



SUMMARY PAGE

Name of Facility: Lumpkin County Water and Sewerage Authority – Cane Branch Water Pollution Control Plant (WPCP)

NPDES Permit No.: GA0050339

This is an issuance of the NPDES permit for the Cane Branch WPCP. Up to 0.25 MGD (monthly average) of treated domestic wastewater will be discharged to Cane Branch in the Chattahoochee River Basin. The permit also includes effluent limitations and monitoring requirements for the expanded discharges of 0.5 MGD and 1.0 MGD to Lake Lanier via the Chestatee River Embayment. The draft permit was issued on December 21, 2023 and the public comment period ended on February 1, 2024.

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:

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- 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.

Mar 27, 2024

Mr. Sean Phipps, Executive Director
Lumpkin County Water and Sewerage Authority
194 Courthouse Hill, Annex A
Dahlonega, Georgia 30533

RE: Permit Issuance
Cane Branch Water Pollution Control Plant
NPDES Permit No. GA0050339
Lumpkin County, Chattahoochee River Basin

Dear Mr. Phipps:

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
Mountain District – Cartersville Office
16 Center Road
Cartersville, Georgia 30121

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

If you have comments or questions, please contact August Lutkehus of my staff at (470) 524-0733 or august.lutkehus@dnr.ga.gov.

Sincerely,



Jeffrey W. Cown
Director

JWC\aal

Attachments: EPD Response to Public Comments, NPDES Permit No. GA0050339, Fact Sheet

cc: Brian Boutelle, EPD Mountain District – Cartersville Office (brian.boutelle@dnr.ga.gov)
Leon Hendee, Peoples & Quigley, Inc. (lhendee@pandqinc.com)
Sean Phipps, Lumpkin County Water & Sewer Authority (sean.phipps@lumpkincounty.gov)
Josh Welte, EPD Water Quality Modeling Unit (josh.welte@dnr.ga.gov)
Tyler Parsons, EPD TMDL Modeling & Development Unit (tyler.parsons@dnr.ga.gov)
EPA Region IV Mailbox (R4NPDESPermits@epa.gov)

**Public Comments and EPD Responses on Draft Permit
Lumpkin County Water and Sewerage Authority – Cane Branch Water Pollution Control Plant
NPDES Permit No. GA0050339**

Comment	Response to Comment
<p>Instream water quality monitoring should be included in Part 1.B. of the draft permit.</p> <p>Monitoring the receiving waters for nutrients and chlorophyll-a is essential for mitigating any water quality impacts to Lake Lanier and ensuring that the water quality trade is successful. In addition to the monitoring plan and annual report requirement in Part C.12 of the draft permit, receiving water monitoring should be included as a table in Part B.1 of the permit. Other permits require instream monitoring as a condition of permit compliance (e.g., NPDES Permit #GA0021156, Flat Creek Water Reclamation Facility in Gainesville, GA), and data is then reported through the facility’s Discharge Monitoring Reports (“DMRs”) and is accessible to EPD and the public.</p> <p>Data reported in the DMR should include monthly monitoring for Total Phosphorus, Soluble Reactive Phosphorus, Nitrate-Nitrite, Ammonia, and Total Nitrogen upstream and downstream of the discharge. Monthly monitoring for chlorophyll-a should be required during the growing season (April-Oct). Considering the high importance of the downstream water body, a table specifying instream monitoring requirements within the permit is warranted, similar to table B.1 in NPDES Permit #GA0021156.</p>	<p>The water quality trading plan is for the implementation of a point-to-point-source trade. Compliance with the point source trade will be confirmed via the effluent limits and monitoring requirements for total phosphorus and total nitrogen which will be reported monthly on the facility’s electronic discharge monitoring reports.</p> <p>The additional instream water quality monitoring is to verify that the point-to-point-source trade does not result in any localized hotspots and will be submitted to EPD annually in January to ensure a timely review prior to the following growing season.</p> <p>Managing the instream monitoring via the trading plan ensures adjustments can be made annually as needed based on a review of the previous year’s data. This follows the same approach as with the monitoring data that will be submitted in the annual report for the Watershed Protection Plan (Part I.C.8). The annual report and related monitoring records will be made available to the public for review through open records requests.</p>

<p>Changes to the nutrient trading plan should require a major permit modification and associated public notice.</p> <p>The Authority has signaled that they intend to pursue the creation of a nonpoint-to-point source trade in addition to the point-to-point source trade with Forsyth County at some point in the future. If changes to the trading plan occur during the permit cycle, how will notification happen? We propose that EPD add language to the permit that requires a new permit application if changes to the trading plan are made. This will ensure that there is proper review and public notice of the modified trading plan.</p>	<p>Any changes to the trading plan that result in revised effluent limitations and/or permit conditions will require a permit modification. In accordance with state rules and federal regulations, the public will have the opportunity to provide input and feedback during the public comment period that will be held when the draft NPDES permit for the modification is issued.</p>
<p>The effluent limits for Ammonia in Table B.1. (outfall #001 to Cane Creek) is higher than is technologically feasible for this facility and significantly higher than are required for other facilities in the watershed.</p> <p>The monthly and weekly average ammonia limits (2.0 and 3.0 mg/L, respectively) are higher than for other dischargers to the Lanier watershed (e.g. Linwood and Flat Creek in Gainesville and City of Cornelia) and higher than is attainable for a new plant. A monthly average limit of 0.5 mg/L is reasonable for this facility, as it will be required to meet this standard when it begins discharging from outfall #002 to Lake Lanier.</p>	<p>A monthly average effluent ammonia limit of 2.0 mg/L is protective of the instream water quality standard of dissolved oxygen and meet the 2013 EPA ammonia toxicity criteria. A more stringent limit is not warranted at this time.</p>

<p>EPD does not specify in the permit what instream monitoring results would cause a reconsideration of more stringent pollution limits.</p> <p>The draft permit states that the trading plan “may be terminated at any time by EPD if water quality modeling and/or instream monitoring indicates the need for more stringent limits” but does not specify instream monitoring benchmarks that would cause the trading agreement to be re-evaluated. See Draft Permit Packet, Draft Permit No. GA0050339, Part C.12, pg 17 of 28. CRK believes it is important to establish a baseline and metrics to identify substantial changes in water quality and cause the EPD to reassess the trading plan.</p>	<p>This boilerplate language, sometime referred to as “reopener clause”, is meant to indicate to the Permittee that EPD may re-evaluate (and/or terminate) the trading Plan at any time based on new or updated information. The language is meant to be broad and not include specific criteria or a comprehensive list of reasons for re-evaluation/termination. EPD will inform the permittee (and the public through public participation process if permit is modified) why the Trading Plan needs to be re-evaluated/terminated, if applicable.</p>
<p>CRK recommends that the Authority begin implementing the monitoring plan before the plant is operational.</p> <p>To effectively assess the impact of the discharge on water quality, it is essential to begin monitoring before the facility begins discharging to Cane Branch and Lake Lanier. Background data will aid EPD and the Authority in determining the impact of the discharge on water quality and the overall success of the trading plan. We propose that the Authority begin collecting background monitoring data when the permit becomes effective.</p>	<p>The Monitoring Plan includes monitoring locations upstream and downstream of the outfall. Impact of the discharge will be evaluated by comparing the upstream & downstream samples.</p>

The nutrients referenced in the monitoring plan should be specified. Monitoring for nutrients should occur at least monthly.

The plan must specify what nutrients the Authority will monitor for. Analytes should include Total Phosphorus, Soluble Reactive Phosphorus, Nitrate-Nitrite, Ammonia, and Total Nitrogen. While growing season-only monitoring is appropriate for chlorophyll-a, nutrients and other parameters should be measured year-round.

The Monitoring Plan has been updated to list all parameters to be monitored. It includes total phosphorus, orthophosphate, nitrate-nitrite, ammonia and Total Kjeldahl Nitrogen (TKN). Total Nitrogen will be calculated as the sum of nitrate-nitrite and TKN. The monitoring Plan also specify that year-round monitoring will be conducted.



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,

**Lumpkin County Water and Sewerage Authority
194 Courthouse Hill, Annex A
Dahlonega, Georgia 30533**

is authorized to discharge from a facility located at

**Cane Branch Water Pollution Control Plant
45 Arbor Drive
Dahlonega, Georgia 30533
(Lumpkin County)**

to receiving waters

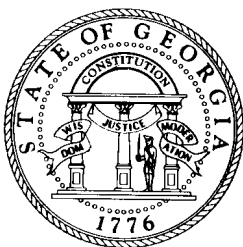
**Cane Branch (Outfall No. 001) &
Lake Lanier (Outfall No. 002)
(Chattahoochee River Basin)**

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 27, 2023, any other applications upon which this permit is based, supporting data entered therein or attached thereto, and any subsequent submittal of supporting data.

This permit shall become effective on April 1, 2024.

This permit and the authorization to discharge shall expire at midnight, March 31, 2029.



Jeffrey W. Cown

Director,
Environmental Protection Division

PART I

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

The Federal Act referred to is The Clean Water Act.

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

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

A. SPECIAL CONDITIONS

1. SLUDGE DISPOSAL REQUIREMENTS

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

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

2. SLUDGE MONITORING REQUIREMENTS

The permittee shall develop and implement procedures to ensure adequate year-round sludge disposal. The permittee shall monitor and maintain records documenting the quantity of sludge removed from the facility. Records shall be maintained documenting that the quantity of solids removed from the facility equals the solids generated on an average day. The total quantity of sludge removed from the facility during the reporting period shall be reported each month with the Discharge Monitoring Reports as required under Part I.D.1. of this permit. The quantity shall be reported on a dry weight basis (dry tons).

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

The permittee must notify EPD of:

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

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

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

4. EFFLUENT TOXICITY AND BIOMONITORING REQUIREMENTS

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

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

- a. Acute biomonitoring tests;
- b. Chronic biomonitoring tests;
- c. Stream studies;
- d. Priority pollutant analyses;
- e. Toxicity reduction evaluations (TRE); or
- f. Any other appropriate study.

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

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

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Cane Branch - Outfall #001 (34.4350034°, -83.9858162°):

- a. 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 and continuing until EPD provides approval of construction completion and written authorization to operate under the B.2. effluent limitations (0.5 MGD):

Parameters	Discharge limitations in mg/L (lbs/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	0.25	0.31	Seven Days/Week	Continuous Recording	Effluent
Five-Day Biochemical Oxygen Demand (¹)	10.0 (20.9)	15.0 (26.1)	Two Days/Week	Composite	Influent & Effluent
Total Suspended Solids (¹)	20 (41.7)	30 (52.1)	Two Days/Week	Composite	Influent & Effluent
Ammonia, as N (²)	2.0 (4.2)	3.0 (5.2)	Two Days/Week	Composite	Effluent
Total Nitrogen, as N (²) (⁴)	12.0 (25.0)	18.0 (31.3)	Two Days/Week	Calculated	Effluent
Total Phosphorus, as P (³) (⁴)	--	--			
Trading Plan In Effect (⁵)	0.13 (0.27)	0.20 (0.34)	Two Days/Week	Composite	Effluent
Trading Plan No Longer In Effect (⁶)	0 (0)	0 (0)	Two Days/Week	Composite	Effluent
<i>E. coli</i> (counts/100 ml)	126	410	One Day/Week	Grab	Effluent

(¹) Numeric limits only apply to the effluent.

(²) 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. Total nitrogen is the sum of all nitrogen and calculated as follows: TN = TKN + nitrite + nitrate.

(³) Total phosphorus and orthophosphate must be analyzed from the same sample.

(⁴) Refer to Part I.C.12. WATER QUALITY TRADING PLAN REPORTING REQUIREMENTS.

(⁵) These effluent limitations are in accordance with the total phosphorus credit as identified in the Water Quality Trading Plan and are only applicable when the Trading Plan is in effect.

(⁶) These effluent limitations only apply if the Water Quality Trading Plan is no longer in effect.

(Effluent limitations continued on the next page)

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(CONTINUED)

Discharge to Cane Branch - Outfall #001 (34.4350034°, -83.9858162°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
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, Daily Minimum – Daily Maximum (Standard Unit)	6.0 – 8.5	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum ⁽²⁾	0.02	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Daily Minimum	5.0	Seven Days/Week	Grab	Effluent
Orthophosphate, as P ⁽³⁾	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N ⁽⁴⁾	Report	One Day/Month	Calculated	Effluent
Nitrate-Nitrite, as N ⁽⁴⁾	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N ⁽⁴⁾	Report	One Day/Month	Composite	Effluent

- (1) Percent removal shall be calculated from monthly average influent and effluent concentrations. Influent and effluent samples shall be collected at approximately the same time.
- (2) Monitoring requirements and the effluent limitation for Total Residual Chlorine (TRC) only apply when chlorine is in use at the facility. The permittee must use the appropriate No Data indicator (NODI) code on the Discharge Monitoring Reports when TRC monitoring is not required.
- (3) Total phosphorus and orthophosphate must be analyzed from the same sample.
- (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. Total nitrogen is the sum of all nitrogen and calculated as follows: TN = TKN + nitrite + nitrate.

(Monitoring requirements continued on the next page)

- b. The monthly average, other than for *E. coli*, is the arithmetic mean of values obtained for samples collected during a calendar month.
- c. The weekly average, other than for *E. coli*, is the arithmetic mean of values obtained for samples collected during a 7-day period. The week begins 12:00 midnight Saturday and ends at 12:00 midnight the following Saturday. To define a different starting time for the sampling period, the permittee must notify the EPD in writing. For reporting required by Part I.D.1. of this permit, a week that starts in one month and ends in another month shall be considered part of the second month. The permittee may calculate and report the weekly average as a 7-day moving average.
- d. *E. coli* will be reported as the geometric mean of the values for the samples collected during the time periods in I.B.1.b. and I.B.1.c.
- e. Influent monitoring: Unless otherwise specified, influent samples shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.
- f. Effluent monitoring: Unless otherwise specified, effluent samples shall be collected after the final treatment process and before discharge to receiving waters.
- g. A composite sample shall consist of a minimum of 5 subsamples collected at least once every 2 hours for at least 8 hours and shall be composited proportionately to flow.
- h. Flow measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If instantaneous measurements are required, then the permittee shall have a primary flow measuring device that is correctly installed and maintained. If continuous recording measurements are required, then flow measurements must be made using continuous recording equipment. Calibration shall be maintained of the continuous recording instrumentation to $\pm 10\%$ of the actual flow.

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

Records of the calibration checks shall be maintained.

- i. If secondary flow instruments malfunction or fail to maintain calibration as required in I.B.1.h., the flow shall be computed from manual measurements taken at the times specified for the collection of composite samples.
- j. Some parameters will be reported as "not detected" when they are below the detection limit and will then be considered in compliance with the effluent limit. The detection limit will also be reported.

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Lake Lanier - Outfall #002 (34.434030°, -83.978280°):

- a. 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 (0.5 MGD) and continuing until EPD provides approval of construction completion and written authorization to operate under the B.3. effluent limitations (1.0 MGD):

Parameters	Discharge limitations in mg/L (lbs/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	0.50	0.63	Seven Days/Week	Continuous Recording	Effluent
Five-Day Carbonaceous Biochemical Oxygen Demand ⁽¹⁾	2.5 (10.4)	3.8 (13.0)	Two Days/Week	Composite	Influent & Effluent
Total Suspended Solids ⁽¹⁾	5 (20.9)	7.5 (26.1)	Two Days/Week	Composite	Influent & Effluent
Ammonia, as N ⁽²⁾	0.5 (2.1)	0.75 (2.6)	Two Days/Week	Composite	Effluent
Total Nitrogen, as N ^{(2) (4)}	12.0 (50.0)	18.0 (62.6)	Two Days/Week	Calculated	Effluent
Total Phosphorus, as P ^{(3) (4)}	--	--			
Trading Plan In Effect ⁽⁵⁾	0.13 (0.54)	0.20 (0.68)	Two Days/Week	Composite	Effluent
Trading Plan No Longer In Effect ⁽⁶⁾	0 (0)	0 (0)	Two Days/Week	Composite	Effluent
<i>E. coli</i> (counts/100 ml)	126	410	One Day/Week	Grab	Effluent

⁽¹⁾ Numeric limits only apply to the effluent.

⁽²⁾ 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. Total nitrogen is the sum of all nitrogen and calculated as follows:
TN = TKN + nitrite + nitrate.

⁽³⁾ Total phosphorus and orthophosphate must be analyzed from the same sample.

⁽⁴⁾ Refer to Part I.C.12. WATER QUALITY TRADING PLAN REPORTING REQUIREMENTS.

⁽⁵⁾ These effluent limitations are in accordance with the total phosphorus credit as identified in the Water Quality Trading Plan and are only applicable when the Trading Plan is in effect.

⁽⁶⁾ These effluent limitations only apply if the Water Quality Trading Plan is no longer in effect.

