REQUEST FOR QUALIFICATIONS

Orange Water and Sewer Authority
Mason Farm Wastewater Treatment Plant Master Plan
CIP Project No. 278-75
Issue Date: April 7, 2021
Submittal Deadline: May 14, 2021

1. INTRODUCTION

Orange Water and Sewer Authority (OWASA) is requesting proposals from qualified firms interested in providing professional engineering services for the development of a comprehensive facility Master Plan for its Mason Farm Wastewater Treatment Plant (WWTP).

OWASA will conduct a Qualification-Based Selection process to identify the best qualified firm with which to negotiate a contract. All firms submitting qualifications and technical proposals must have demonstrated experience and expertise for projects similar in nature to this project. OWASA will fully consider submittals that involve collaboration with other proposers.

To be considered by OWASA, responses to this RFQ must be received by 2:00 p.m. (EDT) on May 14, 2021. Refer to Section 5 – Submittal Requirements for additional details.

2. OBJECTIVES

The primary objective of the project is to prepare a near- and long-term road map of capital and non-capital (process optimization and control) improvement projects, implementation schedule and cost estimates for reliable and efficient wastewater (including solids) treatment to: 1) meet current and anticipated permit requirements; and 2) accommodate future hydraulic and pollutant loading conditions. The planning horizon for near-term improvements is assumed to be 2037 and for long term improvements to be 2070 (buildout).

The key planning drivers for the Master Plan are long-term viability, regulatory compliance, system resiliency and reliability, sustainability inclusive of energy efficiency, resource recovery (resources include water, energy, nutrients), innovation/technology and cost-effectiveness through efficient management of construction footprint and plant operations.

3. BACKGROUND AND PROJECT NEEDS

The Mason Farm WWTP is currently rated for a maximum monthly flow (MMF) of 14.5 million gallons per day (MGD) and peak daily flow (PDF) of 43.5 MGD.

In 2010, OWASA completed a Hydraulic and Treatment Capacity Study to evaluate existing facilities and provide recommendations to address plant hydraulic capacity limitations and nutrient reduction

improvements to meet final Jordan Lake Nutrient Strategy. The study evaluated nutrient removal alternatives and process optimization using BIOWIN process modeling, capacity expansion alternatives for aeration system, secondary clarifiers and additional modifications to minimize operational costs. It was noted that the next plant expansion would be to 18.5 MGD and would not be needed until 2030. In 2010, the 14.5 MGD plant addressed Jordan Lake limits for total nitrogen (TN) of 409,448 pounds per year and 10,188 pounds per year for total phosphorus (TP) and the study provided recommendations for the current (2021) final Jordan Lake rules for TN of 134,375 (3.0 mg/L) pounds per year with TP load allocation unchanged at 10,188 pounds per year (0.23 mg/L).

OWASA intends the Master Plan to be a comprehensive planning document to incorporate updated information since the 2010 Hydraulic and Treatment Capacity study. In general, the Master Plan is expected, but not limited, to include the following information: 1) demand projections (OWASA-provided updates based on water demand trends presented in 2020 Long Range Water Supply Plan, 2020 Collection System Master Plan, Collection System I/I reduction efforts); 2) historical and projected wastewater influent characteristics; 3) current and anticipated regulatory requirements; 4) near-term asset management needs; 5) hydraulic and treatment capacity limitations; 5) evaluation of process optimization and nutrient removal alternatives addressing key drivers inclusive of capacity, regulatory requirements, sustainability, cost effectiveness, etc.; and 6) near- and long-term capital improvements plan including project descriptions, implementation schedule and cost estimates.

OWASA embraces the principles of environmental, social, and economic sustainability. We endeavor to optimize our local water resources and promote conservation of water, energy, and other natural resources. As a part of this commitment, OWASA invested in multiple WWTP studies with a goal of reducing energy use and improving process efficiencies. The Master Plan should help advance this commitment and incorporate a holistic approach to the analysis and recommendations for future planning.

It is expected to review and integrate any key information/ideas presented in the above-mentioned studies to evaluate options for WWTP process optimization and energy savings. A list of relevant studies and key directions identified in previous studies is provided in Attachment 1 – Major Plant Studies. The selected firm will be provided with all documentation and previous process studies.

4. SCOPE OF SERVICES

The engineering services required for this project shall be completed in general accordance with a scope of services as needed to accomplish the major tasks and sub-tasks listed below**.**
The final scope of services will be negotiated with the selected engineering firm.

Scope of services may include (but not limited to):

A. WWTP Assessment

Conduct plant wide evaluation of hydraulic, process and condition assessment to determine limitations that would need to be addressed to provide long-term reliable service and regulatory compliance.

1. Hydraulic Capacity Assessment

   This task may include review of the 2010 Hydraulic and Treatment Capacity Study to list the components that would require updates/modifications to reflect new information impacting the evaluation. Include any information presented in the 2010 Study that is still valid to provide context and clarity so that the reader doesn't need to refer back past work in order to understand the overall hydraulic and treatment capacity needs/limitations.

   a. The goal of the hydraulic assessment is to determine system capacity, evaluate system adequacy, identify hydraulic deficiencies and recommend mitigation.
   b. Evaluate hydraulic characteristics of individual processes, individual conveyance systems, and the overall plant, and to determine the maximum daily and peak hourly hydraulic flow that can be processed through these components including wet weather operating considerations, bypass configurations, and other considerations as dictated by OWASA (e.g., units out of service, etc.).
   c. Provide recommended improvements to increase the plant's hydraulic capacity through removal of hydraulic bottlenecks.

2. Treatment Process Assessment

   a. The goal of the task is to determine process capacity deficiencies and recommend efficient and sustainable treatment solutions to accommodate future demands, meet future regulatory requirements, and improve reliability and operational efficiency.
   b. Review historical influent characteristics and effluent requirements to determine plant performance under current conditions.
   c. Develop influent flows and loadings using OWASA-provided population projections/growth that will serve as a basis of planning future facilities.
   d. Review current and anticipated regulatory requirements for nutrients, biosolids recycling and OWASA's reclaimed water system partnership with University of North Carolina, that could potentially affect the decision-making process for developing solutions to address long term wastewater treatment compliance.
   e. Evaluate treatment process alternatives suitable for influent wastewater characteristics over the planning horizon. The evaluation of technical alternatives shall be developed in the following categories: liquids treatment, solids treatment including process optimization and energy/resource recovery options. Consideration shall be given to innovative and state-of-the art processes developed for: plant compliance in meeting current and future regulatory standards, process efficiency, possibility of increasing the WWTP's build-out capacity, minimizing construction footprint and means to shifting the existing wastewater treatment plant to a more sustainable and energy efficient resource recovery facility. This includes evaluation of side stream treatment options for nutrient removal, opportunities for implementing energy conservation measures and onsite renewable energy production.

      In addition to the key planning drivers listed above, the selected treatment alternatives that require construction of new facilities shall assess site constraints, power requirements, floodplain boundaries and odor related impacts from each process area upgrade. Improvements to mitigate odors shall be included in the evaluation.
   f. Perform process modeling (preferably using BIOWIN software modeling tool) to derive loading capabilities of existing facility and suitability of future growth and regulatory compliance. Model proposed treatment process alternatives to investigate scenarios and combinations of existing and new technologies (as discussed under 4.A.3.e) for different

process modifications and evaluate them for future drivers such as regulatory compliance, capacity and sustainability.

g. Review existing plant resources and recommend any small-scale pilot studies for proposed technologies and/or additional sampling efforts that may be needed to evaluate identified process options.

3. Condition Assessment

This task is expected to be of moderate effort to include condition assessment results previously performed and identify facilities that are in need of further assessment. The Master Plan is expected to include a summarized version of previous assessments that are still valid and reflect any new condition assessment results derived from the project.

a. The goal of condition assessment is to evaluate the condition and reliability of the current plant wide equipment and facilities through visual observations to determine the potential rehabilitation or replacement of major assets over the planning horizon.
b. Identify system needs by conducting site visits and interviews with operational staff to understand the reliability, age, maintenance/service history, operational challenges, etc. of the facility equipment.
c. Evaluate risks and identify feasible replacement or rehabilitation alternatives. This assessment shall align with OWASA's existing Renewal and Replacement model.
d. Provide recommendations and capital costs of the equipment that would require replacements/repair over the near-term planning horizon. Proposed equipment shall align with energy and maintenance goals.

