GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

SUMMARY PAGE

Name of Facility: Fort Stewart WPCP

NPDES Permit No.: GA0047180

This permit is a reissuance of the NPDES permit for the Fort Stewart WPCP. The facility discharges a maximum of 7.15 MGD of treated domestic wastewater to an unnamed tributary to Taylors Creek in the Ogeechee River Basin. The permit expired on September 30, 2018 and the plant is operating under a consent order.

The permit was placed on public notice from January 28, 2021 to March 5, 2021.

Please Note The Following Changes to the Proposed NPDES Permit From The Existing Permit:

Part I.B:

- Reduced the ammonia limit to a monthly average limit of 0.47 mg/L to meet the EPD's *NPDES Permitting Strategy for Addressing Ammonia Toxicity, 2017*.
- Reduced the total suspended solids limit to a monthly average limit of 10 mg/L to meet the EPD's *Guidelines for Establishing Technology-Based Total Suspended Solids (TSS) Limits in Domestic Wastewater NPDES Permits, 2020*.
- Included an Ultimate Oxygen Demand (UOD) effluent limit to meet the requirements of the dissolved oxygen TMDL, 2007.
- Added total recoverable lead and total recoverable mercury monthly average limits to meet the requirements of the copper, lead, and mercury TMDL, 2000. A total recoverable lead and total recoverable mercury compliance schedule has been included in the permit.
- Removed Long-Term Biochemical Oxygen Demand (LTBOD) monitoring from the permit reissuance. The permittee conducted a LTBOD test during the current permit cycle; therefore, requirements for LTBOD testing have not been included in the permit.
- Added orthophosphate, organic nitrogen, nitrate-nitrite and total Kjeldahl nitrogen monitoring requirements to determine nutrient speciation and to quantify nutrient loadings in the Ogeechee River Basin.
- Removed instream monitoring requirements since enough data has been collected during the current permit cycle.

Standard Conditions & Boilerplate Modifications:

The permit boilerplate includes modified language or added language consistent with other NPDES permits.

Final Permit Determinations and Public Comments:

☐ Final issued permit did not change from the draft permit placed on public notice.
☒ Public comments were received during public notice period.
☐ Public hearing was held on
☒ Final permit includes changes from the draft permit placed on public notice. See attached permit addendum and/or permit fact sheet addendum.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

EPD Director's Office
2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334
404-656-4713

Mr. Kenneth Howard, City Manager
City of Hinesville
115 Martin Luther King Jr. Drive
Hinesville, GA 31313

05/28/2021

RE: Permit Issuance
Fort Stewart Water Pollution Control Plant
NPDES Permit No. GA0047180
Liberty County, Ogeechee River Basin

Dear Mr. Howard:

Pursuant to the Georgia Water Quality Control Act, as amended; the Federal Water Pollution Control Act, as amended; and the Rules and Regulations promulgated thereunder, we have today issued the attached National Pollutant Discharge Elimination System (NPDES) permit for the referenced wastewater treatment facility.

Your facility has been assigned to the following EPD office for reporting and compliance:

Georgia Environmental Protection Division
Coastal District Office
400 Commerce Center Drive
Brunswick, Georgia 31523

Please be advised that on and after the effective date indicated in the attached NPDES permit, the permittee must comply with all the terms, conditions and limitations of this permit.

If you have any questions, please contact Josh Hayes at 404-463-1834 or *josh.hayes@dnr.ga.gov*.

Sincerely,

Richard E. Dunn
Director

RED\jbh
Attachment: NPDES Permit No. GA0047180, Permit Revisions, Fact Sheet Revisions, Fact Sheet
cc: Bruce Foisey, EPD Coastal District (*bruce.foisey@dnr.ga.gov*)
Paul Simonton, Simonton Engineering (*paul@simontoneng.com*)
Sheri Kantor, ESG Operations, (*skantor@esginc.net*)
David Moore, ESG Operations, (*dmoore@esginc.net*)
EPA Region IV Mailbox (*R4NPDESPermits@epa.gov*)

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

PERMIT REVISIONS

City of Hinesville – Fort Stewart Water Pollution Control Plant
NPDES Permit No. GA0047180
(Liberty County)

Were there any revisions between the draft and the final permit? ☒ Yes ☐ No

If yes, specify:

Part I.C.10	Added language for a permit modification request to reduce the monitoring frequency of total recoverable lead and total recoverable mercury based on the demonstration of one year of monitoring data that show no detections of total recoverable lead and/or total recoverable mercury.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

FACT SHEET REVISIONS

City of Hinesville – Fort Stewart Water Pollution Control Plant
NPDES Permit No. GA0047180
(Liberty County)

Were there any revisions between the draft and the final fact sheet? ☒ Yes ☐ No

If yes, specify:

Section 4.6	Added language for a permit modification request to reduce the monitoring frequency of total recoverable lead and total recoverable mercury based on the demonstration of one year of monitoring data that show no detections of total recoverable lead and/or total recoverable mercury.

Comments	EPD Response
The [*2000 Copper, Lead, and Mercury*] TMDL Development: • This stream sample was placed on the 303(d)-list based on a single sample collected in the late 1980's. (per comments on the TMDL). • The TMDL was developed based on that one sample. • This single sample was not validated with fish tissue samples for mercury contamination. • No attempt was made to characterize air sources of mercury in the watershed. • Additional testing by EPD conducted before the TMDL was developed indicate that these parameters were not present in the stream in 1999 (TMDL, Appendix C). • Despite this data, the TMDL was developed based on the October 1997 Consent Decree. • The TMDL assumed the source of pollutant in the stream was the Ft. Stewart WPCP without consideration of other potential point sources or non-point sources in this stream. • Mercury, in particular, has been shown to be difficult to obtain accurate results, and even more so in the "late 1980's." For example, just this month, one of our clients discovered mercury contamination in the nitric acid used to preserve storm water samples for testing.	Under CWA Section 303(d), States are required to develop lists of impaired waters. Impaired waters are those that do not meet the water quality standards set for them, even after point sources of pollution have installed the minimum required levels of pollution control technology. Georgia's final 1998 303(d) list identified an Unnamed Tributary of Taylors Creek, Hinesville, Georgia, as not supporting its designated use, with the pollutants of concern being copper, lead and mercury. The law requires that those jurisdictions (GA EPD) establish priority rankings for waters on their CWA section 303(d) list and develop a Total Maximum Daily Load (TMDL) for those waters. Under federal regulations at 40 C.F.R. § 130.7, TMDLs are required for waters on Georgia's 303(d) List of waterbodies or waterbody segments that are not meeting applicable Water Quality Standards (WQS). A TMDL determines the maximum amount of a pollutant a waterbody can absorb without that waterbody exceeding the applicable WQS. The TMDL provides individual allocations of that pollutant to point sources, like the Hinesville/Fort Stewart WPCP, through waste load allocations (WLAs) and to nonpoint sources through load allocations (LAs). In March 2000, US EPA developed a TMDL for Copper, Lead, and Mercury in Taylors Creek in the Ogeechee River Basin. The TMDL lists Hinesville/Fort Stewart WPCP as the only potential point source of copper, lead, and mercury. The TMDL includes a copper, lead, and mercury wasteload allocation for the Hinesville/Fort Stewart WPCP of 0.219 kg/day, 0.04 kg/day, and 0.0004 kg/day, respectively. Based on a review of the US EPA developed and approved TMDL and previous permit iterations during the renewal process, it was determined

	that the exclusion of the numeric effluent limits for lead and mercury was an inappropriate interpretation of the TMDL. The permit already contained an effluent limit for copper. The NPDES regulations at § 40 CFR 122.44(d)(1)(vii)(B) require that NPDES permits include effluent limitations developed consistent with the assumptions and requirements of the Waste Load Allocation (WLA) that has been assigned to the discharge as part of an approved TMDL. EPD's inclusion of the numeric effluent limits in the proposed permit is required by applicable state and federal regulations and have been retained in the final permit. .

• The semi-annual testing for mercury conducted over the past four years indicate mercury is not present at levels of concern in the WPCP effluent.
  o Maximum level monitored is 1.06 ng/L
  o EPD water quality target for mercury is 9.8 ng/L (Per NPDES Permit, GA0047180, Part 1.C.13.c, (issued September 23, 2013)
• Testing conducted for lead for the NPDES Permit application indicate that lead is also not present in the plant effluent.
• It is the usual and customary practice of the Environmental Protection Division to:
  o Identify pollutants of concern during the NPDES Permit renewal process
  o Require additional monitoring of those pollutants, generally over a 12 month period
  o Evaluation of the additional testing with the implementation of permit limits as required.
• This process is not being followed in this instance.
	EPA regulations at 40 C.F.R. §122.44(d)(1)(ii) require state agencies to develop procedures for determining whether a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative or numeric criterion within a state water. If such reasonable potential is determined to exist, the NPDES permit must contain pollutant effluent limits. EPD has reasonable potential procedures based upon the specific category of pollutants and/or specific pollutant of concern.
	
	The "usual and customary practices" the commenter is referencing is specific to GA EPD's reasonable potential procedures found in Chapter 391-3-6-.06 for pollutants such as lead and mercury. EPD agrees that those procedures for priority pollutants do exist and EPD did evaluate the appropriate (i.e. data analyzed from the appropriate test method) data submitted with the permit application using those procedures (see Fact Sheet).
	
	However, in addition to EPD's reasonable potential procedures for these pollutants EPD must also include effluent limits consistent with the

The imposition of permit limits for non-conventional pollutants that are demonstrated to be absent in an NDPES discharge is contrary to the established protocols for EPD to issue NPDES permits. This deviation from established protocol places an undue and unnecessary burden on the City of Hinesville.	wasteload allocations assigned in applicable TMDLs as mentioned in the above response. In this case, the 2000 TMDL provides a wasteload allocation for mercury and lead and those limits have been included in the proposed permit, hence there has been no deviation from EPD's established procedures. EPD also understands the permittees concerns and has included the following permit condition allowing for a reduced monitoring frequency after a demonstration period: "The permittee may request that total recoverable lead and/or total recoverable mercury monitoring frequency be reduced to once a quarter and once every six months, respectively if these parameters have not been detected for a period of at least 12 consecutive months. The permittee must submit monitoring data along with the request to justify the reduction in monitoring frequency. Upon review of the data, EPD may modify the permit to reduce the monitoring frequency for these parameters."

Permit No. GA0047180
Issuance Date: 05/28/2021

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

In accordance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the State Act; the Federal Water Pollution Control Act, as amended (33 U.S. C. 1251 et seq.), hereinafter called the Federal Act; and the Rules and Regulations promulgated pursuant to each of these Acts,

City of Hinesville
115 Martin Luther King Jr. Drive
Hinesville, Georgia 31313

is authorized to discharge from a facility located at

Fort Stewart
Water Pollution Control Plant
Hero Road
Fort Stewart, Georgia 31314
(Liberty County)

to receiving waters

Unnamed Tributary of Taylors Creek
(Ogeechee River Basin)

in accordance with effluent limitations, monitoring requirements and other conditions set forth in the permit.

This permit is issued in reliance upon the permit application signed on May 16, 2018, any other applications upon which this permit is based, supporting data entered therein or attached thereto, and any subsequent submittal of supporting data.

This permit shall become effective on June 1, 2021.

This permit and the authorization to discharge shall expire at midnight, May 31, 2026.

STATE OF GEORGIA
CONSTITUTION
WISDOM
JUSTICE
MODERATION
1776

Director,
Environmental Protection Division

PART I

EPD is the Environmental Protection Division of the Department of Natural Resources.

The Federal Act referred to is The Clean Water Act.

The State Act referred to is The Water Quality Control Act (Act No. 870).

The State Rules referred to are The Rules and Regulations for Water Quality Control (Chapter 391-3-6).