(Effluent limitations continued on the next page)

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(CONTINUED)

Discharge to Lake Lanier - Outfall #002 (34.434030°, -83.978280°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Five-Day Carbonaceous Biochemical Oxygen Demand Removal, Minimum (%) ⁽¹⁾	85	See Below	See Below	See Below
Total Suspended Solids Removal, Minimum (%) ⁽¹⁾	85	See Below	See Below	See Below
pH, Daily Minimum – Daily Maximum (Standard Unit)	6.0 – 8.5	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum ⁽²⁾	0.01	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Daily Minimum	6.0	Seven Days/Week	Grab	Effluent
Orthophosphate, as P ⁽³⁾	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N ⁽⁴⁾	Report	One Day/Month	Calculated	Effluent
Nitrate-Nitrite, as N ⁽⁴⁾	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N ⁽⁴⁾	Report	One Day/Month	Composite	Effluent

- ⁽¹⁾ Percent removal shall be calculated from monthly average influent and effluent concentrations. Influent and effluent samples shall be collected at approximately the same time.
- ⁽²⁾ Monitoring requirements and the effluent limitation for Total Residual Chlorine (TRC) only apply when chlorine is in use at the facility. The permittee must use the appropriate No Data indicator (NODI) code on the Discharge Monitoring Reports when TRC monitoring is not required.
- ⁽³⁾ Total phosphorus and orthophosphate must be analyzed from the same sample.
- ⁽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. Total nitrogen is the sum of all nitrogen and calculated as follows: TN = TKN + nitrite + nitrate.

(Monitoring requirements continued on the next page)

- b. The monthly average, other than for *E. coli*, is the arithmetic mean of values obtained for samples collected during a calendar month.
- c. The weekly average, other than for *E. coli*, is the arithmetic mean of values obtained for samples collected during a 7-day period. The week begins 12:00 midnight Saturday and ends at 12:00 midnight the following Saturday. To define a different starting time for the sampling period, the permittee must notify the EPD in writing. For reporting required by Part I.D.1. of this permit, a week that starts in one month and ends in another month shall be considered part of the second month. The permittee may calculate and report the weekly average as a 7-day moving average.
- d. *E. coli* will be reported as the geometric mean of the values for the samples collected during the time periods in I.B.2.b. and I.B.2.c.
- e. Influent monitoring: Unless otherwise specified, influent samples shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.
- f. Effluent monitoring: Unless otherwise specified, effluent samples shall be collected after the final treatment process and before discharge to receiving waters.
- g. A composite sample shall consist of a minimum of 5 subsamples collected at least once every 2 hours for at least 8 hours and shall be composited proportionately to flow.
- h. Flow measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If instantaneous measurements are required, then the permittee shall have a primary flow measuring device that is correctly installed and maintained. If continuous recording measurements are required, then flow measurements must be made using continuous recording equipment. Calibration shall be maintained of the continuous recording instrumentation to $\pm 10\%$ of the actual flow.

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

Records of the calibration checks shall be maintained.

- i. If secondary flow instruments malfunction or fail to maintain calibration as required in I.B.2.h., the flow shall be computed from manual measurements taken at the times specified for the collection of composite samples.
- j. Some parameters will be reported as "not detected" when they are below the detection limit and will then be considered in compliance with the effluent limit. The detection limit will also be reported.

B.3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Discharge to Lake Lanier - Outfall #002 (34.434030°, -83.978280°):

- a. 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.3. effluent limitations (1.0 MGD):

Parameters	Discharge limitations in mg/L (lbs/day) unless otherwise specified		Monitoring Requirements		
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type	Sample Location
Flow (MGD)	1.0	1.25	Seven Days/Week	Continuous Recording	Effluent
Five-Day Carbonaceous Biochemical Oxygen Demand ⁽¹⁾	2.5 (20.9)	3.8 (26.1)	Three Days/Week	Composite	Influent & Effluent
Total Suspended Solids ⁽¹⁾	5 (41.7)	7.5 (52.1)	Three Days/Week	Composite	Influent & Effluent
Ammonia, as N ⁽²⁾	0.5 (4.2)	0.75 (5.2)	Three Days/Week	Composite	Effluent
Total Nitrogen, as N ^{(2) (4)}	12.0 (100)	18.0 (125)	Three Days/Week	Calculated	Effluent
Total Phosphorus, as P ^{(3) (4)}					
Trading Plan In Effect ⁽⁵⁾	0.08 (0.67)	0.12 (0.83)	Three Days/Week	Composite	Effluent
Trading Plan No Longer In Effect ⁽⁶⁾	0 (0)	0 (0)	Three Days/Week	Composite	Effluent
<i>E. coli</i> (counts/100 ml)	126	410	Two Day/Week	Grab	Effluent

⁽¹⁾ Numeric limits only apply to the effluent.

⁽²⁾ 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. Total nitrogen is the sum of all nitrogen and calculated as follows:
TN = TKN + nitrite + nitrate.

⁽³⁾ Total phosphorus and orthophosphate must be analyzed from the same sample.

⁽⁴⁾ Refer to Part I.C.12. WATER QUALITY TRADING PLAN REPORTING REQUIREMENTS.

⁽⁵⁾ These effluent limitations are in accordance with the total phosphorus credit as identified in the Water Quality Trading Plan and are only applicable when the Trading Plan is in effect.

⁽⁶⁾ These effluent limitations only apply if the Water Quality Trading Plan is no longer in effect.

(Effluent limitations continued on the next page)

B.3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(CONTINUED)

Discharge to Lake Lanier - Outfall #002 (34.434030°, -83.978280°):

Parameters	Discharge limitations in mg/L unless otherwise specified	Monitoring Requirements		
		Measurement Frequency	Sample Type	Sample Location
Five-Day Carbonaceous Biochemical Oxygen Demand Removal, Minimum (%) ⁽¹⁾	85	See Below	See Below	See Below
Total Suspended Solids Removal, Minimum (%) ⁽¹⁾	85	See Below	See Below	See Below
pH, Daily Minimum – Daily Maximum (Standard Unit)	6.0 – 8.5	Seven Days/Week	Grab	Effluent
Total Residual Chlorine, Daily Maximum ⁽²⁾	0.01	Seven Days/Week	Grab	Effluent
Dissolved Oxygen, Daily Minimum	6.0	Seven Days/Week	Grab	Effluent
Orthophosphate, as P ⁽³⁾	Report	One Day/Month	Composite	Effluent
Organic Nitrogen, as N ⁽⁴⁾	Report	One Day/Month	Calculated	Effluent
Nitrate-Nitrite, as N ⁽⁴⁾	Report	One Day/Month	Composite	Effluent
Total Kjeldahl Nitrogen, as N ⁽⁴⁾	Report	One Day/Month	Composite	Effluent
Chronic Whole Effluent Toxicity ⁽⁵⁾	Report NOEC	See Below	Composite	Effluent
Priority Pollutants ⁽⁶⁾	Report	See Below	Composite	Effluent
Long-Term Biochemical Oxygen Demand ⁽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⁾ Monitoring requirements and the effluent limitation for Total Residual Chlorine (TRC) only apply when chlorine is in use at the facility. The permittee must use the appropriate No Data indicator (NODI) code on the Discharge Monitoring Reports when TRC monitoring is not required.

⁽³⁾ Total phosphorus and orthophosphate must be analyzed from the same sample.

⁽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. Total nitrogen is the sum of all nitrogen and calculated as follows: TN = TKN + nitrite + nitrate.

⁽⁵⁾ Refer to Part I.C.9. CHRONIC WHOLE EFFLUENT TOXICITY.

⁽⁶⁾ Refer to Part I.C.10. PRIORITY POLLUTANTS.

⁽⁷⁾ Refer to Part I.C.11. LONG-TERM BIOCHEMICAL OXYGEN DEMAND.

(Monitoring requirements continued on the next page)

- b. The monthly average, other than for *E. coli*, is the arithmetic mean of values obtained for samples collected during a calendar month.
- c. The weekly average, other than for *E. coli*, is the arithmetic mean of values obtained for samples collected during a 7-day period. The week begins 12:00 midnight Saturday and ends at 12:00 midnight the following Saturday. To define a different starting time for the sampling period, the permittee must notify the EPD in writing. For reporting required by Part I.D.1. of this permit, a week that starts in one month and ends in another month shall be considered part of the second month. The permittee may calculate and report the weekly average as a 7-day moving average.
- d. *E. coli* will be reported as the geometric mean of the values for the samples collected during the time periods in I.B.3.b. and I.B.3.c.
- e. Influent monitoring: Unless otherwise specified, influent samples shall be collected before any return or recycle flows. These flows include returned activated sludge, supernatants, centrates, filtrates, and backwash.
- f. Effluent monitoring: Unless otherwise specified, effluent samples shall be collected after the final treatment process and before discharge to receiving waters.
- g. A composite sample shall consist of a minimum of 5 subsamples collected at least once every 2 hours for at least 8 hours and shall be composited proportionately to flow.
- h. Flow measurements shall be conducted using the flow measuring device(s) in accordance with the approved design of the facility. If instantaneous measurements are required, then the permittee shall have a primary flow measuring device that is correctly installed and maintained. If continuous recording measurements are required, then flow measurements must be made using continuous recording equipment. Calibration shall be maintained of the continuous recording instrumentation to $\pm 10\%$ of the actual flow.

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

Records of the calibration checks shall be maintained.

- i. If secondary flow instruments malfunction or fail to maintain calibration as required in I.B.3.h., the flow shall be computed from manual measurements taken at the times specified for the collection of composite samples.
- j. Some parameters will be reported as "not detected" when they are below the detection limit and will then be considered in compliance with the effluent limit. The detection limit will also be reported.

C. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

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

2. SAMPLING PERIOD

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

3. MONITORING PROCEDURES

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

4. RECORDING OF RESULTS

For each required parameter analyzed, the permittee shall record:

- a. The exact place, date, and time of sampling, and the person(s) collecting the sample. For flow proportioned composite samples, this shall include the instantaneous flow and the corresponding volume of each sample aliquot, and other information relevant to document flow proportioning of composite samples;
- b. The dates and times the analyses were performed;
- c. The person(s) who performed the analyses;
- d. The analytical procedures or methods used; and
- e. The results of all required analyses.

5. ADDITIONAL MONITORING BY PERMITTEE

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

6. RECORDS RETENTION

The permittee shall retain records of:

- a. All laboratory analyses performed including sample data, quality control data, and standard curves;
- b. Calibration and maintenance records of laboratory instruments;
- c. Calibration and maintenance records and recordings from continuous recording instruments;
- d. Process control monitoring records;
- e. Facility operation and maintenance records;
- f. Copies of all reports required by this permit;
- g. All data and information used to complete the permit application; and
- h. All monitoring data related to sludge use and disposal.

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

7. PENALTIES

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

8. WATERSHED PROTECTION PLAN

Prior to receiving authorization to operate under Part I.B.1 (0.25 MGD), the permittee must conduct a Watershed Assessment and develop a Watershed Protection Plan for all the watersheds that are contained within the permittee's Assessment Area. The Assessment Area is defined as all basins or subbasins that are served by the facility. The Watershed Assessment should include a study to document baseline water quality and identify stressors which affect the quality of the water resources in the area. The scope of the work for the Watershed Protection Plan must include defining what steps will be necessary to improve and ultimately meet water quality standards.

a. Watershed Assessment

At a minimum, the watershed assessment should include the following:

- i. Develop a plan for the monitoring and assessment of all streams in the Assessment Area. This should include parameters to be monitored, monitoring frequencies, and other data to be collected.
- ii. Determine methods for identifying waters not supporting designated water uses.
- iii. Identify water resource concerns and priority issues for the Assessment Area.

b. Watershed Protection Plan

The permittee must develop a Watershed Protection Plan that reflects the findings of the Watershed Assessment.

The Watershed Protection Plan will provide for the following:

- i. The Watershed Protection Plan will apply to the Assessment Area as defined above. The plan will utilize the information generated in the permittee's watershed assessment to establish a baseline of watershed conditions and to provide ongoing long-term monitoring according to the approved plan to either verify that the plan is effective or to modify the plan such that water quality standards will be achieved.
- ii. The Watershed Protection Plan must include a schedule for correcting current water quality problems that are causing water quality standards violations. The permittee shall provide ongoing monitoring to verify that the actions taken to correct the water quality problems are effective.
- iii. The permittee shall develop and put in place best management practices (BMPs) to prevent future water quality standards violations.
- iv. The permittee shall provide ongoing monitoring to verify that the BMPs are working or to provide the information necessary to modify the BMPs to achieve water quality standards.

c. Compliance Schedule

- i. Submit a Watershed Monitoring Plan for conducting the Watershed Assessment within 3 months of the effective date of this permit.
- ii. Beginning 6 months from the effective date of the permit and every 6 months thereafter until EPD approves the permittee's Watershed Protection Plan, the permittee is to submit a report to EPD regarding the progress it has made towards completing its Watershed Assessment and developing its Watershed Protection Plan. After EPD approval of the Watershed Monitoring Plan, the progress reports should include a summary of what stream data has been collected the previous 6 months. This data should be sent in the form of an electronic spreadsheet developed in coordination with EPD. The report should also estimate what percentage of the Watershed Assessment or Watershed Protection Plan is complete.
- iii. Prior to authorization to operate the facility under Part I.B.1 (0.25 MGD) effluent limitations, the permittee must have developed a Watershed Protection Plan and receive EPD approval for the Plan. The permittee's approved Watershed Protection Plan shall be enforceable through this permit.

d. Once the Watershed Protection Plan is approved, each June 30th the permittee is to submit the following to EPD:

- i. 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."
- ii. 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.
- iii. 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 1470A East
Atlanta, Georgia 30334

9. CHRONIC WHOLE EFFLUENT TOXICITY (WET)

Part I.B.3 (1.0 MGD):

The permittee shall conduct one chronic whole effluent toxicity (WET) test for four consecutive quarters after receiving EPD written authorization to commence operation under Part I.B.3 effluent limitations (1.0 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) chronic aquatic toxicity testing manuals. The referenced document is entitled *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 4th Edition, U.S. EPA, 821-R-02-013, October 2002. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e., *Ceriodaphnia dubia*) and a vertebrate species (i.e., *Pimephales promelas*). The testing must include a dilution equal to the facility's instream wastewater concentration (IWC) of 2%.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. An effluent discharge will not be considered toxic if the No Observed Effect Concentration (NOEC) is greater than or equal to the Instream Wastewater Concentration (IWC) of 2%. The results of the tests shall be submitted to EPD with the permittee's monthly Discharge Monitoring Reports.

Within fifteen months of receiving authorization to operate under Part I.B.3 effluent limitations (1.0 MGD), the permittee shall submit a report to EPD that includes a summary of the effluent data collected as well as copies of all the analytical laboratory reports. The report shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1470A East
Atlanta, Georgia 30334

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

10. PRIORITY POLLUTANTS

Part I.B.3 (1.0 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.3 effluent limitations (1.0 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. The results of the tests shall be submitted to EPD with the permittee's monthly Discharge Monitoring Reports.

Within fifteen months of receiving authorization to operate under Part I.B.3 effluent limitations (1.0 MGD), the permittee shall submit a report to EPD that includes a summary of the effluent data collected as well as copies of all the analytical laboratory reports. The report shall be submitted to EPD at the address below:

Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive SE
Suite 1470A East
Atlanta, Georgia 30334

Upon receipt of the report, EPD will conduct a reasonable potential evaluation. 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.

11. LONG-TERM BIOCHEMICAL OXYGEN DEMAND TESTING

Part I.B.3 (1.0 MGD):

The permittee shall perform a 120-day Long-Term BOD test once during the permit cycle. 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 1470A East
Atlanta, Georgia 30334

12. WATER QUALITY TRADING PLAN REPORTING REQUIREMENTS

The Trading Plan between Forsyth County and Lumpkin County Water and Sewerage Authority may be terminated at any time by EPD if water quality modeling and/or instream monitoring indicates the need for more stringent limits. EPD may also terminate the Trading Plan if conditions in the Trading Plan are not being met or implemented by the permittee and/or its trading partner.

Upon receiving EPD written authorization to commence operation under Part I.B.1 effluent limitations (0.25 MGD), by January 31st of each year, the permittee is to submit an annual report that summarizes the instream monitoring data collected during the previous calendar year to meet the conditions in the approved "Water Quality Trading Plan" and "Chestatee River and Lake Lanier Monitoring Plan". The report must be submitted to EPD at the following address:

Environmental Protection Division
Watershed Planning and Monitoring Program
2 Martin Luther King Jr. Drive SE
Suite 1470A 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://npdes-ereporting.epa.gov/net-netdmr>
 - b. Monitoring results obtained during the calendar month shall be summarized for each month and reported on the DMR. The results of each sampling event shall be reported on the OMR and submitted as an attachment to the DMR.
 - c. The permittee shall submit the DMR, OMR and additional monitoring data no later than 11:59 p.m. on the 15th day of the month following the sampling period.
 - d. All other reports required herein, unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

2. **No later than December 21, 2025,** the permittee must electronically report the following compliance monitoring data and reports using the online web based electronic system approved by EPD, unless a waiver is granted by EPD:
 - a. Sewage Sludge/Biosolids Annual Program Reports provided that the permittee has an approved Sewage Sludge (Biosolids) Plan;
 - b. Pretreatment Program Reports provided that the permittee has an approved Industrial Pretreatment Program in this permit;
 - c. Sewer Overflow/Bypass Event Reports;
 - d. Noncompliance Notification;
 - e. Other noncompliance; and
 - f. Bypass

3. OTHER REPORTS

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

4. OTHER NONCOMPLIANCE

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

5. SIGNATORY REQUIREMENTS

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

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

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

7. LABORATORY ANALYST CERTIFICATION REQUIREMENTS

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

8. BYPASSING

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

- a. Bypassing is unavoidable to prevent loss of life, personal injury, or severe property damage;
- b. There are no feasible alternatives to bypassing; and
- c. The permittee notifies the EPD at least 10 days before the date of the bypass.