B. CIP Development

1. Evaluation Criteria and Economic analysis for Net Present Value of different scenarios:
    a. Recommended alternatives evaluation criteria shall be based on cost (capital and operation and maintenance costs) and non-cost factors (long term viability, sustainability, social cost of carbon, reliability, operational resiliency, operability, space footprint, re-use, neighborhood impacts, flexibility and compliance with future/long term regulatory needs, etc.).
    b. The evaluation of alternatives shall be a two-tier evaluation process. Tier 1 being an assessment to select viable alternatives to meet project objectives and Tier 2 being ranking (based on cost and non-cost factors) of the viable alternatives, and selection of the recommended alternative.
    c. Present cost versus performance tradeoffs for each alternative evaluated.

2. Development of a multi-year phased capital improvement program that includes a near term (2037) capital improvement program and a long term (2070) conceptual plan inclusive of recommended project descriptions, implementation schedule and cost estimates.

C. Other Services

Other services include field services such as:
1. Development of sampling and monitoring plans for plant process alternatives;
2. Workshops to discuss experimental plant configurations with plant staff during evaluation and decision-making process;
3. Pilot studies of critical technology to confirm their viability as part of Master Plan scenarios;
4. Coordination of vendor driven presentations and workshops for staff review.

D. Deliverables

All written technical memoranda, reports, spreadsheets, and work products developed pursuant to this project shall be provided to OWASA in a digital format in a manner acceptable to and usable by OWASA. The actual list of deliverables will be negotiated with the selected engineering firm.
The Master Plan is expected to be a consolidated version of individual technical memoranda prepared during the course of evaluation of the major tasks outlined in Section 4 – Scope of Services and should be constituted into a comprehensive report inclusive of capital improvements plan for recommended long term solution.

5. SUBMITTAL REQUIREMENTS

All firms interested, are required to attend a mandatory virtual Pre-Proposal Teams meeting at 10:00 AM and an in-person (limited to 2 people) WWTP site visit at 1:00 PM on April 19, 2021, when OWASA staff will review the RFQ and answer questions about the project. **Interested firms shall send an email to Deepthi Kalyanam at dkalyanam@owasa.org by April 16, 2021 for the Teams invite.** The site visit will be held at: 170 Old Mason Farm Rd, Chapel Hill, NC 27517. All consultants attending the site visit are required to follow OWASA's safety protocols for COVID prevention included in Supplemental Information Section.

No additional site visits to the plant will be allowed or provided to prospective consultants. Except for the April 19, 2021 Pre-Proposal Conference, all questions regarding this RFQ must be directed to **Ms. Deepthi Kalyanam** via e-mail (dkalyanam@owasa.org). OWASA staff will not meet in person with any consultant before the Pre-Proposal Conference.

Responses to this RFQ must be received by OWASA no later than 2:00 p.m. EST on May 14, 2021. To be considered, please submit four (4) hard copies and one (1) electronic copy in PDF format of the required qualifications to:

Deepthi Kalyanam, P.E.
Orange Water and Sewer Authority
400 Jones Ferry Road
Carrboro, North Carolina 27510
Email: dkalyanam@owasa.org

Consultant qualifications and technical proposals will be limited to a maximum of 25 double-sided pages (i.e., 50 pages printed double-sided onto 25 sheets). All submittals will become the property of OWASA. Each submittal must include the following in order to be considered:

a) ***Project Team:*** **[30 points]** The members of the consultant's project team shall be recognized leaders in their field with proven experience in condition assessment, wastewater mainstream and side stream treatment process technologies, process modeling, process optimization, hydraulics and hydraulic modeling, energy efficiency and resource recovery facilities. The consultant's Project Manager shall be identified by name, and the proposal will clearly outline the consultant's intentions regarding the Project Manager's availability for all required on-site work and for any

review and coordination meetings that will be necessary to successfully complete the project. Each proposal will include a list of the proposed project team members, including sub-consultants, and clearly identify their respective roles on the project. Each proposal shall include resumes of key team members.

b) ***Project Approach:*** **[35 points]** Clearly indicate your proposed approach for this project. Provide detailed information that will allow OWASA staff to distinguish your team from other firms that may be competing for this project. Your proposal shall provide a step-by-step description of the phased approach for completion of the project and the specific goals for each phase in the process.

The project approach must clearly outline the consultant's understanding of any limitations or sensitivities of the proposed process models with respect to the project's objectives and shall provide consultant's recommendation for the optimal mix of process modeling and full-scale field testing that will be both cost-effective and ensure confidence in the results of the analysis.

The project approach must also outline the consultant's proposed methodology for evaluating differing scenarios against a common basis in a manner that anticipates all cost and performance implications, and which will allow OWASA to determine the optimal approach to future capital improvements and operational changes.

c) ***Project Schedule:*** **[10 points]** OWASA intends to select a consultant and award a contract by June 18, 2021 and issue a Notice to Proceed no later than July 9, 2021. OWASA intends to complete in-house operational sampling between August 2021 and January 2021 in support of the capacity study. Each proposal shall specifically outline the consultant's anticipated schedule for completion of project tasks.

d) ***Past Experience and References for Similar Projects:*** **[20 points]** Provide references (including name and contact information for the client) and summaries for at least three (3) similar projects completed by the proposed team in the last seven (5) years for other clients. Also indicate who served as your project manager for each project, and who had key lead technical roles in those projects.

e) ***Project Concerns:*** **[5 points]** Identify potential concerns or hindrances to successful completion of the project.

6. SELECTION PROCESS

OWASA intends to select a consultant and award a contract by June 18, 2021 and issue a Notice to Proceed no later than July 9, 2021. OWASA staff will review and evaluate the submittals based on:

- Responsiveness to the RFQ.
- Experience, qualifications and availability of the proposed Project Manager.
- Experience and qualifications of key project staff.
- Firm's related experience and performance on other projects, especially the quality of work, budget control, overall cooperation and responsiveness.
- Proposed project approach.
- References on past similar projects.
- Ability to meet project schedule.

Note: OWASA may elect to conduct face-to-face interviews with two or more firms being evaluated prior to making a final selection. If OWASA cannot reach an agreement with the initially selected firm, OWASA will then proceed to negotiate with other firms that submitted proposals or will reissue the RFQ.
OWASA reserves the right to make an award in whole or in part, or to reject any and all proposals and not award a contract for the services described in this RFQ.

7. OWASA POINT OF CONTACT

Deepthi Kalyanam, PE will be OWASA's primary point of contact for all consultant selection matters, technical, scheduling, coordination, consultant evaluation, invoicing matters, relating to this project. **All questions regarding this Request for Qualifications shall be directed** to Ms. Deepthi Kalyanam, PE at dkalyanam@owasa.org.

8. SUPPLEMENTAL INFORMATION

- List of Major Plant Studies
- Mason Farm WWTP Current NPDES Permit
- Mason Farm Process Schematic, Hydraulic Profile
- Contract Agreement Template
- COVID Safety Protocols Precautions

Attachment #1: List of Major Plant Studies

The following is a selection of studies from the last two decades for the Wastewater Treatment Plant and the resulting key outcomes from the reports.

