GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

SUMMARY PAGE

Name of Facility: City of Savannah – Travis Field WPCP

NPDES Permit No.: GA0020427

This is a modification of the NPDES permit for the Travis Field WPCP. The current facility is permitted for 1.5 MGD but is not in operation. The permit is being modified to include effluent limitations and monitoring requirements for the expanded flows of 4.0 MGD and 8.0 MGD. In addition, the permit has been modified to include provisions for distribution of treated effluent to reuse customers.

The permit was placed on public notice from July 30 to September 1, 2019.

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

Part I.B. – Effluent Limitations and Monitoring Requirements:

- Removed effluent limitations and monitoring requirements for 1.5 MGD, since the existing facility will be demolished and the outfall relocated.
- Added effluent limitations and monitoring requirements for 4.0 MGD and the future expanded flow of 8.0 MGD.
- Revised outfall location to reflect the location of the proposed new effluent force main approximately 600 feet upstream of the existing location.
- Added reuse effluent limitations for distribution of treated effluent to reuse customers.

Standard Conditions and Boilerplate Modifications:

The permit boilerplate includes modified language or added language consistent with current 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 revisions and/or permit fact sheet revisions.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Watershed Protection Branch
2 Martin Luther King, Jr. Drive
Suite 1152, East Tower
Atlanta, Georgia 30334
404-463-1511

SEP 23 2019

Persons who commented on
Draft NPDES Permit No. GA0020427

RE: EPD Response to Comments
City of Savannah
Travis Field Water Pollution Control Plant
NPDES Permit No. GA0020427

Dear Sir/Madam:

Thank you for your comments regarding the permit issuance for the City of Savannah Travis Field Water Pollution Control Plant NPDES Permit. Attached is a summary of comments from the public and our responses to the issue raised. We appreciate your interest in this matter.

After consideration of your comments, EPD has determined that the permit is protective of water quality standards and we have issued the permit. .

If you have any questions, please contact Kelli-Ann Sottile of my staff at 404-463-4945 or via email at *kelli-ann.sottile@dnr.ga.gov*.

Sincerely,

Audra Dickson, Manager
Wastewater Regulatory Program

AD/kas
Attachment: Response to Comments

Response to Comments

Travis Field Water Pollution Control Plant
NPDES Permit No. GA0020427
Chatham County, Savannah River Basin

Comment	EPD Response
We disagree with the labelling of this permit as a "modification" when in fact, the currently permitted discharge location is being moved and the facility is currently inoperative. With the movement of the outfall location and the substantially increased proposed permit flow, this is in effect a "new" discharge and should be treated as such.	The City of Savannah (City) currently maintains a 1.5 MGD wastewater treatment facility at 198 Darque Road, Savannah, GA. On April 11, 2019, the City was issued a permit to discharge treated wastewater from this facility into Pipe Makers Canal downstream of the tide gate at the confluence with the Savannah River. The City was issued a wasteload allocation on September 27, 2017 for the proposed expanded discharge of 4.0 MGD and 8.0 MGD of treated domestic wastewater to Pipe Makers Canal downstream of the tide gate at the confluence of the Savannah River. The City subsequently proposed slightly modifying the outfall location in order to install a larger effluent pipe under the expansion. The proposed outfall is located approximately 600 feet from the current location and within the same stream segment. On April 30, 2019, the Wastewater Regulatory Program, on behalf of the Watershed Planning and Monitoring Program, issued a statement confirming that the adjustment to the outfall location is negligible and does not affect water quality modeling results in the issued 2017 wasteload allocation. Therefore, in accordance with 40 CFR Part 122.29, the proposed 4.0 and 8.0 MGD discharges to Pipe Makers Canal may result in the modification of the effective permit, since the following items have been met: the discharge will result from the same type of activity (treatment of domestic wastewater) as the current permitted facility; the adjusted outfall location is equivalent to the existing location for water quality purposes; the construction of the expanded facility is located on the same property as the existing facility; and, the project is primarily intended to replace and/or add to existing process equipment. Additionally, the process and documents required prior to issuance of a permit for both new discharges and expanding treatment facilities (modifications) are identical: an Antidegradation Analysis, Environmental Information Document, and Design Development Report. The City has submitted and received approval for all the referenced documents. Based on the above information, EPD has modified the existing permit to allow for the expanded discharge of treated domestic wastewater, rather than issuing a new permit.

The proposed permit limits assume a tidal dilution ratio of 600:1, but when the tide goes out it appears that there will be much less dilution available. We believe that the dilution being assumed is insufficient.	A tidal dilution ratio of 600:1, which is equivalent to an instream wastewater concentration (IWC) of 0.2%, has been assumed for the Travis Field WPCP. In lieu of a tidally influenced dilution factor, the 7Q10 of the Savannah River may be used to estimate the IWC of the discharge. The 7Q10 recorded by USGS Gage #02198500 is 4500 cfs, which results in an IWC of 0.1%. The IWC equivalent to a dilution factor of 600:1, therefore, is more protective than that from using the 7Q10 of the Savannah River. Furthermore, the dilution factor of 600:1 is consistent with the values used for other permitted municipal NPDES facilities discharging to the Pipe Makers Canal (downstream of the tide gate). As a result, no changes have been made to the permit.
Given that the relevant water body has been listed as impaired for dissolved oxygen and a TMDL instituted, we do not believe that the proposed permit meets the requirements of the proper implementation of a TMDL. It appears that the permit assumes that no significant oxygen demanding substances will be discharged until proven otherwise, and only then will protective measures be taken. We object to this backwards approach to this TMDL.	In 2006 EPA established a TMDL for the Savannah Harbor from SR 25 (old US Hwy 17) to Elba Island Cut for dissolved oxygen (DO). The 2006 TMDL has since been superseded following the 2010 revision of Georgia's DO water quality criterion and the subsequent approval of the *Subcategory 5R Documentation For Point Source Dissolved Oxygen Impaired Water in the Savannah River Basin* (5R Plan). The 5R Plan identifies the Travis Field WPCP as an NPDES permitted facility that discharges oxygen demanding substances. The 5R Plan allocates a monthly average ultimate oxygen demand load of 2,043 lb/day to the Travis Field WPCP during the critical months of March – October. The effluent limitations included in the permit for dissolved oxygen, biochemical oxygen demand, ammonia, and ultimate oxygen demand are in accordance with the 5R Plan.

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

SEP 23 2019

Mr. John Sawyer, Director
Public Works and Water Resources Department
City of Savannah
Post Office Box 1027
Savannah, Georgia 31402

RE: Permit Issuance
Travis Field Water Pollution Control Plant
NPDES Permit No. GA0020427
Chatham County, Savannah River Basin

Dear Mr. Sawyer:

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 – Brunswick Office
400 Commerce Center Drive
Brunswick, GA 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 should have any questions, please contact Kelli-Ann Sottile at 404-463-4945 or via email at *kelli-ann.sottile@dnr.ga.gov.*

Sincerely,

Richard E. Dunn
Director

RED\kas
Attachment: Permit Revisions, NPDES Permit No. GA0020427, Fact Sheet
cc: Bruce Foisy, EPD Coastal District (bruce.foisy@dnr.ga.gov)
David Lyle, EPD Coastal District (david.lyle@dnr.ga.gov)
Lester Hendrix, City of Savannah (LHendrix@Savannahga.Gov)
Chuck Tessmer, City of Savannah (ctessmer@savannahga.gov)
Fred Sororian, Thomas and Hutton (sororian.f@thomasandhutton.com)
EPA Region IV Mailbox (R4NPDESPermits@epa.gov)

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

PERMIT REVISIONS

City of Savannah
Travis Field Water Pollution Control Plant
NPDES Permit No. GA0020427
(Chatham County)

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

If yes, specify:

Cover Page	Clarified outfall location to specify that the discharge is located downstream of the tide gate at the confluence of the Savannah River
Part I.B.1	Corrected language to state that the discharge shall be limited following verification of construction completion and written authorization to operate rather than upon the effective date of the permit
Part I.B.2	Corrected monitoring frequency for ultimate oxygen demand from three days/week to five days/week to be consistent with other oxygen-demanding parameters

Permit No. GA0020427
Issuance Date: SEP 23 2019

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 Savannah
P.O Box 1027
Savannah, Georgia 31402

is authorized to discharge from a facility located at

Travis Field Water Pollution Control Plant
198 Darque Road
Savannah, Georgia 31404
(Chatham County)

to receiving waters

Pipe Makers Canal (downstream of tide gate) at the confluence of the Savannah River
(Savannah 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 September 26, 2016, any other applications upon which this permit is based, supporting data entered therein or attached thereto, and any subsequent submittal of supporting data.