A. SPECIAL CONDITIONS

1. SLUDGE DISPOSAL REQUIREMENTS

Sludge shall be disposed of according to the regulations and guidelines established by the EPD and the Federal Act section 405(d) and (e), and the Resource Conservation and Recovery Act (RCRA). In land applying nonhazardous municipal sewage sludge, the permittee shall comply with the general criteria outlined in the most current version of the EPD "Guidelines for Land Application of Sewage Sludge (Biosolids) at Agronomic Rates" and with the State Rules, Chapter 391-3-6-.17. Before disposing of municipal sewage sludge by land application or any method other than co-disposal in a permitted sanitary landfill, the permittee shall submit a sludge management plan to EPD for written approval. This plan will become a part of the NPDES Permit after approval and modification of the permit. The permittee shall notify the EPD of any changes planned in an approved sludge management plan.

If an applicable management practice or numerical limitation for pollutants in sewage sludge is promulgated under Section 405(d) of the Federal Act after approval of the plan, then the plan shall be modified to conform with the new regulations.

2. SLUDGE MONITORING REQUIREMENTS

The permittee shall develop and implement procedures to ensure adequate year-round sludge disposal. The permittee shall monitor and maintain records documenting the quantity of sludge removed from the facility. Records shall be maintained documenting that the quantity of solids removed from the facility equals the solids generated on an average day. The total quantity of sludge removed from the facility during the reporting period shall be reported each month with the Discharge Monitoring Reports as required under Part I.C.2. of this permit. The quantity shall be reported on a dry weight basis (dry tons).

3. INTRODUCTION OF POLLUTANTS INTO THE PUBLICLY OWNED TREATMENT WORKS (POTW)

The permittee must notify EPD of:

a. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the Federal Act if the pollutants were directly discharged to a receiving stream; and

b. Any substantial change in the volume or character of pollutants from a source that existed when the permit was issued.

This notice shall include information on the quality and quantity of the indirect discharge introduced and any anticipated impact on the quantity or quality of effluent to be discharged from the POTW.

4. EFFLUENT TOXICITY AND BIOMONITORING REQUIREMENTS

The permittee shall comply with effluent standards or prohibitions established by section 307(a) of the Federal Act and with Chapter 391-3-6-.03(5)(e) of the State Rules and may not discharge toxic pollutants in concentrations or combinations that are harmful to humans, animals, or aquatic life.

If toxicity is suspected in the effluent, the EPD may require the permittee to perform any of the following actions:

a. Acute biomonitoring tests;

b. Chronic biomonitoring tests;

c. Stream studies;

d. Priority pollutant analyses;

e. Toxicity reduction evaluations (TRE); or

f. Any other appropriate study.

The EPD will specify the requirements and methodologies for performing any of these tests or studies. Unless other concentrations are specified by the EPD, the critical concentration used to determine toxicity in biomonitoring tests will be the effluent instream wastewater concentration (IWC) based on the permitted monthly average flow of the facility and the critical low flow of the receiving stream (7Q10). The endpoints that will be reported are the effluent concentration that is lethal to 50% of the test organisms (LC50) if the test is for acute toxicity and the no observed effect concentration (NOEC) of effluent if the test is for chronic toxicity.

The permittee must eliminate effluent toxicity and supply the EPD with data and evidence to confirm toxicity elimination.

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Unnamed Tributary of Taylors Creek - Outfall #001 (31.884448°, -81.607261°):

a. The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below starting on the effective date of the permit and continuing for 24 months:

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD) (1)	7.15	8.94	Seven Days/Week	Continuous Recording	Influent or Effluent
Carbonaceous Five-Day Biochemical Oxygen Demand (1, 2)	5.0 (136)	7.5 (170)	Five Days/Week	Composite	Influent & Effluent
Total Suspended Solids (1)	10 (271)	15 (339)	Five Days/Week	Composite	Influent & Effluent
Ammonia, as N (1, 3)	0.47 (12.7)	0.71 (15.9)	Five Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100 mL)	200	400	Three Days/Week	Grab	Effluent
Total Recoverable Copper (µg/L)	8 (0.219)	10 (0.271)	One Day/Month	Composite	Effluent

(1) Ammonia, carbonaceous five-day biochemical oxygen demand, and flow must be analyzed or calculated from the same sample.
(2) Numeric limits only apply to the effluent.
(3) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen must be analyzed or calculated from the same sample. Organic nitrogen, as N = total Kjeldahl nitrogen – ammonia, as N.

(Effluent limitations continued on the next page)

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

Discharge to Unnamed Tributary of Taylors Creek - Outfall #001 (31.884448°, -81.607261°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Five-Day Carbonaceous Biochemical Oxygen Demand Removal, Minimum (%) [(1)]	85	See Below	See Below	See Below
Total Suspended Solids Removal, Minimum (%) [(1)]	85	See Below	See Below	See Below
pH, (Standard Unit), Daily Minimum – Daily Maximum	6.0 – 8.0	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum [(2)]	0.011	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Daily Minimum	6.0	Seven Days/Week	Grab	Effluent
Ultimate Oxygen Demand (lbs/day) [(3)]	1,165	See Below	Calculated	Effluent
Total Phosphorus, as P [(4)]	Report	One Day/Month	Composite	Effluent
Orthophosphate, as P [(4)]	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N [(5)]	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N [(5)]	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N [(5)]	Report	One Day/Month	Composite	Effluent
Total Recoverable Lead (µg/L) [(6)]	Report	One Day/Month	Composite	Effluent
Total Recoverable Mercury (ng/L) [(6)]	Report	One Day/Quarter	Composite	Effluent
Chronic Whole Effluent Toxicity (%) [(7)]	Report NOEC	Annually	Composite	Effluent

(1) Percent removal shall be calculated from monthly average influent and effluent concentrations. Influent and effluent samples shall be collected at approximately the same time.

(2) Monitoring requirements and effluent limitation for Total Residual Chlorine (TRC) only apply when chlorine is in use at the facility. The permittee must use the appropriate No Data Indicator (NODI) code on the discharge monitoring reports when TRC monitoring is not required. If the treatment process needs to be upgraded to meet the TRC limit, the permittee must submit a design development report and plans and specifications to EPD for review and approval prior to construction.

(3) The combined UOD limit with JV Road WRF (GA0050301) only applies on the date JV Road WRF receives written authorization to operate from EPD. The UOD load from Fort Stewart WPCP will be determined as follows:

$$UOD = Q \times 8.34 \times [3 \times CBOD5 + 4.57 \times NH3]$$

(4) Total phosphorus and orthophosphate must be analyzed from the same sample.

(5) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen (TKN) must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N.

(6) Refer to Part I.C.9. TOTAL RECOVERABLE LEAD AND MERCURY COMPLIANCE SCHEDULE

(7) Refer to Part I.C.10. CHRONIC WHOLE EFFLUENT TOXICITY

(Monitoring requirements continued on the next page)

b. The monthly average, other than for fecal coliform bacteria, is the arithmetic mean of values obtained for samples collected during a calendar month.

c. The weekly average, other than for fecal coliform bacteria, is the arithmetic mean of values obtained for samples collected during a 7-day period. The week begins 12:00 midnight Saturday and ends at 12:00 midnight the following Saturday. To define a different starting time for the sampling period, the permittee must notify the EPD in writing. For reporting required by Part I.D.1. of this permit, a week that starts in one month and ends in another month shall be considered part of the second month. The permittee may calculate and report the weekly average as a 7-day moving average.

d. Fecal coliform bacteria will be reported as the geometric mean of the values for the samples collected during the time periods in I.B.1.b. and I.B.1.c.

e. Influent monitoring: Unless otherwise specified, influent samples shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.

f. Effluent monitoring: Unless otherwise specified, effluent samples shall be collected after the final treatment process and before discharge to receiving waters.

g. A composite sample shall consist of a minimum of 13 subsamples collected at least once every 2 hours for at least 24 hours and shall be composited proportionately to flow.

h. Flow measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If instantaneous measurements are required, then the permittee shall have a primary flow measuring device that is correctly installed and maintained. If continuous recording measurements are required, then flow measurements must be made using continuous recording equipment. Calibration shall be maintained of the continuous recording instrumentation to ± 10% of the actual flow.

Flow shall be measured manually to check the flow meter calibration at a frequency of once a month. If secondary flow instruments are in use and malfunction or fail to maintain calibration as required, the flow shall be computed from manual measurements or by other method(s) approved by EPD until such time as the secondary flow instrument is repaired. For facilities which utilize alternate technologies for measuring flow, the flow measurement device must be calibrated semi-annually by qualified personnel.

Records of the calibration checks shall be maintained.

i. If secondary flow instruments malfunction or fail to maintain calibration as required in I.B.1.h., the flow shall be computed from manual measurements taken at the times specified for the collection of composite samples.

j. Some parameters will be reported as "not detected" when they are below the detection limit and will then be considered in compliance with the effluent limit. The detection limit will also be reported.

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Unnamed Tributary of Taylors Creek - Outfall #001 (31.884448°, -81.607261°):

a. The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below starting 24 months from the effective date of the permit:

Parameters	Discharge limitations in mg/L (kg/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD) [1]	7.15	8.94	Seven Days/Week	Continuous Recording	Influent or Effluent
Carbonaceous Five-Day Biochemical Oxygen Demand [1, 2]	5.0 (136)	7.5 (170)	Five Days/Week	Composite	Influent & Effluent
Total Suspended Solids [1]	10 (542)	15 (678)	Five Days/Week	Composite	Influent & Effluent
Ammonia, as N [1, 3]	0.47 (12.7)	0.71 (15.9)	Five Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100 mL)	200	400	Three Days/Week	Grab	Effluent
Total Recoverable Lead (µg/L) [4]	Report (0.04)	Report (0.05)	One Day/Month	Composite	Effluent
Total Recoverable Copper (µg/L)	8 (0.219)	10 (0.271)	One Day/Month	Composite	Effluent
Total Recoverable Mercury (ng/L) [4]	Report (0.0004)	Report (0.0005)	One Day/Quarter	Composite	Effluent

[1] Ammonia, carbonaceous five-day biochemical oxygen demand, and flow must be analyzed or calculated from the same sample.
[2] Numeric limits only apply to the effluent.
[3] Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen must be analyzed or calculated from the same sample. Organic nitrogen, as N = total Kjeldahl nitrogen – ammonia, as N.
[4] Refer to Part I.C.9. TOTAL RECOVERABLE LEAD AND MERCURY COMPLIANCE SCHEDULE

(Effluent limitations continued on the next page)

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

Discharge to Unnamed Tributary of Taylors Creek - Outfall #001 (31.884448°, -81.607261°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Five-Day Carbonaceous Biochemical Oxygen Demand Removal, Minimum (%) (1)	85	See Below	See Below	See Below
Total Suspended Solids Removal, Minimum (%) (1)	85	See Below	See Below	See Below
pH, (Standard Unit), Daily Minimum – Daily Maximum	6.0 – 8.0	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum (2)	0.011	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Daily Minimum	6.0	Seven Days/Week	Grab	Effluent
Ultimate Oxygen Demand (lbs/day) (3)	1,165	See Below	Calculated	Effluent
Total Phosphorus, as P (4)	Report	One Day/Month	Composite	Effluent
Orthophosphate, as P (4)	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N (5)	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N (5)	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N (5)	Report	One Day/Month	Composite	Effluent
Chronic Whole Effluent Toxicity (%) (6)	Report NOEC	Annually	Composite	Effluent

(1) Percent removal shall be calculated from monthly average influent and effluent concentrations. Influent and effluent samples shall be collected at approximately the same time.

(2) Monitoring requirements and effluent limitation for Total Residual Chlorine (TRC) only apply when chlorine is in use at the facility. The permittee must use the appropriate No Data Indicator (NODI) code on the discharge monitoring reports when TRC monitoring is not required. If the treatment process needs to be upgraded to meet the TRC limit, the permittee must submit a design development report and plans and specifications to EPD for review and approval prior to construction.