Study	Key Outcomes
2002 WWTP Master Plan	Site limitations are present in the plant including space for EQ and buildout with redundancy using available technology at the time.
2004 14.5 MGD Expansion – Tech Memos	Detailed evaluations of unit processes were developed, and the resulting Process Control Plan generally represents the operational mode of the plant. The systems are heavily automated but major automatic sequences (i.e. solids transfer, filter backwash, Aeration sequences) were modified by operations and are now largely manual processes.
2010 WWTP Hydraulic and Treatment Capacity Study	Hydraulic limitations exist in the Primary clarifiers. When operated in denitrification mode, filters have insufficient high flow capacity but are sufficient when in high rate filter mode. Most other elements of the plant have adequate hydraulic and treatment capacity generally for build out. Detailed tables of treatment rates and plant characteristics are developed and compiled in this study.
2011 Biogas Study	Some economically viable opportunities for biogas use exist but better technology and gas cleaning as well as increased gas production will be necessary for an acceptable ROI on any biogas utilization project.
2015 Biosolids Management Plan	It is more efficient and cost effective to use the rotary press and recycling of biosolids through compost or landfill disposal. Only limited evaluation of mainstream impacts was considered. Ultimately, to satisfy OWASA's commitments to its land application partners, OWASA continues to recycle ~ 50% or more of its biosolids via land application of 2-3% biosolids.
2016 Intermediate Pump Station Evaluation	The IPS cannot be effectively expanded beyond its current capacity with its current configuration. Some systems needed rehabilitation (most elements of the system were repaired in 2018-2019 IPS project).
2019 RAS and Secondary Clarifiers – Summary Study	There is no immediate need for additional clarification capacity but both Clarifiers 1 and 4 have capacity limitations. There is space allocated for Clarifier #6 . OWASA completed rehabilitation of clarifiers 2, 3 in 2020 and anticipates to complete rehabilitation for #4 by 2022. Additional upgrades in the pumping, metering, discharge to the nutrified sludge basin and the potential for elimination of the nutrified sludge basin pump station was considered.
2020 Digester Mixing Study	Any significant new investment in the digester mixers will likely require a large investment in the digester roof and structure. This should be coupled to decisions on long term biogas generation, solids disposal plans and right- sized infrastructure.
2020 Final NPDES Permit	TN: 134,375 pounds per year (3.0 mg/l) and TP: 10,188 pounds per year (0.23 mg/l) at current permitted capacity of 14.5 MGD.
2020 Partnership for Clean Water – Self-Assessment	Staff identified and prioritized performance limiting factors. Additionally, data analysis is needed that require further evaluation to identify the best solutions to performance limiting factors. These include, the number of basins to have in service, ideal SRT vs nutrient performance, the need to continue to use primary clarifiers, equalization, etc.
2020 Energy Management Plan	Several options for improved mixing, reduced aeration demand, and innovative odor and nutrient treatment processes were identified as deserving further study. The technologies generally require integrated responses and increased automation for energy savings to be realized.
2020 AESC Plant Process Optimization Assessment	Energy and process assessment of MFWWTP; major energy savings projects include implementation of side stream treatment of digester filtrate, secondary treatment optimization, simultaneous nitrification and denitrification, etc.
2020 Pump Station Energy Evaluations	Energy efficiency process modifications and condition assessment ratings for Morgan Creek PS, Nutrified Sludge PS, Non-Potable Water PS, and Reclaimed Water PS.

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
S. DANIEL SMITH
Director

NORTH CAROLINA
Environmental Quality

June 19, 2020

Ms. Monica Dodson
Wastewater Treatment and Biosolids Recycling Manager
Orange Water & Sewer Authority
400 Jones Ferry Road
Carrboro, North Carolina 27510

Subject: Final NPDES Permit Renewal
Permit NC0025241
Mason Farm WWTP
Orange County
Grade IV Biological WPCS
SIC Code 4952

Dear Ms. Dodson:

Division personnel have reviewed and approved your application for renewal of the subject permit. Accordingly, we are forwarding the attached NPDES permit. This permit is issued pursuant to the requirements of North Carolina General Statute 143-215.1 and the Memorandum of Agreement between North Carolina and the U.S. Environmental Protection Agency dated October 15, 2007 (or as subsequently amended).

Please note that the receiving stream is listed as impaired for **benthos and fish community** on the North Carolina **2018** 303(d) Impaired Waters List. Addressing impaired waters is a high priority with the Division, and instream data will continue to be evaluated. If there is noncompliance with permitted effluent limits and stream impairment can be attributed to your facility, then mitigative measures may be required.

The following change was made to the 2nd draft permit sent to you on April 21, 2020:

- Deleted bullet 3 on page 2 in the letter because OWASA received an approved Authorization to Construct (ATC) permit dated December 10, 2012.

The final permit maintains the following significant changes identified in the letter sent on April 2, 2019 and April 21, 2020:

- The Division acknowledges the facility has an approved Authorization to Construct (ATC) permit dated December 10, 2012. Per S.L. 2013-395 (S515), the TN limit becomes effective on January 1, 2021 with an ATC permit for construction, installation, or alteration of the treatment works for compliance with the TN limits.
- All references for BOD in the first draft permit were corrected to CBOD.
- The language regarding Practical Quantitation Limit (PQL) has been revised.

- An email address for electronic submittal of toxicity testing results has been added to the Chronic Toxicity Permit Limit [See A. (3)].
- The specific three years in which the Effluent Pollutant Scans shall be performed have been changed from 2020, 2021, and 2022 to 2021, 2022, and 2023 in the Special Condition A. (4).
- Parameter codes and means for electronic submittal have been added to the Effluent Pollutant Scan [See A. (4)].
- Special Condition A. (9) Mercury Minimization Plan (MMP) has been removed from the permit after a reevaluation of the effluent mercury data.
- Based on no reasonable potential for Nitrate to exceed water quality standards but predicted maximum effluent concentration is greater than 50% of allowable discharge concentration, limits for Nitrate Nitrogen (NO_3-N) have been removed from the permit, and monitoring frequency has been reduced from monthly to quarterly [See Section A. (1)].
- Weekly monitoring for NO_3-N + NO_2-N has been added to the permit for calculation of Total Nitrogen [See Section A. (1)].
- Quarterly monitoring requirements for total copper, total zinc and total mercury have been removed from the permit based on no reasonable potential to exceed water quality standards [See Section A. (1)].
- The Permittee reported Total Arsenic, Total Lead and Total Silver at less than detection, with detection levels < 10.0 µg/L for Total Arsenic and < 5.0 µg/L for Total Lead and Total Silver. The allowable monthly discharge concentrations for your facility are 11.9 µg/L for Total Arsenic, 7.1 µg/L for Total Lead and 0.06 µg/L for Total Silver. DWR's laboratory identifies the target Practical Quantification Limits (PQLs) for Total Arsenic and Total Lead as 2.0 µg/L and for Total Silver as 1.0 µg/L. In accordance with 15A NCAC 2B .0500 all test procedures must produce minimum detection and reporting levels that are below the allowable discharge concentration and all data generated must be reported down to the minimum detection level or lower reporting level of the procedure. The Permittee should use sufficiently sensitive test methods when analyzing effluent data, including performing Effluent Pollutant Scans. Following is a link to DWR's *METHODS, PQLs, QA* to view target PQL's:

  https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/microbiology-inorganics-branch/methods-pqls-qa

- Some of the wording has changed in Section A. (2). Instream Monitoring Requirements, please review carefully.
- Some of the wording has changed in Special Condition A. (3). Chronic Toxicity Permit Limit, please review each paragraph carefully.
- Special Condition A. (4) has been modified to include the specific three years in which the Effluent Pollutant Scans shall be performed (2021, 2022, and 2023). In addition, at the end of the Special Condition, 2nd species Toxicity Testing Requirements for municipal permit renewals per Federal Regulations [40 CFR 122.21(j)(5)] have been added.
- Some of the wording has changed in Special Condition A. (5). Nutrient Allocations and A. (6). Annual Limits for Total Nitrogen or Total Phosphorus, please review each paragraph carefully.
- Effluent mercury data was reviewed from January 2014 to May 2018. The Permittee started testing effluent mercury using EPA test Method 1631E in January 2014. In accordance with the 2012 Mercury TMDL NPDES Guidance the permittee needs to show annual mean effluent concentrations below the Water Quality Based Effluent Limitation (WQBEL) of

12.5 ng/L, and all individual values below the Technology Based Effluent Limitation (TBEL) of 47 ng/L. A review of the data showed that the annual averages were below the WQBEL and no individual value exceeded the TBEL, therefore, no mercury limitation is required.

