/19	Effluent Grab	Metals	Selenium	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Metals	Magnesium	19.6	mg/L	0.04	0.16
1/28/19	Effluent Grab	Metals	Lead	0.27 I	ug/L	0.2	0.4
1/28/19	Effluent Grab	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
1/28/19	Effluent Grab	Metals	Sodium	85.7	mg/L	0.5	2
1/28/19	Effluent Grab	Metals	Arsenic	0.34	ug/L	0.05	0.2
1/28/19	Effluent Grab	Metals	Aluminum	44	ug/L	5	20
1/28/19	Effluent Grab	Metals	Iron	180	ug/L	30	120
1/28/19	Effluent Grab	Metals	Calcium	35.8	mg/L	0.075	0.3

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Effluent Grab	Nutrients	NO2NO3-N	6.0	mg N/L	0.08	0.2
1/28/19	Effluent Grab	Nutrients	Chloride	120	mg Cl/L	0.4	1.2
1/28/19	Effluent Grab	Nutrients	Kjeldahl Nitrogen	6.0	mg N/L	0.4	1
1/28/19	Effluent Grab	Nutrients	Sulfate	20	mg SO4/L	0.4	1.2
1/28/19	Effluent Grab	Nutrients	Organic Carbon	15	mg C/L	0.5	1
1/28/19	Effluent Grab	Nutrients	Total Alkalinity	149 A	mg CaCO3/L	0.65	2.5
1/28/19	Effluent Grab	Nutrients	Color (true)	35	PCU	2.5	6
1/28/19	Effluent Grab	Nutrients	Total-P	0.61	mg P/L	0.005	0.05
1/28/19	Effluent Grab	Nutrients	Turbidity	1.7	NTU	0.1	0.13
1/28/19	Effluent Grab	Nutrients	Fluoride	0.56	mg F/L	0.035	0.1
1/28/19	Effluent Grab	Nutrients	Ammonia-N	3.7	mg N/L	0.4	1
1/28/19	Effluent Grab	Nutrients	O-Phosphate-P	0.44	mg P/L	0.04	0.1
1/28/19	Effluent Grab	Nutrients	TSS	2 U	mg/L	2	10
1/28/19	Effluent Grab	Pesticides	Atrazine Desisopropyl	0.0096 UJ	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Sucralose	55	ug/L	0.1	0.4
1/28/19	Effluent Grab	Pesticides	Parathion Methyl	0.0096 U	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Ibuprofen	0.12	ug/L	0.02	0.08
1/28/19	Effluent Grab	Pesticides	Diazinon	0.0096 U	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Azinphos Methyl	0.086 U	ug/L	0.086	0.35
1/28/19	Effluent Grab	Pesticides	Bromacil	0.038 U	ug/L	0.038	0.15
1/28/19	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.0096 U	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Naled	0.077 U	ug/L	0.077	0.31
1/28/19	Effluent Grab	Pesticides	Parathion Ethyl	0.019 U	ug/L	0.019	0.077
1/28/19	Effluent Grab	Pesticides	Demeton	0.023 U	ug/L	0.023	0.092
1/28/19	Effluent Grab	Pesticides	Disulfoton	0.0048 U	ug/L	0.0048	0.019
1/28/19	Effluent Grab	Pesticides	Ethoprop	0.0048 U	ug/L	0.0048	0.019
1/28/19	Effluent Grab	Pesticides	Fonofos	0.0096 U	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Prometryn	0.019 U	ug/L	0.019	0.077
1/28/19	Effluent Grab	Pesticides	Ametryn	0.0096 U	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Metribuzin	0.048 U	ug/L	0.048	0.19
1/28/19	Effluent Grab	Pesticides	Atrazine	0.080 U	ug/L	0.08	0.32
1/28/19	Effluent Grab	Pesticides	Fenamiphos	0.029 U	ug/L	0.029	0.12
1/28/19	Effluent Grab	Pesticides	Alachlor	0.058 U	ug/L	0.058	0.23