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

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

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

9. POWER FAILURES

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

10. DUTY TO MITIGATE

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

11. NOTICE CONCERNING ENDANGERING WATERS OF THE STATE

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

Spills and Major Spills:

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

A "major spill" means:

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:

- i. Date of the spill or major spill;
 - ii. Location and cause of the spill or major spill;
 - iii. Estimated volume discharged and name of receiving waters; and
 - iv. Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill.
- 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:
 - i. Dissolved Oxygen;
 - ii. Bacteria;
 - iii. pH;
 - iv. Temperature; and
 - v. Other parameters required by the EPD.

The monitoring and reporting frequency as well as the need to monitor additional parameters, will be determined by EPD. The results of the monitoring will be provided by the POTW owner to EPD and all downstream public agencies using the affected waters as a source of a public water supply.

- 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 on the effective date of this permit. This action is taken to assure compliance with the Georgia Water Quality Control Act, as amended, and the Federal Clean Water Act, as amended. Receipt of the permit constitutes notice of such action. The conditions, requirements, terms and provisions of this permit authorizing discharge under the National Pollutant Discharge Elimination System govern discharges from this facility.

PART III

INDUSTRIAL PRETREATMENT PROGRAM FOR PUBLICLY OWNED TREATMENT WORKS (POTW)

1. The permittee may establish and operate an approved industrial pretreatment program.
2. If the EPD determines that the permittee is required to develop a local industrial pretreatment program, the permittee will be notified in writing. The permittee shall immediately begin development of an industrial pretreatment program and shall submit it to the EPD for approval no later than one year after the notification.
3. During the interim period between determination that a program is needed and approval of the program, all industrial pretreatment permits shall be issued by the EPD.
4. The permittee shall notify the EPD of all industrial users connected to the system or proposing to connect to the system from the date of issuance of this permit.
5. Implementation of the Pretreatment Program developed by the State can be delegated to the permittee following the fulfillment of requirements detailed in 391-3-6-.09 of the Rules and Regulations for Water Quality Control.



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:

August Lutkehus, Environmental Engineer
august.lutkehus@dnr.ga.gov
470-524-0733

Draft permit:

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

1. FACILITY INFORMATION

1.1 NPDES Permit No.: GA0050339

1.2 Name and Address of Owner/Applicant

Lumpkin County Water and Sewerage Authority
194 Courthouse Hill, Annex A
Dahlonega, Georgia 30533

1.3 Name and Address of Facility

Cane Branch Water Pollution Control Plant (WPCP)
45 Arbor Drive
Dahlonega, Georgia 30533
(Lumpkin County)

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

Outfall #	Latitude (°)	Longitude (°)	Receiving Waterbody
001	34.4350034	-83.9858162	Cane Branch
002	34.436030	-83.978280	Lake Lanier

1.5 Permitted Design Capacity

Outfall No. 001 (Discharge to Cane Branch) – Part I.B.1: 0.25 MGD

Outfall No. 002 (Discharge to Lake Lanier) – Part I.B.2: 0.50 MGD

Outfall No. 002 (Discharge to Lake Lanier) – Part I.B.3: 1.0 MGD

1.6 SIC Code and Description

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

1.7 Description of the Water Pollution Control Plant*Wastewater treatment:*

The treatment process consists of screening, biological treatment (activated sludge with anaerobic, pre-anoxic, and post-anoxic basins for nutrients removal), chemical addition for phosphorus removal and pH/alkalinity control, membrane bioreactor, UV disinfection, and post-aeration. Treated effluent will be discharged to Cane Branch for Phase I (0.25 MGD) and Lake Lanier via the Chestatee River Embayment for Phases II (0.5 MGD) and III (1.0 MGD).

Solids processing:

Sludge is held in aerobic digesters, dewatered using rotary presses, and transported to a landfill.

1.8 Type of Wastewater Discharge

- | | | | |
|-------------------------------------|---------------------|--------------------------|---------------------|
| <input type="checkbox"/> | Process wastewater | <input type="checkbox"/> | Stormwater |
| <input checked="" type="checkbox"/> | Domestic wastewater | <input type="checkbox"/> | Combined (Describe) |
| <input type="checkbox"/> | Other (Describe) | | |

1.9 Characterization of Effluent Discharge (as reported by applicant)

This is the first issuance of the permit; therefore, no effluent data for the discharge is available at this time. The Authority is required to submit actual data no later than 24 months after the facility commences to discharge.

2. APPLICABLE REGULATIONS

2.1 State Regulations

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

2.2 Federal Regulations

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

3. WATER QUALITY STANDARDS & RECEIVING WATERBODY INFORMATION

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. Federal Regulations 40 CFR 122.4(d) require that conditions in NPDES permits ensure compliance with the water quality standards which are composed of designated use classifications, numeric and or narrative water quality criteria and an antidegradation policy. The designated use classification system identifies the designated 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 designated use for each water body. The antidegradation policy represents an approach to maintain and to protect various levels of water quality and uses. Section 391-3-6-.3(5) of the GA Water Quality Control Act provide General Criteria for All Waters, commonly referred to as the narrative water quality standards, and Specific Criteria for Specific Designated Uses. In addition to the General Criteria the Specific Criteria in Section 3.1 below are deemed necessary for this waterbody and shall be required for the specific designated uses.

3.1 Receiving Waterbody Name and Specific Designated Use:

Outfall No. 001:

Name: Cane Branch

Specific Designated Use(s) [391-3-6-.03(6)]:*Fishing:*

Propagation of Fish, Shellfish, Game and Other Aquatic Life; primary contact recreation in and on the water for the months of May – October, secondary contact recreation in and on the water for the months of November – April; 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. Estuarine waters:

For the months of May through October, when primary water contact recreation activities are expected to occur, culturable enterococci not to exceed a geometric mean of 35 counts 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. There shall be no greater than a ten percent excursion frequency of an enterococci statistical threshold value (STV) of 130 counts per 100 mL the same 30-day interval.

For the months of November through April, culturable enterococci not to exceed a geometric mean of 74 counts 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. There shall be no greater than a ten percent excursion frequency of an enterococci statistical threshold value (STV) of 273 counts per 100 mL in the same 30-day interval.

2. All other fishing waters:

For the months of May through October, when primary water contact recreation activities are expected to occur, culturable *E. coli* not to exceed a geometric mean of 126 counts 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. There shall be no greater than a ten percent excursion frequency of an *E. coli* statistical threshold value (STV) of 410 counts per 100 mL in the same 30-day interval.

For the months of November through April, culturable *E. coli* not to exceed a geometric mean of 265 counts 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. There shall be no greater than a ten percent excursion frequency of an *E. coli* statistical threshold value (STV) of 861 counts per 100 mL in the same 30-day interval.

3. 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.
 4. 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.

Outfall No. 002:

Name: Lake Lanier

Specific Designated Use(s) [391-3-6-.03(6)]:

Fishing:

Propagation of Fish, Shellfish, Game and Other Aquatic Life; primary contact recreation in and on the water for the months of May – October, secondary contact recreation in and on the water for the months of November – April; 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. Estuarine waters:

For the months of May through October, when primary water contact recreation activities are expected to occur, culturable enterococci not to exceed a geometric mean of 35 counts 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. There shall be no greater than a ten percent excursion frequency of an enterococci statistical threshold value (STV) of 130 counts per 100 mL the same 30-day interval.

For the months of November through April, culturable enterococci not to exceed a geometric mean of 74 counts 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. There shall be no greater than a ten percent excursion frequency of an enterococci statistical threshold value (STV) of 273 counts per 100 mL in the same 30-day interval.

2. All other fishing waters:

For the months of May through October, when primary water contact recreation activities are expected to occur, culturable *E. coli* not to exceed a geometric mean of 126 counts 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. There shall be no greater than a ten percent excursion frequency of an *E. coli* statistical threshold value (STV) of 410 counts per 100 mL in the same 30-day interval.

For the months of November through April, culturable *E. coli* not to exceed a geometric mean of 265 counts 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. There shall be no greater than a ten percent excursion frequency of an *E. coli* statistical threshold value (STV) of 861 counts per 100 mL in the same 30-day interval.

3. 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.
 4. 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.

Drinking Water Supplies:

Those waters approved as a source for public drinking water systems permitted or to be permitted by the Environmental Protection Division. Waters classified for drinking water supplies will also support the fishing use and any other use requiring water of a lower quality.

(i) Bacteria:

1. For the months of May through October, when primary water contact recreation activities are expected to occur, culturable *E. coli* not to exceed a geometric mean of 126 counts 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. There shall be no greater than a ten percent excursion frequency of an *E. coli* statistical threshold value (STV) of 410 counts per 100 mL in the same 30-day interval.
2. For the months of November through April, culturable *E. coli* not to exceed a geometric mean of 265 counts 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. There shall be no greater than a ten percent excursion frequency of an *E. coli* statistical threshold value (STV) of 861 counts per 100 mL in the same 30-day interval.
3. 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.

(ii) Dissolved oxygen: A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for waters 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 water supporting warm water species of fish.

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

(iv) No material or substance in such concentration that, after treatment by the public water treatment system, exceeds the maximum contaminant level established for that substance by the Environmental Protection Division pursuant to the Georgia Rules for Safe Drinking Water.

(v) 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 of natural stream temperatures.

Recreation:

Primary contact recreational activities that occur year round such as swimming, diving, whitewater boating (class III and above), water skiing, and surfing, or for any other use requiring water of a lower quality, such as recreational fishing. These criteria are not to be interpreted as encouraging water contact sports in proximity to sewage or industrial waste discharges regardless of treatment requirement. Secondary contact recreation is incidental contact with the water not involving a significant risk of water ingestion such as canoeing, fishing, kayaking, motor boating, rowing, tubing, splashing, wading, and occasional swimming.

(i) Bacteria:

1. Coastal and estuarine waters: Culturable enterococci not to exceed a geometric mean of 35 counts 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. There shall be no greater than a ten percent excursion frequency of an enterococci statistical threshold value (STV) of 130 counts per 100 mL in the same 30-day interval.
2. All other recreational waters: Culturable *E. coli* not to exceed a geometric mean of 126 counts 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. There shall be no greater than a ten percent excursion frequency of an *E. coli* statistical threshold value (STV) of 410 counts per 100 mL in the same 30-day interval.

(ii) Dissolved Oxygen: A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for waters 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.

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

(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.

3.2 Ambient Information

Outfall ID	30Q3 (cfs)	7Q10 (cfs)	1Q10 (cfs)	Annual Average Flow (cfs)	Hardness (mg CaCO ₃ /L)	Upstream Total Suspended Solids (mg/L)
001	0.34	0.19	0.15	5.1	9 ⁽¹⁾	10 ⁽²⁾
002 ⁽³⁾	N/A	N/A	N/A	N/A	9 ⁽¹⁾	10 ⁽²⁾

⁽¹⁾ Hardness value based on EPD's *Hardness in Georgia Waterbodies*, 2021, for Ecoregion 45a - Southern Crystalline Ridges & Mtns (10th percentile).

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

⁽³⁾ Streamflow statistics are not applicable for discharges to a lake.

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

Outfall No. 001:

Chestatee River	Yahoola Creek to Lake Lanier	Chattahoochee	Not Supporting	FC	9	4a	FC TMDL completed 1998.
GAR031300010704	Lumpkin	Fishing	1,10	NP	Miles		

Cane Branch is not listed on the 2022 305(b)/303(d) list. However, Chestatee River, downstream of the proposed discharge, is listed on the 2022 305(b)/303(d) list as not supporting its designated use (fishing) but TMDLs have been completed for the impacted parameters (fecal coliform bacteria).

Outfall No. 002:

Lanier Lake	Bolling Bridge	Chattahoochee	Not Supporting	Chlorophyll a	6059	4a	TMDL completed Chlorophyll a 2018. Fish Tissue (Mercury) is in Category 3 because the Trophic Weighted Residue concentration is between 0.25 and 0.30 mg/kg.
GAR031300010705	Hall, Forsyth, Dawson	Drinking Water, Recreation, Fishing	1,77	NP, UR	Acres		

Lake Lanier listed on the 2022 305(b)/303(d) as not supporting its designated use (drinking water, recreation, and fishing) but TMDLs have been completed for the impacted parameters (Chlorophyll-a).

3.4 Total Maximum Daily Loads (TMDLs)

Fecal Coliform Bacteria:

A TMDL evaluation for fecal coliform in the Chestatee River Watershed in the Chattahoochee River Basin was completed in 1998 by the United States Environmental Protection Division (US EPA). The TMDL did not recommend any loading reductions or allocations for point sources.

Total Phosphorus (TP) and Total Nitrogen (TN):

The Georgia Environmental Protection Division completed a Total Maximum Daily Load (TMDL) for Chlorophyll-a for Lake Lanier in the Chattahoochee River Basin in 2017. The TMDL allocated nutrient loads to existing and proposed facilities discharging into and upstream of Lake Lanier. The TMDL does not allocate a TP or TN load to the proposed facility; however, the TMDL did allocate TP and TN loads to Forsyth County, with whom the Authority has developed a Water Quality Trading Plan with. The TMDL allocates 4,067 lb/yr of TP and 635,456 lb/yr of TN to Forsyth County. In accordance with the Water Quality Trading Plan, the Authority has been credited 244 lb/yr of TP and 36,529 lb/yr of TN; therefore, the TP and TN limits in the draft permit are in accordance with the 2017 TMDL.

3.5 Wasteload Allocation (WLA)

WLAs for the new discharges to Cane Branch (Outfall No. 001) and Lake Lanier via the Chestatee River Embayment (Outfall No. 002) were issued on April 28, 2023 and October 14, 2021, respectively. Refer to *Appendix A* of the Fact Sheet for a copy of the WLAs.

4. PERMIT CONDITIONS AND EFFLUENT LIMITATIONS**4.1 Water Quality Based Effluent Limitations (WQBELs) & Technology Based Effluent Limits (TBELs)**

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

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

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

40 CFR Part §122.44(a)(1) requires that NPDES permits include applicable technology-based limitations and standards, while regulations at § 125.3(a)(1) state that TBELs for publicly owned treatment works must be based on secondary treatment standards and the “equivalent to secondary treatment standards” (40 CFR Part 133). The regulation applies to all POTWs and identifies the technology-based performance standards achievable based on secondary treatment for five-day biochemical oxygen demand (BOD₅), five-day carbonaceous biochemical oxygen demand (CBOD₅), 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
CBOD ₅	25 mg/L	40 mg/L
TSS	30 mg/L	45 mg/L
BOD ₅ , CBOD ₅ , and TSS removal (concentration)	≥ 85%	--
pH (Daily Minimum – Daily Maximum)	6.0-9.0 S.U.	

4.2 Reasonable Potential Analysis (RPA)

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

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

The term "pollutant" is defined in CWA section 502(6) and 40 C.F.R. §122.2. Pollutants are grouped into three categories under the NPDES program: conventional, toxic, and nonconventional. Conventional pollutants are those defined in CWA section 304(a)(4) and 40 C.F.R. §401.16 (five day-biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform, pH, and oil and grease). Toxic (priority) pollutants are those defined in CWA section 307(a)(1) and include 126 metals and manmade organic compounds. Nonconventional pollutants are those that do not fall under either of the above categories (conventional or toxic pollutants) and include parameters such as, but not limited to, chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

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

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

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

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

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

The sample type, grab vs. composite, is prescribed in the permit and determined by the permit writer after considering, at a minimum, the analytical method required in 40 C.F.R. §136, the type of pollutant, retention time, etc. Grab samples are required for the analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, *E. coli*, or volatile organics.

4.3 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.3 (1.0 MGD) effluent limitations, with the first test being conducted within 90 days of this authorization.

EPD will evaluate the WET tests submitted to determine whether toxicity has been demonstrated. If the test results indicate effluent toxicity or if the tests are invalid, 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 a chronic WET limit.

4.4 Conventional Pollutants

Pollutants of Concern	Basis
pH	<u>Phase I (0.25 MGD) – Outfall No. 001:</u> The instream wastewater concentration (IWC) is 67%. When the IWC is greater than 50%, there is reasonable potential for pH to cause or contribute to violations of the instream Georgia Water Quality Standard; therefore, pH limits of 6.0-8.5 SU (daily minimum-daily maximum) were included in the draft permit. Refer to Section 4.7.1 below for calculations.
	<u>Phase II (0.5 MGD) and Phase III (1.0 MGD) – Outfall No. 002:</u> A dilution factor of 50 has been estimated for the discharge, which is equivalent to an instream wastewater concentration (IWC) of 2%. When the IWC is less than 50%, there is no reasonable potential to cause or contribute to violation of the instream Georgia Water Quality Standard; therefore, pH limits of 6.0-9.0 SU (daily minimum-daily maximum) were included in the draft permit.
Five-Day Biochemical Oxygen Demand (BOD ₅)	<u>Phase I (0.25 MGD) – Outfall No. 001:</u> A monthly average BOD ₅ limit of 10 mg/L has been included in the draft permit. According to the steady-state dissolved oxygen Georgia DOSAG model, a monthly average BOD ₅ limit of 10 mg/L, when combined with the ammonia limit (refer to Section 4.5 below), is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above. Refer to the WLA in <i>Appendix A</i> for model inputs.
	<u>Phase II (0.5 MGD) and Phase III (1.0 MGD) – Outfall No. 002:</u> A monthly average CBOD ₅ limit of 2.5 mg/L has been included in the draft permit in accordance with the permitting strategy for Lake Lanier. Refer to the WLA in <i>Appendix A</i> for model inputs.