This is a modification of the permit originally issued on April 11, 2019.

This permit shall become effective on October 1, 2019.

This permit and the authorization to discharge shall expire at midnight, April 30, 2024.

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. MONITORING

The concentration of pollutants in the discharge will be limited as indicated by the table(s) labeled "Effluent Limitations and Monitoring Requirements."

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

b. 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 7:00 a.m. Saturday and ends at 7:00 a.m. 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.

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

d. Untreated wastewater influent samples required by I.B. shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.

e. Effluent samples required by I.B. of this permit shall be collected after the final treatment process and before discharge to receiving waters. Composite samples may be collected before disinfection with written EPD approval.

f. 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.

g. 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.

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

i. 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.

2. 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.

3. 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.D.1. of this permit. The quantity shall be reported on a dry weight basis (dry tons).

4. 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.

5. 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.

6. URBAN WATER REUSE

a. Definitions

1. Designated User or User: any site or facility, where reclaimed water is beneficially used under a contract with the permittee. User may also be defined as the customer to be supplied with reclaimed water who has a written user agreement with the permittee. In addition, a designated user may also be a purveyor that provides reclaimed water to other customers.

2. Non-restricted Access: landscaped areas where reclaimed wastewater is used for irrigation purposes and public access cannot be controlled and adequate buffer zones cannot be maintained. Reclaimed wastewater used to irrigate non-restricted access areas must be treated to urban water reuse standards.

3. Preapplication Treatment System: the wastewater treatment facility which reduces high strength organic waste to low levels prior to application to the sprayfield area. The preapplication treatment system can consist of a mechanical plant or a pond system.

4. Restricted Access: landscaped areas where reclaimed wastewater is used for irrigation purposes and public access is restricted to specific and controlled periods of time. Wastewater used to irrigate restricted access areas must be pretreated to secondary levels and receive disinfection.

5. Urban Water Reuse: the use of reclaimed water as a substitute for other water sources for the beneficial irrigation of areas that may be accessible to the public, such as golf courses, residential and commercial landscaping, parks, athletic fields, roadway medians, and landscape impoundments.

6. Reclaimed Water: wastewater that has received treatment to urban water reuse standards, meets the treatment criteria specific in the Guidelines for Water Reclamation and Urban Water Reuse, and is utilized at a reuse area or is sent to a designated user for reuse.

7. Reject Water: wastewater that does not meet the 3 NTU criteria or water treated after the disinfection system has failed.

b. Designated Users

After issuance of this permit, the permittee may provide reuse water to designated users. The permittee may provide reuse water to additional designated users as long as prior written notice is provided to the EPD and a public notice is provided to the community. The additional users list will be considered an addendum to the permit, but the permit will not be reopened to add new designated users. The permittee must keep records of the volume of reuse water provided to designated users.

c. User Agreement

Any designated user receiving reuse water from the permittee must enter into an agreement with the permittee. At a minimum the agreement must address all items which are in EPD's Guidelines for Water Reclamation and Urban Water Reuse (Section 9.2).

d. No Point Source Discharge(s) Of A Pollutant To Surface Waters Of The State

The land application site must be operated and maintained to ensure there is no point source discharge(s) of pollutants to surface waters of the State.

B.1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Pipe Makers Canal - Outfall #001 (32.126151°, -81.140073°):

The discharge from the water pollution control plant shall be limited and monitored by the permittee beginning on the date that EPD provides approval of construction completion and written authorization to operate under the B.1. effluent limitations (4.0 MGD) and continuing until EPD provides approval of construction completion and written authorization to operate under the B.2. effluent limitations (8.0 MGD):

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)	4.0	5.0	Seven Days/Week	Continuous Recording	Effluent
Carbonaceous Five-Day Biochemical Oxygen Demand (1) (2)	10.0 (151.6)	15.0 (189.5)	Three Days/Week	Composite	Influent & Effluent
Total Suspended Solids (1)	10 (152)	15 (190)	Three Days/Week	Composite	Influent & Effluent
Ammonia, as N (2) (3)					
January – February	4.0 (60.6)	6.0 (78.5)	Three Days/Week	Composite	Effluent
March – October	2.0 (30.3)	3.0 (37.9)			
November – December	4.0 (60.6)	6.0 (78.5)			
Total Phosphorus, as P (4)	0.5 (7.6)	0.75 (9.5)	Three Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100 mL)	200	400	Two Days/Week	Grab	Effluent

(1) Numeric limits only apply to the effluent.

(2) $CBOD_5$ and ammonia samples shall be taken from the same effluent sample on the same day.

(3) 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.

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

(Effluent limitations continued on the next page)

B.1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

Discharge to Pipe Makers Canal - Outfall #001 (32.126151°, -81.140073°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Carbonaceous Five-Day 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 – 9.0	Seven Days/Week	Grab	Effluent
Ultimate Oxygen Demand (lb/day) (2) (3) March – October	2,043	Three Days/Week	Calculated	Effluent
Dissolved Oxygen, Daily Minimum	5.0	Seven Days/Week	Grab	Effluent
Organic Nitrogen, as N (4)	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N (4)	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N (4)	Report	One Day/Month	Composite	Effluent
Orthophosphate, as P (5)	Report	One Day/Month	Composite	Effluent
Acute Whole Effluent Toxicity (%) (6)	Report LC_{50}	See Below	See Below	Effluent
Priority Pollutants (7)	Report	See Below	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) This limitation shall only be applicable during the period of March 1 through October 31.
Ultimate oxygen demand (UOD) shall be calculated using the following equation:
UOD = Effluent Flow x [($CBOD_5$ x 5.52) + (NH_3-N x 4.57)] x 8.34; where $CBOD_5$ and NH_3 are in mg/L and effluent flow is in MGD. Furthermore, $CBOD_5$ and ammonia samples shall be taken from the same effluent sample on the same day.

(3) Refer to Part I.C.9. SPECIAL CONDITIONS.

(4) 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.

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

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

(7) Refer to Part I.C.11. PRIORITY POLLUTANTS.

B.2 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Pipe Makers Canal - Outfall #001 (32.126151°, -81.140073°):

The discharge from the water pollution control plant shall be limited and monitored by the permittee as specified below starting on the date EPD provides approval of construction completion and written authorization to operate under the B.2 effluent limitations (8.0 MGD):

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)	8.0	10.0	Seven Days/Week	Continuous Recording	Effluent
Carbonaceous Five-Day Biochemical Oxygen Demand (1) (2)	5.0 (151.6)	7.5 (189.5)	Five Days/Week	Composite	Influent & Effluent
Total Suspended Solids (1)	10 (303)	15 (379)	Five Days/Week	Composite	Influent & Effluent
Ammonia, as N (2) (3)					
January – February	2.0 (60.6)	3.0 (75.8)	Five Days/Week	Composite	Effluent
March – October	1.0 (30.3)	1.5 (37.9)			
November – December	2.0 (60.6)	3.0 (75.8)			
Total Phosphorus, as P (4)	0.5 (15.2)	0.75 (19.0)	Five Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100 mL)	200	400	Three Days/Week	Grab	Effluent

(1) Numeric limits only apply to the effluent.

(2) $CBOD_5$ and ammonia samples shall be taken from the same effluent sample on the same day.

(3) 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.

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

(Effluent limitations continued on the next page)

B.2 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

Discharge to Pipe Makers Canal - Outfall #001 (32.126151°, -81.140073°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Carbonaceous Five-Day 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 – 9.0	Seven Days/Week	Grab	Effluent
Ultimate Oxygen Demand (lb/day) (2) (3) March – October	2,043	Five Days/Week	Calculated	Effluent
Dissolved Oxygen, Daily Minimum	5.0	Seven Days/Week	Grab	Effluent
Organic Nitrogen, as N (4)	Report	One Day/Month	Composite	Effluent
Nitrate-Nitrite, as N (4)	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N (4)	Report	One Day/Month	Composite	Effluent
Orthophosphate, as P (5)	Report	One Day/Month	Composite	Effluent
Acute Whole Effluent Toxicity (%) (6)	Report LC_{50}	See Below	See Below	Effluent
Priority Pollutants (7)	Report	See Below	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) This limitation shall only be applicable during the period of March 1 through October 31.
Ultimate oxygen demand (UOD) shall be calculated using the following equation:
UOD = Effluent Flow x [($CBOD_5$ x 5.52) + (NH_3-N x 4.57)] x 8.34; where $CBOD_5$ and NH_3 are in mg/L and effluent flow is in MGD. Furthermore, $CBOD_5$ and ammonia samples shall be taken from the same effluent sample on the same day.