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.0096 U	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Ethion	0.0096 UJ	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Hexazinone	0.067 U	ug/L	0.067	0.27
1/28/19	Effluent Grab	Pesticides	Malathion	0.016 U	ug/L	0.016	0.063
1/28/19	Effluent Grab	Pesticides	Metalaxyl	0.17 U	ug/L	0.17	0.69
1/28/19	Effluent Grab	Pesticides	Metolachlor	0.12 U	ug/L	0.12	0.46
1/28/19	Effluent Grab	Pesticides	Prometon	0.019 UJ	ug/L	0.019	0.077
1/28/19	Effluent Grab	Pesticides	Simazine	0.036 U	ug/L	0.036	0.14
1/28/19	Effluent Grab	Pesticides	Atrazine Desethyl	0.0096 U	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Mevinphos	0.0096 U	ug/L	0.0096	0.038
1/28/19	Effluent Grab	Pesticides	Norflurazon	0.048 U	ug/L	0.048	0.19
1/28/19	Effluent Grab	Pesticides	Phorate	0.0048 U	ug/L	0.0048	0.019
1/28/19	Effluent Grab	Pesticides	Naproxen	0.031 I	ug/L	0.008	0.032
1/28/19	Effluent Grab	Pesticides	Butylate	0.048 UJ	ug/L	0.048	0.19
1/28/19	Effluent Grab	Priority Organic Pollutants	Chloromethane	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	Trichlorofluoromethane	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	Benzidine	9.8 U	ug/L	9.8	39
1/28/19	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.098 U	ug/L	0.098	0.39
1/28/19	Effluent Grab	Priority Organic Pollutants	Carbon tetrachloride	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Tetrachloroethene	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Toluene	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	Trichloroethene	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Vinyl chloride	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	9.8 U	ug/L	9.8	39
1/28/19	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.049 UJ	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.098 U	ug/L	0.098	0.39
1/28/19	Effluent Grab	Priority Organic Pollutants	1,1,1-Trichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	1,2-Dichloropropane	0.20 U	ug/L	0.2	0.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Effluent Grab	Priority Organic Pollutants	Dibromochloromethane	2.5	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	0.98 U	ug/L	0.98	3.9
1/28/19	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Fluorene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.49 U	ug/L	0.49	2
1/28/19	Effluent Grab	Priority Organic Pollutants	1,1-Dichloroethene	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	1,1,2-Trichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	1,1-Dichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Bromoform	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	Chlorobenzene	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Chloroform	14	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Ethylbenzene	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Methylene chloride	1.0 U	ug/L	1	4
1/28/19	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.11 I	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	12
1/28/19	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	9.8 U	ug/L	9.8	39
1/28/19	Effluent Grab	Priority Organic Pollutants	Anthracene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.0 U	ug/L	2	7.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Chrysene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	7.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Benzene	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	9.8 U	ug/L	9.8	39
1/28/19	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.049 U	ug/L	0.049	0.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Isophorone	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	1,2-Dichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	4.9 U	ug/L	4.9	20
1/28/19	Effluent Grab	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	0.098 U	ug/L	0.098	0.39
1/28/19	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Phenol	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Bromodichloromethane	8.6	ug/L	0.2	0.8
1/28/19	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.23	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	2.0 U	ug/L	2	7.8
1/28/19	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	1,2-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	1,3-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	1,4-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	Chloroethane	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.025 U	ug/L	0.025	0.098
1/28/19	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.049 U	ug/L	0.049	0.2
1/28/19	Effluent Grab	Priority Organic Pollutants	Pyrene	0.098 U	ug/L	0.098	0.39
1/28/19	Effluent Grab	Priority Organic Pollutants	Bromomethane	0.50 U	ug/L	0.5	2
1/28/19	Effluent Grab	Nutrients	pH	7.05			
1/28/19	Effluent Grab	Nutrients	Specific Conductance	766	umhos/cm		
1/28/19	Effluent Grab	Nutrients	Dissolved Oxygen	6.25	mg/L		