4.4 Conventional Pollutants (continued)

Pollutants of Concern	Basis
Total Suspended Solids (TSS)	<u>Phase I (0.25 MGD) – Outfall No. 001:</u>
	A monthly average TSS limit of 20 mg/L has been included in the draft permit. The monthly average TSS limit of 20 mg/L is in accordance with EPD's <i>Guidelines for Establishing Technology-Based Total Suspended Solids (TSS) Limits in Domestic Wastewater NPDES Permits</i> , 2020 for mechanical plants.
	<u>Phase II (0.5 MGD) and Phase III (1.0 MGD) – Outfall No. 002:</u>
	A monthly average TSS limit of 5 mg/L has been included in the draft permit. The proposed limit is in accordance with EPD's <i>Guidelines for Establishing Technology-Based Total Suspended Solids (TSS) Limits in Domestic Wastewater NPDES Permits</i> , 2020 for mechanical plants and EPD permitting practices for point source discharges into Lake Lanier.

4.4 Conventional Pollutants (continued)

Pollutants of Concern	Basis
<i>Escherichia coli (E. coli)</i>	<p data-bbox="607 327 1419 762">EPD considers all POTWs, Private and Institutional Developments, and CSO Control Facilities, discharging all or a portion of domestic sanitary wastewater, to have the reasonable potential to cause or contribute to instream water quality standard violations for bacteria, including the conventional pollutant fecal coliform, but also <i>Escherichia coli</i>, and Enterococci. EPD has determined these facilities discharge bacteria, wastewater treatment systems are designed to limit bacteria levels in the effluent, and bacteria are highly variable in the receiving stream after treatment. Furthermore, dilution is not considered in EPD's analysis as bacteria have the inherent ability to reproduce in the receiving stream.</p> <p data-bbox="607 804 1419 982">As part of the 2019 Triennial Review, approved by US EPA on August 31, 2022, EPD adopted new bacterial indicators (<i>E. coli</i> and Enterococci) for waterbodies with a designated use of fishing, coastal fishing, and drinking water to protect secondary contact recreators who may inadvertently ingest water.</p> <p data-bbox="607 1024 1419 1241">In accordance with EPD's <i>Bacteria Equivalency Strategy for Using the Optimal Indicator Organisms for WQS and NPDES Permitting</i>, 2022 for discharges into freshwaters, a monthly average <i>E. coli</i> limit of 126 counts/100 mL and a weekly average limit of 410 counts/100 mL (equivalent to the Statistical Threshold Value) have been included in the draft permit.</p>

4.5 Nonconventional Pollutants

Pollutants of Concern	Basis
Total Residual Chlorine (TRC)	<u>Phase I (0.25 MGD) – Outfall No. 001:</u>
	A daily maximum TRC limit of 0.02 mg/L has been included in the draft permit. The proposed limit has been determined using the US EPA’s chronic TRC criterion of 11 µg/L in the receiving stream after dilution. Refer to Section 4.7.7 below for calculations.
	Chlorine will not be used at the facility for disinfection; therefore, monitoring requirements and effluent limitations only apply when chlorine is in use at the facility.
	<u>Phase II (0.5 MGD) and Phase III (1.0 MGD) – Outfall No. 002:</u>
Dissolved Oxygen (DO)	A daily maximum TRC limit of 0.01 mg/L has been included in the draft permit. The proposed limit has been established to limit the formation of disinfection by-products in the drinking water reservoir.
	Chlorine will not be used at the facility for disinfection; therefore, monitoring requirements and effluent limitations only apply when chlorine is in use at the facility.
	<u>Phase I (0.25 MGD) – Outfall No. 001:</u>
	A daily minimum DO limit of 5.0 mg/L has been included in the draft permit. According to the steady-state dissolved oxygen Georgia DOSAG model, a minimum effluent DO of 5.0 mg/L is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.
	<u>Phase II (0.5 MGD) and Phase III (1.0 MGD) – Outfall No. 002:</u>
	A daily minimum DO limit of 6.0 mg/L has been included in the draft permit. According to the steady-state dissolved oxygen Georgia DOSAG model, a minimum effluent DO of 6.0 mg/L is protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.

4.5 Nonconventional Pollutants (continued)

Pollutants of Concern	Basis
Total Phosphorus (TP), Orthophosphate	<p>Total phosphorus measures all forms of phosphorus in a sample (orthophosphate, condensed phosphate, and organic phosphate). Orthophosphate, or reactive phosphorus is the amount of phosphorus available to chemically or biologically react in the environment.</p>
	<p>Discharges of total phosphorus directly to or within the watershed upstream from waterbodies with total phosphorus water quality standards must undergo an analysis to determine if the discharge of the pollutants has the reasonable potential to cause or contribute to instream water quality standard violations.</p>
	<p>Based on the pollutant being present in the wastestream, EPD has identified total phosphorus as a pollutant of concern for the following: POTWs, Private and Institutional Developments, CSO Control Facilities, and applicable Non POTWs.</p>
	<p><u>Phase I (0.25 MGD) – Outfall No. 001, Phase II (0.5 MGD) & Phase III (1.0 MGD) – Outfall No. 002:</u></p>
	<p>Orthophosphate monitoring has been included in the draft permit in accordance with EPD’s <i>Strategy for Addressing Phosphorus in NPDES Permitting</i>, 2011. See Section 5.9 of this Fact Sheet for additional information.</p>
	<p>A monthly average TP limit of 0.13 mg/L has been included in the draft permit. The proposed limit is in accordance with the Water Quality Trading Plan agreement between Lumpkin County Water and Sewerage Authority (Authority) and Forsyth County (County). The 2017 TMDL for Chlorophyll-a for Lake Lanier allocated an annual TP loading of 4,067 lb/year to the County but did not include any TP allocations for the Authority. However, the Trading Plan agreed upon between the County and the Authority designates up to 244 lb/year of the 4,067 lbs/year to the Authority and specifies a monthly average TP limit of 0.13 mg/L. EPD has determined that the proposed Trading Plan is acceptable and is proposing to implement it through this NPDES permit.</p>
	<p>Should the Trading Plan between the County and the Authority expire or be terminated by EPD, the Cane Branch WPCP will no longer be allowed to discharge total phosphorus in its effluent; therefore, a TP limit of 0 mg/L has also been included in the draft permit to ensure compliance with the 2017 TMDL. See Appendix D for a copy of the Trading Plan.</p>

4.5 Nonconventional Pollutants (continued)

Pollutants of Concern	Basis
Total Kjeldahl Nitrogen (TKN), Organic Nitrogen, Nitrate-Nitrite	<u>Phase I (0.25 MGD) – Outfall No. 001, Phase II (0.5 MGD) & Phase III (1.0 MGD) – Outfall No. 002:</u>
	Discharges of total nitrogen directly to or within the watershed upstream from waterbodies with total nitrogen water quality standards must undergo an analysis to determine if the discharge has the reasonable potential to cause or contribute to instream water quality standard violations.
	Based on the pollutant being present in the wastestream, EPD has identified total nitrogen as a pollutant of concern for the following: POTWs, Private and Institutional Developments, CSO Control Facilities, and applicable Non POTWs. Monitoring for TKN, organic nitrogen, and nitrate-nitrite has been included in the permit to calculate total nitrogen, quantify nutrient loadings in the Chattahoochee River Basin, and provide information for further analyze and develop appropriate numeric or narrative effluent limits.
	Organic nitrogen, as N = TKN – ammonia, as N.
	Ammonia, organic nitrogen, nitrate-nitrite, and TKN must be analyzed or calculated from the same sample to correctly calculate total nitrogen. See Section 5.9 of this Fact Sheet for additional information.

4.5 Nonconventional Pollutants (continued)

Pollutants of Concern	Basis
Total Nitrogen (TN)	<p data-bbox="634 327 1471 506">Discharges of total nitrogen directly to or within the watershed upstream from waterbodies with total nitrogen water quality standards must undergo an analysis to determine if the discharge has the reasonable potential to cause or contribute to instream water quality standard violations.</p> <p data-bbox="634 548 1471 869">Based on the pollutant being present in the wastestream, EPD has identified total nitrogen as a pollutant of concern for the following: POTWs, Private and Institutional Developments, CSO Control Facilities, and applicable Non POTWs. Monitoring for TKN, organic nitrogen, and nitrate-nitrite has been included in the permit to calculate total nitrogen, quantify nutrient loadings in the Chattahoochee River Basin, and provide information for further analyze and develop appropriate numeric or narrative effluent limits.</p> <p data-bbox="634 911 1471 978">Total nitrogen is the sum of all nitrogen forms or $TN = TKN + \text{nitrite} + \text{nitrate}$.</p> <p data-bbox="634 1020 1252 1052">Organic nitrogen, as N = $TKN - \text{ammonia, as N}$.</p> <p data-bbox="634 1094 1471 1234">Ammonia, organic nitrogen, nitrate-nitrite, and TKN must be analyzed or calculated from the same sample to correctly calculate total nitrogen. See Section 5.9 of this Fact Sheet for additional information.</p> <p data-bbox="634 1276 1133 1308"><u>Phase I (0.25 MGD) – Outfall No. 001:</u></p> <p data-bbox="634 1350 1471 1491">A monthly average TN limit of 12.0 mg/L has been included in the draft permit. The proposed limit is protective of the TN criteria for Lake Lanier of 4 mg/L, downstream of the discharge to Cane Branch.</p> <p data-bbox="634 1533 1435 1564"><u>Phase II (0.5 MGD) & Phase III (1.0 MGD) – Outfall No. 002:</u></p> <p data-bbox="634 1606 1471 1822">A monthly average TN limit of 12.0 mg/L has been included in the draft permit. The outfall will be moved to the Chestatee River Embayment (Lake Lanier) for Phase II and III, approximately 1000 ft downstream from the convergence between Cane Branch and the Chestatee River. Modeling shows that the proposed limit is protective of the TN criteria for Lake Lanier of 4 mg/L.</p>

4.5 Nonconventional Pollutants (continued)

Pollutants of Concern	Basis
Total Nitrogen (TN)	<p data-bbox="634 329 1471 688">The proposed TN limits for Phase I, II, and III are also in accordance with the Water Quality Trading Plan agreement between Lumpkin County Water and Sewerage Authority (Authority) and Forsyth County (County). The 2017 TMDL for Chlorophyll-a for Lake Lanier allocates a maximum annual TN loading of 635,456 lb/year to the County but did not include any TN allocations for the Authority. However, the Trading Plan agreed upon between the County and the Authority designates up to 36,529 lb/year of the 635,456 lb/year to the Authority and specifies a monthly average TN limit of 12.0 mg/L.</p> <p data-bbox="634 732 1471 980">EPD has determined that the proposed Trading Plan is acceptable. However, TN wasteload allocations in the 2017 TMDL are not being implemented in NPDES permits at this time as long as Lake Lanier's Chlorophyll-a criterion is being met; therefore, the TN limits for Phase I, II, and III in the draft permit are not contingent upon whether the Trading Plan between the Authority and the County is in effect.</p> <p data-bbox="634 1024 1471 1236">However, in the future, if water quality modeling or instream monitoring shows that it is necessary to implement the TN wasteload allocations in the 2017 TMDL, the permit may be modified to include a TN limit with Trading Plan in Effect (12 mg/L) and a TN limit without a Trading Plan in Effect (0 mg/L). See Appendix D for a copy of the Trading Plan.</p>

4.5 Nonconventional Pollutants (continued)

Pollutants of Concern	Basis
Ammonia (NH ₃)	<u>Phase I (0.25 MGD) – Outfall No. 001:</u>
	A monthly average ammonia limit of 2.0 mg/L has been included in the draft permit. A monthly average ammonia limit of 2.0 mg/L is in accordance with EPD's <i>NPDES Permitting Strategy for Addressing Ammonia Toxicity</i> , 2017.
	According to the steady-state dissolved oxygen Georgia DOSAG model, a monthly average ammonia limit of 2.0 mg/L, when combined with the BOD ₅ and dissolved oxygen limit, is also protective of the instream Water Quality Standard for dissolved oxygen described in Section 3.1 above.
	<u>Phase II (0.5 MGD) and Phase III (1.0 MGD) – Outfall No. 002:</u>
	A monthly average ammonia limit of 0.5 mg/L has been included in the draft permit. A monthly average ammonia limit of 0.5 mg/L is in accordance with EPD's permitting strategy for Lake Lanier.

4.6 Toxics & Manmade Organic Compounds

Phase III (1.0 MGD) – Outfall No. 002:

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.3 effluent limitations (1.0 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.

4.7 Calculations for Effluent Limits

4.7.1 Instream Waste Concentration (IWC):

Phase I (0.25 MGD) – Outfall No. 001:

$$\begin{aligned} \text{IWC} &= \frac{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 7Q_{10} (\text{ft}^3/\text{sec})} \% \\ &= \frac{0.39}{0.39+0.19} \\ &= 67 \% \end{aligned}$$

Phase II (0.5 MGD) and Phase III (1.0 MGD) – Outfall No. 002:

A dilution factor of 50, equivalent to an IWC of ~2%, was determined using the Lake Lanier water quality model.

4.7.2 Flow:

Weekly Average Flow:

$$Q_{\text{Weekly}} = Q_{\text{Monthly}} (\text{MGD}) \times 1.25$$

Refer to *Appendix B* for the calculated results.

Q = Flow
C = Concentration
M = Mass

4.7.3 Five-Day Biochemical Oxygen Demand:

Weekly Average Concentration:

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

Monthly Average Mass Loading:

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

Weekly Average Mass Loading:

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

Refer to *Appendix B* for the calculated results.

4.7.4 Total Suspended Solids:*Weekly Average Concentration:*

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

Monthly Average Mass Loading:

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

Weekly Average Mass Loading:

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

Refer to *Appendix B* for the calculated results.**4.7.5 Ammonia:***Weekly Average Concentration:*

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

Monthly Average Mass Loading:

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

Weekly Average Mass Loading:

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

Refer to *Appendix B* for the calculated results.*Ammonia Toxicity Analysis (freshwater stream only):*The chronic criterion based on *Villosa iris* (rainbow mussel) is determined as follows:

$$\text{CCC} = 0.8876 \times () \times 2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))}$$

mg/L

Where: pH : pH of receiving stream and discharge
 T : Temperature of receiving stream
 CCC : Chronic Continuous Concentration

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

$$[\text{NH}_3]_{\text{Effluent}} =$$

$$\frac{(Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 30Q_3 (\text{ft}^3/\text{sec})) \times \text{CCC} (\text{mg/L}) - 7Q_{10} (\text{ft}^3/\text{sec}) \times [\text{NH}_3]_{\text{Stream Background}} (\text{mg/L})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})}$$

Refer to *Appendix C* for detailed calculations.

4.7.6 **Total Phosphorus:**

Weekly Average Concentration:

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

Monthly Average Mass Loading:

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

Weekly Average Loading:

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

Refer to *Appendix B* for the calculated results.

4.7.7 **Total Nitrogen:**

Weekly Average Concentration:

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

Monthly Average Mass Loading:

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

Weekly Average Loading:

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

Refer to *Appendix B* for the calculated results.

4.7.8 Total Residual Chlorine (TRC):

Daily Maximum Concentration (Water Quality-Based Effluent Limitation):

$$[\text{TRC}]_{\text{Effluent}} = \frac{[Q_{\text{Effluent}} (\text{ft}^3/\text{sec}) + 7Q_{10} (\text{ft}^3/\text{sec})] \times [\text{TRC}]_{\text{Stream}} (\text{mg/L})}{Q_{\text{Effluent}} (\text{ft}^3/\text{sec})}$$

with $[\text{TRC}]_{\text{Stream}} = 0.011 \text{ mg/L}$

Refer to *Appendix B* for the calculated result.

An effluent limit of 0.01 mg/L has been included in the draft permit to limit the formation of disinfection by-products in the drinking water reservoir.

4.7.9 Metals

Not applicable

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

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

4.8.1 Phase I (0.25 MGD) – Outfall No. 001:

Parameter	WQBELS ⁽¹⁾	TBELS ⁽¹⁾
	<i>Monthly Average</i>	<i>Monthly Average</i>
Five-Day Biochemical Oxygen Demand (mg/L)	10	30.0
Total Suspended Solids (mg/L)	None	20
Total Phosphorus (mg/L)		
Trading Plan In Effect	0.13	None
Trading Plan No Longer in Effect	0	None
Ammonia (mg/L)	2.0	None
Total Nitrogen (mg/L)	12.0	None
<i>Escherichia coli</i> (counts/100 mL), 30-day geo mean	126	None
Dissolved Oxygen (mg/L), Daily Minimum	5.0	None
Total Residual Chlorine (mg/L), Daily Maximum	0.02	0.5
pH (SU), Daily Minimum-Daily Maximum	6.0 - 8.5	6.0 - 9.0

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

4.8.2 Phase II (0.5 MGD) and Phase III (1.0 MGD) – Outfall No. 002:

Parameter	WQBELS ⁽¹⁾	TBELS ⁽¹⁾
	<i>Monthly Average</i>	<i>Monthly Average</i>
Five-Day Carbonaceous Biochemical Oxygen Demand (mg/L)	2.5	30.0
Total Suspended Solids (mg/L)	None	5
Total Phosphorus (mg/L)		
Trading Plan In Effect	0.13	None
Trading Plan No Longer in Effect	0	None
Ammonia (mg/L)	0.5	None
Total Nitrogen (mg/L)	12.0	None
<i>Escherichia coli</i> (counts/100 mL), 30-day geo mean	126	None
Dissolved Oxygen (mg/L), Daily Minimum	6.0	None
Total Residual Chlorine (mg/L), Daily Maximum	0.01	None
pH (SU), 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, 4.5, and 4.7 above for more information.

5. OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 New Discharge Up to 1.0 MGD

5.1.1 Antidegradation Review

As required by Chapter 391-3-6 of the Georgia Water Quality Control Act, applicants seeking a National Pollutant Discharge Elimination System Permit (NPDES), must submit the results of an Antidegradation Analysis for review using EPD's Antidegradation Implementation Guidelines, February 2019 as amended, and available for review on our website.

As stated in Section 4 (four) of GA's Antidegradation Implementation Guidelines referenced above, "The alternatives analysis shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. The applicant will submit the analysis including its selection of the practicable alternative(s) to be implemented for EPD's approval. Georgia's antidegradation rule does not require the least degrading practicable alternative be selected for implementation. The requirement is for the applicant to examine alternatives and provide to EPD documentation of the alternatives analysis and a reasoned explanation for whichever practicable alternative is ultimately selected for implementation. "Practicable alternatives" is defined in the Georgia Rules for Water Quality Control at 391-3-6-.03(3), as "alternatives that are technologically possible, able to be put into practice, and economically viable" (see also 40 CFR 131.3). An alternative is technologically possible if the technology is currently available. An alternative is economically viable if it can be implemented without unreasonably impacting the financial health of the applicant."

On June 21, 2023, EPD concurred with Lumpkin County Water and Sewerage Authority's Antidegradation Analysis report (Report) for a new discharge of 0.25 MGD to Cane Branch and up to 1.0 MGD to Lake Lanier via the Chestatee River Embayment. The proposed discharge flow rate is based upon population projections by 2040, which includes a proposed new hospital that will generate a significant portion of the flow.

The Report discusses reasonable alternatives stating that a) there are no existing collection systems within five miles of the proposed treatment facility that are capable of accepting the proposed 1.0 MGD flow; b) there are no potential reuse customers that can support the proposed 1.0 MGD flow; c) much of the soil and topography in the area is not suited for land application; and, d) the service area will feature mostly new sewers with low infiltration rates.

The Authority 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 is similar to that of a new land treatment system, however land availability and poor soil suitability makes the land treatment system alternative infeasible.

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 feasible alternative. Therefore, EPD concurs with the Report's conclusion that requiring a no discharge alternative system for 1.0 MGD of domestic wastewater would not be reasonable or practicable.

5.1.2 Permitting Milestones

- Antidegradation Review (ADR): Concurred with on June 21, 2023
- Environmental Review and Planning Document (ERPD): Approved on August 18, 2023
- Design Development Report (DDR): Concurred with on October 10, 2023.

5.2 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; a requirement for long term BOD testing has been included in the draft permit under the B.3 effluent limitations (1.0 MGD).

5.3 Industrial Pretreatment Program (IPP)

Lumpkin County Water and Sewerage Authority does not have an approved IPP; therefore, language for establishing an IPP, if necessary, has been included in the draft permit.

5.4 Sludge Management Plan (SMP)

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

5.5 Watershed Protection Plan (WPP)

New or expanding treatment facilities are required to develop and implement a Watershed Protection Plan (WPP). Requirements to develop and implement a WPP have been included in the draft permit. The Authority will not be authorized to start operation of the new plant without an approved WPP.

5.6 Service Delivery Strategy

Lumpkin County is in compliance with the Department of Community Affairs approved Service Delivery Strategy for Lumpkin County.

5.7 Compliance Schedules

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

5.8 Anti-Backsliding

Not applicable (new permit).

5.9 Development of a Comprehensive Permitting Strategy for Nutrients

The Clean Water Act (CWA) authorizes EPA and delegated states to develop and implement water quality standards to protect human health and the environment. In 1990, the Georgia General Assembly passed the “Lake Law” (OCGA 12-5-23.1) that authorizes the Environmental Protection Division (EPD) to establish water quality standards for each publicly owned lake or reservoir located wholly or partially within the state of Georgia that have a normal pool level surface average of 1,000 or more acres. The law requires that a comprehensive study of each lake be conducted prior to the adoption of lake and major tributary water quality standards. Since that time, Georgia has evaluated all our waterbodies for nutrients and developed water quality models for our watershed, lakes, and estuaries.

EPD is developing a comprehensive Permitting Strategy for Nutrients (Nutrient Permitting Strategy). The development of the Nutrient Permitting Strategy will allow EPD to update the 2011 Phosphorus Strategy; develop a comprehensive nutrient reduction approach to tackle phosphorus, nitrogen, and their effect on chlorophyll a; and solicit stakeholder and permittee feedback on key strategy elements. EPD anticipates the Nutrient Permitting Strategy will provide some degree of regulatory certainty for point source dischargers and minimize the regulatory burden whereby EPD will be evaluating and establishing WLAs for nitrogen and phosphorus. The Nutrient Permitting Strategy will complement the work completed over the last several decades and build upon the Nutrient WQS Plan, analyze available ambient and permitted discharge data, determine limiting factors, develop a reasonable potential analysis for total nitrogen and total phosphorus, develop TBELs, and provide a NPDES permit implementation schedule.

Upon completion of the Nutrient Management Strategy, EPD would begin implementing the Strategy by including site-specific nitrogen effluent limits and potentially new and reduced phosphorus limits, as applicable, in point source discharge permits, based on the results of lake and watershed models for those lakes with water quality standards. The development of effluent limits for point source dischargers into or upstream from lakes that currently do not have numeric nutrient criteria will be challenging. For these lakes, EPD may have to develop numeric nutrient targets ahead of establishing lake standards. This will allow a comprehensive evaluation to be performed to assess the discharge of phosphorus and nitrogen from point source dischargers and their effects on chlorophyll a in lakes.

In lieu of including numeric nutrient effluent limits for nitrogen (unless required in a TMDL or wasteload allocation), EPD will include a nutrient optimization permit condition, as appropriate in all domestic wastewater permits and non-POTW permits where nitrogen has been identified as a pollutant of concern or where there is a potential to discharge nutrients. Additionally, EPD will include a specific permit condition to reopen the permit during the 5-year term to include applicable nutrient effluent limits upon completion and implementation of the Nutrient Permitting Strategy.

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
Mountain District Office
16 Center Road
Cartersville, Georgia 30121

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 1462 East, Atlanta, Georgia 30334, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday and on EPD's website accessible through the publicly available Georgia EPD Online System (GEOS) at: <https://geos.epd.georgia.gov/GA/GEOS/Public/GovEnt/Shared/Pages/Main/Login.aspx>
For additional information, you can contact 404-463-1511.

9.2 Public Comments

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

9.3 Public Hearing

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

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

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

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

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

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

9.4 Final Determination

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

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

9.5 Contested Hearings

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

Petitions for a contested hearing must include the following:

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

FACT SHEET

Appendix A

Cane Branch Water Pollution Control Plant NPDES Permit No. GA0050339

Waste Load Allocation (WLA)

National Pollutant Discharge Elimination System Wasteload Allocation Form

Part I: Background Information

WLA Request Type:	Reissuance <input type="checkbox"/>	Expansion <input type="checkbox"/>	Relocation <input checked="" type="checkbox"/>	New Discharge <input checked="" type="checkbox"/>
Facility Name:	Lumpkin County WSA		County:	Lumpkin
NPDES Permit No.:	New Discharge		Expiration Date:	N/A
Receiving Water:	Cane Branch		River Basin:	Chattahoochee
Discharge Type:	Domestic wastewater		10-Digit HUC:	0313000107
Ecoregion:	L4 – 45a, Southern Inner Piedmont		Flow(s) Requested (MGD):	0.25
Additional Information: (history, special conditions): The County was granted WLA in 2021 for discharge of up to 1.0 MGD to Lake Lanier.				
Requested by: August Lutkehus		Program: WRP		Date: 1/24/2023

Part II: Receiving Water Information

Receiving Water: Cane Branch to the Chestatee River to Lake Lanier	Designated Use Classification: Fishing
Integrated 305(b)/303(d) List: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Support: <input type="checkbox"/> Not Support: <input type="checkbox"/>
Total Maximum Daily Load: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Criteria: Chlorophyll-a
Parameter(s): Chlorophyll-a	WLA Complies with TMDL Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

A TMDL for Lake Lanier in the Chattahoochee River Basin for Chlorophyll a was finalized in 2018. The available total nitrogen (TN) and total phosphorus (TP) loads were allocated to existing facilities discharging into Lake Lanier.

Part III: Water Quality Model Review Information

Model Type:	Uncalibrated <input type="checkbox"/>	Calibrated <input checked="" type="checkbox"/>	Verified <input type="checkbox"/>	Cannot be Modeled <input type="checkbox"/>	Model Length (mi): 27
Field Data:	None <input type="checkbox"/>	Fair <input checked="" type="checkbox"/>	Good <input type="checkbox"/>	Excellent <input type="checkbox"/>	
Model and Field Data Description: Steady-state dissolved oxygen Georgia DOSAG model.					
Critical Water Temperature (°C): 25	Drainage Area (mi²): 2.8	Mean annual streamflow at discharge (cfs): 5.1			
7Q10 Yield (cfs/mi²): 0.067 / 0.395	Velocity (range fps): 0.1 – 0.9	30Q3 streamflow at discharge (cfs): 0.34			
Effluent Flow Rate (cfs): 0.39	IWC (%): 67	7Q10 streamflow at discharge (cfs): 0.19			
Slope (range - fpm): 4 - 62	K1: 0.06	K3: 0.15	K2: 3 - 26	1Q10 streamflow at discharge (cfs): 0.15	
SOD: 0.6	Escape Coef. (ft⁻¹): 0.08 / 0.11	f-Ratio BOD _u /BOD ₅ : 3	Background Hardness: See Ecoregion L4 – 45a		

The predicted minimum dissolved oxygen concentration is 5.4 mg/L, occurring immediately downstream from the discharge.

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

Rationale:	Same as current <input type="checkbox"/>	Revised <input type="checkbox"/>	New <input checked="" type="checkbox"/>						
Location:	Cane Branch								


Effluent Flow Rate (MGD)	BOD ₅	NH ₃ -N	DO (minimum)	pH (std. units)	TRC (daily max.)	E. coli (No./100ml)	Total Phosphorus	Total Nitrogen	TKN, Nitrite-Nitrate, Organic N
0.25	10	2.0	5.0	6.0 – 8.5	0.02	126	0	12	Monitor

Additional Comments:

- Priority pollutant permit limits, aquatic toxicity testing requirements, and other parameters required by categorical effluent guidelines or identified during review of permit application are to be determined by WRP.
- Recommended ammonia limit meets US EPA's Aquatic Life Ambient Water Quality Criteria for Ammonia-Freshwater 2013 under 30Q3.
- When IWC is 50% or greater, the effluent pH limit range of 6.0 to 8.5 standard units is recommended.
- Ultraviolet light or Ozone disinfection is recommended by WRD and to protect downstream Lake Lanier's water use classification. TRC limit applies only when chlorine is used at the facility.
- The E. coli limit is based on the bacteria standard in the State of Georgia's Rule and Regulations for Water Quality Control.
- This WLA does not allocate TP load to the proposed new facility. Lumpkin County is considering temporary trading of TP credit with an entity and a long-term nutrient/flow trade possibility.
- The Total N limit is recommended to ensure the lake Total N criteria is met assuming a background Total N concentration of 0.1 mg/L.
- Effluent monitoring of TKN, nitrate-nitrite, and organic nitrogen is recommended. Nitrogen constituents should be analyzed from the same sample. Organic nitrogen should be calculated as TKN minus NH₃.
- Lumpkin County has obtained approval of its Watershed Assessment (WA) as part of the Lake Allatoona/Upper Etowah River Partnership. This WA only applies to the portion of Lumpkin County that is located within the Etowah River Basin. The County needs to complete a WA and a Watershed Protection Plan (WPP) for the proposed sanitary sewer service area located within the Chattahoochee River Basin. The WA and WPP need to be submitted to Georgia EPD for review and approval.

Prepared by: Lucy Sun	Date: 3/28/2023	Reviewed by: Josh Welte	Date: 27.Apr.23
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Part V: Program Manager Comment

 Elizabeth Booth	Date: 04/28/2023
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National Pollutant Discharge Elimination System Wasteload Allocation Form

Part I: Background Information

WLA Request Type:	Reissuance <input type="checkbox"/>	Expansion <input type="checkbox"/>	Relocation <input type="checkbox"/>	New Discharge <input checked="" type="checkbox"/>
Facility Name:	Lumpkin County WSA – Chestatee River WPCP		County:	Lumpkin
NPDES Permit No.:			Expiration Date:	
Receiving Water:	Chestatee River/Lake Lanier		River Basin:	Chattahoochee
Discharge Type:	Domestic <input checked="" type="checkbox"/>	Industrial <input type="checkbox"/>	Both <input type="checkbox"/>	Proportion (D:I):
			Flow(s) Requested (MGD):	0.25 - 1.0
Ecoregion:	L4 – 45a, Southern Inner Piedmont			
Treatment Process Description:				
Additional Information: (history, special conditions): The County requested a WLA in 2019 for discharging up to 1.0 MGD to Long Branch.				
Requested by:	Josh Hayes	Program:	WRP	Date: 6/8/2021

Part II: Receiving Water Information

Receiving Water:	Chestatee River/Lake Lanier		Designated Use Classification:	Drinking Water, Recreation, Fishing
Integrated 305(b)/303(d) List:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Support: <input type="checkbox"/>	Not Support: <input checked="" type="checkbox"/>
Total Maximum Daily Load:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Parameter(s)	Chlorophyll a
			WLA Complies with TMDL	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

A TMDL for Lake Lanier in the Chattahoochee River Basin for Chlorophyll a was finalized in 2018. The available total phosphorus (TP) loads were allocated to existing facilities discharging into Lake Lanier. This WLA allocates zero TP load to the proposed new facility. Lumpkin County is considering a temporary trading of TP credit with an entity and a long-term nutrient/flow trade possibility.

Part III: Water Quality Model Review Information

Model Type:	Uncalibrated <input type="checkbox"/>	Calibrated <input type="checkbox"/>	Verified <input type="checkbox"/>	Not Modeled <input checked="" type="checkbox"/>	Model Length (mi):
Field Data:	None <input type="checkbox"/>	Fair <input type="checkbox"/>	Good <input type="checkbox"/>	Excellent <input type="checkbox"/>	

Model and Field Data Description: **The Lake Lanier water quality model using the Environmental Fluid Dynamic Code (EFDC) and a watershed model using the Loading Simulation Program C++ (LSPC) were used to develop Lake Lanier Chlorophyll a TMDL and the nutrient WLAs for existing point sources discharging to Lake Lanier. The proposed new discharge is not included in the lake models.**

Critical Water Temperature (°C):	Drainage Area (mi²):	238	Mean annual streamflow at discharge (cfs):
7Q10 Yield (cfs/mi²):	Velocity (range fps):		30Q3 streamflow at discharge (cfs):
Effluent Flow Rate (cfs):	IWC (%):	~2	7Q10 streamflow at discharge (cfs):
Slope (range - fpm):	K1:		1Q10 streamflow at discharge (cfs):
SOD:	Escape Coef. (ft⁻¹):		f-Ratio BOD _u /BOD ₅ :
			Background Hardness:

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

Rationale:	Same as current <input type="checkbox"/>	Revised <input type="checkbox"/>	New <input checked="" type="checkbox"/>
Location:	Chestatee River/Lake Lanier		

Effluent Flow Rate (MGD)	CBOD ₅	NH ₃ -N	DO (minimum)	pH (std. units)	E.coli (cfu./100ml)	*TRC (daily max.)	Total Phosphorus	TKN, Nitrite-Nitrate Organic Nitrogen
0.25	2.5	0.5	6.0	6.0 – 9.0	126	0.01	0	Monitor
0.50	2.5	0.5	6.0	6.0 – 9.0	126	0.01	0	Monitor
0.75	2.5	0.5	6.0	6.0 – 9.0	126	0.01	0	Monitor
1.0	2.5	0.5	6.0	6.0 – 9.0	126	0.01	0	Monitor

Additional Comments:

- Priority pollutant permit limits, aquatic toxicity testing requirements, and other parameters required by categorical effluent guidelines or identified during review of permit application are to be determined by WRP.
- The E.coli bacteria limit is based on the Recreational Water Quality Criteria recommended by US EPA in 2012 and the bacteria standard in the State of Georgia's Rule and Regulations for Water Quality Control.
- *TRC limit applies when chlorine is used at the facility. It is recommended that the facility utilizes a non-chlorine disinfection system.
- Effluent monitoring of TKN, nitrate-nitrite, and organic nitrogen is recommended. Nitrogen constituents should be analyzed from the same sample for the respective nutrient group. Organic nitrogen should be calculated as TKN minus NH₃.
- Lumpkin County has obtained approval of its Watershed Assessment (WA) as part of the Lake Allatoona/Upper Etowah River Partnership. This WA only applies to the portion of Lumpkin County that is located within the Etowah River Basin. The County needs to complete a WA and a Watershed Protection Plan (WPP) for the proposed Lake Lanier sanitary sewer service area located within the Chattahoochee River Basin. The WA and WPP need to be submitted to Georgia EPD for review and approval.