(3) Refer to Part I.C.9. SPECIAL CONDITIONS.

(4) 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.

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

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

(7) Refer to Part I.C.11. PRIORITY POLLUTANTS.

B.3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to the reuse distribution system:

The discharge to the reuse distribution system shall be limited and monitored by the permittee as specified below, starting on the date EPD provides approval of construction completion of the reuse system and written authorization to operate under the B.3 effluent limitations:

Parameters	Discharge Limitations, Monthly (Weekly) Average Unless Otherwise Specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Flow (MGD) (1) (2)	Report (Report)	Seven Days/Week	Continuous	Effluent
Five-Day Biochemical Oxygen Demand (mg/L) (3)	5.0	Five Days/Week	Composite	Effluent
Total Suspended Solids (mg/L) (3)	5	Five Days/Week	Composite	Effluent
Fecal Coliform Bacteria (#/100mL) (4)	23	Five Days/Week	Grab	Effluent

(1) The permittee must keep record of the volume of reuse water provided to each customer.

(2) The combined flow to the reuse distribution system (B.3 effluent limitations) and Pipe Makers Canal shall not exceed 4.0 MGD while operating under B.1 effluent limitations and 8.0 MGD while operating under B.2 effluent limitations.

(3) Numeric limits only apply to the effluent.

(4) Fecal Coliform Bacteria counts per individual sample shall not exceed 100#/100 mL.

Parameters	Discharge Limitations	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Turbidity, Daily Maximum (NTU) (5)	3	Seven Days/Week	Continuous	Effluent
pH, Daily Minimum – Daily Maximum (Standard Units)	6.0 – 9.0	Seven Days/Week	Grab	Effluent

(5) This is an instantaneous maximum limitation. Continuous turbidity monitoring prior to disinfection is required. Treated effluent exceeding 3 NTU shall be rejected.

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. SPECIAL CONDITIONS

Savannah 5R Alternative Restoration Plan Annual Reporting.

In order to confirm that the facility's discharge was appropriately represented in the Savannah River and Harbor DO Calculator Version 4.0 (June 2010), EPD is requiring annual reporting of the facility's effluent characteristics. The permittee shall submit an annual report which provides all available discharge data over the previous twelve (12) calendar months for the following parameters: discharge date, flow (MGD), 5-day biochemical oxygen demand (mg/L) and/or 5-day carbonaceous biochemical oxygen demand (mg/L), and ammonia, as N (mg/L). Additionally, the permittee shall calculate the arithmetic average, standard deviation, and coefficient of variation (CV) for ultimate oxygen demand (UOD) loading based on the daily discharge data for the critical period of March 1st – October 31st. The coefficient of variation (%) is calculated as the standard deviation divided by the arithmetic average, multiplied by 100. The annual report shall be submitted as a Microsoft Excel worksheet and provided in an electronic format on a compact disc (CD) or universal serial bus (USB). The report is due no later than the 15th of November to the Georgia EPD Watershed Planning and Monitoring Program 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

10. ACUTE WHOLE EFFLUENT TOXICITY (WET)

a. B.1 (4.0 MGD):

The permittee shall conduct one acute whole effluent toxicity (WET) test for four consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.1 effluent limitations (4.0 MGD), with the first test conducted within 90 days of the

authorization. The testing must be conducted in accordance with the most current U.S. Environmental Protection Agency (EPA) manual for acute, marine aquatic toxicity testing. The referenced document is entitled Methods for Measuring Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e., *Mysidopsis bahia*) and a vertebrate species (i.e., *Menidia beryllina*).

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the Lethal Concentration 50% (LC50) is greater than or equal to 100% effluent. If the test results indicate effluent toxicity, the permittee may be required to perform additional WET tests, and/or to submit a toxicity reduction evaluation upon notification by the EPD and/or the permit may be reopened to incorporate a WET limit.

b. B.2 (8.0 MGD):

The permittee shall conduct one acute whole effluent toxicity (WET) test for four consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (8.0 MGD), with the first test conducted within 90 days of the authorization. The testing must be conducted in accordance with the most current U.S. Environmental Protection Agency (EPA) manual for acute, marine aquatic toxicity testing. The referenced document is entitled Methods for Measuring Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e., *Mysidopsis bahia*) and a vertebrate species (i.e., *Menidia beryllina*).

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the Lethal Concentration 50% (LC50) is greater than or equal to 100% effluent. If the test results indicate effluent toxicity, the permittee may be required to perform additional WET tests, and/or to submit a toxicity reduction evaluation upon notification by the EPD and/or the permit may be reopened to incorporate a WET limit.

11. PRIORITY POLLUTANTS

a. B.1 (4.0 MGD):

The permittee must conduct one scan of the priority pollutants for three consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.1 effluent limitations (4.0 MGD), with the first scan conducted within 90 days of the authorization. The priority pollutant scans must represent seasonal variation. Total recoverable mercury must be sampled and analyzed using EPA Method 1631E. If substances are measured at levels of concern, then the permittee may be required to perform additional priority pollutant analyses in accordance with Part I.C.5 or the permit may be modified to include effluent limitations for priority pollutants.

b. B.2 (8.0 MGD):

The permittee must conduct one scan of the priority pollutants for three consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.2 effluent limitations (8.0 MGD), with the first scan conducted within 90 days of the authorization. The priority pollutant scans must represent seasonal variation. Total recoverable mercury must be sampled and analyzed using EPA Method 1631E. If substances are measured at levels of concern, then the permittee may be required to perform additional priority pollutant analyses in accordance with Part I.C.5 or the permit may be modified to include effluent limitations for priority pollutants.

12. LONG-TERM BIOCHEMICAL OXYGEN DEMAND TESTING

The permittee shall perform one 120-day Long-Term BOD test after receiving EPD written authorization to commence operation under Part I.B.1 and Part I.B.2 effluent limitations (4.0 MGD and 8.0 MGD, respectively). The test should be performed on an effluent sample collected during the critical period from June 1 through September 30. The results of this test shall be submitted to EPD at least 180 days prior to the permit expiration date to the following address:

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

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, 2020**, 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:

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

   ii. 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.

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

3. 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:

1. 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;

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

3. 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

Upon receiving authorization to operate under Part I.B.1 and I.B.2 of the permit, the following requirements will apply:

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.

Upon receiving authorization to operate under Part I.B.3 of the permit, the following requirements will apply:

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.

a. For reuse plants which do not have automatic diversion:

The operator in responsible charge (ORC) for the facility shall be a Class I Biological Wastewater Operator. On-site operation shall be 24 hours per day, 7 days per week by an on-site operator (OSO) who is certified Class II Biological Wastewater Operator or higher. All Operators (other than the ORC and OSO) shall have a minimum of a Class III Biological Wastewater Operator certification.

b. For reuse plants which have automatic diversion, but do not have an electronic monitoring and alarm system:

The operator in responsible charge (ORC) for the facility shall be a Class I Biological Wastewater Operator. On-site operation shall be by an on-site operator (OSO) who is certified Class II Biological Wastewater Operator or higher for a minimum of 8 hours per day, 7 days per week in conjunction with automatic diversion of reclaimed water that does not meet the turbidity criteria and with the automatic diversion of reclaimed water should any component of the disinfection system fail. All operators (other than the ORC and OSO) shall have a minimum of a Class III Biological Wastewater Operator certification.

c. For reuse plants that have automatic diversion and have an electronic monitoring and alarm system:

The operator in responsible charge (ORC) shall be a Class I Biological Wastewater Operator. On-site operation shall be by an on-site operator (OSO) who is certified Class II Biological Wastewater Operator or higher for a minimum of 4 hours per day, 7 days per week in conjunction with automatic diversion of reclaimed water that does not meet the turbidity criteria and with the automatic diversion of reclaimed water should any component of the disinfection system fail. An operator shall be on call during all periods the plant is unattended and must be able to respond to the plant site within one hour of an alarm. The electronic monitoring and alarm system must record the date and time of all alarms and the date and time of alarm override. All operators (other than the ORC and the OSO) shall have a minimum of a Class III Biological Wastewater Operator certification.

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:

1. 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.