- Federal regulations require electronic submittal of all discharge monitoring reports (DMRs) and program reports. The requirement to continue reporting discharge monitoring data electronically using the NC DWR's Electronic Discharge Monitoring Report (eDMR) internet application has been updated in the permit. [See Special Condition A. (9)]
- Regulatory citations have been added to the permit.

If any parts, measurement frequencies or sampling requirements contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing upon written request within thirty (30) days following receipt of this letter. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings (6714 Mail Service Center, Raleigh, North Carolina 27699-6714). Unless such demand is made, this decision shall be final and binding.

Please note that this permit is not transferable except after notice to the Division. The Division may require modification or revocation and reissuance of the permit. This permit does not affect the legal requirements to obtain other permits which may be required by the Division of Water Resources or any other Federal, State, or Local governmental regulations.

If you have any questions concerning this permit, please contact Min Xiao at (919) 707-3644 or via email at Min.Xiao@ncdenr.gov.

Sincerely,

for S. Daniel Smith, Director
Division of Water Resources, NCDEQ

Hardcopy: NPDES Files
Central Files

Ecopy: US EPA Region 4
DWR/Ecosystems Branch/Mark Vander Borgh
DWR/Aquatic Toxicology Branch/Hannah Headrick

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES

PERMIT

TO DISCHARGE WASTEWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of North Carolina General Statute 143-215.1, other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission, and the Federal Water Pollution Control Act, as amended,

Orange Water and Sewer Authority

is hereby authorized to discharge wastewater from a facility located at the

Mason Farm WWTP
170 Old Mason Farm Road
Chapel Hill, North Carolina
Orange County

to receiving waters designated as Morgan Creek in the Cape Fear River Basin

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof.

This permit shall become effective ..... August 1, 2020.

This permit and authorization to discharge shall expire at midnight on ..... July 31, 2025.

Signed this day ..... June 19, 2020.

for S. Daniel Smith, Director
Division of Water Resources
By Authority of the Environmental Management Commission

SUPPLEMENT TO PERMIT COVER SHEET

All previous NPDES Permits issued to this facility, whether for operation or discharge are hereby revoked, and as of this issuance, any previously issued permit bearing this number is no longer effective. Therefore, the exclusive authority to operate and discharge from this facility arises under the permit conditions, requirements, terms, and provisions included herein.

Orange Water and Sewer Authority

is hereby authorized to:

1. Continue to operate an existing 14.5 MGD wastewater treatment facility consisting of the following components:
   - Influent screen
   - Grit removal
   - Primary clarifiers
   - Aerobic/anoxic basins
   - Secondary clarifiers
   - Primary sludge fermenter
   - UV disinfection system
   - Anaerobic digester
   - Gravity belt thickeners
   - Sludge holding tank

   The facility is located at the Mason Farm Wastewater Treatment Plant on 170 Old Mason Farm Road in Chapel Hill, Orange County, and

2. Continue to operate a water reuse and distribution system to provide beneficial reuse of treated effluent from the Mason Farm WWTP as conditioned in Non-Discharge Permit WQ0031506, and

3. Discharge from said treatment works via Outfall 001, at the location specified on the attached map into the Morgan Creek, currently classified as WS-IV NSW water in subbasin 03-06-06 [HUC: 03030002] of the Cape Fear River Basin.

PART I - MONITORING, CONTROLS, AND LIMITATIONS FOR PERMITTED DISCHARGES

A.(1.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

[15A NCAC 02B.0400 et seq., 02B.0500 et seq.] **Grade IV Biological WPCS** [15A NCAC 08G .0302]

(a.) Beginning on the effective date of this permit and lasting until permit expiration, the Permittee is authorized to discharge treated wastewater through Outfall 001. Such discharges shall be limited and monitored[1] by the Permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS		
	Parameter Code	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow	*50050*	14.5 MGD			Continuous	Recording	Influent or Effluent
Total Monthly Flow (MG)	*82220*	Monitor & Report			Monthly	Recording or Calculated	Influent or Effluent
CBOD, 5-day, 20°C [2] (April 1 – October 31)	*80082*	4.0 mg/L	6.0 mg/L		2/Week [3]	Composite	Influent and Effluent
CBOD, 5-day, 20°C [2] (November 1 – March 31)	*80082*	8.0 mg/L	12.0 mg/L		2/Week [3]	Composite	Influent and Effluent
Total Suspended Solids [2]	*CO530*	30.0 mg/L	45.0 mg/L		2/Week [3]	Composite	Influent and Effluent
NH_3 as N (April 1 – October 31)	*CO610*	1.0 mg/L	3.0 mg/L		2/Week [3]	Composite	Effluent
NH_3 as N (November 1 – March 31)	*CO610*	2.0 mg/L	6.0 mg/L		2/Week [3]	Composite	Effluent
Fecal Coliform (geometric mean)	*31616*	200/100 mL	400/100 mL		2/Week [3]	Grab	Effluent
pH	*00400*	Between 6.0 and 9.0 standard units			Daily	Grab	Effluent
Dissolved Oxygen	*00300*	Daily Average not less than 6.0 mg/L			Daily	Grab	Effluent
Temperature (°C)	*00010*				Daily	Grab	Effluent
Conductivity (µmhos/cm)	*00094*				Daily	Grab	Effluent
Total Residual Chlorine [4]	*50060*			18 µg/L	Daily	Grab	Effluent
Nitrate as N	*00620*	Monitor & Report (mg/L)			Quarterly	Composite	Effluent
TKN [5]	*00625*	Monitor & Report (mg/L)			Weekly	Composite	Effluent
NO_3-N + NO_2-N [5]	*00630*	Monitor & Report (mg/L)			Weekly	Composite	Effluent
Total Nitrogen [5]	*CO600*	Monitor & Report (mg/L)			Weekly	Composite	Effluent
TN Load [6, 7, 8]	*QM600*	Monitor & Report (lb/mo)			Monthly	Calculated	Effluent
TN Load [6, 7, 8]	*QY600*	134,375 lb/yr			Annually	Calculated	Effluent
Total Phosphorus	*CO665*	Monitor & Report (mg/L)			Weekly	Composite	Effluent
TP Load [6, 8]	*QM665*	Monitor & Report (lb/mo)			Monthly	Calculated	Effluent
TP Load [6, 8]	*QY665*	10,188 lb/yr			Annually	Calculated	Effluent
Chronic Toxicity [9]	*TGP3B*				Quarterly	Composite	Effluent
Effluent Pollutant Scan	*NC01*	Monitor and Report			Footnote 10	Footnote 10	Effluent

Footnotes:

1. The Permittee shall submit discharge monitoring reports electronically using the NC DWR's eDMR application system [see A. (9)].
2. The monthly average effluent CBOD5 and Total Suspended Solids concentrations shall not exceed 15% of the respective influent value (85% removal).
3. 2/Week monitoring for CBOD5, TSS, NH3-N, and fecal coliform for influent and effluent must occur on any two non-consecutive days during the calendar week (Sunday through Saturday).

Footnotes continue on next page

Footnotes (continued):

4. Total residual chlorine shall be monitored only if chlorine is added to the treatment process. The Division shall consider all effluent TRC values reported below 50 µg/L to be in compliance with the permit. However, the permittee shall continue to record and submit all values reported by a North Carolina certified laboratory.
5. TN = TKN + NO3-N + NO2-N where TN is Total Nitrogen, TKN is Total Kjeldahl Nitrogen, and NO3-N + NO2-N are Nitrate and Nitrite Nitrogen, respectively.
6. TN or TP Load is the mass quantity of Total Nitrogen or Phosphorus discharged in a given period of time. See Special Condition A. (7) Calculation and Reporting of Nutrient Loads.
7. The Division acknowledges the facility has an approved Authorization to Construct (ATC) permit dated December 10, 2012. Per S.L. 2013-395 (S515), the TN limit becomes effective on January 1, 2021 with an ATC permit for construction, installation, or alteration of the treatment works for compliance with the TN limits.
8. Compliance with mass limits shall be determined in accordance with Special Condition A. (6) Annual Limits for Total Nitrogen or Total Phosphorus.
9. Chronic Toxicity (Ceriodaphnia) limit at 90% with testing in February, May, August and November [See Special Condition A. (3)].
10. The permittee shall perform three effluent pollutant scans during the term of this permit [see A. (4)].