(3) The UOD limit is applicable upon the start of discharges from the associated facility JV Road WRF (GA0050301) into Taylors Creek. The combined UOD limit is applicable upon the start of discharges from the associated facility JV Road WRF into Taylors Creek. The UOD load from Fort Stewart WPCP will be determined as follows:

$$UOD = Q \times 8.34 \times [3 \times CBOD5 + 4.57 \times NH3]$$

(4) Total phosphorus and orthophosphate must be analyzed from the same sample.

(5) Ammonia, organic nitrogen, nitrate-nitrite, and total Kjeldahl nitrogen must be analyzed or calculated from the same sample. Organic nitrogen, as N = TKN – ammonia, as N.

(6) Refer to Part I.C.10. CHRONIC WHOLE EFFLUENT TOXICITY

(Monitoring requirements continued on the next page)

b. The monthly average, other than for fecal coliform bacteria, is the arithmetic mean of values obtained for samples collected during a calendar month.

c. The weekly average, other than for fecal coliform bacteria, is the arithmetic mean of values obtained for samples collected during a 7-day period. The week begins 12:00 midnight Saturday and ends at 12:00 midnight the following Saturday. To define a different starting time for the sampling period, the permittee must notify the EPD in writing. For reporting required by Part I.D.1. of this permit, a week that starts in one month and ends in another month shall be considered part of the second month. The permittee may calculate and report the weekly average as a 7-day moving average.

d. Fecal coliform bacteria will be reported as the geometric mean of the values for the samples collected during the time periods in I.B.2.b. and I.B.2.c.

e. Influent monitoring: Unless otherwise specified, influent samples shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.

f. Effluent monitoring: Unless otherwise specified, effluent samples shall be collected after the final treatment process and before discharge to receiving waters.

g. A composite sample shall consist of a minimum of 13 subsamples collected at least once every 2 hours for at least 24 hours and shall be composited proportionately to flow.

h. Flow measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If instantaneous measurements are required, then the permittee shall have a primary flow measuring device that is correctly installed and maintained. If continuous recording measurements are required, then flow measurements must be made using continuous recording equipment. Calibration shall be maintained of the continuous recording instrumentation to ± 10% of the actual flow.

Flow shall be measured manually to check the flow meter calibration at a frequency of once a month. If secondary flow instruments are in use and malfunction or fail to maintain calibration as required, the flow shall be computed from manual measurements or by other method(s) approved by EPD until such time as the secondary flow instrument is repaired. For facilities which utilize alternate technologies for measuring flow, the flow measurement device must be calibrated semi-annually by qualified personnel.

Records of the calibration checks shall be maintained.

i. If secondary flow instruments malfunction or fail to maintain calibration as required in I.B.2.h., the flow shall be computed from manual measurements taken at the times specified for the collection of composite samples.

j. Some parameters will be reported as "not detected" when they are below the detection limit and will then be considered in compliance with the effluent limit. The detection limit will also be reported.

C. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

Samples and measurements of the monitored waste shall represent the volume and nature of the waste stream. The permittee shall maintain a written sampling and monitoring schedule.

2. SAMPLING PERIOD

a. Unless otherwise specified in this permit, quarterly samples shall be taken during the periods January-March, April-June, July-September, and October-December.

b. Unless otherwise specified in this permit, semiannual samples shall be taken during the periods January-June and July-December.

c. Unless otherwise specified in this permit, annual samples shall be taken during the period of January-December.

3. MONITORING PROCEDURES

All analytical methods, sample containers, sample preservation techniques, and sample holding times must be consistent with the techniques and methods listed in 40 CFR Part 136. The analytical method used shall be sufficiently sensitive. EPA-approved methods must be applicable to the concentration ranges of the NPDES permit samples.

4. RECORDING OF RESULTS

For each required parameter analyzed, the permittee shall record:

a. The exact place, date, and time of sampling, and the person(s) collecting the sample. For flow proportioned composite samples, this shall include the instantaneous flow and the corresponding volume of each sample aliquot, and other information relevant to document flow proportioning of composite samples;

b. The dates and times the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical procedures or methods used; and

e. The results of all required analyses.

5. ADDITIONAL MONITORING BY PERMITTEE

If the permittee monitors required parameters at the locations designated in I.B. more frequently than required, the permittee shall analyze all samples using approved analytical methods specified in I.C.3. The results of this additional monitoring shall be included in calculating and reporting the values on the Discharge Monitoring Report forms. The permittee shall indicate the monitoring frequency on the report. The EPD may require in writing more frequent monitoring, or monitoring of other pollutants not specified in this permit.

6. RECORDS RETENTION

The permittee shall retain records of:

a. All laboratory analyses performed including sample data, quality control data, and standard curves;

b. Calibration and maintenance records of laboratory instruments;

c. Calibration and maintenance records and recordings from continuous recording instruments;

d. Process control monitoring records;

e. Facility operation and maintenance records;

f. Copies of all reports required by this permit;

g. All data and information used to complete the permit application; and

h. All monitoring data related to sludge use and disposal.

These records shall be kept for at least three years. Sludge handling records must be kept for at least five years. Either period may be extended by EPD written notification.

7. PENALTIES

Both the Federal and State Acts provide that any person who falsifies or tampers with any monitoring device or method required under this permit, or who makes any false statement, representation, or certification in any record submitted or required by this permit shall, if convicted, be punished by a fine or by imprisonment or by both. The Acts include procedures for imposing civil penalties for violations or for negligent or intentional failure or refusal to comply with any final or emergency order of the Director of the EPD.

8. WATERSHED PROTECTION PLAN

The permittee has a Watershed Protection Plan that has been approved by EPD. The permittee's approved Watershed Protection Plan shall be enforceable through this permit.

Each June 30th the permittee is to submit the following to EPD:

a. An annual certification statement documenting that the plan is being implemented as approved. The certification statement shall read as follows: "I certify, under penalty of law, that the Watershed Protection Plan is being implemented. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

b. All Watershed Plan data collected during the previous year in an electronic format. This data shall be archived using a digital format such as a spreadsheet developed in coordination with EPD. All archived records, data, and information pertaining to the Watershed Protection Plan shall be maintained permanently.

c. A progress report that provides a summary of the BMPs that have been implemented and documented water quality improvements. The progress report shall also include any necessary changes to the Watershed Protection Plan.

The report and other information shall be submitted to EPD at the address below:

Environmental Protection Division
Watershed Planning and Monitoring Program
2 Martin Luther King Jr. Drive SE
Suite 1152 East
Atlanta, Georgia 30334

9. TOTAL RECOVERABLE LEAD AND MERCURY COMPLIANCE SCHEDULE

The permittee shall comply with the total recoverable lead and mercury effluent limitations in Part I.B.2. of this permit in accordance with the following schedule:

a. Within 9 months of the effective date of the permit, the permittee shall submit a design development report (DDR) to EPD for any modifications needed at the facility that will allow the facility to meet the total recoverable lead and total recoverable mercury effluent limitations in Part I.B.2. of this permit.

b. Within 15 months of the effective date of the permit, the permittee shall submit plans and specifications for any modifications needed at the facility that will allow it to meet the total recoverable lead and total recoverable mercury effluent limitations in Part I.B.2. of this permit.

c. Within 24 months of the effective date of the permit, the permittee shall comply with the total recoverable lead and total recoverable mercury effluent limitations in Part I.B.2. of this permit.

If at any time during the compliance schedule the permittee believes that the facility will be able to consistently meet the total recoverable lead and total recoverable mercury effluent limitations without having to make any plant modifications, then the permittee may choose to write a letter to EPD stating this. The letter needs to include data supporting the permittee's position. Upon written notification by EPD, the permittee may be excused from completing any remaining items in the above compliance schedule. However, the permittee will also be subject to the total recoverable lead and total recoverable mercury effluent limitations from the date of EPD's letter and any future exceedance of those total recoverable lead and total recoverable mercury effluent limitations in Part I.B.2. will be considered to be a permit violation. If the permittee does not receive written notification from EPD releasing it from the compliance schedule, then the permittee is required to complete all items in the schedule by the dates indicated and will be required to attain compliance with the total recoverable lead and total recoverable mercury effluent limitations in Part I.B.2. within 24 months of the effective date of the permit. All documents shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1152 East
Atlanta, Georgia 30334

The permittee may request that total recoverable lead and/or total recoverable mercury monitoring frequency be reduced to once a quarter and once every six months, respectively if these parameters have not been detected for a period of at least 12 consecutive months. The permittee must submit monitoring data along with the request to justify the reduction in monitoring frequency. Upon review of the data, EPD may modify the permit to reduce the monitoring frequency for these parameters. All documents shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1152 East
Atlanta, Georgia 30334

10. CHRONIC WHOLE EFFLUENT TOXICITY (WET)

The permittee must conduct annual chronic Whole Effluent Toxicity (WET) tests. The testing must be conducted in accordance with the most current U.S. Environmental Protection Agency (EPA) chronic aquatic toxicity testing manuals. The referenced document is entitled Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, U.S. EPA, 821-R-02-013, October 2002. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e., *Ceriodaphnia dubia*) and a vertebrate species (i.e., *Pimephales promelas*). The testing must include a dilution equal to the facility's instream wastewater concentration (IWC) of 99%.

The results of the tests shall be submitted to EPD with the permittee's monthly Discharge Monitoring Reports. EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 99%. If the test results indicate effluent toxicity, the permittee may be required to perform additional tests or studies in accordance with Part I.C.5 of the permit and/or the permit may be modified to include a chronic WET limit.

D. REPORTING REQUIREMENTS

1. The permittee must electronically report the DMR, OMR and additional monitoring data using the web based electronic NetDMR reporting system, unless a waiver is granted by EPD.

   a. The permittee must comply with the Federal National Pollutant Discharge Elimination System Electronic Reporting regulations in 40 CFR §127. The permittee must electronically report the DMR, OMR, and additional monitoring data using the web based electronic NetDMR reporting system online at: https://netdmr.epa.gov/netdmr/public/home.htm

   b. Monitoring results obtained during the calendar month shall be summarized for each month and reported on the DMR. The results of each sampling event shall be reported on the OMR and submitted as an attachment to the DMR.

   c. The permittee shall submit the DMR, OMR and additional monitoring data no later than 11:59 p.m. on the 15th day of the month following the sampling period.

   d. All other reports required herein, unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

2. **No later than December 21, 2025,** the permittee must electronically report the following compliance monitoring data and reports using the online web based electronic system approved by EPD, unless a waiver is granted by EPD:

   a. Sewage Sludge/Biosolids Annual Program Reports provided that the permittee has an approved Sewage Sludge (Biosolids) Plan;

   b. Pretreatment Program Reports provided that the permittee has an approved Industrial Pretreatment Program in this permit;

   c. Sewer Overflow/Bypass Event Reports;

   d. Noncompliance Notification;

   e. Other noncompliance; and

   f. Bypass

3. OTHER REPORTS

All other reports required in this permit not listed above in Part I.D.2 or unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

4. OTHER NONCOMPLIANCE

All instances of noncompliance not reported under Part I.B. and Part II. A. shall be reported to EPD at the time the monitoring report is submitted.

5. SIGNATORY REQUIREMENTS

All reports, certifications, data or information submitted in compliance with this permit or requested by EPD must be signed and certified as follows:

a. Any State or NPDES Permit Application form submitted to the EPD shall be signed as follows in accordance with the Federal Regulations, 40 C.F.R. 122.22:

i. For a corporation, by a responsible corporate officer. A responsible corporate officer means:

1) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or

2) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

ii. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

iii. For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official.

b. All other reports or requests for information required by the permit issuing authority shall be signed by a person designated in (a) above or a duly authorized representative of such person, if:

i. The representative so authorized is responsible for the overall operation of the facility from which the discharge originates, e.g., a plant manager, superintendent or person of equivalent responsibility;

ii. The authorization is made in writing by the person designated under (a) above; and

iii. The written authorization is submitted to the Director.

c. Any changes in written authorization submitted to the permitting authority under (b) above which occur after the issuance of a permit shall be reported to the permitting authority by submitting a copy of a new written authorization which meets the requirements of (b) and (b.1) and (b.2) above.

d. Any person signing any document under (a) or (b) above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

PART II

A. MANAGEMENT REQUIREMENTS

1. PROPER OPERATION AND MAINTENANCE

The permittee shall properly maintain and operate efficiently all treatment or control facilities and related equipment installed or used by the permittee to achieve compliance with this permit. Efficient operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. Back-up or auxiliary facilities or similar systems shall be operated only when necessary to achieve permit compliance.