2. 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:

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

b. 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:

    1. Date of the spill or major spill;
    2. Location and cause of the spill or major spill;
    3. Estimated volume discharged and name of receiving waters; and
    4. Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill.

c. 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.

d. 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.

e. 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.

f. 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.

g. 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 exceedence 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:

1. Dissolved Oxygen;
2. Fecal Coliform Bacteria;
3. pH;
4. Temperature; and
5. 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.

h. 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

A. APPROVED INDUSTRIAL PRETREATMENT PROGRAM FOR PUBLICLY OWNED TREATMENT WORKS (POTWs)

1. The permittee's approved pretreatment program shall be enforceable through this permit. The permittee shall also comply with the provisions of 40 CFR 403.

2. The permittee shall administer the approved pretreatment program by:

   a. Maintaining records identifying the character and volume of pollutants contributed by industrial users to the POTW.

   b. Enforcing and obtaining appropriate remedies for noncompliance by any industrial user with any applicable pretreatment standard or requirement defined by Section 307(b) and (c) of the Federal Act, 40 CFR Part 403.5 and 403.6 or any State or local requirement, whichever is more stringent.

   c. Revising the adopted local limits based on technical analyses to ensure that the local limits continue to prevent:

      1. Interference with the operation of the POTW;
      2. Pass-through of pollutants in violation of this permit;
      3. Municipal sludge contamination; and
      4. Toxicity to life in the receiving stream.

      Within 180 days of the effective date of this permit issuance or reissuance (excluding permit modifications), the permittee shall review the local limits of the program and submit to EPD a written technical evaluation of the need to revise the local limits.

   d. Ensuring that industrial wastewater discharges from industrial users are regulated through discharge permits or equivalent individual control mechanisms. Compliance schedules will be required of each industrial user for the installation of control technologies to meet applicable pretreatment standards and the requirements of the approved program.

   e. Inspecting, surveying, and monitoring to determine if the industrial user is in compliance with the applicable pretreatment standards.

   f. Equitably maintaining and adjusting revenue levels to ensure adequate and continued pretreatment program implementation.

   g. Preparing a list of industrial users which, during the reporting period October 1to September 30, have been in significant noncompliance with the pretreatment requirements enumerated in 40 CFR Part 403.8 (f)(2)(viii). This list will be published annually each October in the newspaper with the largest circulation in the service area.

B. APPROVED PRETREATMENT PROGRAM ANNUAL REPORT

1. Within 30 days of the close of the reporting period October 1to September 30, the permittee shall submit a report to the EPD that includes:

   a. An updated list of POTW industrial users;

   b. The results of POTW sampling and analyses required by the EPD;

   c. A summary of POTW industrial user inspections;

   d. A summary of POTW operations including information on upsets, interferences, pass through events, or violations of the permit related to industrial user discharges;

   e. A summary of all activities to involve and inform the public of pretreatment requirements;

   f. A summary of the annual pretreatment program budget;

   g. A descriptive summary of any compliance activities initiated, ongoing, or completed against industrial users which shall include the number of administrative orders, show cause hearings, penalties, civil actions, and fines;

   h. A list of contributing industries using the treatment works, divided into Standard Industrial Classification Code (SIC) categories, which have been issued permits or similar enforceable individual control mechanisms, and a status of compliance for each industrial user. The list should also identify the industries that are categorical or significant industrial users;

   i. The name and address of each industrial user that has received a conditionally revised discharge limit;

   j. A list of all industrial users who were in significant noncompliance with applicable pretreatment standards and requirements;

   k. A list of all industrial users showing the date that each was notified that a categorical pretreatment standard had been promulgated by EPA for their industrial category and the status of each industrial user in achieving compliance within the 3 year period allowed by the Federal Act; and

   l. A description of all substantial changes proposed for the program. All substantial changes must first be approved by the EPD before formal adoption by the POTW. Substantial changes shall include but not be limited to:

      1. Changes in legal authority;
      2. Changes in local limits;
      3. Changes in the control mechanisms;
      4. Changes in the method for implementing categorical pretreatment standards.
      5. A decrease in the frequency of self-monitoring or reporting required of industrial users;

6. A decrease in the frequency of industrial user inspections or sampling by the POTW;
7. Significant reductions in the program resources including personnel commitments, equipment, and funding levels;
8. Changes in confidentiality procedures; and
9. Changes in the POTW sludge disposal and management practices.

2. Reports submitted by an industrial user will be retained by the permittee for at least 3 years and shall be available to the EPD for inspection and copying. This period shall be extended during the course of any unresolved litigation concerning the discharge of pollutants by an industrial user or concerning the operations of the program or when requested by the Director.

C. INDUSTRIAL PRETREATMENT STANDARDS

Effluent limitations for the permittee's discharge are listed in Part I. Other pollutants attributable to industrial users may also be present in the discharge. When sufficient information becomes available, this permit may be revised to specify effluent limitations for these pollutants based on best practicable technology or water quality standards. Once the specific nature of industrial contributions has been identified, data collection and reporting may be required for parameters not specified in Part I.

D. REQUIREMENTS FOR EFFLUENT LIMITATIONS ON POLLUTANTS ATTRIBUTABLE TO INDUSTRIAL USERS

1. The permittee shall require all industrial dischargers to the POTW to meet State pretreatment regulations promulgated in response to Section 307(b) of the Federal Act. Other information about new industrial discharges may be required and will be requested from the permittee after the EPD has received notice of the discharge.

2. The permittee may be required to supplement the requirements of the State and Federal pretreatment regulations to ensure compliance with all applicable effluent limitations listed in Part I. Supplemental actions by the permittee concerning some or all of the industries discharging to the POTW may be necessary.

E. RETAINER

EPD may require the permittee to amend an approved pretreatment program to incorporate revisions in State Pretreatment Regulations or other EPD requirements. Any approved POTW pretreatment program identified by EPD that needs to modify its program to incorporate requirements that have resulted from revision to the Rules shall develop and submit those revisions to EPD no later than one (1) year of notification by EPD to modify the Program. Any modifications made to the approved pretreatment program must be incorporated into the permit and the program pursuant to Chapter 391-3-6-.09(7) of the State Rules. Implementation of any revision or amendments to the program shall be described in the subsequent annual report to the EPD.

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:

Kelli-Ann Sottile, Environmental Engineer
Kelli-Ann.Sottile@dnr.ga.gov
404-463-4945

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

Modifications to the Permit:

- Removed effluent limitations and monitoring requirements for 1.5 MGD, since the existing facility will be demolished and the outfall relocated
- Added effluent limitations and monitoring requirements for the future expanded flow of 4.0 and 8.0 MGD
- Revised outfall location to reflect the location of the new proposed effluent force main, approximately 600 feet upstream of the existing location
- Added reuse effluent limitations for distribution of treated effluent to reuse customers

Refer to sections below for more information on the proposed modifications.

1. FACILITY INFORMATION

1.1 NPDES Permit No.: GA0020427

1.2 Name and Address of Owner/Applicant

City of Savannah
P.O. Box 1027
Savannah, Georgia 31402

1.3 Name and Address of Facility

Travis Field Water Pollution Control Plant (WPCP)
198 Darque Road
Savannah, Georgia 31408

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

Outfall #	Latitude (°)	Longitude (°)	Receiving Waterbody
001	32.126151	-81.140073	Pipe Makers Canal (downstream of the tide gate)

1.5 Permitted Design Capacity

Part I.B.1 - 4.0 MGD
Part I.B.2 (Future Expansion) - 8.0 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 existing1.5-MGD facility will be demolished as part of the project. The treatment process for the expanded plant will consist of fine screening, grit removal, membrane bioreactors for biological treatment and nutrient removal, UV disinfection, and post aeration. The treated effluent can either be discharged to Pipe Makers Canal, downstream of the tide gate, or distributed to reuse customers.

Solids processing:

The sludge treatment process will consist of thickening, aerobic digestion, and dewatering via belt press. The dewatered sludge will be disposed of in a landfill.

1.8 Type of Wastewater Discharge

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

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	Municipal Effluent Discharge	40 CFR 122 40 CFR 125 40 CFR 133
	Non-Process Water Discharges	40 CFR 122 40 CFR 125
	Municipal Sludge Use and Disposal	40 CFR 122 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 – Pipe Makers Canal (Downstream of the Tide Gate):

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.

(iv) 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.