(b.) There shall be no discharge of floating solids or visible foam in other than trace amounts.

A.(2.) INSTREAM MONITORING REQUIREMENTS

[15A NCAC 02B.0500 et seq.]

Sample Location [1]	Measurement Frequency		Parameters [2, 3]	Sample Type
UP1 DN1 DN2	October - May	Weekly	Temperature Dissolved Oxygen Conductivity Fecal Coliform	Grab
	June - September	3/week		
	June-September	Once every 2 weeks	Total Phosphorous PO_4 NH_3 Total Kjendahl Nitrogen NOx	
DN3 DN4	April-October	Monthly [4]	Temperature Dissolved Oxygen Conductivity Fecal Coliform Secchi depth Chlorophyl-a	

Footnotes:

1. Sample locations:
   UP1 - Upstream location at Morgan Creek at the bridge at the plant entrance
   DN1 - Downstream location #1 at Morgan Creek at the cement ford downstream of outfall
   DN2 - Downstream location #2 at Morgan Creek at the Farrington Road bridge
   DN3 - Downstream location # 3 at Morgan Creek at the mouth of Morgan Creek
   DN4 - Downstream Location # 4 at Jordan Lake at the old railroad grade
2. Sampling of temperature and DO at the surface and one-meter intervals to a depth equal to the Secchi depth. If the Secchi depth is less than 1.0 meters, sample at 0.5-meter intervals.
3. Instream sampling (Upstream and Downstream monitoring) is waived for all parameters as long as the Permittee retains membership in the Upper Cape Fear River Basin Association (UCFRBA), which is conducting a coordinated instream monitoring effort. If the Permittee's membership in the UCFRBA is terminated, the Permittee must immediately notify the Division in writing, and the instream monitoring requirements specified in this permit shall be reinstated immediately.
4. Monthly sampling at DN3 and DN4 should be separated at least two weeks within the appropriate month.

A.(3.) CHRONIC TOXICITY PERMIT LIMIT (QUARTERLY) [15A NCAC 02B.0200]

The effluent discharge shall at no time exhibit observable inhibition of reproduction or significant mortality to ***Ceriodaphnia dubia*** at an effluent concentration of **90%**.

The permit holder shall perform at a minimum, ***quarterly*** monitoring using test procedures outlined in the "North Carolina *Ceriodaphnia* Chronic Effluent Bioassay Procedure," Revised December 2010, or subsequent versions or "North Carolina Phase II Chronic Whole Effluent Toxicity Test Procedure" (Revised- December 2010) or subsequent versions. The tests will be performed **during the months of February, May, August and November**. These months signify the first month of each three-month toxicity testing quarter assigned to the facility. Effluent sampling for this testing must be obtained during representative effluent discharge and shall be performed at the NPDES permitted final effluent discharge below all treatment processes.

If the test procedure performed as the first test of any single quarter results in a failure or ChV below the permit limit, then multiple-concentration testing shall be performed at a minimum, in each of the two following months as described in "North Carolina Phase II Chronic Whole Effluent Toxicity Test Procedure" (Revised-December 2010) or subsequent versions.

All toxicity testing results required as part of this permit condition will be entered on the Effluent Discharge Monitoring Form (MR-1) for the months in which tests were performed, using the parameter code **TGP3B** for the pass/fail results and **THP3B** for the Chronic Value. Additionally, DWR Form AT-3 (original) is to be sent to the following address:

Attention: North Carolina Division of Water Resources
Water Sciences Section/Aquatic Toxicology Branch
1621 Mail Service Center
Raleigh, NC 27699-1621

Or, results can be sent to the email, ATForms.ATB@ncdenr.gov.

Completed Aquatic Toxicity Test Forms shall be filed with the Water Sciences Section no later than 30 days after the end of the reporting period for which the report is made.

Test data shall be complete, accurate, include all supporting chemical/physical measurements and all concentration/response data, and be certified by laboratory supervisor and ORC or approved designate signature. Total residual chlorine of the effluent toxicity sample must be measured and reported if chlorine is employed for disinfection of the waste stream.

Should there be no discharge of flow from the facility during a month in which toxicity monitoring is required, the permittee will complete the information located at the top of the aquatic toxicity (AT) test form indicating the facility name, permit number, pipe number, county, and the month/year of the report with the notation of "No Flow" in the comment area of the form. The report shall be submitted to the Water Sciences Section at the address cited above.

Should the permittee fail to monitor during a month in which toxicity monitoring is required, monitoring will be required during the following month. Assessment of toxicity compliance is based on the toxicity testing quarter, which is the three month time interval that begins on the first day of the month in which toxicity testing is required by this permit and continues until the final day of the third month.

Should any test data from this monitoring requirement or tests performed by the North Carolina Division of Water Resources indicate potential impacts to the receiving stream, this permit may be re-opened and modified to include alternate monitoring requirements or limits.

NOTE: Failure to achieve test conditions as specified in the cited document, such as minimum control organism survival, minimum control organism reproduction, and appropriate environmental controls, shall constitute an invalid test and will require immediate follow-up testing to be completed no later than the last day of the month following the month of the initial monitoring.

A.(4.) EFFLUENT POLLUTANT SCAN

[G.S. 143-215.1(b)]

(a.) The Permittee shall perform a total of three (3) Effluent Pollutant Scans for all parameters listed below. **One scan must be performed in each of the following years: 2021, 2022, and 2023.** Analytical methods shall be in accordance with 40 CFR Part 136 and shall be sufficiently sensitive to determine whether parameters are present in concentrations greater than applicable standards and criteria. Samples should be collected with one quarterly toxicity test each year, and must represent seasonal variation [i.e., do not sample in the same quarter every year]. Unless otherwise indicated, metals shall be analyzed as "total recoverable."