2. PLANNED CHANGE

Any anticipated facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants requires the submission of a new NPDES permit application. If the changes will not violate the permit effluent limitations, the permittee may notify EPD without submitting an application. The permit may then be modified to specify and limit any pollutants not previously limited.

3. TWENTY-FOUR HOUR REPORTING

If, for any reason the permittee does not comply with, or will be unable to comply with any effluent limitations specified in the permittee's NPDES permit, the permittee shall provide EPD with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

a. A description of the noncompliance and its cause; and

b. The period of noncompliance, including the exact date and times; or, if not corrected, the anticipated time the noncompliance is expected to continue; and

c. The steps taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

4. ANTICIPATED NONCOMPLIANCE NOTIFICATION

The permittee shall give written notice to the EPD at least 10 days before:

a. Any planned changes in the permitted facility; or

b. Any activity which may result in noncompliance with the permit.

5. OTHER NONCOMPLIANCE

The permittee must report all instances of noncompliance not reported under other specific reporting requirements, at the time monitoring reports are submitted. The reports shall contain the information required under conditions of twenty-four hour reporting.

6. OPERATOR CERTIFICATION REQUIREMENTS

The person responsible for the daily operation of the facility must be a Class I Certified Operator in compliance with the Georgia State Board of Examiners for Certification of Water and Wastewater Plant Operators and Laboratory Analysts Act, as amended, and as specified by Subparagraph 391-3-6-.12 of the Rules and Regulations for Water Quality Control. All other operators must have the minimum certification required by this Act.

7. LABORATORY ANALYST CERTIFICATION REQUIREMENTS

Laboratory Analysts must be certified in compliance with the Georgia State Board of Examiners for Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act, as amended.

8. BYPASSING

Any diversion of wastewater from or bypassing of wastewater around the permitted treatment works is prohibited, except if:

a. Bypassing is unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There are no feasible alternatives to bypassing; and

c. The permittee notifies the EPD at least 10 days before the date of the bypass.

Feasible alternatives to bypassing include use of auxiliary treatment facilities and retention of untreated waste. The permittee must take all possible measures to prevent bypassing during routine preventative maintenance by installing adequate back-up equipment.

The permittee shall operate the facility and the sewer system to minimize discharge of pollutants from combined sewer overflows or bypasses and may be required by the EPD to submit a plan and schedule to reduce bypasses, overflows, and infiltration.

Any unplanned bypass must be reported following the requirements for noncompliance notification specified in II.A.3. The permittee may be liable for any water quality violations that occur as a result of bypassing the facility.

9. POWER FAILURES

If the primary source of power to this water pollution control facility is reduced or lost, the permittee shall use an alternative source of power to reduce or control all discharges to maintain permit compliance.

10. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge disposal which might adversely affect human health or the environment.

11. NOTICE CONCERNING ENDANGERING WATERS OF THE STATE

Whenever, because of an accident or otherwise, any toxic or taste and color producing substance, or any other substance which would endanger downstream users of the waters of the State or would damage property, is discharged into such waters, or is so placed that it might flow, be washed, or fall into them, it shall be the duty of the person in charge of such substances at the time to forthwith notify EPD in person or by telephone of the location and nature of the danger, and it shall be such person's further duty to immediately take all reasonable and necessary steps to prevent injury to property and downstream users of said water.

Spills and Major Spills:

A "spill" is any discharge of raw sewage by a Publicly Owned Treatment Works (POTW) to the waters of the State.

A "major spill" means:

a. The discharge of pollutants into waters of the State by a POTW that exceeds the weekly average permitted effluent limit for biochemical oxygen demand (5-day) or total suspended solids by 50 percent or greater in one day, provided that the effluent discharge concentration is equal to or greater than 25 mg/L for biochemical oxygen demand or total suspended solids.

b. Any discharge of raw sewage that 1) exceeds 10,000 gallons or 2) results in water quality violations in the waters of the State.

"Consistently exceeding effluent limitation" means a POTW exceeding the 30 day average limit for biochemical oxygen demand or total suspended solids for at least five days out of each seven day period during a total period of 180 consecutive days.

The following specific requirements shall apply to POTW's. If a spill or major spill occurs, the owner of a POTW shall immediately:

c. Notify EPD, in person or by telephone, when a spill or major spill occurs in the system.

d. Report the incident to the local health department(s) for the area affected by the incident. The report at a minimum shall include the following:

i. Date of the spill or major spill;

ii. Location and cause of the spill or major spill;

iii. Estimated volume discharged and name of receiving waters; and

iv. Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill.

e. Post a notice as close as possible to where the spill or major spill occurred and where the spill entered State waters and also post additional notices along portions of the waterway affected by the incident (i.e. bridge crossings, boat ramps, recreational areas, and other points of public access to the affected waterway). The notice at a minimum shall include the same information required in 11(b)(1-4) above. These notices shall remain in place for a minimum of seven days after the spill or major spill has ceased.

f. Within 24 hours of becoming aware of a spill or major spill, the owner of a POTW shall report the incident to the local media (television, radio, and print media). The report shall include the same information required in 11(b)(1-4) above.

g. Within 5 days (of the date of the spill or major spill), the owner of a POTW shall submit to EPD a written report which includes the same information required in 11(b)(1-4) above.

h. Within 7 days (after the date of a major spill), the owner of a POTW responsible for the major spill, shall publish a notice in the largest legal organ of the County where the incident occurred. The notice shall include the same information required in 11(b)(1-4) above.

i. The owner of a POTW shall immediately establish a monitoring program of the receiving waters affected by a major spill or by consistently exceeding an effluent limit, with such monitoring being at the expense of the POTW for at least one year. The monitoring program shall include an upstream sampling point as well as sufficient downstream locations to accurately characterize the impact of the major spill or the consistent exceedance of effluent limitations described in the definition of "Consistently exceeding effluent limitation" above. As a minimum, the following parameters shall be monitored in the receiving stream:

i. Dissolved Oxygen;

ii. Fecal Coliform Bacteria;

iii. pH;

iv. Temperature; and

v. Other parameters required by the EPD.

The monitoring and reporting frequency as well as the need to monitor additional parameters, will be determined by EPD. The results of the monitoring will be provided by

the POTW owner to EPD and all downstream public agencies using the affected waters as a source of a public water supply.

j. Within 24 hours of becoming aware of a major spill, the owner of a POTW shall provide notice of a major spill to every county, municipality, or other public agency whose public water supply is within a distance of 20 miles downstream and to any others which could be potentially affected by the major spill.

12. UPSET PROVISION

Provision under 40 CFR 122.41(n)(1)-(4), regarding "Upset" shall be applicable to any civil, criminal, or administrative proceeding brought to enforce this permit.

B. RESPONSIBILITIES

1. DUTY TO COMPLY

The permittee must comply with all conditions of this permit. Any permit noncompliance is a violation of the Federal Clean Water Act, State Act, and the State Rules, and is grounds for:

a. Enforcement action;

b. Permit termination, revocation and reissuance, or modification; or

c. Denial of a permit renewal application.

2. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense of the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit.

3. INSPECTION AND ENTRY

The permittee shall allow the Director of the EPD, the Regional Administrator of EPA, and their authorized representatives, agents, or employees after they present credentials to:

a. Enter the permittee's premises where a regulated activity or facility is located, or where any records required by this permit are kept;

b. Review and copy any records required by this permit;

c. Inspect any facilities, equipment, practices, or operations regulated or required by this permit; and

d. Sample any substance or parameter at any location.

4. DUTY TO PROVIDE INFORMATION

The permittee shall furnish any information required by the EPD to determine whether cause exists to modify, revoke and reissue, or terminate this permit or to determine compliance with this permit. The permittee shall also furnish the EPD with requested copies of records required by this permit.

5. TRANSFER OF OWNERSHIP

A permit may be transferred to another person by a permittee if:

a. The permittee notifies the Director in writing at least 30 days in advance of the proposed transfer;

b. An agreement is written containing a specific date for transfer of permit responsibility including acknowledgment that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on. This agreement must be submitted to the Director at least 30 days in advance of the proposed transfer; and

c. The Director does not notify the current permittee and the new permittee within 30 days of EPD intent to modify, revoke and reissue, or terminate the permit. The Director may require that a new application be filed instead of agreeing to the transfer of the permit.

6. AVAILABILITY OF REPORTS

Except for data determined to be confidential by the Director of EPD under O.C.G.A. 12-5-26 or by the Regional Administrator of EPA under the Code of Federal Regulations, Title 40, Part 2, all reports prepared to comply with this permit shall be available for public inspection at an EPD office. Effluent data, permit applications, permittees' names and addresses, and permits shall not be considered confidential.

7. PERMIT ACTIONS

This permit may be modified, terminated, or revoked and reissued in whole or in part during its term for causes including, but not limited to:

a. Permit violations;

b. Obtaining this permit by misrepresentation or by failure to disclose all relevant facts;

c. Changing any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

d. Changes in effluent characteristics; and

e. Violations of water quality standards.

The filing of a request by the permittee for permit modification, termination, revocation and reissuance, or notification of planned changes or anticipated noncompliance does not negate any permit condition.

8. CIVIL AND CRIMINAL LIABILITY

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

9. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights of either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, or any infringement of Federal, State or local laws or regulations.

10. DUTY TO REAPPLY

The permittee shall submit an application for permit reissuance at least 180 days before the expiration date of this permit. The permittee shall not discharge after the permit expiration date. To receive authorization to discharge beyond the expiration date, the permittee shall submit the information, forms, and fees required by the EPD no later than 180 days before the expiration date.

11. CONTESTED HEARINGS

Any person aggrieved or adversely affected by any action of the Director of the EPD shall petition the Director for a hearing within 30 days of notice of the action.

12. SEVERABILITY

The provisions of this permit are severable. If any permit provision or the application of any permit provision to any circumstance is held invalid, the provision does not affect other circumstances or the remainder of this permit.

13. OTHER INFORMATION

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report form to the Director, it shall promptly submit such facts or information.

14. PREVIOUS PERMITS

All previous State wastewater permits issued to this facility, whether for construction or operation, are hereby revoked by the issuance of this permit. This action is taken to assure compliance with the Georgia Water Quality Control Act, as amended, and the Federal Clean Water Act, as amended. Receipt of the permit constitutes notice of such action. The conditions, requirements, terms and provisions of this permit authorizing discharge under the National Pollutant Discharge Elimination System govern discharges from this facility.

PART III

INDUSTRIAL PRETREATMENT PROGRAM FOR PUBLICLY OWNED TREATMENT WORKS (POTW)

1. The permittee may establish and operate an approved industrial pretreatment program.

2. If the EPD determines that the permittee is required to develop a local industrial pretreatment program, the permittee will be notified in writing. The permittee shall immediately begin development of an industrial pretreatment program and shall submit it to the EPD for approval no later than one year after the notification.

3. During the interim period between determination that a program is needed and approval of the program, all industrial pretreatment permits shall be issued by the EPD.

4. The permittee shall notify the EPD of all industrial users connected to the system or proposing to connect to the system from the date of issuance of this permit.

5. Implementation of the Pretreatment Program developed by the State can be delegated to the permittee following the fulfillment of requirements detailed in 391-3-6-.09 of the Rules and Regulations for Water Quality Control.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

The Georgia Environmental Protection Division proposes to issue an NPDES permit to the applicant identified below. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the State.