Coastal Fishing: This classification will be applicable to specific sites when so designated by the Environmental Protection Division. For waters designated as "Coastal Fishing", site specific criteria for dissolved oxygen will be assigned. All other criteria and uses for the fishing use classification will apply for coastal fishing.

(i) Dissolved Oxygen: A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times. If it is determined that the "natural condition" in the waterbody is less than the values stated above, then the criteria will revert to the "natural condition" and the water quality standard will allow for a 0.1 mg/L deficit from the "natural" dissolved oxygen value. Up to a 10% deficit will be allowed if it is demonstrated that resident aquatic species shall not be adversely affected.

3.2 Ambient Information

The Pipe Makers Canal (downstream of the tide gate) is tidally influenced; therefore a dilution factor of 600:1 was used in Reasonable Potential analyses.

Outfall ID	7Q10 (cfs)	1Q10 (cfs)	Annual Average Flow (cfs)	Hardness (mg $CaCO_3$/L)	Upstream Total Suspended Solids (mg/L)
001	Tidally Influenced	Tidally Influenced	Tidally Influenced	25	Not available[(1)]

(1) 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

Pipe Makers Canal	Unnamed Tributary upstream of Dean Forest Road to the Savannah River	Savannah	Not Supporting	FC	4	5	FC TMDL drafted 2015. EPD needs to determine the "natural DO" for the area before it can be determined whether the dissolved oxygen criteria are being met.
GA0030031902122	Chatham	Fishing	55	LW	Miles	2015	

The Pipe Makers Canal (upstream of the tide gate) is listed on the 2016 305(b)/303(d) list as not supporting its designated use of fishing. A Total Maximum Daily Load (TMDL) was developed for the impacted parameter (fecal coliform). However, the discharge location downstream of the tide gate has not been listed on the 2016 305(b)/303(d) list.

3.4 Total Maximum Daily Loads (TMDLs)

In 2000, Georgia EPD completed the Total Maximum Daily Load (TMDL) Development for Fecal Coliform in the Savannah Harbor. The TMDL recommends end of pipe limits equivalent to the water quality standard of 200 counts/100 ml. The fecal coliform bacteria limits in the draft permit are in accordance with the TMDL requirements.

3.5 5R Plan

In 2006 EPA established a TMDL for the Savannah Harbor from SR 25 (old US Hwy 17) to Elba Island Cut. This segment, R030601090318 (HUC12:03061090307), was identified as impaired for dissolved oxygen (DO) based on its failure to meet the State of Georgia's designated use of Coastal Fishing. The 2006 TMDL has since been superseded following the 2010 revision of Georgia's DO water quality criterion and the subsequent approval of the *Subcategory 5R Documentation For Point Source Dissolved Oxygen Impaired Water in the Savannah River Basin*; hereafter 5R Plan. Development of the documentation behind the 5R Plan was a result of extensive collaboration between the Georgia Environmental Protection Division (GA EPD), the South Carolina Department of Health and Environmental Control (SC DHEC), the Environmental Protection Agency (EPA), a Technical Modeling Advisory Group, and the Savannah River/Harbor Dischargers Group.

The portions of the Savannah River Basin included in the 5R Plan are the middle and lower watersheds encompassing the area from Thurmond Dam to the Atlantic Ocean. The hydrodynamic and water quality models used to analyze the oxygen-demanding pollutant loadings extend upstream on the Savannah River to River Mile 61.0 near Clyo, Georgia, at United States Geologic Survey (USGS) station 02198500. The downstream end of the models extends approximately 25 miles offshore from Oyster Island to cover the navigational channel of the Savannah Harbor. The models cover the Savannah River, the Front River, the Middle River, the Little Back River, the Back River, the South Channel, and the offshore portions in the Atlantic Ocean.

The process of developing this 5R Plan for the Savannah Harbor included developing three computer modeling tools: (1) the Savannah River Model, (2) the Savannah Harbor Model, and (3) the Savannah River and Harbor DO Calculator. Georgia EPD developed the Savannah River Model for the Savannah River from the Augusta Canal diversion dam to the USGS gaging station (02198760) above Hardeeville, South Carolina. The Savannah River Model used for this 5R Plan is the hydrodynamic and water quality model developed using GA RIV-1 for the 2006 TMDL. The Savannah River Model includes all major point sources to the River and simulates the effects municipal and

industrial discharges have on both water quality and flow and was calibrated to available data. The output of the Savannah River Model is later used as the input for the Savannah Harbor Model. The Savannah Harbor Model used for the 5R Plan was built upon the Enhanced USACE Model that was finalized on January 30, 2006 and the 2006 Harbor TMDL Model developed by EPA Region 4 (Tetra Tech 2004, Tetra Tech 2006, EPA 2010). Combined, the Savannah River and Harbor models were used to develop the Savannah River and Harbor DO Calculator.

The Savannah River and Harbor DO Calculator was developed as an efficient method to calculate the effect various combinations of wastewater effluent dischargers have on the DO levels in the Savannah River and Harbor. In order to run the calculator, the 5R Plan identified 24 permitted facilities that discharge oxygen-demanding substances. Of these 24 facilities, eleven are considered to discharge to the harbor and thirteen are considered to discharge to the river. Using the calculator, wasteload allocations were developed for the 24 dischargers to establish limits for Ultimate Oxygen Demand (UOD) during the critical months of March – October.

The 5R plan established the following equation for calculating UOD:

$$UOD = CBODu + NBODu$$

$$CBODu = CBOD5 \times f_{ratio};\ NBODu = NH3\text{–}N \times 4.57\ (\text{conversion factor})$$

The Travis Field WPCP was identified as an NPDES permitted facility that discharges oxygen demanding substances to the Savannah Harbor. The ultimate oxygen demand (UOD) allocated to the Travis Field WPCP is 2043 lb/day for the critical months of March-October. The UOD shall be calculated using the following equation (using an f_{ratio} of 5.52 for the Travis Field WPCP):

$$UOD = Q_{Effluent} \times [(CBOD_5 \times 5.52) + (NH_3\text{-}N \times 4.57)] \times 8.34$$

The Savannah Harbor has been the subject of extensive study, including extensive data collection, and model development by various state and federal agencies. The modeling analysis used to develop the effluent limits for the point source discharges to the Savannah River and Harbor were based upon an abundance of data, a calibrated and verified three dimensional model, and conservative critical condition and permitting assumptions. For these reasons, based on the data and information available, once the effluent limitations and special conditions contained in all discharge permits for facilities in the Savannah River Basin are achieved, the discharge will not cause or contribute to exceedances of the Georgia and South Carolina water quality standards for dissolved oxygen. However, if it is determined that a dissolved oxygen deficit exits in the Savannah Harbor that contravenes the Georgia or South Carolina water quality standards for dissolved oxygen and is attributable to point source dischargers, then the regulatory agencies will work with all responsible parties to evaluate and implement viable options that will be incorporated into an updated 5R adaptive management plan and appropriate permits to ensure full attainment of the water quality standards.

3.6 Wasteload Allocation (WLA)

A WLA for reissuance was issued on September 27, 2017. Refer to *Appendix A* of the Fact Sheet for a copy of the WLA.

4. EFFLUENT LIMITS AND PERMIT CONDITIONS

4.1 Reasonable Potential Analysis (RP)

Title 40 of the Federal Code of Regulations, 40 CFR 122.44(d) requires delegated 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 criteria 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's Reasonable Potential Procedures are based on Georgia's Rules and Regulations for Water Quality Control (Rules), Chapter 391-3-6-.06(4)(d)5. The 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 Rules in the evaluation of a permit application and in the evaluation of the reasonable potential for an effluent to cause an exceedance in the numeric or narrative criteria.

Refer to Section 4.2 for reasonable potential analysis on effluent toxicity.

Refer to Section 4.6 for reasonable potential analysis on toxic and manmade pollutants.

4.2 Whole Effluent Toxicity (WET)

The permittee must conduct one whole effluent toxicity (WET) test for four consecutive quarters during the first year after receiving EPD written authorization to commence operation under Part I.B.1 and Part I.B.2 (4.0 MGD and 8.0 MGD, respectively) effluent limitations, with the first test being conducted within 90 days of this authorization..

For facilities not equipped with a diffuser and with an IWC less than or equal to 1%, acute testing is required; therefore, acute WET testing requirements have been included in the draft permit. For acute testing, the results will not be considered toxic is the Lethal Concentration 50% (LC50) is greater than or equal to 100% effluent. The testing must include the most current requirements of the U.S. EPA acute aquatic toxicity testing manuals.