Ammonia (as N)	*CO610*	Trans-1,2-dichloroethylene	*34546*	Bis (2-chloroethyl) ether	*34273*
Chlorine (total residual, TRC)	*50060*	1,1-dichloroethylene	*34501*	Bis (2-chloroisopropyl) ether	*34283*
Dissolved oxygen	*00300*	1,2-dichloropropane	*CO541*	Bis (2-ethylhexyl) phthalate	*CO100*
Nitrate / Nitrite	*00630*	1,3-dichloropropylene	*77163*	4-bromophenyl phenyl ether	*34636*
Kjeldahl nitrogen	*00625*	Ethylbenzene	*34371*	Butyl benzyl phthalate	*34292*
Oil and grease	*00556*	Methyl bromide	*34413*	2-chloronaphthalene	*34581*
Phosphorus	*CO665*	Methyl chloride	*34418*	4-chlorophenyl phenyl ether	*34641*
Total dissolved solids	*70295*	Methylene chloride	*34423*	Chrysene	*34320*
Hardness	*00900*	1,1,2,2-tetrachloroethane	*81549*	Di-n-butyl phthalate	*39110*
Antimony	*01097*	Tetrachloroethylene	*34475*	Di-n-octyl phthalate	*34596*
Arsenic	*01002*	Toluene	*34010*	Dibenzo(a,h)anthracene	*34556*
Beryllium	*01012*	1,1,1-trichloroethane	*34506*	1,2-dichlorobenzene	*34536*
Cadmium	*01027*	1,1,2-trichloroethane	*34511*	1,3-dichlorobenzene	*34566*
Chromium	*CO034*	Trichloroethylene	*39180*	1,4-dichlorobenzene	*34571*
Copper	*01042*	Vinyl chloride	*39175*	3,3-dichlorobenzidine	*34631*
Lead	*01051*	*Acid-extractable compounds:*		Diethyl phthalate	*34336*
Mercury (Method 1631E)	*COMER*	P-chloro-m-cresol	*34452*	Dimethyl phthalate	*34341*
Nickel	*01067*	2-chlorophenol	*34586*	2,4-dinitrotoluene	*34611*
Selenium	*01147*	2,4-dichlorophenol	*34601*	2,6-dinitrotoluene	*CO626*
Silver	*01077*	2,4-dimethylphenol	*34606*	1,2-diphenylhydrazine	*34346*
Thallium	*01059*	4,6-dinitro-o-cresol	*34657*	Fluoranthene	*CO376*
Zinc	*01092*	2,4-dinitrophenol	*34616*	Fluorene	*34381*
Cyanide	*00720*	2-nitrophenol	*34591*	Hexachlorobenzene	*CO700*
Total phenolic compounds	*32730*	4-nitrophenol	*34646*	Hexachlorobutadiene	*CO702*
Volatile organic compounds:		Pentachlorophenol	*39032*	Hexachlorocyclo-pentadiene	*34386*
Acrolein	*34210*	Phenol	*34694*	Hexachloroethane	*34396*
Acrylonitrile	*34215*	2,4,6-trichlorophenol	*34621*	Indeno(1,2,3-cd)pyrene	*34403*
Benzene	*34030*	*Base-neutral compounds:*		Isophorone	*34408*
Bromoform	*32104*	Acenaphthene	*34205*	Naphthalene	*34696*
Carbon tetrachloride	*32102*	Acenaphthylene	*34200*	Nitrobenzene	*34447*
Chlorobenzene	*34301*	Anthracene	*CO220*	N-nitrosodi-n-propylamine	*34428*
Chlorodibromomethane	*34306*	Benzidine	*39120*	N-nitrosodimethylamine	*34438*
Chloroethane	*85811*	Benzo(a)anthracene	*CO526*	N-nitrosodiphenylamine	*34433*
2-chloroethyl vinyl ether	*34576*	Benzo(a)pyrene	*34247*	Phenanthrene	*34461*
Chloroform	*32106*	3,4 benzofluoranthene	*34230*	Pyrene	*34469*
Dichlorobromomethane	*32101*	Benzo(ghi)perylene	*34521*	1,2,4-trichlorobenzene	*CO551*
1,1-dichloroethane	*34496*	Benzo(k)fluoranthene	*34242*		
1,2-dichloroethane	*32103*	Bis (2-chloroethoxy) methane	*34278*		

b. **Reporting.** Test results shall be reported electronically using the Division's eDMR system or on DWR Form DMR-PPA-1(or on a form approved by the Director) by December 31st of each designated

sampling year. The Permittee must at least report completion of the test in the eDMR system by entering "1" or "Y" for parameter code NC01 - Annual Pollutant Scan. If utilizing the DWR Form submit to the following address:

NC DEQ / DWR / NPDES Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617.

Or the form may be uploaded at: https://edocs.deq.nc.gov/Forms/NPDES_WW-EDMR-Supplemental-Form

c. **Additional Toxicity Testing Requirements for Municipal Permit Renewal.** Please note that Municipal facilities that are subject to the Effluent Pollutant Scan requirements listed above are also subject to additional toxicity testing requirements specified in Federal Regulation 40 CFR 122.21(j)(5). The US EPA requires four (4) toxicity tests for a test organism other than the test species currently required in this permit. The multiple species tests should be conducted either quarterly for a 12-month period prior to submittal of the permit renewal application, or four tests performed at least annually in the four and one half year period prior to the application. These tests shall be performed for acute or chronic toxicity, whichever is specified in this permit. The multiple species toxicity test results shall be filed with the Aquatic Toxicology Branch at the following address:

North Carolina Division of Water Resources
Water Sciences Section/Aquatic Toxicology Branch
1621 Mail Service Center
Raleigh, North Carolina 27699-1621

Or, results can be sent to the email, ATForms.ATB@ncdenr.gov.

Contact the Division's Aquatic Toxicology Branch at 919-743-8401 for guidance on conducting the additional toxicity tests and reporting requirements. Results should also be summarized in Part E (Toxicity Testing Data) of EPA Municipal Application Form 2A, when submitting the permit renewal application to the NPDES Permitting Unit.

A.(5.) NUTRIENT ALLOCATIONS

[15A NCAC 02B .0270]

(a.) The following table lists the Total Nitrogen (TN) and Total Phosphorus (TP) allocations assigned to, acquired by, or transferred to the Permittee in accordance with the Jordan Lake nutrient management rule (T15A NCAC 02B .0270) and the status of each as of permit issuance. The allocations in this table are not enforceable limits nor do they supersede any TN or TP limit established elsewhere in this permit or in the NPDES permit of a compliance association of which the Permittee is a Co-Permittee Member.

Total Nitrogen Allocation

ALLOCATION TYPE	SOURCE	DATE	ALLOCATION AMOUNT (1)		STATUS
			Delivered (lb/yr)	Discharge (lb/yr)	
Base	Assigned by Rule (T15A NCAC 02B .0270)	8/11/09	84,656	134,375	Active
		TOTAL	**84,656**	**134,375**	Active

Footnote:

1. Nitrogen Transport Factor = 63%

Total Phosphorus Allocation

ALLOCATION TYPE	SOURCE	DATE	ALLOCATION AMOUNT (1)		STATUS
			Delivered (lb/yr)	Discharge (lb/yr)	
Base	Assigned by Rule (T15A NCAC 02B .0270)	8/11/09	4,789	10,188	Active
		TOTAL	**4,789**	**10,188**	Active

Footnote:

1. Phosphorus Transport Factor = 47%

(b.) Any addition, deletion, or modification of the listed allocation(s) (other than to correct typographical errors) or any change in status of any of the listed allocations shall be considered a major modification of this permit and shall be subject to the public review process afforded such modifications under state and federal rules.

A.(6.) ANNUAL LIMITS FOR TOTAL NITROGEN OR TOTAL PHOSPHORUS

[G.S. 143-215.1(b)]

Total Nitrogen (TN) and Total Phosphorus (TP) allocations and load limits for NPDES dischargers in the Jordan Lake watershed are annual limits and apply on a calendar year basis.

For any given calendar year, the Permittee shall be in compliance with the annual TN (or TP) Load limit in this Permit if:

the Permittee's annual TN (or TP) Load is less than or equal to the effective limit, or

the Permittee is a Co-Permittee Member of a compliance association.

If the Permittee is not a co-permittee member of a compliance association and the Permittee's cumulative annual TN discharge exceeds the effective TN Load limit in this permit at any point during the calendar year, the Permittee is in violation of its TN Load limit, and each day of a continuing violation shall constitute a separate violation.

The TN (or TP) Load limit in this Permit may be modified as the result of allowable changes in the Permittee's allocations.

Allowable changes include those resulting from purchase of TN (or TP) allocation from an authorized mitigation banker, the Ecosystem Enhancement Program, or other source allowed under applicable regulations; purchase, sale, trade, or lease of allocation between the Permittee and other dischargers; regionalization; and other transactions approved by the Division.

The Permittee may request a modification of the TN (or TP) Load limit in this Permit to reflect allowable changes in its allocation(s).

Upon receipt of timely and proper application, the Division will modify the permit as appropriate and in accordance with state and federal program requirements.

Changes in TN (or TP) limits become effective on January 1 of the year following permit modification. The Division must receive application no later than August 31 for changes proposed for the following calendar year.

Any requests for modification should be sent to:

NCDEQ/Division of Water Resources
NPDES Complexing Permitting

1617 Mail Service Center
Raleigh, NC 27699-1617

If the Permittee is a member and co-permittee of an approved compliance association on January 1 of a given year, its TN and TP discharges during that year are governed by that association's group NPDES permit and the limits therein.

The Permittee shall be considered a Co-Permittee Member for any given calendar year in which it is identified as such in Appendix A of the association's group NPDES permit.

Association roster(s) and members' TN and TP allocations will be updated annually and in accordance with state and federal program requirements.

If the Permittee intends to join or leave a compliance association, the Division must be notified of the proposed action in accordance with the procedures defined in the association's NPDES permit.

Upon receipt of timely and proper notification, the Division will modify the permit as appropriate and in accordance with state and federal program requirements.