Technical Contact:

Josh Hayes, Environmental Engineer
Josh.Hayes@dnr.ga.gov
(404) 463-1834

Draft permit:

- ☐ First issuance
- ☐ Reissuance with no or minor modifications from previous permit
- ☒ Reissuance with substantial modifications from previous permit
- ☐ Modification of existing permit
- ☒ Requires EPA review
- ☒ Designated as a major (≥1MGD or approved industrial pre-treatment program)

1. FACILITY INFORMATION

1.1 NPDES Permit No.: GA0047180

1.2 Name and Address of Owner/Applicant

City of Hinesville
115 East Martin Luther King Jr. Drive
Hinesville, Georgia 31313

1.3 Name and Address of Facility

Fort Stewart Water Pollution Control Plant
Hero Road
Fort Stewart, Georgia 31314

1.4 Location and Description of the Discharge (as reported by applicant)

Outfall #	Latitude (º)	Longitude (º)	Receiving Waterbody
001	31.884448	-81.607261	Unnamed Tributary of Taylors Creek

1.5 Permitted Design Capacity

7.15 MGD

1.6 SIC Code & Description

SIC Code 4952 – Sewerage systems: Establishments primarily engaged in the collection and disposal of wastes conducted through a sewer system, including such treatment processes as may be provided.

1.7 Description of the Water Pollution Control Plant

Wastewater treatment:

The treatment process consists of screening, grit removal, biological treatment (sequencing batch reactors), post equalization, filtration, UV disinfection, and reaeration. Treated effluent is then discharged to an unnamed tributary of Taylors Creek.

Solids processing:

Solids are settled in the SBRs and pumped to aerobic digesters. Solids are then pumped to the belt press for dewatering. Waste Management picks up the solids and landfills at Superior Landfill located in Savannah, GA.

1.8 Type of Wastewater Discharge

☐	Process wastewater	☐	Stormwater
☒	Domestic wastewater	☐	Combined (Describe)
☐	Other (Describe)		

1.9 Characterization of Effluent Discharge (as reported by applicant)

Outfall No. 001:

Effluent Characteristics (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	9.15	5.90
Five-Day Biochemical Oxygen Demand (mg/L)	9.6	1.8
Total Suspended Solids (mg/L)	14	1.3
Fecal Coliform Bacteria (#/100mL)	114	2.9
Ammonia, as N (mg/L)	3.4	0.2
Total Phosphorus, as P (mg/L)	5.0	2.1

2. APPLICABLE REGULATIONS

2.1 State Regulations

Chapter 391-3-6 of the Georgia Rules and Regulations for Water Quality Control

2.2 Federal Regulations

Source	Activity	Applicable Regulation
Municipal/Domestic/POTW	Municipal/Domestic Effluent Discharge	40 CFR 122 40 CFR 125 40 CFR 127 40 CFR 133 40 CFR 136
	Non-Process Water Discharges	40 CFR 122 40 CFR 125 40 CFR 127 40 CFR 136
	Municipal/Domestic Sludge Use and Disposal	40 CFR 122 40 CFR 127 40 CFR 136 40 CFR 257 40 CFR 501 & 503

3. WATER QUALITY STANDARDS & RECEIVING WATERBODY INFORMATION

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. Federal Regulations 40 CFR 122.4(d) require that conditions in NPDES permits ensure compliance with the water quality standards which are composed of use classifications, numeric and or narrative water quality criteria and an anti-degradation policy. The use classification system designates the beneficial uses that each waterbody is expected to achieve, such as drinking water, fishing, or recreation. The numeric and narrative water quality criteria are deemed necessary to support the beneficial use classification for each water body. The antidegradation policy represents an approach to maintain and to protect various levels of water quality and uses.

3.1 Receiving Waterbody Classification and Information – Unnamed Tributary of Taylors Creek:

Specific Water Quality Criteria for Classified Water Usage [391-3-6-.03(6)]:

Fishing: Propagation of Fish, Shellfish, Game and Other Aquatic Life; secondary contact recreation in and on the water; or for any other use requiring water of a lower quality.

(i) Dissolved Oxygen: A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for water designated as trout streams by the Wildlife Resources Division. A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times for waters supporting warm water species of fish.

(ii) pH: Within the range of 6.0 - 8.5.

(iii) Bacteria:

1. For the months of May through October, when water contact recreation activities are expected to occur, fecal coliform not to exceed a geometric mean of 200 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. Should water quality and sanitary studies show fecal coliform levels from non-human sources exceed 200/100 mL (geometric mean) occasionally, then the allowable geometric mean fecal coliform shall not exceed 300 per 100 mL in lakes and reservoirs and 500 per 100 mL in free flowing freshwater streams. For the months of November through April, fecal coliform not to exceed a geometric mean of 1,000 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours and not to exceed a maximum of 4,000 per 100 mL for any sample. The State does not encourage swimming in these surface waters since a number of factors which are beyond the control of any State regulatory agency contribute to elevated levels of bacteria.

2. For waters designated as shellfish growing areas by the Georgia DNR Coastal Resources Division, the requirements will be consistent with those established by the State and Federal agencies responsible for the National Shellfish Sanitation Program. The requirements are found in National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish, 2007 Revision (or most recent version), Interstate Shellfish Sanitation Conference, U.S. Food and Drug Administration.

3. Temperature: Not to exceed 90°F. At no time is the temperature of the receiving waters to be increased more than 5°F above intake temperature except that in estuarine waters the increase will not be more than 1.5°F. In streams designated as primary trout or smallmouth bass waters by the Wildlife Resources Division, there shall be no elevation of natural stream temperatures. In streams designated as secondary trout waters, there shall be no elevation exceeding 2°F natural stream temperatures.

3.2 Ambient Information

Outfall ID	30Q3 (cfs)	7Q10 (cfs)	1Q10 (cfs)	Annual Average Flow (cfs)	Hardness (mg $CaCO_3$/L)	Upstream Total Suspended Solids (mg/L)
001	0.025	0.01	0.008	0.85	25 [(1)]	10 [(1)]

[(1)] Not available. A conservative value of 25 mg/L will be used for the reasonable potential analysis calculations.

[(2)] Not available. A conservative value of 10 mg/L will be used for the reasonable potential analysis calculations.

3.3 Georgia 305(b)/303(d) List Documents

Tributary to Taylors Creek #1	Drainage Canal to Taylors Creek, Fort Stewart	Ogeechee	Not Supporting	DO, FC	2	5	TMDLs completed Cu (2000), Pb (2000), Hg (2000). FC TMDL drafted 2020. Cause for FC is NP. Cause for DO is NP and M.
GAR030602030503	Liberty	Fishing	1	NP, M, UR	Miles	2020, 2024	

The unnamed tributary to Taylors Creek is listed on the 2020 305(b)/303(d) list as not supporting its designated use (fishing) but TMDLs have been completed for the impacted parameters (dissolved oxygen, copper, lead, and mercury).

3.4 Total Maximum Daily Loads (TMDLs)

Dissolved Oxygen:

The TMDL evaluation for 23 stream segments in the Ogeechee River Basin for dissolved oxygen was revised in 2007. The TMDL recommends a five-day biochemical oxygen demand (BOD_5), ammonia (NH_3), and dissolved oxygen (DO) effluent limits of 5 mg/L, 1 mg/L, and 6 mg/L, respectively for Fort Stewart WPCP. However, modeling in the TMDL was conducted using carbonaceous five-day biochemical oxygen demand ($CBOD_5$), not BOD_5; therefore, as long as the Ultimate Oxygen Demand ($UOD_{CBOD + NH3}$) loads established by the model in the TMDL are not exceeded, a $CBOD_5$ limit of 5.0 mg/L can be used in the permit instead of BOD_5.

The TMDL provides a $UOD_{CBOD + NH3}$ loading of 1,250.5 pounds per day for the Canoochee Creek section downstream from the confluence with Taylors Creek. This loading represents the total point source loading within the watershed including the United States Army - Fort Stewart Industrial WPCP (GA0004308), Hinesville – Fort Stewart WPCP, and the recently proposed JV Road Water Reclamation Facility (GA0050289). The Fort Stewart Industrial WPCP has a UOD load of 85.5 lbs/day; therefore, the combined UOD load for Fort Stewart WPCP and JV Road WRF cannot exceed the remaining load of 1,165 lbs/day. The $UOD_{CBOD + NH3}$ load from Fort Stewart WPCP will be determined as follows:

$$UOD = Q \times 8.34 \times [3 \times CBOD_5 + 4.57 \times NH3]$$

The proposed UOD, $CBOD_5$, NH_3, and DO limit in the draft permit meet the requirements of the 2007 TMDL.

Mercury:

In March 2005, US EPA developed the TMDL for Total Mercury Fish Tissue in the Canoochee River in the Ogeechee River Basin. The TMDL lists Fort Stewart WPCP as one of the potential point sources of total mercury. The TMDL provides a water quality target of 9.8 ng/L. Requirement to conduct a Mercury Characterization Plan, followed by a Mercury Minimization Plan if needed, was included in the permit issued on September 23, 2013. Monitoring conducted by the City showed that the mercury concentration in the effluent was consistently below the water quality target of 9.8 ng/L; therefore, the City was not required to conduct a Mercury Minimization Plan. Further monitoring is not necessary to demonstrate compliance with the 2005 TMDL.

Copper, Lead and Mercury:

In March 2000, US EPA developed the TMDL for Copper, Lead, and Mercury in Taylors Creek in the Ogeechee River Basin. The TMDL lists Fort Stewart WPCP as the only potential point sources of Copper, Lead, and Mercury. The TMDL includes a Copper, Lead, and Mercury wasteload allocation for the Fort Stewart WPCP of 0.219 kg/day, 0.04 kg/day, and 0.0004 kg/day, respectively. The copper, lead, and mercury limits in the draft permit meets the TMDL requirements.

3.5 Wasteload Allocation (WLA)

The WLA for reissuance was issued on May 1, 2018. The associated WLA for the combined UOD loading for Fort Stewart WPCP and JV Road WRF was issued on August 16, 2018. Refer to *Appendix A* of the Fact Sheet for a copy of the WLAs.

4. PERMIT CONDITIONS AND EFFLUENT LIMITATIONS

4.1 Water Quality Based Effluent Limitations (WQBELs) & Technology Based Effluent Limits (TBELS)

When drafting a National Pollutant Discharge Elimination System (NPDES) permit, a permit writer must consider the impact of the proposed pollutants in a discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state water quality criteria or standards. By analyzing the effect of a pollutant in the discharge on the receiving water, a permit writer could find that technology-based effluent limitations (TBELs) alone will not achieve the applicable water quality standards or protect downstream users. In such cases, the Clean Water Act (CWA) and its implementing regulations require development of water quality-based effluent limitations (WQBELs). WQBELs help meet the CWA objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters and the goal of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water (fishable/swimmable).

WQBELs are designed to protect water quality by ensuring water quality standards are met in the receiving water and the designated use and downstream uses are protected. On the basis of the requirements of 40 C.F.R §125.3(a), additional or more stringent effluent limitations and conditions, such as WQBELs, are imposed when TBELs are not sufficient to protect water quality.

TBELs aim to prevent pollution by requiring a minimum level of effluent quality that is attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the State. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and WQBELs. The NPDES regulations at 40 C.F.R. §125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA section 301(b), that represent the minimum level of control that must be imposed in a permit. The regulation also requires permit writers to include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality.

40 CFR Part §122.44(a)(1) requires that NPDES permits include applicable technology-based limitations and standards, while regulations at § 125.3(a)(1) state that TBELs for publicly owned treatment works must be based on secondary treatment standards and the "equivalent to secondary treatment standards" (40 CFR Part 133). The regulation applies to all POTWs and identifies the technology-based performance standards achievable based on secondary treatment for five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

The table below shows the secondary treatment standards:

Parameter	**Secondary Treatment Standards**	
	30-day Average	*7-day Average*
BOD_5	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
BOD_5 and TSS removal (concentration)	≥ 85%	--
pH (Daily Minimum – Daily Maximum)	6.0-9.0 S.U.	