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 in accordance with Part I.C.5 of the permit and/or the permit may be modified to include an acute WET limit.

4.3 Applicable Water Quality Based Effluent Limitations (WQBELs)

When drafting a National Pollutant Discharge Elimination System (NPDES) permit, a permit writer must consider the impact of the proposed discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state water quality standards. By analyzing the effect of a 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. 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 that water quality standards are met in the receiving water and downstream uses are protected. On the basis of the requirements of Title 40 of the *Code of Federal Regulations* (CFR) 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.

The term *pollutant* is defined in CWA section 502(6) and § 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 § 401.16 (BOD_5, 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 chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

4.4 Conventional Pollutants (Discharge Limitations: Part I.B.1 and I.B.2)

Pollutants of Concern	Basis
pH	*All Phases* The instream wastewater concentration (IWC) is approximately 0.2% based on a dilution factor of 600:1. When the instream waste concentration is less than 50%, there is no reasonable potential for pH to cause or contribute to a violation of the instream Georgia Water Quality Standard; therefore a limit of 6.0-9.0 SU (daily minimum-daily maximum) has been included in the draft permit.
Five-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	The Travis Field WPCP was identified in the 5R Plan as an NPDES permitted facility that discharges oxygen demanding substances to the Savannah Harbor. *Phase I – 4.0 MGD* • *November-February*: The monthly average $CBOD_5$ limit of 10.0 mg/L, when combined with the proposed NH_3 limit, is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. • *March-October*: In accordance with the 5R Plan, a reduction in loading during this period is required. Although a monthly average $CBOD_5$ limit of 10.0 mg/L has been maintained in the draft permit, a monthly average Ultimate Oxygen Demand (UOD) limit has also been included to meet the 5R requirements (refer to Section 4.5). *Phase II – 8.0 MGD* • *November-February*: The monthly average $CBOD_5$ limit of 5.0 mg/L, when combined with the proposed NH_3 limit, is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. • *March-October*: In accordance with the 5R Plan, a reduction in loading during this period is required. Although a monthly average $CBOD_5$ limit of 5.0 mg/L has been maintained in the draft permit, a monthly average Ultimate Oxygen Demand (UOD) limit has also been included to meet the 5R requirements (refer to Section 4.5).

	All Phases
Total Suspend Solids (TSS)	The facility will be equipped with membranes. A monthly average TSS limit of 10 mg/L has been included in the draft permit based on facility design.
	All Phases
Fecal Coliform Bacteria (FCB)	The monthly average FCB limit of 200#/100mL is in accordance with the 2000 FCB TMDL in Section 3.4 above and the instream Water Quality Standard in Section 3.1 above.

4.5 Nonconventional Pollutants (Discharge Limitations: Part I.B.1 and I.B.2)

Pollutants of Concern	Basis
Total Residual Chlorine (TRC)	*All Phases* Chlorine is not used at the facility; therefore a TRC limit is not required.
Dissolved Oxygen (DO)	*All Phases* The daily minimum DO limit of 5.0 mg/L is protective of the instream Water Quality Standards for dissolved oxygen described in Section 3.1 above.
Ultimate Oxygen Demand (UOD)	*All Phases* The Travis Field WPCP was identified in the 5R Plan as an NPDES permitted facility that discharges oxygen demanding substances to the Savannah Harbor. In accordance with the 5R Plan, the UOD allocated to the Travis Field WPCP is 2,043 lb/day (monthly average) for the critical months of March – October.
Ammonia (NH_3)	The Travis Field WPCP was identified in the 5R Plan as an NPDES permitted facility that discharges oxygen demanding substances to the Savannah Harbor. *Phase I – 4.0 MGD:* • *November-February*: The monthly average NH_3 limit of 4.0 mg/L, when combined with the proposed $CBOD_5$ limit, is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. • *March-October*: In accordance with the 5R Plan, a reduction in loading during this period is required. Although the monthly average NH_3 limit was decreased from 4.0 to 2.0 mg/L during that period, a monthly average Ultimate Oxygen Demand (UOD) limit has also been included to meet the 5R requirements (refer to Section 4.5). The monthly average ammonia limits of 2.0 and 4.0 mg/L are also in accordance with U.S. EPA's *Ambient Water Quality Criteria for Ammonia (Saltwater)*. 1989.

	Phase II – 8.0 MGD • *November-February*: The monthly average NH_3 limit of 2.0 mg/L, when combined with the proposed $CBOD_5$ limit, is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. • *March-October*: In accordance with the 5R Plan, a reduction in loading during this period is required. Although the monthly average NH_3 limit was decreased from 2.0 to 1.0 mg/L during that period, a monthly average Ultimate Oxygen Demand (UOD) limit has also been included to meet the 5R requirements (refer to Section 4.5). The monthly average ammonia limits of 2.0 and 1.0 mg/L are also in accordance with U.S. EPA's *Ambient Water Quality Criteria for Ammonia (Saltwater)*, 1989.
Total Phosphorus (TP)	*All Phases* A monthly average limit of 0.5 mg/L is in accordance with EPD's *Strategy for Addressing Phosphorus in NPDES Permitting*, 2011.
Orthophosphate, Total Kjeldahl Nitrogen (TKN), Organic Nitrogen, Nitrate-Nitrite	*All Phases* Orthophosphate, TKN, organic nitrogen, and nitrate-nitrite, monitoring has been included in the draft permit. The data will be used to determine nutrient speciation and to quantify nutrient loadings in the Savannah River Basin.

4.6 Toxics & Manmade Organic Compounds

The permittee must conduct one scan of the priority pollutants for three consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.1 and Part I.B.2 effluent limitations (4.0 MGD and 8.0 MGD, respectively), with the first scan conducted within 90 days of the authorization.

4.7 Calculations for Effluent Limitations

4.7.1 Instream Waste Concentration (IWC):

The IWC was developed using a 600:1 dilution factor.

$$IWC = \frac{1}{\text{Dilution Factor}} \times 100\%$$

$$= \frac{1}{600} \times 100\%$$

$$= 0.2\ \%$$

4.7.2 Flow:

Phase I – 4.0 MGD

- Weekly Average Flow:

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

= 4.0 x 1.25

= 5.0 MGD

Q = Flow
C = Concentration
M = Mass

Phase II – 8.0 MGD

- Weekly Average Flow:

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

= 8.0 x 1.25

= 10.0 MGD

4.7.3 Five-Day Carbonaceous Biochemical Oxygen Demand:

Phase I – 4.0 MGD

- $CBOD_5$ Weekly Average Concentration:

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

= 10.0 x 1.5

= 15.0 mg/L

- $CBOD_5$ Monthly Average Mass Loading:

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

$$= \frac{4.0 \times 10.0 \times 8.34}{2.2}$$

$$= 151.6 \text{ kg/day}$$

- $CBOD_5$ Weekly Average Mass Loading:

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

$$= \frac{5.0 \times 10.0 \times 8.34}{2.2}$$

$$= 189.5 \text{ kg/day}$$

Phase II – 8.0 MGD

- $CBOD_5$ Weekly Average Concentration:

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

$$= 5.0 \times 1.5$$

$$= 7.5 \text{ mg/L}$$

- $CBOD_5$ Monthly Average Mass Loading:

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

$$= \frac{8.0 \times 5.0 \times 8.34}{2.2}$$

$$= 151.6 \text{ kg/day}$$

- $CBOD_5$ Weekly Average Mass Loading:

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

$$= \frac{10.0 \times 5.0 \times 8.34}{2.2}$$

$$= 189.5 \text{ kg/day}$$

4.7.4 Total Suspended Solids:

Phase I – 4.0 MGD

- Weekly Average Concentration

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

$= 10 \times 1.5$

$= 15\ mg/L$

- Monthly Average Mass Loading

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

$$= \frac{\mathbf{4.0 \times 10 \times 8.34}}{\mathbf{2.2}}$$

$= 152\ kg/day$

- Weekly Average Mass Loading

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

$$= \frac{\mathbf{5.0 \times 10 \times 8.34}}{\mathbf{2.2}}$$

$= 190\ kg/day$

Phase II – 8.0 MGD

- Weekly Average Concentration

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

$= 10 \times 1.5$

$= 15\ mg/L$

- Monthly Average Mass Loading

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

$$= \frac{\mathbf{8.0 \times 10 \times 8.34}}{\mathbf{2.2}}$$

$= 303\ kg/day$

- Weekly Average Mass Loading

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

$$= \frac{10.0 \times 10 \times 8.34}{2.2}$$

$$= 379\ kg/day$$

4.7.5 Total Phosphorus:

Phase I – 4.0 MGD

- Weekly Average Concentration

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

$$= 0.5 \times 1.5$$

$$= 0.75\ mg/L$$

- Monthly Average Mass Loading

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

$$= \frac{4.0 \times 0.5 \times 8.34}{2.2}$$

$$= 7.6\ kg/day$$

- Weekly Average Mass Loading

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

$$= \frac{5.0 \times 0.5 \times 8.34}{2.2}$$

$$= 9.5\ kg/day$$

Phase II – 8.0 MGD

- Weekly Average Concentration

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

$$= 0.5 \times 1.5$$

$$= 0.75\ mg/L$$

- Monthly Average Mass Loading

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

$$= \frac{8.0 \times 0.5 \times 8.34}{2.2}$$

$$= 15.2 \text{ kg/day}$$

- Weekly Average Mass Loading

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

$$= \frac{10.0 \times 0.5 \times 8.34}{2.2}$$

$$= 19.0 \text{ kg/day}$$

4.7.6 Ammonia Toxicity Analysis:

The revised ammonia limits are based on the U.S. EPA *Ambient Water Quality Criteria for Ammonia (Saltwater)*, 1989.

Phase I – 4.0 MGD (March – October)

- Weekly Average Concentration:

$$[C]_{Weekly} = [C]_{Monthly} \text{ mg/L} \times 1.5$$

$$= 2.0 \times 1.5$$

$$= 3.0 \text{ mg/L}$$

- Monthly Average Mass Loading:

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

$$= \frac{4.0 \times 2.0 \times 8.34}{2.2}$$

$$= 30.3 \text{ kg/day}$$

- Weekly Average Mass Loading:

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

$$= \frac{5.0 \times 2.0 \times 8.34}{2.2}$$

$$= 37.9 \text{ kg/day}$$

Phase I – 4.0 MGD (November – February)

- Weekly Average Concentration:

$$[C]_{Weekly} = [C]_{Monthly} \text{ mg/L} \times 1.5$$

$$= 4.0 \times 1.5$$

$$= 6.0 \text{ mg/L}$$

- Monthly Average Mass Loading:

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

$$= \frac{4.0 \times 4.0 \times 8.34}{2.2}$$

$$= 60.6 \text{ kg/day}$$

- Weekly Average Mass Loading:

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

$$= \frac{5.0 \times 4.0 \times 8.34}{2.2}$$

$$= 75.8 \text{ kg/day}$$

Phase II –8.0 MGD (March – October)

- Weekly Average Concentration:

$$[C]_{Weekly} = [C]_{Monthly} \text{ mg/L} \times 1.5$$

$$= 1.0 \times 1.5$$

$$= 1.5 \text{ mg/L}$$

- Monthly Average Mass Loading:

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

$$= \frac{8.0 \times 1.0 \times 8.34}{2.2}$$

$$= 30.3 \text{ kg/day}$$

- Weekly Average Mass Loading:

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

$$= \frac{10.0 \times 1.0 \times 8.34}{2.2}$$

$$= 37.9 \text{ kg/day}$$

Phase II –8.0 MGD (November – February)

- Weekly Average Concentration:

$$[C]_{Weekly} = [C]_{Monthly} \text{ mg/L} \times 1.5$$

$$= 2.0 \times 1.5$$

$$= 3.0 \text{ mg/L}$$

- Monthly Average Mass Loading:

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

$$= \frac{8.0 \times 2.0 \times 8.34}{2.2}$$

$$= 60.6 \text{ kg/day}$$

- Weekly Average Mass Loading:

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

$$= \frac{10.0 \times 2.0 \times 8.34}{2.2}$$

$$= 75.8 \text{ kg/day}$$

Refer to *Appendix B* for detailed calculations.

4.8 Applicable Technology Based Effluent Limits (TBELS)

Technology-based effluent limitations 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 United States. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and water quality-based effluent limitations. The NPDES regulations at Title 40 of the Code of Federal Regulations 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 indicates that permit writers must include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality.

For pollutants not specifically regulated by Federal Effluent Limit Guidelines, the permit writer must identify any needed Technology-based effluent limitations and utilizes best professional judgment to establish technology-based limits or determine other appropriate means to control its discharge.

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.	

4.9 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:

Phase I – 4.0 MGD:

Parameter	WQBELS [1]	TBELS [1]
	Monthly Average	*Monthly Average*
Five-Day Carbonaceous Biochemical Oxygen Demand (mg/L)	**10.0**	30.0
Total Suspended Solids (mg/L)	None	**10**
Ammonia (mg/L)	**4.0** (Nov. – Feb.) **2.0** (Mar. – Oct.)	None
Fecal Coliform Bacteria (#/100 mL)	**200**	None
Total Phosphorus, as P (mg/L)	**0.5**	None
Dissolved Oxygen (mg/L), Daily Minimum	**5.0**	None
pH (Daily Minimum – Daily Maximum)	**6.0 – 9.0**	6.0 – 9.0

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

Phase II – 8.0 MGD:

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)	**2.0** (Nov. – Feb.) **1.0** (Mar. – Oct.)	None
Fecal Coliform Bacteria (#/100 mL)	**200**	None
Total Phosphorus, as P (mg/L)	**0.5**	None
Dissolved Oxygen (mg/L), Daily Minimum	**5.0**	None
pH (Daily Minimum – Daily Maximum)	**6.0 – 9.0**	6.0 – 9.0

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

5. OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 Expansion to 4.0 and 8.0 MGD

5.1.1 Antidegradation Review

On July 12, 2019 EPD concurred with the City's Anti-Degradation Analysis report (Report) for an expanded discharge flow of up to 8.0 MGD to Pipe Makers Canal approximately 800 feet from the confluence of the canal and the Savannah River. The City has provided population projections based on census data, as well as flow projections based on zoning requirements and annual growth rates. These projections justify the proposed volume of wastewater treatment required through 2040.

The Report discusses reasonable alternatives stating that a) the facility is not subject to excessive inflow and infiltration; b) there are not sufficient large reuse customers to dispose of the entire flow, unless residential customers are considered; c) discharge via a land application system would require approximately 1,800 acres of land, which is not available within 5 miles of the facility; and, d) there are no nearby treatment systems with the capacity to accept 8.0 MGD.

The City has also documented the financial impacts of the referenced alternatives in the Report. The capital costs and present worth values provided for the direct discharge alternative are significantly less than that of a new land treatment system or reuse system primarily due to land acquisition and force main network costs, respectively.

Based on the information provided, EPD determined that the report adequately illustrates that the discharge of treated wastewater to surface waters is necessary to accommodate future growth and is the most economically achievable alternative. Therefore, EPD concurs with the Report's conclusion that requiring a no discharge alternative system for 8.0 MGD of domestic wastewater would not be reasonable or practicable.

5.1.2 Permitting Milestones

- Antidegradation Review (ADR): Concurred with on July 12, 2019.
- Environmental Information Document (EID): Concurred with on July 15, 2019.
- Design Development Report (DDR): Concurred with on July 19, 2019.

5.2 Discharge to the reuse distribution system

The proposed reuse limits in the permit are in accordance with EPD standards for reuse water as described below:

Parameter	Treatment Standards *30-day average unless otherwise specified*
BOD_5	5.0 mg/L
TSS	5 mg/L
Fecal Coliform Bacteria [1]	23 #/ 100 mL
pH (Daily Minimum – Daily Maximum)	6.0-9.0 S.U.
Turbidity (Daily Maximum)	3 NTU

[1] Daily Maximum limitation of 100#/100mL.

5.3 5R Plan Annual Reporting

In order to confirm the facility's discharge was appropriately represented in the Savannah River and Harbor DO Calculator Version 4.0 (June 2010), EPD is requiring annual reporting of the facility's effluent characteristics. The permittee shall submit an annual report which provides all available discharge data over the previous twelve (12) calendar months for the parameters listed in Part I.C.10 of the permit.

5.4 Long-Term BOD (LTBOD) Test

For facilities with a capacity of 1.0 MGD or greater, a 120-day long-term BOD test should be performed on an effluent sample collected during the critical period from June 1 through September 30. Therefore, requirements for LTBOD testing have been included in the draft permit at the B.1 and B.2 effluent limitations (4.0 MGD and 8.0 MGD, respectively).