Membership changes in a compliance association become effective on January 1 of the year following modification of the association's permit.

The TN and TP monitoring and reporting requirements in this Permit remain in effect throughout the term of the Permit and are not affected by the Permittee's membership in a compliance association.

A.(7.) CALCULATION OF TOTAL NITROGEN OR TOTAL PHOSPHORUS LOADS
[G.S. 143-215.1(b)]

(a) The Permittee shall calculate monthly and annual TN and TP Loads as follows:

Monthly TN (or TP) Load (lb/mo) = TN (or TP) × TMF × 8.34

where:

TN or TP	=	the average Total Nitrogen or Total Phosphorus concentration (mg/L) of the composite samples collected during the month
TMF	=	the Total Monthly Flow of wastewater discharged during the month (MG/mo)
8.34	=	conversion factor, from (mg/L x MG) to pounds

Annual TN (or TP) Load (lb/yr) = Sum of the 12 Monthly TN (or TP) Loads for the calendar year

(b) The Permittee shall report monthly Total Nitrogen and Total Phosphorus results (mg/L and lb/mo) in the appropriate discharge monitoring report for each month and shall report each calendar year's results (lb/yr) with the December report for that year.

A.(8.) NUTRIENT MONITORING RE-OPENER
[G.S. 143-215.1(b)]

Pursuant to N.C. General Statutes Section 143-215.1 and the implementing rules found in Title 15A of the North Carolina Administrative Code, Subchapter 02H, specifically, 15A NCAC 02H.0112(b)(1) and 02H.0114(a), and Part II, Sections B.12. and B.13. of this Permit, the Director of DWQ may reopen this permit to require supplemental nutrient monitoring of the discharge. The additional monitoring will be to support water quality modeling efforts within the Cape Fear River Basin, and shall be consistent with a monitoring plan developed jointly by the Division and affected stakeholders.

A.(9.) ELECTRONIC REPORTING - DISCHARGE MONITORING REPORTS
[G.S. 143-215.1(b)]

Federal regulations require electronic submittal of all discharge monitoring reports (DMRs) and program reports. The final NPDES Electronic Reporting Rule was adopted and became effective on December 21, 2015.

NOTE: This special condition supplements or supersedes the following sections within Part II of this permit (*Standard Conditions for NPDES Permits*):

- Section B. (11.) Signatory Requirements
- Section D. (2.) Reporting
- Section D. (6.) Records Retention
- Section E. (5.) Monitoring Reports

1. **Reporting Requirements [Supersedes Section D. (2.) and Section E. (5.) (a)]**

The permittee shall report discharge monitoring data electronically using the NC DWR's Electronic Discharge Monitoring Report (eDMR) internet application.

Monitoring results obtained during the previous month(s) shall be summarized for each month and submitted electronically using eDMR. The eDMR system allows permitted facilities to enter monitoring data and submit DMRs electronically using the internet. The eDMR system may be accessed at: https://deq.nc.gov/about/divisions/water-resources/edmr.

If a permittee is unable to use the eDMR system due to a demonstrated hardship or due to the facility being physically located in an area where less than 10 percent of the households have broadband access, then a temporary waiver from the NPDES electronic reporting requirements may be granted and discharge monitoring data may be submitted on paper DMR forms (MR 1, 1.1, 2, 3) or alternative forms approved by the Director. Duplicate signed copies shall be submitted to the following address:

NC DEQ / Division of Water Resources / Water Quality Permitting Section
ATTENTION: Central Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

See "How to Request a Waiver from Electronic Reporting" section below.

Regardless of the submission method, the first DMR is due on the last day of the month following the issuance of the permit or in the case of a new facility, on the last day of the month following the commencement of discharge.

Starting on **December 21, 2020**, the permittee must electronically report the following compliance monitoring data and reports, when applicable:

- Sewer Overflow/Bypass Event Reports;
- Pretreatment Program Annual Reports; and
- Clean Water Act (CWA) Section 316(b) Annual Reports.

NPDES Electronic Reporting Rule – Phase 2 Extension. EPA is proposing to extend the Phase 2 deadline from December 21, 2020, to December 21, 2023. The electronic reporting date will be extended if the implementation date is extended as a final regulation change in the federal register.

The permittee may seek an electronic reporting waiver from the Division (see "How to Request a Waiver from Electronic Reporting" section below).

2. Electronic Submissions

In accordance with 40 CFR 122.41(l)(9), the permittee must identify the initial recipient at the time of each electronic submission. The permittee should use the EPA's website resources to identify the initial recipient for the electronic submission.

Initial recipient of electronic NPDES information from NPDES-regulated facilities means the entity (EPA or the state authorized by EPA to implement the NPDES program) that is the designated entity for receiving electronic NPDES data [see 40 CFR 127.2(b)].

EPA plans to establish a website that will also link to the appropriate electronic reporting tool for each type of electronic submission and for each state. Instructions on how to access and use the appropriate electronic reporting tool will be available as well. Information on EPA's NPDES Electronic Reporting Rule is found at:
https://www.federalregister.gov/documents/2015/10/22/2015-24954/national-pollutant-discharge-elimination-system-npdes-electronic-reporting-rule

Electronic submissions must start by the dates listed in the "Reporting Requirements" section above.

3. How to Request a Waiver from Electronic Reporting

The permittee may seek a temporary electronic reporting waiver from the Division. To obtain an electronic reporting waiver, a permittee must first submit an electronic reporting waiver request to the Division. Requests for temporary electronic reporting waivers must be submitted in writing to the Division for written approval at least sixty (60) days prior to the date the facility would be required under this permit to begin submitting monitoring data and reports. The duration of a temporary waiver shall not exceed 5 years and shall thereupon expire. At such time, monitoring data and reports shall be submitted electronically to the Division unless the permittee re-applies for and is granted a new temporary electronic reporting waiver by the Division. Approved electronic reporting waivers are not transferrable. Only permittees with an approved reporting waiver request may submit monitoring data and reports on paper to the Division for the period that the approved reporting waiver request is effective.

Information on eDMR and the application for a temporary electronic reporting waiver are found on the following web page:

http://deq.nc.gov/about/divisions/water-resources/edmr

4. **Signatory Requirements [Supplements Section B. (11.) (b) and Supersedes Section B. (11.) (d)]**

   All eDMRs submitted to the permit issuing authority shall be signed by a person described in Part II, Section B. (11.)(a) or by a duly authorized representative of that person as described in Part II, Section B. (11.)(b). A person, and not a position, must be delegated signatory authority for eDMR reporting purposes.