Prepared by:	Lucy Sun <i>LS</i>	Date:	8/30/2021	Reviewed by:	Josh Welte <i>JW</i>	Date:	8.Sep.21
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Part V: Program Manager Comment

<p style="text-align: center;"><i>Elizabeth A Booth</i></p> <p>Elizabeth Booth</p>	<p>Date: 10/14/2021</p>
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FACT SHEET

Appendix B

Cane Branch Water Pollution Control Plant NPDES Permit No. GA0050339

Effluent Limit Calculations

FACT SHEET
Appendix B
Cane Branch WPCP
NPDES Permit No. GA0050339

Effluent Limitations Calculations:

Phase I (0.25 MGD) - Outfall No. 001

7Q10: 0.19 cfs

Monthly Average Limits					Weekly Average Limits				
Permitted Flow (MGD):	0.25	MGD			0.31	MGD			
	Concentration		Mass Loading		Concentration		Mass Loading		
Five-Day Biochemical Oxygen Demand	10.0	mg/L	20.9	lb/day	15.0	mg/L	26.1	lb/day	
Total Suspended Solids	20	mg/L	41.7	lb/day	30.0	mg/L	52.1	lb/day	
Ammonia, as N	2.0	mg/L	4.2	lb/day	3.0	mg/L	5.2	lb/day	
Total Nitrogen, as N	12.0	mg/L	25.0	lb/day	18.0	mg/L	31.3	lb/day	
Total Phosphorus, as P	0.13	mg/L	0.27	lb/day	0.20	mg/L	0.34	lb/day	
Daily maximum Limits									
Total Residual Chlorine	0.02	mg/L							

Phase II (0.5 MGD) - Outfall No. 002

7Q10: 0 cfs

Monthly Average					Weekly Average			
	Limits	Units	Limits	Units	Limits	Units	Limits	Units
Permitted Flow (MGD):	0.50	MGD	--	--	0.63	MGD	--	--
	Concentration		Mass Loading		Concentration		Mass Loading	
Five-Day Carbonaceous Biochemical Oxygen Demand	2.5	mg/L	10.4	lb/day	3.8	mg/L	13.0	lb/day
Total Suspended Solids	5	mg/L	20.9	lb/day	7.5	mg/L	26.1	lb/day
Ammonia	0.5	mg/L	2.1	lb/day	0.75	mg/L	2.6	lb/day
Total Nitrogen, as N	12.0	mg/L	50.0	lb/day	18.0	mg/L	62.6	lb/day
Total Phosphorus, as P	0.13	mg/L	0.54	lb/day	0.20	mg/L	0.68	lb/day
Daily maximum Limits								
Total Residual Chlorine	0.01	mg/L						

Phase III (1.0 MGD) - Outfall No. 002

Monthly Average					Weekly Average			
	Limits	Units	Limits	Units	Limits	Units	Limits	Units
Permitted Flow (MGD):	1.0	MGD	--	--	1.3	MGD	--	--
	Concentration		Mass Loading		Concentration		Mass Loading	
Five-Day Carbonaceous Biochemical Oxygen Demand	2.5	mg/L	20.9	lb/day	3.8	mg/L	26.1	lb/day
Total Suspended Solids	5	mg/L	41.7	lb/day	8	mg/L	52.1	lb/day
Ammonia	0.5	mg/L	4.2	lb/day	0.75	mg/L	5.2	lb/day
Total Nitrogen, as N	12.0	mg/L	100	lb/day	18.0	mg/L	125	lb/day
Total Phosphorus, as P	0.08	mg/L	0.67	lb/day	0.12	mg/L	0.83	lb/day
Daily maximum Limits								
Total Residual Chlorine	0.01	mg/L						

Refer to Section 4.0 of the Fact Sheet for conversion factors and equations used.

FACT SHEET

Appendix C

Cane Branch Water Pollution Control Plant NPDES Permit No. GA0050339

Ammonia Toxicity Analysis

Ammonia Toxicity Analysis for Waste Load Allocation Development (Updated 2013)

Date: 3/22/2023

Facility: Lumpkin County WSA Cane Branch WPCP

NPDES Permit Number: New

Receiving Stream: Can Branch, Chattahoochee River Basin

Engineer: Lucy Sun

Comments:

Stream and Facility Data:

Background Stream pH (standard units): 7.0

No WQ Data

Effluent pH (standard units): 8.5

Final Stream pH (standard units): 7.31

Stream Temperature (Celsius): 25.0

SWP Model

30Q3 Streamflow (cfs): 0.34

Apply Streamstats Yield

Stream background concentration (Total NH3-N, mg/L): 0.03

Facility Discharge (MGD/cfs): 0.25 0.39

Total Combined Flow (cfs): 0.73

Effluent concentration (Total NH3-N, mg/L) = 2.2

Recommend ammonia limit 2.0 mg/L

If 2.2 is greater than 17.4 mg/L, use 17.4 mg/L in WLA modeling.

Chronic Criterion based on Villosa iris (Rainbow mussel):

Instream CCC = criterion continuous concentration (chronic criterion):

$$CCC = 0.8876 \times (0.0278 / (1 + 10^{(7.688 - pH)})) + 1.1994 / (1 + 10^{(pH - 7.688)}) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Allowable instream concentration CCC (Total NH3-N, mg/l) = 1.16

Based on National Criterion For Ammonia In Fresh Water As Revised In Year 2013

Source: Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013, U.S. Environmental Protection Agency, Office of Water, Office of Science and Technology, EPA-822-R-13-001. April 2013. Washington, D.C.

FACT SHEET

Appendix D

Cane Branch Water Pollution Control Plant NPDES Permit No. GA0050339

Water Quality Trading Plan Documentation

**INTERGOVERNMENTAL AGREEMENT BETWEEN THE LUMPKIN COUNTY
WATER AND SEWERAGE AUTHORITY AND FORSYTH COUNTY**

COMES NOW, the Lumpkin County Water and Sewerage Authority (hereinafter “Authority”), and Forsyth County, Georgia, by and through its Board of Commissioners (hereinafter “County”) and hereby enter into the following Intergovernmental Agreement (“Agreement”) related to the County’s temporary assignment to the Authority of up to 244 lbs/year of total phosphorous (“TP”) discharge and up to 36,529 lbs/year of Total Nitrogen (“TN”) discharge into Lake Lanier;

WHEREAS, County and the Authority are hereby collectively referred to as the Parties;

WHEREAS, County is currently allocated 4,067 lbs/year of TP that may be discharged into Lake Lanier;

WHEREAS, County does not presently discharge wastewater to Lake Lanier;

WHEREAS, as such, the County’s allocation of annual TP discharge into Lake Lanier presently exceeds the County’s annual TP discharge need;

WHEREAS, the Authority is presently constructing a new water reclamation facility project (“New Plant”) that will return treated wastewater into Lake Lanier, upon the following phased schedule:

	Flow (mgd)	TP (mg/L)	TP(lbs/yr)	TN (mg/L)	TN (lbs/yr)
Phase 1	0.25	0.13	99	12	9,132
Phase 2	0.50	0.13	198	12	18,264
Phase 3	0.75	0.08	183	12	27,397
Phase 4	1.00	0.08	244	12	36,529

WHEREAS, it is anticipated that the County’s return flow obligation into Lake Lanier by 2050 will be 15 MGD, but that proactive measures to increase return flows would be implemented by the County much earlier;

WHEREAS, County is willing to temporarily assign to Authority two-hundred forty-four (244) lbs/year of its TP discharge capacity and 36,529 lbs/yr of its TN discharge capacity for use by the New Plant;

WHEREAS, the State of Georgia's Environmental Protection Division ("EPD") is agreeable to authorizing the above-referenced temporary assignment of the County's annual TP and TN discharge allocation to Authority for the New Plant;

WHEREAS, this temporary assignment of no more than 244 lbs of the County's TP discharge capacity, 36,529 lbs of the County's TN discharge capacity will be memorialized into the respective NPDES permit of the Authority and water withdrawal permit of the County; and,

NOW THEREFORE, based upon the exchange of good and valuable consideration between the Authority and the County, the receipt and sufficiency of which are acknowledged by the authorized signatures below, the County and Authority do hereby agree as follows:

1. The statements and stipulations in the Preamble are hereby repeated verbatim and ratified as a material part of this Agreement;
2. Subject to EPD approval, the County agrees to temporarily assign to the Authority two-hundred forty-four (244) lbs/year of its allocated TP discharge capacity and 36,529 lbs/yr of its allocated TN discharge into Lake Lanier for use by the New Plant;
3. This temporary assignment by the County of its annual TP discharge capacity and TN discharge capacity to Authority shall be memorialized in the NPDES permit of the Authority (see Paragraph 9 for more detail), and neither the Authority nor the County shall request any modification to their respective NPDES permits inconsistent with the terms of this IGA, to include any amendment hereto;
4. TP and TN discharged into Lake Lanier by Authority via the New Plant will be verified

through daily, weekly, or monthly monitoring of effluent as outlined in the Authority's NPDES permit and by EPD tracking;

5. The parameters of monitoring, as contemplated in paragraphs 4, shall be memorialized in a monitoring plan prescribed by EPD and binding on the County and the Authority;
6. The Authority and County agree to freely exchange information and documentation regarding the TP and TN loading into Lake Lanier;
7. The TP and TN assignment from the County to the Authority shall continue from calendar year to calendar year until the earliest of the following:
 - a. EPD declines for any reason to memorialize or recognize in any required permits the agreements set forth in Paragraphs 2 above;
 - b. EPD issues a new or revised Wasteload Allocation to the County reducing the County's TP allocation (inclusive of the 244 lbs assigned to the Authority) below 4,067 lbs/year;
 - c. EPD requires the County for any reason (including through conditions included in a new or revised Wasteload Allocation, or by any other means) to return more than 15 mgd to Lake Lanier while this Agreement is otherwise still in effect;
 - d. Either Party delivers notice to the other of termination, with such notice to be tendered a minimum of twenty-four months prior to the date that termination will become effective; or,
 - e. The tenth-year anniversary of this Agreement.
8. Upon the occurrence of any terminating event in Paragraph 7, the Authority shall be obligated to cooperate with County to ensure necessary changes are made to the County's NPDES or other permits to reflect termination of this Agreement. This obligation to

cooperate with the County shall include executing and/or issuing any documents reasonably necessary to implement restoration of the TP and TN credit to the County's permit;

9. Notwithstanding anything in this agreement to the contrary, the Parties contemplate that EPD will issue the Authority a NPDES permit setting forth a TP designation *with* a trading plan and *without* a trading plan. An example NPDES permit has been provided to the Parties by way of a "Water Quality Trading Guidance Document" example, dated June 2021. This example permit language regarding TP sharing is as follows:

Total Phosphorus, as P ⁽³⁾⁽⁴⁾			Five Days/Week	Composite	Effluent
Trading Plan Implemented ⁽⁵⁾	0.5 (20)	0.75 (25)			
Trading Plan No Longer Implemented ⁽⁶⁾	0.25 (10)	0.38(12.5)			

In the event the Authority's issued NPDES permit does not contain the bifurcated TP language in substantially the form as set forth above (notwithstanding TP volumes), then this Agreement shall be a nullity with each Party returned to their same respective positions as existed immediately prior to entry into this Agreement.

13. The Parties agree that the assignment of the two-hundred forty four (244) lbs/year of TP discharge and 36,529 lbs/yr of TN discharge into Lake Lanier from County to Authority shall not vest in the Authority any ownership or property interest in the assigned TP or TN discharge allowance, with the Authority specifically agreeing that this TP and TN discharge assignment is temporary and that upon any terminating event in Paragraph 7 occurring, all rights to such shall automatically and irrevocably return to County by operation of this Agreement; and,
10. Notwithstanding Paragraph 7(e), the Parties shall be authorized to extend this Agreement upon such amendment being approved utilizing the same formalities that were used in

the initial approval.

Approved by:

FORSYTH COUNTY, GA



(Chair)

Date: May 5, 2022

**LUMPKIN COUNTY WATER &
SEWERAGE AUTHORITY**



(Chair)

Date: June 7, 2022



Water Quality Trading Plan

Forsyth County Department of Water and Sewer
Lumpkin County Water & Sewerage Authority
December 20, 2023 FINAL



Trading Type:	Point-to-Point Source																																				
Trading Participants:	Forsyth County Department of Water and Sewer (FCDWS) and Lumpkin County Water & Sewerage Authority (LCWSA)																																				
Pollutant Type and Number of Credits:	<p>The trade consists of two effluent water quality parameters (over a four-phased expansion plan) as treated and discharged from the new LCWSA WRF plant to be located near the upper reaches of the Chestatee River. Effluent discharge(s) from other sources or plants within Lumpkin County shall not be included in this trade.</p> <p>The LCWSA WRF discharge will increase in 0.25 MGD increments with the following total phosphorus (TP) and total nitrogen (TN) concentrations, and TP and TN loads:</p> <p>*Actual value to be revised to permit compliance value upon issuance by GA EPD.</p> <table><tr><td></td><td>Flow (mgd)</td><td>TP (mg/L)</td><td>TP (lbs/yr)</td><td>TN* (mg/L)</td><td>TN* (lbs/yr)</td></tr><tr><td>The</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Phase 1</td><td>0.25</td><td>0.13</td><td>99</td><td>12</td><td>9,132</td></tr><tr><td>Phase 2</td><td>0.50</td><td>0.13</td><td>198</td><td>12</td><td>18,264</td></tr><tr><td>Phase 3</td><td>0.75</td><td>0.08</td><td>183</td><td>12</td><td>27,397</td></tr><tr><td>Phase 4</td><td>1.00</td><td>0.08</td><td>244</td><td>12</td><td>36,529</td></tr></table> <p>ultimate (Phase 4) trade values shall be:</p> <ol style="list-style-type: none">1. Total phosphorus (TP), 244 lbs/year - FCDWS (credit supplier) and LCWSA (credit user).2. Total nitrogen (TN), 36,529 lbs/year - FCDWS (credit supplier) and LCWSA (credit user). <p>FCDWS currently has an allocation for annual loading of 4,067 lbs TP/year and 635,456 lbs TN/year per the Lake Lanier Interim TMDL, Table 34 (December</p>		Flow (mgd)	TP (mg/L)	TP (lbs/yr)	TN* (mg/L)	TN* (lbs/yr)	The						Phase 1	0.25	0.13	99	12	9,132	Phase 2	0.50	0.13	198	12	18,264	Phase 3	0.75	0.08	183	12	27,397	Phase 4	1.00	0.08	244	12	36,529
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	<p>2017). Credits for TP and TN are generated from FCDWS's unused allocation and traded to LCWSA in the amounts shown in the table above based on the active phase of LCWSA's permit.</p> <p>As part of this trade, LCWSA will use up to 244 lbs TP/year and 36,529 lbs TN/year.</p>
Waterbody:	Lake Lanier – Impaired Waters with a TMDL (Category 4a)
Trading Area:	<p>The trading area is the Lake Lanier basin. Lake Lanier's water use classifications are recreation and drinking water. See Figures 1 and 2 which show the Lake Lanier trading area and the LCWSA and FCDWS discharge locations, respectively. LCWSA discharge is in the upper reaches of the Chestatee River, FCDWS discharge is in the Baldrige Creek cove in the lower section of the lake. The proposed discharge locations have these coordinates:</p> <p>Lumpkin County Proposed Discharge: 34.4350034°, -83.9858162°</p> <p>Forsyth County Proposed Discharge: 34.198558°, -84.092750°</p> <p>The water quality trade is protective of recreation and drinking water uses because the total phosphorus load is already accounted for in EPD's Chlorophyll <i>a</i> TMDL (2017) for Lake Lanier and the Metro District Water Resource Management Plan (2017).</p> <p>EPD developed the TMDL based on modeling that concludes the total phosphorus loading is protective of water quality standards.</p> <p>In addition, LCWSA had the state contractor run the TMDL Lake Lanier model with conditions provided in the trade and waste load allocation. The model results show growing season water quality standards will be met for chlorophyll <i>a</i> in the lake.</p> <p>There will be minimal localized impacts due to the LCWSA discharge because of the small volume of discharge and strict water quality standards. In addition, the location of the LCWSA discharge in the upper reaches of the lake compared to the FCDWS downstream discharge location is more protective of water quality in the lake and will support attainment of water quality standards including chlorophyll <i>a</i>.</p>
Localized Impacts:	Based on the trading scenario run of the TMDL Lake Lanier model, there will be minimal localized impacts. With the full trade implemented, the local impact to the Chestatee River will have a limited impact on chlorophyll <i>a</i> values, with an estimated average increase 0.04 ug/L in the

	<p>Chestatee River. There is estimated to be a negligible impact on dissolved oxygen and a slightly elevated total nitrogen average of 0.02 mg/L.</p> <p>EPD has provided highly protective effluent limits which exceed re-use standards in the LCWSA waste load allocation which include:</p> <ul style="list-style-type: none"> • CBOD/TSS (mg/L) - 2.5 • TSS (mg/L) - 5 • Ammonia (mg/L) – 0.5 • DO (mg/L) – 6.0 • E.Coli (#/100mL) - 126 • TP (mg/L) – 0.0 <p>LCWSA will perform regular effluent and downstream monitoring as required in the NPDES permit to document localized impacts, if any.</p>
Trading Baseline:	The baseline is the Chlorophyll <i>a</i> TMDL (EPD, 2017) for Lake Lanier. The total phosphorus trade from FCDWS to LCWSA is within the total allocation outlined in the Lake Lanier Chlorophyll <i>a</i> TMDL, table 34, page 72.
Trading Ratios:	<p>No risk trading ratio is proposed as the trade is a point-to-point source trade and there will be well-controlled conditions at the wastewater treatment plants and regular monitoring of effluent.</p> <p>No delivery ratio is proposed as the Trading Scenario TMDL Lake Lanier model run showed no violations of growing season chlorophyll <i>a</i> standard.</p> <p>Therefore, the proposed overall trading ratio for total phosphorus and total nitrogen is 1:1.</p>
Trading Projects:	The proposed trade is a point-to-point source trade only, there are no additional nonpoint trading projects.
Life of Credits:	<p>Total phosphorus and total nitrogen credits would be available as an annual load, as outlined under the total phosphorus allocation in the TMDL. A credit life will not exceed one year (365 days). Credits will not be stockpiled from year to year.</p> <p>Total phosphorus and nitrogen load will be a continuous discharge and monitored daily, weekly and/or monthly as outlined in NPDES permit conditions.</p>