5.5 Industrial Pre-treatment Program (IPP)

The City of Savannah has an approved IPP; therefore language to reflect the approved IPP has been included in the draft permit.

5.6 Sludge Management Plan (SMP)

Sludge is disposed of in a landfill; therefore, a SMP is not required.

5.7 Watershed Protection Plan (WPP)

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

5.8 Service Delivery Strategy

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

5.9 Compliance Schedules

Effluent limitations will be applicable immediately upon receiving EPD approval of construction completion and written authorization to operate.

5.10 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, Brunswick Office
400 Commerce Center Drive
Brunswick, Georgia 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. 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

City of Savannah Travis Field Water Pollution Control Plant
NPDES Permit No. GA0020427

Waste Load Allocation

National Pollutant Discharge Elimination System
Waste Load Allocation Form

Part I: Background Information

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

Facility Name: **Savannah - Travis Field WPCP** County: **Chatham** WQMU: **0192**

NPDES Permit No.: **GA0020427** Expiration Date: **12/04/2010 (Extended)** Outfall Number: **001**

Receiving Water: **Savannah River** River Basin: **Savannah** 10-Digit HUC: **0306010906**

Discharge Type: Domestic ☐ Industrial ☐ Both ☒ Proportion (D:I): Flow(s) Requested (MGD): **4.0, 8.0**

Industrial Contributions Type(s):

Treatment Process Description:

Additional Information: (history, special conditions, other facilities): **The effluent from this facility is combined with that of the Garden City WPCP and discharged to the Savannah River.**

Requested by: **Yilin Fan** Title: **Environmental Engineer** Program: **Wastewater Regulatory Program**

Telephone: Date: **May 18, 2017**

Part II: Receiving Water Information

Receiving Water: **Savannah River/Harbor** Designated Use Classification: **Coastal Fishing**

Integrated 305(b)/303(d) List: Yes ☒ No ☐ Support: ☐ Not Support: ☐ Criteria: **Dissolved Oxygen (DO)**

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

The WLA and recommended permit limits comply with the Subcategory 5R Documentation For Point Source Dissolved Oxygen Impaired Water in the Savannah River Basin, Georgia and South Carolina.

Part III: Water Quality Model Review Information

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

Field Data: None ☐ Fair ☐ Good ☐ Excellent ☐

Model and Field Data Description: **The WLA was developed using the Savannah Harbor TMDL calculator version 4, which is based on results from water quality models for the Savannah River and Harbor. The WLAs for facilities included in the 5R Plan were developed by the discharger group using the TMDL calculator.**

Critical Water Temperature:(°C):		Drainage Area (mi^2):		Mean annual streamflow at discharge (cfs):	**Tidal**
7Q10 Yield (cfs/mi^2):		Velocity (range fps):		30Q3 streamflow at discharge (cfs):	**Tidal**
Effluent Flow Rate (cfs):	**6.2, 12.4**	Dilution Factor:		7Q10 streamflow at discharge (cfs):	**Tidal**
Slope (range - fpm):	K1:	K3:	K2 :	1Q10 streamflow at discharge (cfs):	**Tidal**
SOD:	Escape Coef. (ft^{-1}):	f-Ratio BOD_u/BOD_5):	**5.52**	Background Hardness (as $CaCO_3$)(mg/L):	**25**

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

Rationale: Same as current ☐ Revised ☒ New ☐

Location: **Savannah River/Harbor (existing)**

Period	Effluent Flow Rate (MGD)	UOD (lbs/day)	BOD_5	NH_3-N	DO (min)	TSS	Fecal Coliform (No./100ml)	pH (std. units)	TRC (daily max.)	Total-P	Ortho-P	NO_x	Org-N	TKN
Mar – Oct	**4.0**	**2,043**	**10.0**	**2.0**	**5.0**	**20**	**200**	**6.0 – 9.0**	**0.28**	**0.5**	**M**	**M**	**M**	**M**
Nov – Feb	**4.0**	**–**	**10.0**	**4.0**	**5.0**	**20**	**200**	**6.0 – 9.0**	**0.28**	**0.5**	**M**	**M**	**M**	**M**
Mar – Oct	**8.0**	**2,043**	**5.0**	**1.0**	**5.0**	**20**	**200**	**6.0 – 9.0**	**0.14**	**0.5**	**M**	**M**	**M**	**M**
Nov – Feb	**8.0**	**–**	**5.0**	**2.0**	**5.0**	**20**	**200**	**6.0 – 9.0**	**0.14**	**0.5**	**M**	**M**	**M**	**M**

Additional Comments:

Priority pollutant permit limits, aquatic toxicity testing requirements, and other parameters required by categorical effluent guidelines are to be determined by the Wastewater Regulatory Program.

The Ultimate Oxygen Demand (UOD) shall be computed according to the equation:

$$UOD = Q_{effluent} * (CBOD_5 * 5.52 + NH3\text{-}N * 4.57) * 8.34$$

Effluent nutrient monitoring is recommended in accordance with the State of Georgia's nutrient management strategy to identify and quantify nutrient loadings to the Savannah River and Harbor. Ammonia monitoring is also recommended in order to compute the UOD load and should be analyzed from the same sample as BOD_5. Phosphorus and nitrogen constituents should be analyzed from the same sample for the respective nutrient group.

M = Monitor

Prepared by: **Paul Lamarre** Date: **08/31/2017** | Reviewed by: **Josh Welte** Date: 27 SEP 17

Part V: Program Manager Comments

Elizabeth A Booth

Elizabeth Booth Date: 9/29/17

FACT SHEET

Appendix B

City of Savannah Travis Field Water Pollution Control Plant
NPDES Permit No. GA0020427

Ammonia Toxicity Calculation

Determination of Allowable Effluent Ammonia Concentration Using U.S. Environmental Protection Agency Ambient Water Quality Criteria for Ammonia (Saltwater) - 1989

Date: 05/07/2019
Facility: Savannah - Travis Field WPCP
NPDES Permit Number: GA0020427
Receiving Stream: Savannah River/Harbor
Engineer: Paul Lamarre
Comments:

Background Flow and Water Quality

Flow (cfs):	5080	
Ammonia (mg/L):	0.0	
pH:	7.7	
Water Temperature (degC):	30	
Salinity (g/kg):	14	(Round salinity to the nearest whole unit [10 - 30])

Effluent Flow and Quality

Flow (MGD/cfs):	4.0	6.19
pH:	9.0	
Water Temperature (degC):	30	

Combined Flow and Water Quality

Flow (cfs):	5086
pH:	7.70
Water Temperature (degC):	30.0

Ammonia Criteria Continuous Concentration

Salinity (g/kg):	14	
pH:	7.7	(Round pH to the nearest 0.1 standard unit)
Temperature (degC):	30	(Round temperature to the nearest whole degree [0 - 35])
Total Ammonia Criteria Continuous Concentration (CCC) (mg/L):	0.98	
Total Ammonia CCC Converted to NH3-N (mg/L):	0.81	

Allowable Effluent Ammonia Concentration- NH3-N (mg/L): 663

Check: 0.81

Note: Enter values shown in black only.

Determination of Allowable Effluent Ammonia Concentration Using U.S. Environmental Protection Agency Ambient Water Quality Criteria for Ammonia (Saltwater) - 1989

Date: 05/07/2019
Facility: Savannah - Travis Field WPCP
NPDES Permit Number: GA0020427
Receiving Stream: Savannah River/Harbor
Engineer: Paul Lamarre
Comments:

Background Flow and Water Quality

Flow (cfs):	5080	
Ammonia (mg/L):	0.0	
pH:	7.7	
Water Temperature (degC):	30	
Salinity (g/kg):	14	(Round salinity to the nearest whole unit [10 - 30])

Effluent Flow and Quality

Flow (MGD/cfs):	8.0	12.38
pH:	9.0	
Water Temperature (degC):	30	

Combined Flow and Water Quality

Flow (cfs):	5092	
pH:	7.70	
Water Temperature (degC):	30.0	

Ammonia Criteria Continuous Concentration

Salinity (g/kg):	14	
pH:	7.7	(Round pH to the nearest 0.1 standard unit)
Temperature (degC):	30	(Round temperature to the nearest whole degree [0 - 35])
Total Ammonia Criteria Continuous Concentration (CCC) (mg/L):	0.98	
Total Ammonia CCC Converted to NH3-N (mg/L):	0.81	

Allowable Effluent Ammonia Concentration- NH3-N (mg/L): 332

Check: 0.81

Note: Enter values shown in black only.