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Effluent Grab	Nutrients	Temperature	22.29	C		
1/28/19	Effluent Grab	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	No Result	LC50		
1/28/19	Effluent Grab	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100 L	LC50		
1/28/19	Blank	Metals	Silver	0.010 U	ug/L	0.01	0.04
1/28/19	Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
1/28/19	Blank	Metals	Lead	0.20 U	ug/L	0.2	0.4
1/28/19	Blank	Metals	Aluminum	5.0 U	ug/L	5	20
1/28/19	Blank	Metals	Iron	30 U	ug/L	30	120
1/28/19	Blank	Metals	Nickel	0.93 I	ug/L	0.5	2
1/28/19	Blank	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
1/28/19	Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
1/28/19	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
1/28/19	Blank	Metals	Copper	0.46 I	ug/L	0.4	0.8
1/28/19	Blank	Metals	Chromium	0.40 U	ug/L	0.4	1.6
1/28/19	Blank	Metals	Arsenic	0.050 U	ug/L	0.05	0.2
1/28/19	Blank	Metals	Zinc	5.0 U	ug/L	5	20
1/28/19	Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
1/28/19	Blank	Metals	Selenium	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
1/28/19	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
1/28/19	Blank	Nutrients	TSS	2 U	mg/L	2	10
1/28/19	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
1/28/19	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.6
1/28/19	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
1/28/19	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
1/28/19	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
1/28/19	Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.13
1/28/19	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
1/28/19	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
1/28/19	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.6
1/28/19	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
1/28/19	Blank	Pesticides	Ametryn	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Chlorpyrifos Ethyl	0.0097 U	ug/L	0.0097	0.039

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Blank	Pesticides	Metalaxyl	0.18 U	ug/L	0.18	0.7
1/28/19	Blank	Pesticides	Metolachlor	0.12 U	ug/L	0.12	0.47
1/28/19	Blank	Pesticides	Mevinphos	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Hexazinone	0.068 U	ug/L	0.068	0.27
1/28/19	Blank	Pesticides	Naled	0.078 U	ug/L	0.078	0.31
1/28/19	Blank	Pesticides	Parathion Ethyl	0.019 U	ug/L	0.019	0.078
1/28/19	Blank	Pesticides	Ethion	0.0097 UJ	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Ethoprop	0.0049 U	ug/L	0.0049	0.019
1/28/19	Blank	Pesticides	Fenamiphos	0.029 U	ug/L	0.029	0.12
1/28/19	Blank	Pesticides	Atrazine	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Disulfoton	0.0049 U	ug/L	0.0049	0.019
1/28/19	Blank	Pesticides	Fonofos	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Prometryn	0.019 U	ug/L	0.019	0.078
1/28/19	Blank	Pesticides	Simazine	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Azinphos Methyl	0.088 U	ug/L	0.088	0.35
1/28/19	Blank	Pesticides	Butylate	0.049 UJ	ug/L	0.049	0.19
1/28/19	Blank	Pesticides	Metribuzin	0.049 U	ug/L	0.049	0.19
1/28/19	Blank	Pesticides	Norflurazon	0.049 U	ug/L	0.049	0.19
1/28/19	Blank	Pesticides	Alachlor	0.058 U	ug/L	0.058	0.23
1/28/19	Blank	Pesticides	Atrazine Desisopropyl	0.0097 UJ	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Phorate	0.0049 U	ug/L	0.0049	0.019
1/28/19	Blank	Pesticides	Ibuprofen	0.020 U	ug/L	0.02	0.08
1/28/19	Blank	Pesticides	Sucralose	0.010 U	ug/L	0.01	0.04
1/28/19	Blank	Pesticides	Atrazine Desethyl	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Chlorpyrifos Methyl	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Bromacil	0.039 U	ug/L	0.039	0.16
1/28/19	Blank	Pesticides	Demeton	0.023 U	ug/L	0.023	0.094
1/28/19	Blank	Pesticides	Diazinon	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Malathion	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Parathion Methyl	0.0097 U	ug/L	0.0097	0.039
1/28/19	Blank	Pesticides	Prometon	0.019 UJ	ug/L	0.019	0.078
1/28/19	Blank	Pesticides	Naproxen	0.0080 U	ug/L	0.008	0.032
1/28/19	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.051 U	ug/L	0.051	0.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Acenaphthene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Chrysene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.0 U	ug/L	2	8.1
1/28/19	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.051 UJ	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	1,1-Dichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Chloromethane	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0 U	ug/L	3	12
1/28/19	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Naphthalene	0.10 U	ug/L	0.1	0.4
1/28/19	Blank	Priority Organic Pollutants	Nitrobenzene	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Phenanthrene	0.10 U	ug/L	0.1	0.4
1/28/19	Blank	Priority Organic Pollutants	1,1,2-Trichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Tetrachloroethene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	4-Nitrophenol	10 U	ug/L	10	40
1/28/19	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.1 U	ug/L	5.1	20
1/28/19	Blank	Priority Organic Pollutants	Diethyl phthalate	2.0 U	ug/L	2	8.1
1/28/19	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Hexachloroethane	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	8.1
1/28/19	Blank	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Benzene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Bromoform	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Chloroform	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Dibromochloromethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Acenaphthylene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Anthracene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Benzidine	10 U	ug/L	10	40