4.2 Reasonable Potential Analysis (RPA)

EPA regulations at 40 C.F.R. §122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will *cause*, have the *reasonable potential to cause*, or *contribute* to an excursion above any [s]tate water quality standard, including [s]tate narrative criteria for water quality." [emphasis added]

EPA regulations at 40 C.F.R. §122.44(d)(1)(ii) require States to develop procedures for determining whether a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative or numeric criterion within a state water. If such reasonable potential is determined to exist, the NPDES permit must contain pollutant effluent limits and/or effluent limits for whole effluent toxicity. Georgia has reasonable potential procedures, based upon the specific category of pollutants and/or specific pollutant of concern. Chemical specific and biomonitoring data and other pertinent information in EPD's files will be considered in accordance with the review procedures specified in the GA Rules and Regulations for Water Quality Control, Chapter 391-3-6 in the evaluation of a permit application and in the evaluation of the reasonable potential for a discharge to cause an exceedance in the numeric or narrative criteria.

The term "pollutant" is defined in CWA section 502(6) and 40 C.F.R. §122.2. Pollutants are grouped into three categories under the NPDES program: conventional, toxic, and nonconventional. Conventional pollutants are those defined in CWA section 304(a)(4) and 40 C.F.R.§401.16 (five day-biochemical oxygen demand (BOD_5), total suspended solids (TSS), fecal coliform, pH, and oil and grease). Toxic (priority) pollutants are those defined in CWA section 307(a)(1) and include 126 metals and manmade organic compounds. Nonconventional pollutants are those that do not fall under either of the above categories (conventional or toxic pollutants) and include parameters such as, but not limited to,

chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

EPD evaluates the data provided in the application and supporting documents. If a pollutant is listed in the following sections of this fact sheet below, the permit writer determined the pollutant is a pollutant of concern and there may be a reasonable potential to cause or contribute to an instream violation of the Georgia water quality standards. If a pollutant is not listed below, EPD determined the pollutant is not a pollutant of concern or has determined, based on the data provided in the application, there is no reasonable potential to cause or contribute to an instream violation of the Georgia water quality standards. An example may be if the applicant reported "not detect" or "below detection limit".

Upon identification of a pollutant of concern by the permit writer, in accordance with 40 C.F.R. §122.44(d)(1)(ii), the permit writer must then perform a reasonable potential analysis using a procedure which has accounted for any combination of the following criteria: existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water to determine if the pollutant and its discharge has the reasonable potential to cause, or contribute to an in-stream excursion above the allowable ambient concentration of a state narrative or numeric criteria within the state's water quality standard for an individual pollutant.

In accordance with 40 C.F.R. §122.44(d)(1)(iii), if the permit writer has determined, using a reasonable potential procedure the pollutant of concern in the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a state numeric or narrative criteria within a state water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant. If the permit writer has determined there is insufficient data, the permit writer might also consider monitoring requirements to collect the additional data related to the presence or absence of a specific pollutant to provide information for further analyses for the development of appropriate numeric or narrative standard .

The conventional, nonconventional, and toxic pollutants listed in the following sections have been identified by the permit writer as pollutants of concern and the permit writer has determined through current practices and procedures one of the following: no additional monitoring or numeric and/or narrative effluent limits are needed; additional monitoring is required; or numeric and/or narrative effluent limits are necessary to protect the receiving water body and its downstream users and those limits have been included in the permit.

The monitoring and sampling locations are prescribed in the permit and determined by the permit writer after considering, at a minimum, the following: type of discharge, specific pollutant, discharge frequency, location of the discharge, receiving waterbody, downstream users, etc.

The sample type, grab vs. composite, is prescribed in the permit and determined by the permit writer after considering, at a minimum, the analytical method required in 40 C.F.R. §136, the type of pollutant, retention time, etc. Grab samples are required for the analysis

of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including *E. coli*), or volatile organics.

4.2 Whole Effluent Toxicity (WET)

Chronic WET test measures the effect of wastewater on indicator organisms' growth, reproduction and survival. Effluent toxicity is predicted when the No Observable Effect Concentrations (NOEC) for a test organism is less than the facility's Instream Wastewater Concentration (IWC). WET testing also requires a measure of test sensitivity known as the Percent Minimum Significant Difference (PMSD). See Table below from Section 10.2.8.3 (page 52) of EPA 821-R-02-013 *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 4th Edition, 2002 for PMSD variability criteria.

TABLE 6. VARIABILITY CRITERIA (UPPER AND LOWER PMSD BOUNDS) FOR SUBLETHAL HYPOTHESIS TESTING ENDPOINTS SUBMITTED UNDER NPDES PERMITS.[1]

Test Method	Endpoint	Lower PMSD Bound	Upper PMSD Bound
Method 1000.0, Fathead Minnow Larval Survival and Growth Test	growth	12	30
Method 1002.0, *Ceriodaphnia dubia* Survival and Reproduction Test	reproduction	13	47
Method 1003.0, *Selenastrum capricornutum* Growth Test	growth	9.1	29

[1] Lower and upper PMSD bounds were determined from the 10th and 90th percentile, respectively, of PMSD data from EPA's WET Interlaboratory Variability Study (USEPA, 2001a; USEPA, 2001b).

PMSD must be calculated for each species tested as follows:

$$\text{PMSD} = \frac{\text{Minimum Significant Data (MSD)}}{\text{Control Mean}} \times 100 \quad \%$$

The effluent from the Fort Stewart WPCP will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 100%. If results of the WET tests predict toxicity or are invalid, then the permittee may be required to perform additional WET tests, or the permit may be modified to include chronic WET effluent limitations.

The permittee submitted the results of four WET tests with the application. For all tests, the NOEC for the *Ceriodaphnia dubia* survival and reproduction and the *Pimephales promelas* survival and growth were greater than or equal to the IWC of 100%; therefore, the effluent is not considered toxic. Refer to WET Test results summary in the table below.

PMSD values were calculated for each set of results and compared to EPA's Variability Criteria to ensure their validity. PMSD for *Ceriodaphnia dubia* reproduction and

Pimephales promelas survival from the four WET tests were lower or within EPA's Variability Criteria; therefore, the tests are considered valid. Refer to Appendix C for PSMD values.

Test	Sample Date	No Observed Effect Concentration (NOEC)			
		Ceriodaphnia dubia		*Pimephales promelas*	
		Survival (%)	Reproduction (%)	Survival (%)	Growth (%)
1	2017	100	100	100	100
2	2018	100	100	100	100
3	2019	100	100	100	100
4	2020	100	100	100	100

EPD is including annual WET monitoring for all facilities with a permitted discharge of 1.0 MGD or greater; therefore, annual WET testing has been included in the draft permit.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. If the test results indicate effluent toxicity, the permittee may be required to perform additional WET tests or studies in accordance with Part I.C.5 of the permit and/or the permit may be modified to include a chronic WET limit.

4.4 Conventional Pollutants

Pollutants of Concern	Basis
pH	The instream wastewater concentration (IWC) is 100%. When the IWC is greater than 50%, there is reasonable potential for pH to cause or contribute to violations of the instream Georgia Water Quality Standard and pH should be limited to 6.0 – 8.5 (daily minimum and daily maximum). Additionally, since the instream ammonia toxicity criterion is pH and temperature dependent, the daily maximum pH limitation has been decreased to 8.0 S.U. to develop the reduced ammonia limit (Section 4.5). A review of the Discharge Monitoring Report indicates that the facility can meet the proposed limit; therefore, a compliance schedule has not been included in the draft permit.
Five-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	According to the steady-state dissolved oxygen Georgia DOSAG model, the proposed monthly average $CBOD_5$ limit of 5.0 mg/L, when combined with the ammonia and dissolved oxygen limits (Refer to Section 4.5), is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. The 2007 dissolved oxygen TMDL used $CBOD_5$ in the Georgia DOSAG model calibration; therefore, the $CBOD_5$ limit of 5.0 mg/L included in the draft permit is also in accordance with the TMDL requirements.
Ultimate Oxygen Demand (UOD)	The proposed combined UOD load of 1,165 lbs/day for Fort Stewart WPCP and JV Road WRF (GA0050301) is in accordance with the TMDL requirements for dissolved oxygen for Taylors Creek. The UOD load from Fort Stewart WPCP will be determined as follows: UOD = Q x 8.34 x [3 x CBOD5 + 4.57 x NH3]
Total Suspend Solids (TSS)	The facility is equipped with tertiary filters. A review of Discharge Monitoring Report data indicates that the plant is able to consistently meet the monthly average TSS limit of 10 mg/L; therefore, this technology-based limit has been maintained in the draft permit.

Pollutants of Concern	Basis
Fecal Coliform Bacteria (FCB)	In accordance with 40 C.F.R. §122.44(d)(1)(ii) of the federal regulations, EPD considers all POTWs, Private and Institutional Developments, and CSO Control Facilities, discharging all or a portion of domestic sanitary wastewater, to have the reasonable potential to cause or contribute to instream water quality standard violations for bacteria, including fecal coliform and *Escherichia coli*. EPD has determined these facilities discharge the conventional pollutant fecal coliform bacteria, wastewater treatment systems are consistently designed to treat fecal coliform bacteria, and fecal coliform bacterium are highly variable in the receiving stream after treatment. Furthermore, dilution is not considered in EPD's analysis as bacteria have the inherent ability to reproduce in the receiving stream. The monthly average limit of 200 #/100mL is in accordance with the instream Water Quality Standards (Section 3.1).

4.5 Nonconventional Pollutants

Pollutants of Concern	Basis
Total Residual Chlorine (TRC)	A daily maximum TRC limit of 0.011 mg/L has been determined using the US EPA's chronic TRC criterion of 11 µg/L in the receiving stream after dilution. Refer to Section 4.7.7 below for calculations. Chlorine is not used at the facility for disinfection. However, it is intermittently used as a back-up disinfection system; therefore, the effluent limitations and monitoring requirements are only applicable when chlorine is used at the facility.
Dissolved Oxygen (DO)	According to the steady-state dissolved oxygen Georgia DOSAG model, a minimum effluent DO of 6.0 mg/L is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.
Total Phosphorus	Total Phosphorus monitoring has been included in the draft permit in accordance with EPD permitting strategy for addressing phosphorus in state waters.
Orthophosphate, Total Kjeldahl Nitrogen (TKN), Organic Nitrogen, Nitrate-Nitrite	Orthophosphate, organic nitrogen, nitrate-nitrite, and TKN monitoring has been included in the draft permit. The data will be used to determine nutrient speciation and to quantify nutrient loadings in the Ogeechee River Basin.
Ammonia (NH_3)	The monthly average ammonia limit was decreased from 1 mg/L to 0.47 mg/L in accordance with EPD's *NPDES Permitting Strategy for Addressing Ammonia Toxicity*, 2017. A review of the Discharge Monitoring Report indicates that the facility can meet the proposed limit; therefore, a compliance schedule has not been included in the draft permit. According to the steady-state dissolved oxygen Georgia DOSAG model, the proposed monthly average ammonia limit of 0.47 mg/L, when combined with the $CBOD_5$ and dissolved oxygen limit (Refer to Section 4.5), is also protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above and meet the 2007 dissolved oxygen TMDL requirements.

4.6 Toxics & Manmade Organic Compounds

The permittee submitted the results of three Priority Pollutant Scans (PPS) with the permit application. Data from DMRs was also evaluated.