	<p>Credits would be available upon approval of the Trading Plan by all parties and GAEPD and the issuance of the final LCWSA plant NPDES permit.</p> <p>Credits will available for up to 10 years as per the LCWSA and FCDWS Intergovernmental agreement. Annual credits can be renewed in if both parties agree in writing and EPD approves the Trading Plan update.</p>
BMP Pollutant Load Reduction Estimate:	Not applicable. BMPs will not be part of this trading plan.
Credit Verification:	Total phosphorus and nitrogen credits will be verified through regular monitoring of effluent as outlined in LCWSA NPDES permit conditions and by EPD tracking of trades.
Monitoring Plan:	<p>Effluent monitoring will be prescribed by EPD in the NPDES permit and will include daily, weekly, and/or monthly monitoring and calculation of total phosphorus and nitrogen. Based on Water Quality Trading Guidance example permit conditions, total phosphorus and nitrogen would be measured five days a week with reporting as a weekly and monthly average. All samples would be evaluated using Standard Methods or other methods accepted under 40 CFR 136. See Figures 1 and 2 for proposed discharge locations. FCDWS shall not be responsible for monitoring the LCWSA discharge into Lake Lanier.</p> <p>In addition, monitoring for nutrients and Chlorophyll <i>a</i> will be conducted per the attached Chestatee River and Lake Lanier Monitoring Water Quality Monitoring Plan.</p>
Reporting Requirements:	Total phosphorus and nitrogen reporting will be part of NPDES monitoring report to EPD. Monitoring frequency is as described in NPDES permit. Monitoring results will be flagged with a “Trading Plan Implemented” designation to distinguish from discharge limits with “Trading Plan No Longer Implemented”. The LCWSA WLA for total phosphorus is expected to be 0.0 mg/L under the “Trading Plan No Longer Implemented” scenario. An annual report of trade will be included with the annual report NPDES reporting requirements to EPD. FCDWS shall not be responsible for reporting or compliance for the LCWSA discharge into Lake Lanier.

	Monitoring as part of the Water Quality Trading Monitoring Plan will be reported quarterly or per EPD guidance.
Risk Mitigation:	Risk mitigation measures include securing greater credits (to be used annually) than are needed to meet discharge limits and monitoring flow and total phosphorus for a given year. The LCWSA plant design includes an initial phase of 250,000 gallons/day of flow and 99 lbs/day of total phosphorus in effluent discharge. However, the total credit trade is for up to 1 MGD and 244 lbs/day. The additional annual allocation of credits available can be considered an insurance pool of credits for a given year. In the future, credits may be purchased from FCDWS at Forsyth County's sole discretion, or from other point or nonpoint trading partners as needed.
Trading Project Review and Certification:	Not applicable. There is no nonpoint source trading project.
Trading Project Function:	Not applicable. There is no nonpoint source trading project.
Credit Tracking:	A credit registry will be developed using an Excel spreadsheet. Public notice of the proposed trade will be part of the NPDES permit issuance process and will include project location, trading area, and pollutant trading participants and details.
Adaptive Management:	LCWSA and FCDWS will meet no less than once per five-year permit cycle to review the Trading Plan and the resulting benefits realized for each party. However, annual communication is encouraged. Changes may be proposed to the Trading Plan which will be implemented if both parties agree in writing and if the changes to the Trading Plan are approved by EPD. Any approved changes will be incorporated into the next five-year NPDES permit renewal cycle. Sufficient planning time will be required if changes to the Trading Plan are requested.

Figure 1 - Trading Area

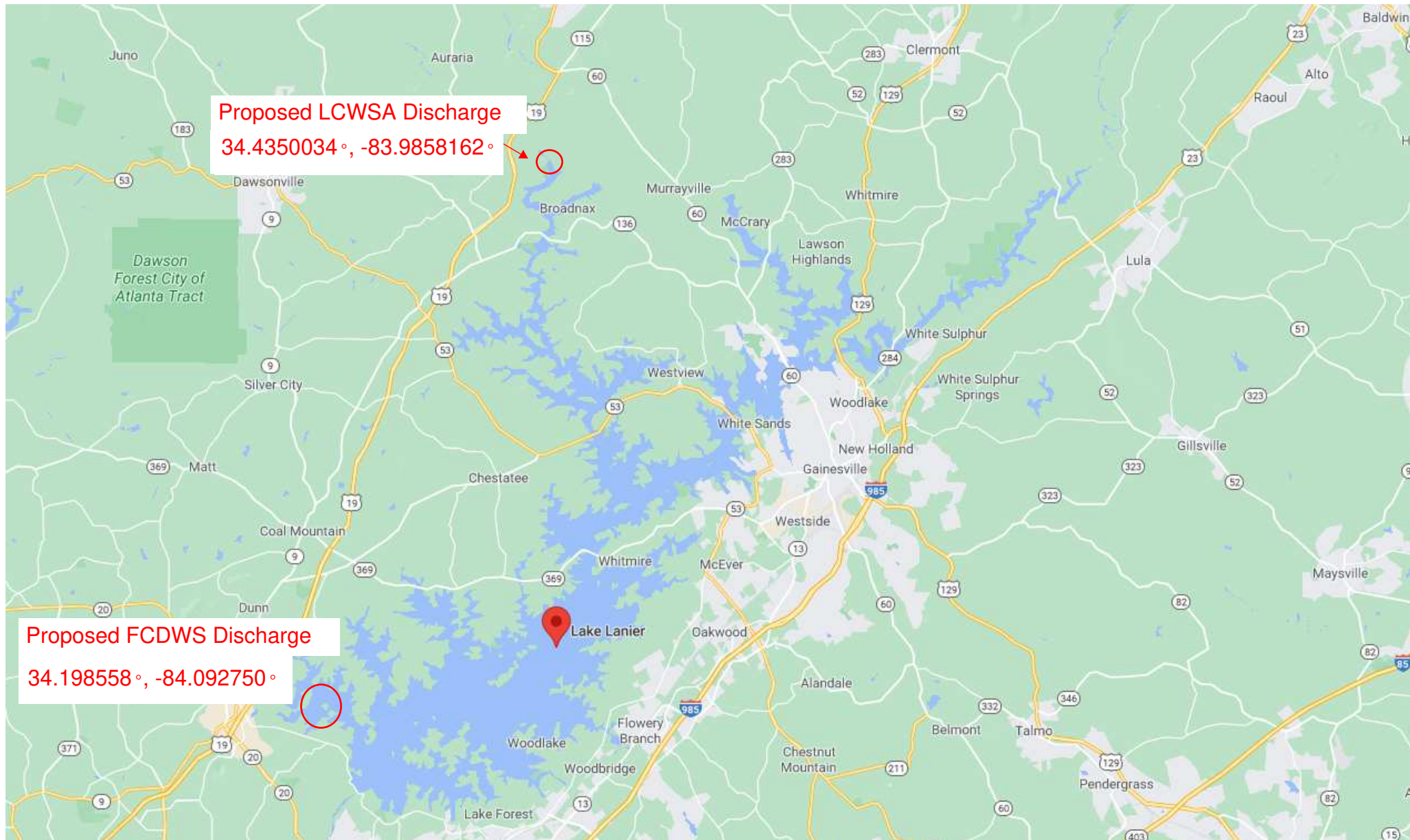
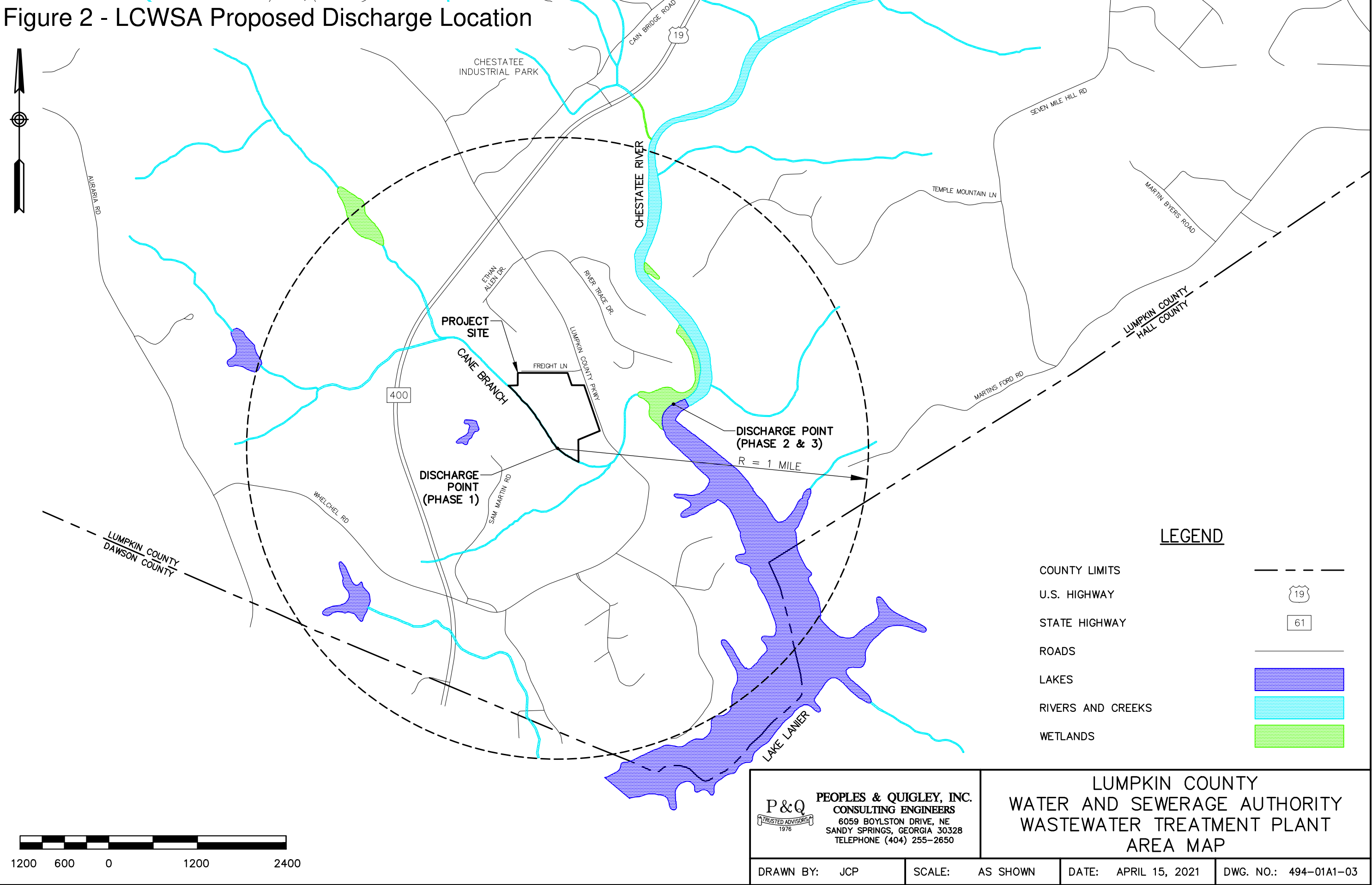


Figure 2 - LCWSA Proposed Discharge Location



LUMPKIN COUNTY WATER AND SEWERAGE AUTHORITY
Dahlonega, GA



CHESTATEE RIVER AND LAKE LANIER
MONITORING
in support of the
Water Quality Trading Plan
Final March 22, 2024

Prepared by:



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Introduction

This monitoring plan is being prepared as part of the Water Quality Trading Plan for the Lumpkin County Water and Sewerage Authority (LCWSA). The LCWSA is planning a new Wastewater Treatment Facility (WWTP) in Lumpkin County, Georgia. This monitoring plan is based on the *Standard Operating Procedure for Lake/Estuary Profiling and Sample Collection (EPD-WPMP-4, August 2020)* developed by the GAEPD Watershed Protection Branch.

Background

Lumpkin County is located approximately 70 miles north of downtown Atlanta as shown in Figure 1. The Lumpkin County Water and Sewerage Authority (LCWSA) is responsible for planning and implementing the new WWTP. The LCWSA has proposed a new 1.0 MGD WWTP to provide wastewater treatment service for a growing area of the county.

Summary Methodology

Water samples will be collected monthly year-round for nutrients, bacteria, and hardness. During the non-growing season (November-March), one mid-depth grab sample will be collected for nutrient analysis and hardness. A separate bacteria grab sample will be collected just below the surface.

During the growing season (April-October) composite monthly samples will be collected for hardness, nutrients and chlorophyll *a* when algae primary productivity is highest. Water samples will be collected at a depth of approximately 0.1 meter and at one (1) meter intervals within the photic zone and homogenized so as to generate a single photic zone composite sample for analysis. From that composite sample, one (1) hardness bottle, one (1) nutrient bottle, and one (1) chlorophyll *a* bottle will be filled. A separate bacteria grab sample will be taken from just below the water surface. Nutrients to be analyzed include total phosphorus, orthophosphate, ammonia, organic nitrogen, nitrate-nitrite, and TKN. The following tables summarizes parameter type, analysis method, and sample collection type.

Growing Season Monthly Sampling (April-October)

Parameter	Analysis Method	Sample Collection
Depth	In-situ	Data logger
Temperature	In-situ	Data logger
pH	In-situ	Data logger
Conductivity	In-situ	Data logger
Dissolved Oxygen	In-situ	Data logger
Salinity	In-situ	Data logger
Chlorophyll <i>a</i>	Lab analysis	Photic Zone Composite
Total Phosphorus	Lab analysis	Photic Zone Composite
Orthophosphate	Lab analysis	Photic Zone Composite
Organic Nitrogen	Lab analysis	Photic Zone Composite
Ammonia	Lab analysis	Photic Zone Composite
TKN	Lab analysis	Photic Zone Composite

Parameter	Analysis Method	Sample Collection
Nitrate-Nitrite	Lab analysis	Photic Zone Composite
Hardness	Lab analysis	Photic Zone Composite
Bacteria	Lab analysis	Below surface grab sample

Non-Growing Season Monthly Sampling (November-March)

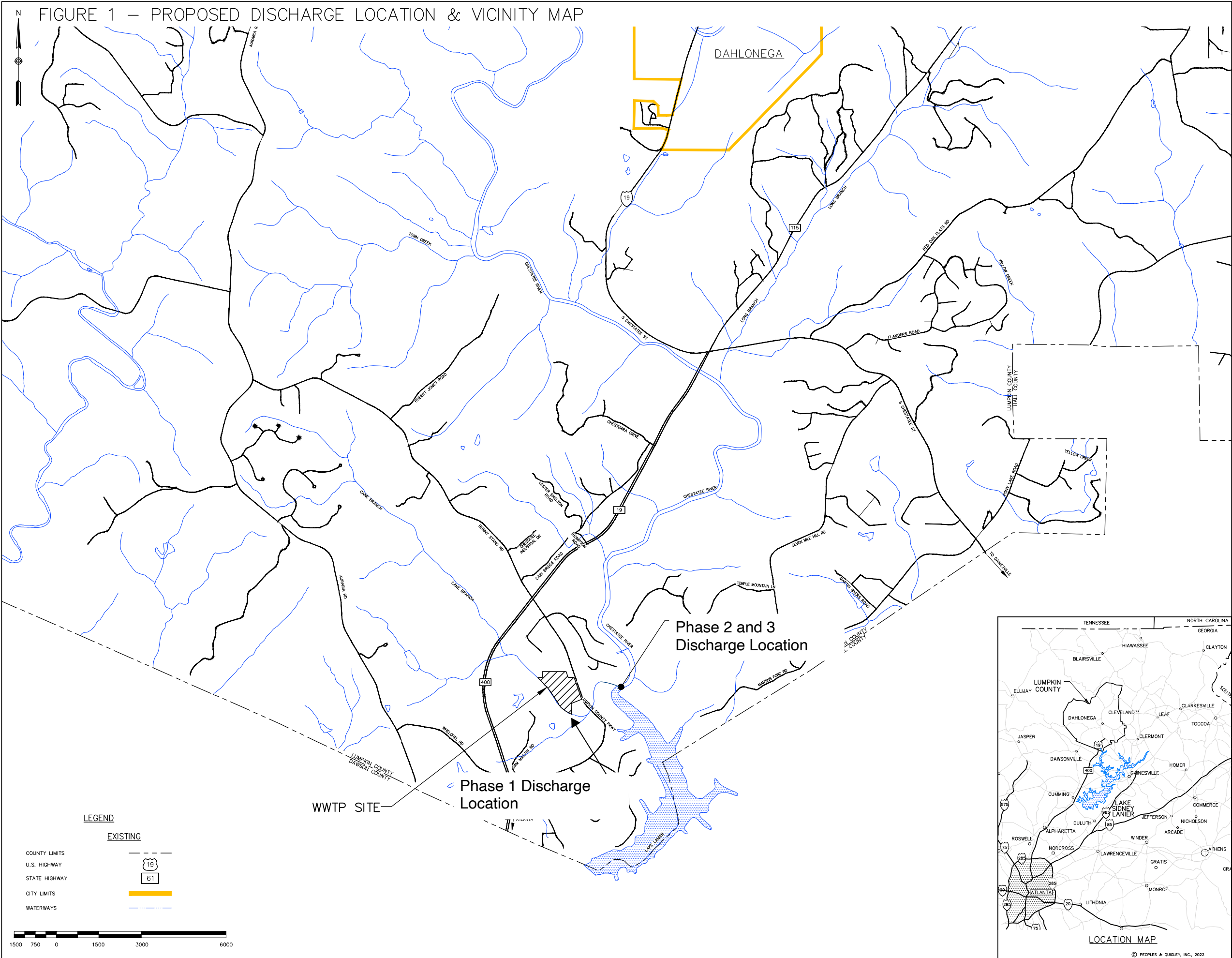
Parameter	Analysis Method	Sample Collection Type
Temperature	In-situ	Data logger
pH	In-situ	Data logger
Conductivity	In-situ	Data logger
Dissolved Oxygen	In-situ	Data logger
Salinity	In-situ	Data logger
Temperature	In-situ	Data logger
Total Phosphorus	Lab analysis	Mid-Depth Grab
Orthophosphate	Lab analysis	Mid-Depth Grab
Organic Nitrogen	Lab analysis	Mid-Depth Grab
Ammonia	Lab analysis	Mid-Depth Grab
TKN	Lab analysis	Mid-Depth Grab
Nitrate-Nitrite	Lab analysis	Mid-Depth Grab
Hardness	Lab analysis	Mid-depth grab
Bacteria	Lab analysis	Below surface grab sample

Sample identification labels, detailing the site location name, Monitoring Location ID, collection date, collection time, and responsible person will be adhered to the sample bottles. Chain of Custody will be completed, the samples will be packed in ice, and then delivered or shipped to an appropriate, State certified laboratory.