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4
1/28/19	Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	0.10 U	ug/L	0.1	0.4
1/28/19	Blank	Priority Organic Pollutants	Pentachlorophenol	0.51 U	ug/L	0.51	2
1/28/19	Blank	Priority Organic Pollutants	1,1,1-Trichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Chloroethane	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Ethylbenzene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Methylene chloride	1.0 U	ug/L	1	4
1/28/19	Blank	Priority Organic Pollutants	2-Nitrophenol	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Isophorone	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Pyrene	0.10 U	ug/L	0.1	0.4
1/28/19	Blank	Priority Organic Pollutants	1,1-Dichloroethene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Vinyl chloride	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	ug/L	10	40
1/28/19	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	ug/L	10	40
1/28/19	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Fluorene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	1,2-Dichloropropane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Carbon tetrachloride	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Chlorobenzene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Toluene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Fluoranthene	0.025 U	ug/L	0.025	0.1
1/28/19	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Phenol	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Bromodichloromethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Trichloroethene	0.20 U	ug/L	0.2	0.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Blank	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	2-Chlorophenol	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	1,2-Dichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Bromomethane	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Trichlorofluoromethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.051 U	ug/L	0.051	0.2
1/28/19	Blank	Priority Organic Pollutants	Chloromethane	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Trichlorofluoromethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Trichloroethene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Tetrachloroethene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Ethylbenzene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Dibromochloromethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Bromodichloromethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,2-Dichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,1-Dichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Bromomethane	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Carbon tetrachloride	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Chloroethane	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	1,1-Dichloroethene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Bromoform	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Toluene	0.50 U	ug/L	0.5	2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/28/19	Blank	Priority Organic Pollutants	1,1,2-Trichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,2-Dichloropropane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Chlorobenzene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Chloroform	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	Vinyl chloride	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,1,1-Trichloroethane	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Benzene	0.20 U	ug/L	0.2	0.8
1/28/19	Blank	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.50 U	ug/L	0.5	2
1/28/19	Blank	Priority Organic Pollutants	Methylene chloride	1.0 U	ug/L	1	4

EPA End Sheet

The Bioassay of Port Orange WWTF effluent sampled on January 28, 2019. NPDES #FL0020559.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code		NPDES NUMBER											YR/MO/DA						Insp Type	Inspector	Fac Type
1	N	2	5	3	F	L	0	0	2	0	5	5	9	11	12	1	9	0	1	2	8	18 **B**	19 **S**	20 1

Remarks

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The Priority Pollutants Analysis of Port Orange WWTF effluent sampled on January 28, 2019. NPDES #FL0020559.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code		NPDES NUMBER											YR/MO/DA						Insp Type	Inspector	Fac Type
1	N	2	5	3	F	L	0	0	2	0	5	5	9	11	12	1	9	0	1	2	8	18 **X**	19 **S**	20 1

Remarks

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Biological Analyses of Port Orange WWTF effluent sampled on January 28, 2019. NPDES #FL0020559.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code		NPDES NUMBER											YR/MO/DA						Insp Type	Inspector	Fac Type
1	N	2	5	3	F	L	0	0	2	0	5	5	9	11	12	1	9	0	1	2	8	18 **S**	19 **S**	20 1

Remarks

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