Pollutants of Concern	Basis
Total Recoverable Copper	This parameter was evaluated in accordance with the procedures provided in 391-3-6.06 of the Georgia Rules and Regulations for Water Quality Control and its instream concentration was found to be greater than the acute instream standard and 50% of the chronic instream water quality standard. Refer to *Appendix B* of the Fact Sheet for reasonable potential evaluations. In accordance with EPD reasonable potential procedures, copper is considered a pollutant of concern; therefore, a monthly and weekly average concentration-based limits of 8 µg/L and 10 ug/L, respectively, have been maintained in the draft permit. The copper limits were also expressed as monthly and weekly mass loading to be consistent with effluent limitations in NPDES permits for publicly owned treatment works. The proposed loading limit meets the 2000 TMDL requirements. Refer to Section 3.4 above for more information about the TMDL. The limit has been calculated based on an instream total hardness of 25 mg/L. The limit may be revised if updated instream hardness data becomes available.
Total Recoverable Lead	A monthly average daily loading of 0.04 kg/day has been included in the draft permit to meet the 2000 TMDL requirements. Refer to Section 3.4 above for more information about the TMDL. If the permittee demonstrates that total recoverable lead has not been detected for a period of at least 12 consecutive months the monitoring frequency can be reduced to once per quarter upon permittee's request and permit modification.

Pollutants of Concern	Basis
Total Recoverable Mercury	This parameter was evaluated in accordance with the procedures provided in 391-3-6.06 of the Georgia Rules and Regulations for Water Quality Control and its instream concentration was found to be less than 50% of the acute and chronic instream water quality standards. Refer to *Appendix B* of the Fact Sheet for reasonable potential evaluations. In accordance with the EPD reasonable potential procedures for toxicity, mercury is not considered a pollutant of concern and additional monitoring is not required. However, a monthly average daily loading of 0.0004 kg/day has been included in the draft permit to meet the 2000 TMDL requirements. Refer to Section 3.4 above for more information about the TMDL. If the permittee demonstrates that total recoverable mercury has not been detected for a period of at least 12 consecutive months the monitoring frequency can be reduced to once every six months upon permittee's request and permit modification.
Total Recoverable Zinc	This parameter was evaluated, and its instream concentration was found to be less than 50% of the acute and chronic instream water quality standards. Refer to *Appendix B* for reasonable potential evaluation. In accordance with EPD reasonable potential procedures, zinc is not considered a pollutant of concern and additional monitoring is not required.

4.7 Calculations for Effluent Limits

4.7.1 Instream Waste Concentration (IWC):

$$IWC = \frac{Q_{Effluent}\ (ft^3/sec)}{Q_{Effluent}\ (ft^3/sec) + 7Q10\ (ft^3/sec)} \quad \%$$

$$= \frac{11.09}{11.09 + 0.01}$$

$$= 100\ \%$$

Q = Flow
C = Concentration
M = Mass

4.7.2 Flow:

- *Weekly Average Flow:*

Q_{Weekly} = $Q_{Monthly}$ (MGD) x 1.25 MGD

= 7.15 x 1.25

= 8.94 MGD

4.7.3 Five-Day Carbonaceous Biochemical Oxygen Demand:

- *Weekly Average Concentration:*

$[C]_{Weekly}$ = $[C]_{Monthly}$ (mg/L) x 1.5 mg/L

= 5.0 x 1.5

= 7.5 mg/L

- *Monthly Average Mass Loading:*

$$M_{Monthly} = \frac{Q_{Monthly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)} \quad kg/day$$

$$= \frac{7.15 \times 5.0 \times 8.34}{2.2}$$

= 136 kg/day

- *Weekly Average Mass Loading:*

$$M_{Weekly} = \frac{Q_{Weekly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)} \quad kg/day$$

$$= \frac{8.94 \times 5.0 \times 8.34}{2.2}$$

= 170 kg/day

4.7.4 Total Suspended Solids:

- *Weekly Average Concentration:*

$[C]_{Weekly}$ = $[C]_{Monthly}$ (mg/L) x 1.5 mg/L

= 10 x 1.5

= 15 mg/L

- *Monthly Average Mass Loading:*

$$M_{Monthly} = \frac{Q_{Monthly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)} \quad kg/day$$

$$= \frac{7.15 \times 10 \times 8.34}{2.2}$$

$$= 271 \text{ kg/day}$$

- *Weekly Average Mass Loading:*

$$M_{Weekly} = \frac{Q_{Weekly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)} \quad kg/day$$

$$= \frac{8.94 \times 10 \times 8.34}{2.2}$$

$$= 339 \text{ kg/day}$$

4.7.5 Ammonia:

The ammonia effluent limit (monthly average) is then calculated as follows:

$$[NH_3]_{Effluent} = \frac{\left(Q_{Effluent}\,(ft^3/sec) + 30Q3\,(ft^3/sec)\right) \times CCC\,(mg/L) - 30Q3(ft^3/sec) \times [NH_3]_{Stream\,Background}\,(mg/L)}{Q_{Effluent}\,(ft^3/sec)}$$

Refer to *Appendix D* for detailed calculations.

- *Weekly Average Concentration:*

$[C]_{Weekly}$ = $[C]_{Monthly}$ (mg/L) x 1.5 mg/L

= 0.47 x 1.5

= 0.71 mg/L

- *Monthly Average Mass Loading:*

$$M_{Monthly} = \frac{Q_{Monthly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)} \quad kg/day$$

$$= \frac{7.15 \times 0.47 \times 8.34}{2.2}$$

$$= 12.7 \text{ kg/day}$$

- *Weekly Average Mass Loading:*

$$M_{Weekly} = \frac{Q_{Weekly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)} \quad kg/day$$

$$= \frac{8.94 \times 0.47 \times 8.34}{2.2}$$

$$= 15.9 \text{ kg/day}$$

4.7.6 Fecal Coliform Bacteria:

- *Weekly Average concentration:*

C_{Weekly} = $C_{Monthly}$ (#/100 mL) x 2 #/100 mL

= 200 x 2

= 400 #/100 mL

4.7.7 Total Residual Chlorine (TRC):

- *Daily Maximum Concentration:*

$$[TRC]_{Effluent} = \frac{[Q_{Effluent}\,(ft^3/sec) + 7Q10\,(ft^3/sec)] \times [TRC]_{Stream}\,(mg/L)}{Q_{Effluent}\,(ft^3/sec)} \quad mg/L$$

$$= \frac{(11.06 + 0.01) \times 0.011}{11.06}$$

$$= 0.011 \text{ mg/L}$$

4.7.7 Total Recoverable Copper:

- *Monthly Average Mass Loading:*

$$M_{Monthly} = \frac{Q_{Monthly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)} \quad kg/day$$

$$= \frac{7.15 \times 0.008 \times 8.34}{2.2}$$

$$= 0.22 \text{ kg/day}$$

- *Weekly Average Mass Loading:*

$$M_{Weekly} = \frac{Q_{Weekly}\,(MGD) \times [C]_{Monthly}\,(mg/L \text{ or } ppm) \times 8.34\,(lbs/gal)}{2.2\,(lbs/Kg)} \quad kg/day$$

$$= \frac{8.94 \times 0.008 \times 8.34}{2.2}$$

$$= 0.27 \text{ kg/day}$$

4.8 Comparison & Summary of Water Quality vs. Technology Based Effluent Limits

After determining applicable technology-based effluent limitations and water quality-based effluent limitations, the most stringent limits are applied in the permit:

Parameter	WQBELS [(1)]	TBELS [(1)]
	Monthly Average	*Monthly Average*
Five-Day Carbonaceous Biochemical Oxygen Demand (mg/L)	**5.0**	30.0
Total Suspended Solids (mg/L)	None	**10**
Ammonia (mg/L)	**0.47**	None
Fecal Coliform Bacteria (#/100 mL)	**200**	None
Dissolved Oxygen (mg/L), Daily Minimum	**6.0**	None
pH (S.U.), Daily Minimum and Daily Maximum	**6.0 – 8.0**	6.0 – 9.0
Total Recoverable Copper (µg/L)	**8.0**	None
Total Recoverable Lead (kg/day)	**0.04**	None
Total Recoverable Mercury (kg/day)	**0.0004**	None

[(1)] Effluent limits in bold were included in the permit. Refer to Sections 4.4, 4.5, 4.6, and 4.7 above for more information.

5. OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 Long-Term BOD (LTBOD) Test

For facilities with a capacity of 1.0 MGD or greater, EPD may include requirements for LTBOD tests in permits for when data is needed for water quality modeling. The permittee conducted a LTBOD test during the current permit cycle; therefore, requirements for LTBOD testing have not been included in the draft permit.

5.2 Industrial Pre-treatment Program (IPP)

Fort Stewart WPCP does not have an approved IPP; language for establishing an IPP, if necessary, has been included in the draft permit.

5.3 Sludge Management Plan (SMP)

Sludge is disposed of in a landfill (Waste Management - Superior Landfill, 3001 Little Neck Road, Savannah, Georgia 31419); therefore, a SMP is not required.

5.4 Watershed Protection Plan (WPP)

The permittee has an approved WPP; therefore language has been included in the draft permit to reflect the approved plan.

5.5 Service Delivery Strategy

The City of Hinesville is in compliance with the Department of Community Affairs approved Service Delivery Strategy for Liberty County.

5.6 Compliance Schedules

A 24-month compliance schedule to meet the new limitations for total recoverable lead and total recoverable mercury has been included in the draft permit. Based on best professional judgment, the proposed compliance schedule represents the shortest reasonable period of time to allow the permittee to upgrade the treatment process and test new equipment before the limit becomes effective. Language has also been included in the permit for the reduced limitation to become effective prior to the end of the schedule if the permittee can consistently meet the reduced limitation. All other effluent limitations are applicable immediately upon the effective date of the permit.

5.7 Anti-Backsliding

The limits in this permit are in compliance with the 40 C.F.R. 122.44(l), which requires a reissued permit to be as stringent as the previous permit.

6. REPORTING

6.1 Compliance office

The facility has been assigned to the following EPD office for reporting, compliance and enforcement:

Georgia Environmental Protection Division
Coastal District Office
400 Commerce Center Dr.
Brunswick, GA 31523

6.2 E-Reporting

The permittee is required to electronically submit documents in accordance with 40 CFR Part 127.

7. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

Not applicable

8. PERMIT EXPIRATION

The permit will expire five years from the effective date.

9. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

9.1 Comment Period

The Georgia Environmental Protection Division (EPD) proposes to issue a permit to this applicant subject to the effluent limitations and special conditions outlined above. These determinations are tentative.

The permit application, draft permit, and other information are available for review at 2 Martin Luther King Jr. Drive, Suite 1152 East, Atlanta, Georgia 30334, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday and on EPD's website accessible through the publicly available Georgia EPD Online System (GEOS) at: https://geos.epd.georgia.gov/GA/GEOS/Public/GovEnt/Shared/Pages/Main/Login.aspx. For additional information, you can contact 404-463-1511.

9.2 Public Comments

Persons wishing to comment upon or object to the proposed determinations are invited to submit same in writing to the EPD address above, or via e-mail at *EPDcomments@dnr.ga.gov* within 30 days of the initiation of the public comment period. All comments received prior to that date will be considered in the formulation of final determinations regarding the application. The permit number should be placed on the top of the first page of comments to ensure that your comments will be forwarded to the appropriate staff.

9.3 Public Hearing

Any applicant, affected state or interstate agency, the Regional Administrator of the U.S. Environmental Protection Agency (EPA) or any other interested agency, person or group of persons may request a public hearing with respect to an NPDES permit application if such request is filed within thirty (30) days following the date of the public notice for such application. Such request must indicate the interest of the party filing the request, the reasons why a hearing is requested, and those specific portions of the application or other NPDES form or information to be considered at the public hearing.

The Director shall hold a hearing if he determines that there is sufficient public interest in holding such a hearing. If a public hearing is held, notice of same shall be provided at least thirty (30) days in advance of the hearing date.

In the event that a public hearing is held, both oral and written comments will be accepted; however, for the accuracy of the record, written comments are encouraged. The Director or a designee reserves the right to fix reasonable limits on the time allowed for oral statements and such other procedural requirements, as deemed appropriate.

Following a public hearing, the Director, unless it is decided to deny the permit, may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue the permit.