During the growing season, in-situ water quality parameters will be measured and lake profiles are established by using a water quality data logger. The data logger should be capable of measuring depth, dissolved oxygen, temperature, pH, salinity, and conductivity. An initial measurement of each parameter is taken at 0.1 m and recorded. Parameters are then measured at discrete depths until reaching the lake bottom. During the non-growing season, the data logger will measure the above parameters at mid-depth where the grab sample will be taken.

Sampling Locations

Samples will be collected above and below the discharge location on the Chestatee River. One sampling site will be set up above and two sites below the discharge location. See Figure 2 for proposed monitoring locations. The sites are in a transition zone between riverine and lake conditions. Downstream sites will include a near-field and a far-field location. Figure 3 below shows an aerial of the area.



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 2. THIS DRAWING WAS CREATED FROM INFORMATION PROVIDED BY OTHERS AND FIELD MEASUREMENTS TAKEN BY PEOPLES & QUIGLEY, INC.
- IMPAIRED STREAMS**
1. CHESTATEE RIVER (YAHOOOLA CREEK TO LAKE LANIER)
CAUSE: FECAL COLIFORM
SOURCE: NON POINT

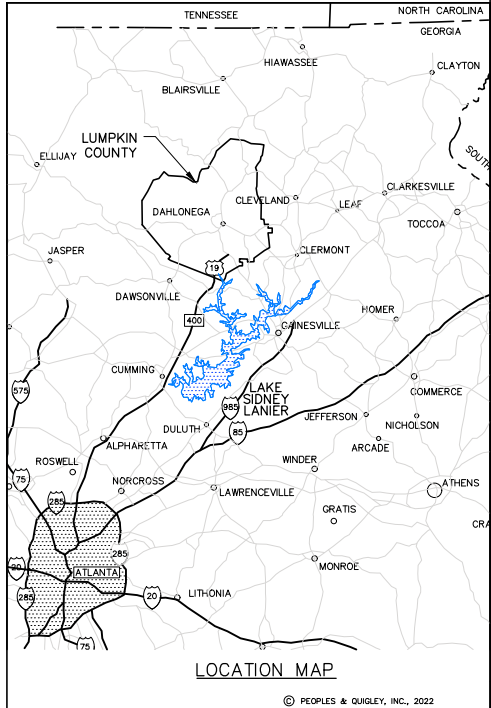
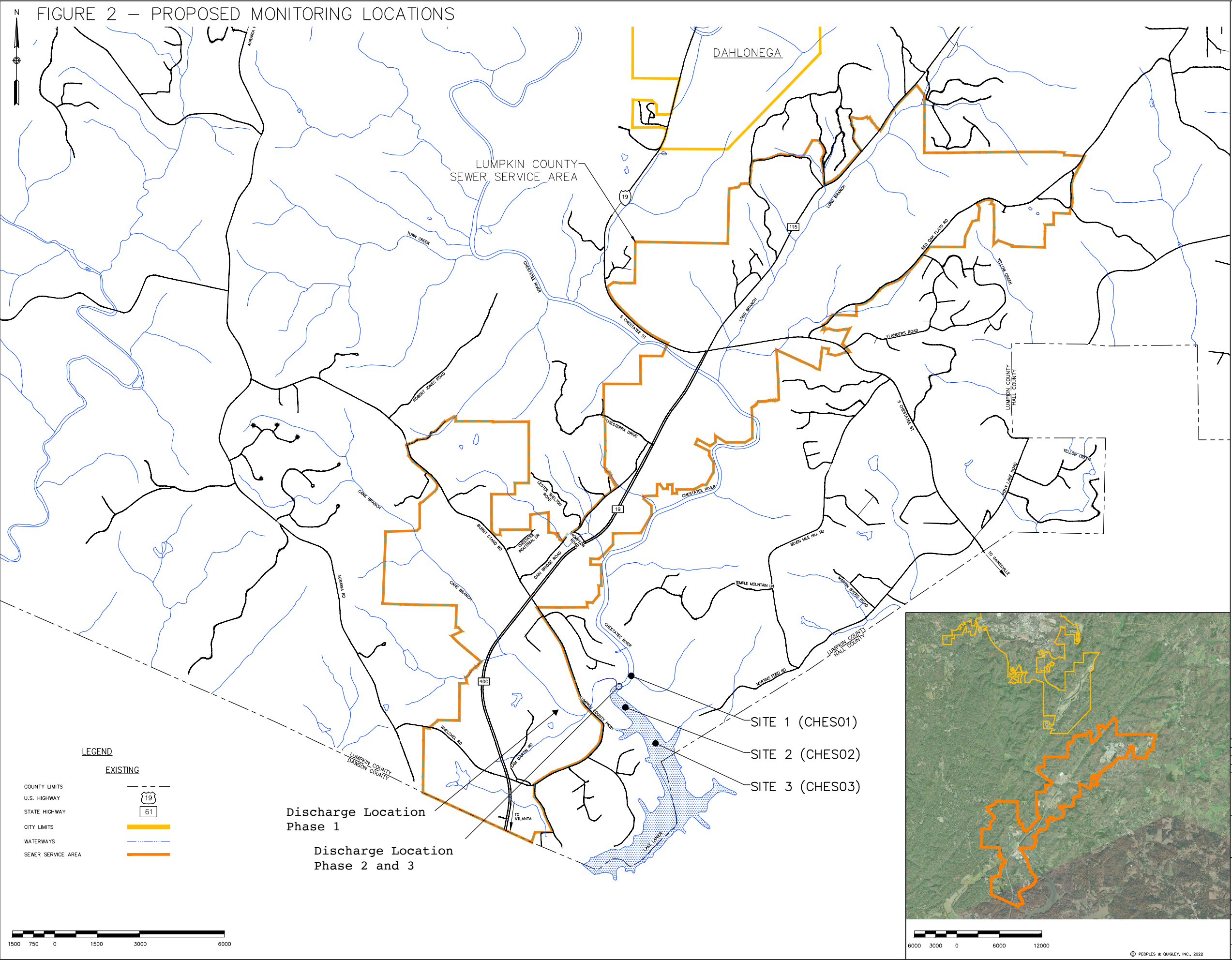


FIGURE NO. 1			
NO.	DATE	BY	REVISION
LUMPKIN COUNTY WATER AND SEWERAGE AUTHORITY			
WASTEWATER TREATMENT PLANT 2022 EPD PERMITTING			
PROPOSED DISCHARGE LOCATION & VICINITY MAP			
DESIGNED BY JDC	P&Q <small>PEOPLES & QUIGLEY, INC.</small> CONSULTING ENGINEERS <small>6059 BOYLSTON DRIVE, NE SANDY SPRINGS, GEORGIA 30328 TELEPHONE (404) 255-2650</small>	SHEET 1 OF 2	DRAWING NO. 494-01C1-01
DRAWN BY JCP			
CHECKED BY LCH			
APPROVED BY CDQ			
SCALE AS SHOWN		DATE MARCH 9, 2022	



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IMPAIRED STREAMS

- CHESTATEE RIVER (YAHOOOLA CREEK TO LAKE LANIER) CAUSE: FECAL COLIFORM SOURCE: NON POINT

FIGURE NO. 2

NO.	DATE	BY	REVISION

LUMPKIN COUNTY
WATER AND SEWERAGE AUTHORITY

WASTEWATER TREATMENT PLANT
2022 EPD PERMITTING

PROPOSED MONITORING LOCATIONS

DESIGNED BY JDC	P&Q PEOPLES & QUIGLEY, INC. CONSULTING ENGINEERS 6059 BOYLSTON DRIVE, NE SANDY SPRINGS, GEORGIA 30338 TELEPHONE (404) 255-2650	SHEET 2
DRAWN BY JCP		OF 2
CHECKED BY LCH		DRAWING NO. 494-01C1-01
APPROVED BY CDQ		SCALE AS SHOWN
DATE MARCH 25, 2022		



Figure 3 – Aerial Photography of Discharge Location

The monitoring sites are as follows:

- Site 1. CHES01. Chestatee River, approximately 700 feet upstream of the proposed discharge location, just upstream of the unnamed tributary on the left bank (facing downstream) of the river.
- Site 2. CHES02. Chestatee River, the downstream near-field location in the mixing zone, if applicable. Assumed approximately 1000 feet downstream of the proposed discharge location.
- Site 3. CHES03. Chestatee River, the downstream far-field location, approximately 2,500 feet downstream of the proposed discharge location.

Field Measurements and Field Observations

The following procedure will be followed to collect samples.

1. Record ambient conditions including air and surface temperature readings, weather conditions

2. Determine the photic zone using a Secchi disk as described below (growing season only)

- The Secchi disk is lowered slowly on the shaded side of the boat until the disk is not visible.
- Raise the disk slowly until it is barely visible.
- Lower and raise the disk again.
- Lower the disk a third time until it is just beyond visibility. This is the Secchi disk depth, and is measured from the water surface to the disk.
- Measure and record this depth on the field datasheet.

3. Collect the composite sample (growing season only)

- Use a discrete sampler (Van Dorn) attached to a rope marked in 1 m increments to collect the composite sample. Determine the number of discrete samples (grabs) needed for the composite sample (one grab per 1 meter). There should be a minimum of four grabs, so if the photic zone is less than 1.5 m deep, collect 2 subsurface samples and 2 grabs at 1m depth of the photic zone.
- Rinse the stainless-steel bucket and sampling equipment with deionized water.
- Rinse Van Dorn sampler and carboy with lake water. Open the Van Dorn caps and lower the sampler just below the water surface. Gently move the Van Dorn back and forth to allow lake water to fill and rinse the interior of the sampler. Then close the caps and pour the contents into the carboy. Replace lid on the carboy and shake it upside down several times to rinse the interior of the carboy. Be sure to open the drain valve as well to rinse the interior of the valve. Once rinsing is complete, empty the rinse water on the opposite side of the boat from where the composite sample will be collected.
- Repeat this step 2 more times prior to sample collection.
- After the Van Dorn and carboy have been rinsed, lower the Van Dorn to just below the surface of the water, or approximately 0.1 m deep, and collect a sample. Pour it into the composite carboy.
- Lower the Van Dorn to the 1.0 m depth and release the weighted messenger to close the caps on the sampler. Repeat this process and continue collecting samples at one meter intervals down to the bottom of the photic zone.
- Once the composite sample has been collected, shake the carboy gently for several seconds to homogenize the composite sample.

4. Prepare Sample

- Once the sample is collected, fill one (1) nutrient bottle, (1) hardness bottle, and one (1) chlorophyll a bottle.
- Collect a bacteria grab sample from approximately 0.1 m depth. Take care not to touch the inside of the bottle.
- Place the appropriate sample label on each bottle and store all samples on ice immediately.

- Repeat this process at each site.

5. Measure Lake Profile Data (growing season only)

- Prior to field measurements, calibrate water quality probe with data logger and cable using manufacturer's manual.
- Measure dissolved oxygen, temperature, pH, conductivity, and salinity at discrete depths to establish a lake profile as described below.
- An initial reading should be made at 0.1 m. Calibrate the depth on water quality probe at this depth as well.
- Measurements are then taken every meter from 1.0 to 20.0 m.
- Below 20.0 m depth, measurements are taken every two meters to 30.0 m
- For any sites below 30.0 m depth, measurements are taken every 5 m until the lake bottom is reached.
- Avoid contact with the lake bottom to prevent stirring of sediment.
- Once a measurement is made at the lake bottom, raise the water quality probe and place it in a container with water or replace the protective cup over the probes until reaching the next site.
- Complete the field datasheet for the site by recording the data for the 0.1 and 1.0 depths and all other field observations.

Quality Assurance/Quality Control

In accordance with the Georgia EPD Quality Assurance Project Plan, Water Quality Modeling and Groundwater and surface Monitoring document (2018-22, WPMP-QAPP 3 rev 5, March 2022), the following QA/QC activities will be conducted.

- Collect duplicate samples at 10% for all sampling events. Duplicate samples will be taken after repeating the entire profile composite sample collection protocol.
- Repeat lake profile measurements at one site, at the halfway point to the bottom of the lake, and at 1.0 and 0.1 meters below the surface.
- Ambient field blanks will be taken at 5% of the total samples. Blanks will be certified inorganic water. Bacteria field blanks will use sterile buffer water poured into the sample bottle and sent to the laboratory for analysis.

Samples will be sent to a state-certified lab and the standard method will be compared to the preferred methodology as stated in the GAEPD Quality Assurance Project Plan.

A chain of custody form will be completed for each sample collected.

Health and Safety

All field and lab personnel shall treat samples as if they may contain chemical, biological, or other contamination. Gloves shall be used to collect water samples. Care should be made not to touch eyes, mouth, or nose after coming in contact with water samples. Field personnel should wash hands with clean water after samples are collected and stored in containers for transport. Field personnel should have CPR, First Aid, Boating Safety certification. Personal protective equipment and adequate clothing and footwear for field conditions will be worn. Boat safety equipment will be readily available on all boats including extra keys, flares, throw cushion, horn/whistle, U.S. Coast Guard approved personal flotation devices, paddles, flashlight, toolbox, and boat notebook with service/fuel record.

Cautions

- All sampling personnel will wear personal flotation devices while the boat is in motion.
- During extremely hot weather, fluids will be available to ward off the risk of heat exhaustion and heat stroke.
- Field personnel will wear clothing and protective head cover suitable to the expected weather conditions and apply sunscreen, as needed.
- Care will be taken with concentrated acids (nitric, sulfuric) are used to preserve nutrients and bacteria samples.
- Field sampling teams will have a minimum of two people.

Avoiding Contamination

Every effort will be made to avoid introducing contaminants into the sample containers through improper sampling techniques, careless handling, or by using “dirty” preservatives. Common contamination actions include, but are not limited to:

- Careless handling of sample container lids
- Stirring of bottom sediments in sampling area and subsequent introduction into sample
- Use of sample containers that have been lying unprotected in work vehicle for extended periods of time
- Use of previously used sample containers without proper cleaning and rinsing
- Careless transfer of sample from one container to another
- Failure to pre-rinse Van Dorn samplers and/or sample compositor with de-ionized water and on-site water between sites
- Low batteries or loose connections between water quality probe and data logger

Equipment and Supplies

Equipment and supplies may include the following.

- Vehicle capable of carrying or towing boat
- Boat that meets the size requirements of the lake, equipment, and/or staff
- Anchor and rope of appropriate size and length to hold the boat in place while sampling
- Lake map/GPS/Sonar for navigation and determining correct sampling locations
- Boat safety equipment including extra keys, flares, throw cushion, horn/whistle, lifejackets, paddles, properly operating fire extinguisher, flashlight, toolbox, and boat notebook with service/fuel record.
- Field book/Field sheets, writing instruments
- Carboy for mixing the composite sample
- Meter stick
- Thermometer
- Calibrated multiparameter water quality probe with cable and data logger
- Secchi Disk
- Nitrile gloves
- Water collection device for collecting discrete samples (e.g. Van Dorn sampler)
- Rope for Van Dorn marked off in one-meter (m) increments
- Cooler(s) with wet ice
- Cooler(s) with dry ice (for shipping chlorophyll *a* samples, if needed)
- Chain of custody form to be filled out for each sample
- Nutrient bottles
- Hardness bottles
- Bacteria bottles
- Chlorophyll-*a* sample bottles
- Container of de-ionized water for rinsing between sites