If no public hearing is held, and, after review of the written comments received, the Director determines that a permit should be issued and that the determinations as set forth in the proposed permit are substantially unchanged, the permit will be issued and will become final in the absence of a request for a contested hearing. Notice of issuance or denial will be made available to all interested persons and those persons that submitted written comments to the Director on the proposed permit.

If no public hearing is held, but the Director determines, after a review of the written comments received, that a permit should be issued but that substantial changes in the proposed permit are warranted, public notice of the revised determinations will be given and written comments accepted in the same manner as the initial notice of application was given and written comments accepted pursuant to EPD Rules, Water Quality Control, subparagraph 391-3-6-.06(7)(b). The Director shall provide an opportunity for public hearing on the revised determinations. Such opportunity for public hearing and the issuance or denial of a permit thereafter shall be in accordance with the procedures as are set forth above.

9.4 Final Determination

At the time that any final permit decision is made, the Director shall issue a response to comments. The issued permit and responses to comments can be found at the following address:

http://epd.georgia.gov/watershed-protection-branch-permit-and-public-comments-clearinghouse-0

9.5 Contested Hearings

Any person who is aggrieved or adversely affected by the issuance or denial of a permit by the Director of EPD may petition the Director for a hearing if such petition is filed in the office of the Director within thirty (30) days from the date of notice of such permit issuance or denial. Such hearing shall be held in accordance with the EPD Rules, Water Quality Control, subparagraph 391-3-6-.01.

Petitions for a contested hearing must include the following:

1. The name and address of the petitioner;
2. The grounds under which petitioner alleges to be aggrieved or adversely affected by the issuance or denial of a permit;
3. The reason or reasons why petitioner takes issue with the action of the Director;
4. All other matters asserted by petitioner which are relevant to the action in question.

FACT SHEET

Appendix A

Hinesville – Fort Stewart Water Pollution Control Plant
NPDES Permit No. GA0047180

Waste Load Allocation (WLA)

National Pollutant Discharge Elimination System
Wasteload Allocation Form

Part I: Background Information

WLA Request Type: Reissuance ☒ Expansion ☐ Relocation ☐ New Discharge ☐

Facility Name: **Hinesville/Fort Stewart Regional WPCP** County: **Liberty** WQMU: **0210**

NPDES Permit No.: **GA0047180** Expiration Date: **September 30, 2018** Outfall Number: **001**

Receiving Water: **Unnamed trib. to Taylors Creek** River Basin: **Ogeechee** 10-Digit HUC: **0306020305**

Discharge Type: Domestic ☒ Industrial ☐ Both ☐ Proportion (D:I): Flow(s) Requested (MGD): **7.15**

Industrial Contributions Type(s): **Fort Stewart**

Treatment Process Description: **Bar Screens, grit removal, Sequencing Batch Reactor (SBR), post SBR equalization, filtration, ultraviolet disinfection, and digester. Sludge is sent to a permitted municipal solid waste landfill.**

Additional Information: (history, special conditions, other facilities): **Facility recently upgraded to Activated Sludge in 2013**

Requested by: **Yilin Fan** Title: **EE** Program: **WRP**

Telephone: **404-463-4936** Date: **3/8/2018**

Part II: Receiving Water Information

Receiving Water: **Unnamed Trib. to Taylors Creek** Designated Use Classification: **Fishing**

Integrated 305(b)/303(d) List: Yes ☒ No ☐ Supporting ☒ Not Supporting ☐ Criteria:

Total Maximum Daily Load) Yes ☒ No ☐ Parameter(s) **DO** WLA Complies with TMDL Yes ☒ No ☐

The Total Maximum Daily Load evaluation (2017 Revised) for dissolved oxygen in the region of the Ogeechee River basin containing the Hinesville/Fort Stewart Regional WPCP discharge recommends that all point source dischargers have effluent permit limits of 5-1-6 milligrams per liter for 5-day biochemical oxygen demand (BOD_5), ammonia, and dissolved oxygen concentrations, respectively. The results of this TMDL are more restrictive than the earlier TMDL done by the U.S. EPA.

Part III: Water Quality Model Review Information

Model Type: Uncalibrated ☒ Calibrated ☐ Verified ☐ Cannot be Modeled ☐ Model Length (mi): **10.6**

Field Data: None ☐ Fair ☒ Good ☐ Excellent ☐

Model and Field Data Description: **Updated State Water Plan (SWP) DOSAG model was used for reissuance evaluation**

Critical Water Temperature:(°C):	**28**	Drainage Area (mi^2):	**1.0**	Mean annual streamflow at discharge (cfs):	**0.85**
7Q10 Yield (cfs/mi^2):	**0.01**	Velocity (range fps):	**0.25-0.45**	30Q3 streamflow at discharge (cfs):	**0.025**
Effluent Flow Rate (cfs):	**11.07**	IWC (%):	**99**	7Q10 streamflow at discharge (cfs):	**0.01**
Slope (range - fpm):	**1.9-5.1**	K1: **0.2** K3: **0.2** K2 : **1.8-3.5**		1Q10 streamflow at discharge (cfs):	**0.008 est.**
SOD: **0.5-0.8**	Escape Coef. (ft^{-1}): **0.10-0.11**	f-Ratio BOD_u/BOD_5): **4**		Background Hardness (as $CaCO_3$)(mg/L):	**N/A**

The minimum DO concentration is predicted to be 3.0 mg/L, occurring at 6.1 miles downstream of the discharge. This is at the allowable minimum DO level of 3.0 mg/L as determined from the natural DO.

Part IV: Recommended Permit Limitations and Conditions (mg/L as a monthly average except as noted)

Rationale: Same as current ☐ Revised ☒ New ☐

Location: **Existing discharge along the unnamed tributary approx. 1.8 miles upstream from its confluence with Taylors Creek**

Effluent Flow Rate (MGD)	$CBOD_5$	NH_3-N#	DO (minimum)	Fecal Coliform (No./100ml)	pH* (std. units)	Total Phosphorus	Ortho Phosphate, TKN, Nitrite-Nitrate, Organic Nitrogen
7.15	**5.0**	**0.47**	**6.0**	**200**	**6.0 – 8.0**	**Monitor**	**Monitor**

Additional Comments:

- **Priority pollutants permit limits, aquatic toxicity testing requirements, and other parameters required by categorical effluent guidelines are to be determined by WRP.**
- **# This limit is based on pH at 8.0**
- *** The pH limit is revised to allow the facility to optimize the allowable effluent limit of ammonia based on toxicity concerns.**
- **Effluent monitoring for total phosphorus, ortho-phosphate, TKN, nitrate-nitrite, and organic nitrogen are recommended. Total-P and Ortho-P should be analyzed from the same effluent sample; TKN, nitrate-nitrite, and organic nitrogen should be analyzed from the same effluent sample.**
- **The 7Q10 flow represented is an updated flow.**
- **The revised ammonia limit meets the 2013 US EPA's Aquatic Life Ambient Water Quality Criteria for Ammonia-Freshwater**
- **30Q3 flow analysis for future ammonia toxicity evaluation indicates critical flow is 0.025 cfs. This is the estimate made from USGS gage 02203518 Canoochee River at Bridge 38, at Fort Stewart, Ga.**

Prepared by: **William Wang** WCW Date: **3/29/2018** | Reviewed by: **Josh Welte** JW Date: **17 APR 18**

Part V: Program Manager Comments

Elizabeth A Booth

Elizabeth Booth Date: 5/1/18

FACT SHEET

Appendix B

Fort Stewart WPCP
NPDES Permit No. GA0047180

Stream Data (upstream of the discharge):

TSS:	**10**	mg/L
7Q10:	**0.010**	ft^3/s
1Q10:	**0.008**	ft^3/s
Mean flow:	**0.85**	ft^3/s

Effluent Data:

TSS:	**7.5**	mg/L
Flow:	**7,150,000**	gal/day
Flow:	11.06	ft^3/s

Stream data (downstream of the discharge):

Hardness (at 7Q10):	**25.0** mg/L		
TSS (at 7Q10):	7.50 mg/L		
Dilution factor (at average flow):	1.1	IWC (at average flow):	93
Dilution factor (at 7Q10):	1.00	IWC (at 7Q10):	100
Dilution factor (at 1Q10):	1.00	IWC (at 1Q10):	100

Acute Water Quality Criteria (WQC_{Acute}) - Metals:

Metal	K_{PO}	α	f_D	**Maximum** effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	**0.0**	0.0	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	**0.0**	0.0	0.49	no
Chromium III	3.36.E+06	-0.930	0.00	**0.0**	0.0	183.07	no
Chromium VI	3.36.E+06	-0.930	0.00	**0.0**	0.0	16.00	no
Copper	1.04.E+06	-0.744	0.36	**22.7**	8.27	3.64	yes
Lead	2.80.E+06	-0.800	0.00	**0.0**	0.0	13.88	no
Mercury				**0.00265**	0.00265	1.40	no
Nickel	4.90.E+05	-0.572	0.00	**0.0**	0.0	144.92	no
Zinc	1.25.E+06	-0.704	0.31	**43.0**	13.14	36.20	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}} \qquad \text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \text{ mg/L}$$

$$\text{Dilution Factor} = \frac{Q_{Stream}(ft^3/sec) + Q_{Effluent}(ft^3/sec)}{Q_{Effluent}(ft^3/sec)}$$

FACT SHEET

Appendix B

Fort Stewart WPCP
NPDES Permit No. GA0047180

Chronic Water Quality Criteria ($WQC_{Chronic}$) - Metals:

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	**0.0**	0.0	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	**0.0**	0.0	0.25	no
Chromium III	3.36.E+06	-0.930	0.00	**0.0**	0.0	23.81	no
Chromium VI	3.36.E+06	-0.930	0.00	**0.0**	0.0	11.00	no
Copper	1.04.E+06	-0.744	0.36	**4.00**	1.46	2.74	yes
Lead	2.80.E+06	-0.800	0.00	**0.0**	0.0	0.54	no
Mercury				**0.00142**	0.00142	0.012	no
Nickel	4.90.E+05	-0.572	0.00	**0.0**	0.0	16.10	no
Zinc	1.25.E+06	-0.704	0.31	**39.6**	12.10	36.50	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

Water Quality Criteria (WQC) - Non Metals:

Pollutant	Effluent C_T (µg/L)	Instream Concentration (µg/L)	WQC (µg/L)	WQC/2 (µg/L)	Action needed?
	0.0	0.00		0.0	**no**

NOTES:

- Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.
- If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern.
- If the calculated instream concentration is greater than 50% of the instream water quality criteria, then additional monitoring may be required or a limit for that constinuent may be included in the permit.

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Appendix B

Fort Stewart WPCP
NPDES Permit No. GA0047180

Total Recoverable Metal Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L)	Chronic C_T (Kg/day)	Acute C_T (µg/L)	Acute C_T (Kg/day)
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	8	0.204	10.0	0.271
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33:**

$$\text{Chronic } C_T = \frac{\frac{WQC_{\text{Chronic}}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E} \qquad \text{Acute } C_T = \frac{\frac{WQC_{\text{Acute}}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

$$\text{Chronic } C_T = \frac{\frac{WQC_{\text{Chronic}}}{f_D} \times (Q_E + 7Q10)}{Q_E} \qquad \text{Acute } C_T = \frac{\frac{WQC_{\text{Acute}}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

FACT SHEET

Appendix C

Liberty County - Fort Stewart WPCP
NPDES Permit No. GA0047180

WET Test PMSD Values:

PMSD = Minimum Significant Data (MSD) / Control Mean x 100 %

WET Test #1 **2017**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**15.3**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**22.7**	Within

WET Test #2 **2018**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**15.2**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**16.5**	Within

WET Test #3 **2019**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**13.4**	Within
Fathead Minnow (P. promelas)	12-30	--	--	**20.4**	Within

WET Test #4 **2020**

Species	PMSD Bounds	MSD	Control Mean	PMSD	
Water Flea (C. dubia)	13-47	--	--	**12.8**	Lower
Fathead Minnow (P. promelas)	12-30	--	--	**17.5**	Within