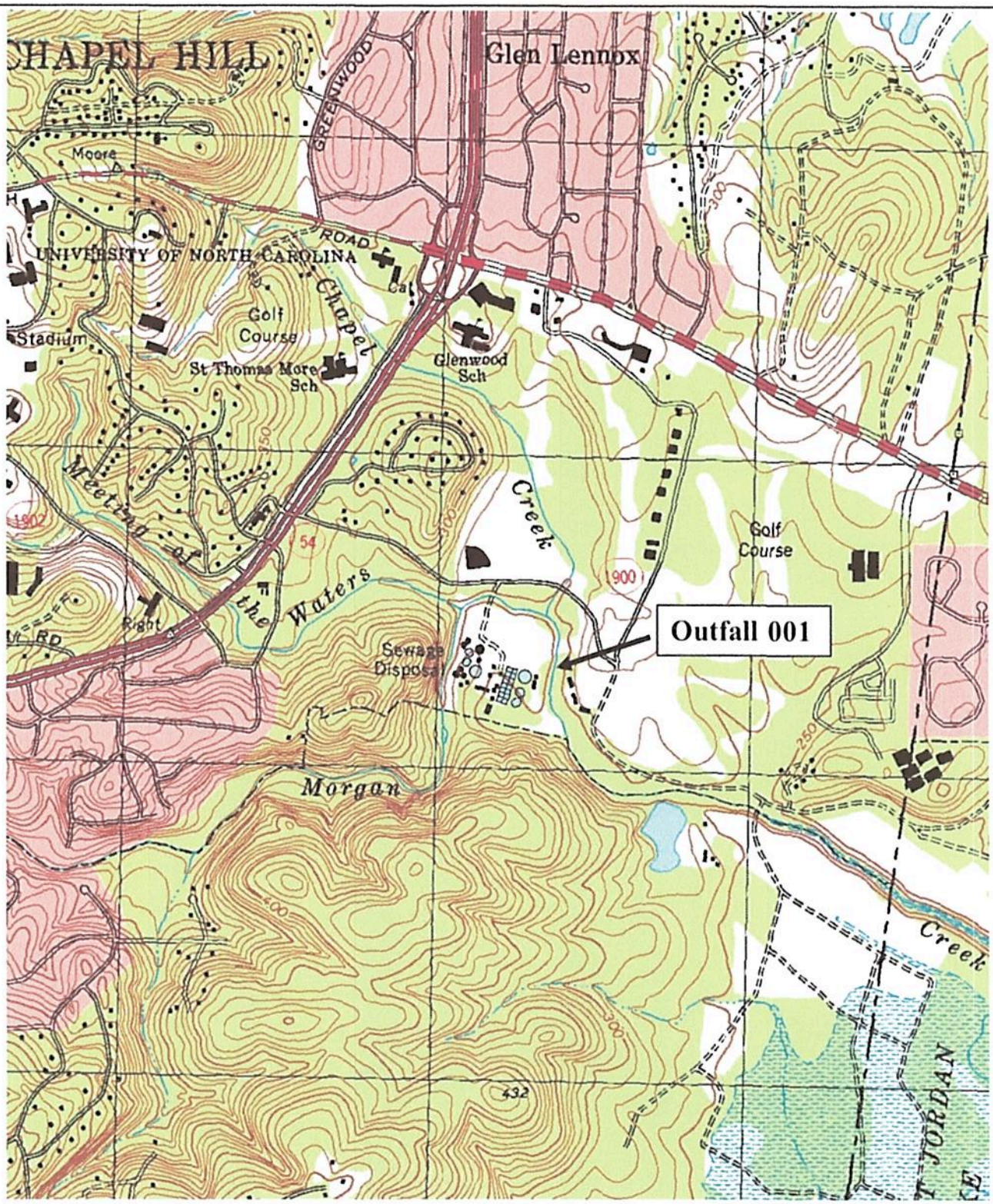
   For eDMR submissions, the person signing and submitting the DMR must obtain an eDMR user account and login credentials to access the eDMR system. For more information on North Carolina's eDMR system, registering for eDMR and obtaining an eDMR user account, please visit the following web page:

   http://deq.nc.gov/about/divisions/water-resources/edmr

   Certification. Any person submitting an electronic DMR using the state's eDMR system shall make the following certification [40 CFR 122.22]. NO OTHER STATEMENTS OF CERTIFICATION WILL BE ACCEPTED:

   "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 fines and imprisonment for knowing violations."

5. **Records Retention [Supplements Section D. (6.)]**
   The permittee shall retain records of all Discharge Monitoring Reports, including eDMR submissions. These records or copies shall be maintained for a period of at least 3 years from the date of the report. This period may be extended by request of the Director at any time [40 CFR 122.41].



OWASA - Mason Farm WWTP

State Grid/Quad:	D22NE / Chapel Hill	**Latitude:**	35° 53' 43" N
County:	Orange	**Longitude:**	79° 01' 26" W
Receiving Stream:	Morgan Creek	**Drainage Basin:**	Cape Fear
Stream Class:	WS-IV, NSW	**Sub-Basin/HUC:**	03-06-06 03030002

North



Facility Location
not to scale

NPDES Permit No. NC0025241
Orange County

PART II
STANDARD CONDITIONS FOR NPDES PERMITS

Section A. Definitions

2/Month
Samples are collected twice per month with at least ten calendar days between sampling events. These samples shall be representative of the wastewater discharged during the sample period.

3/Week
Samples are collected three times per week on three separate calendar days. These samples shall be representative of the wastewater discharged during the sample period.

Act or "the Act"
The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 USC 1251, et. seq.

Annual Average
The arithmetic mean of all "daily discharges" of a pollutant measured during the calendar year. In the case of fecal coliform, the geometric mean of such discharges.

Arithmetic Mean
The summation of the individual values divided by the number of individual values.

Bypass
The known diversion of waste streams from any portion of a treatment facility including the collection system, which is not a designed or established or operating mode for the facility.

Calendar Day
The period from midnight of one day until midnight of the next day. However, for purposes of this permit, any consecutive 24-hour period that reasonably represents the calendar day may be used for sampling.

Calendar Week
The period from Sunday through the following Saturday.

Calendar Quarter
One of the following distinct periods: January through March, April through June, July through September, and October through December.

Composite Sample
A sample collected over a 24-hour period by continuous sampling or combining grab samples of at least 100 mL in such a manner as to result in a total sample representative of the wastewater discharge during the sample period. The Director may designate the most appropriate method (specific number and size of aliquots necessary, the time interval between grab samples, etc.) on a case-by-case basis. Samples may be collected manually or automatically. Composite samples may be obtained by the following methods:

(1) Continuous: a single, continuous sample collected over a 24-hour period proportional to the rate of flow.
(2) Constant time/variable volume: a series of grab samples collected at equal time intervals over a 24 hour period of discharge and combined proportional to the rate of flow measured at the time of individual sample collection, or
(3) Variable time/constant volume: a series of grab samples of equal volume collected over a 24 hour period with the time intervals between samples determined by a preset number of gallons passing the sampling point. Flow measurement between sample intervals shall be determined by use of a flow recorder and totalizer, and the preset gallon interval between sample collection fixed at no greater than 1/24 of the expected total daily flow at the treatment system, or

(4) Constant time/constant volume: a series of grab samples of equal volume collected over a 24-hour period at a constant time interval. Use of this method requires prior approval by the Director. This method may only be used in situations where effluent flow rates vary less than 15 percent. The following restrictions also apply:

- Influent and effluent grab samples shall be of equal size and of no less than 100 milliliters
- Influent samples shall not be collected more than once per hour.
- Permittees with wastewater treatment systems whose detention time < 24 hours shall collect effluent grab samples at intervals of no greater than 20 minutes apart during any 24-hour period.
- Permittees with wastewater treatment systems whose detention time exceeds 24 hours shall collect effluent grab samples at least every six hours; there must be a minimum of four samples during a 24-hour sampling period.

Continuous flow measurement
Flow monitoring that occurs without interruption throughout the operating hours of the facility. Flow shall be monitored continually except for the infrequent times when there may be no flow or for infrequent maintenance activities on the flow device.

Daily Discharge
The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants measured in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day. (40 CFR 122.2; see also "Composite Sample," above.)

Daily Maximum
The highest "daily discharge" during the calendar month.

Daily Sampling
Parameters requiring daily sampling shall be sampled 5 out of every 7 days per week unless otherwise specified in the permit. Sampling shall be conducted on weekdays except where holidays or other disruptions of normal operations prevent weekday sampling. If sampling is required for all seven days of the week for any permit parameter(s), that requirement will be so noted on the Effluent Limitations and Monitoring Page(s).

DWR or "the Division"
The Division of Water Resources, Department of Environmental Quality.

Effluent
Wastewater discharged following all treatment processes from a water pollution control facility or other point source whether treated or untreated.

EMC
The North Carolina Environmental Management Commission

EPA
The United States Environmental Protection Agency

Facility Closure
Cessation of all activities that require coverage under this NPDES permit. Completion of facility closure will allow this permit to be rescinded.

Geometric Mean
The Nth root of the product of the individual values where N = the number of individual values. For purposes of calculating the geometric mean, values of "0" (or "< [detection level]") shall be considered = 1.

Grab Sample
Individual samples of at least 100 mL collected over a period of time not exceeding 15 minutes. Grab samples can be collected manually. Grab samples must be representative of the discharge (or the receiving stream, for instream samples).

Hazardous Substance
Any substance designated under 40 CFR Part 116 pursuant to Section 311 of the CWA.

Instantaneous flow measurement
The flow measured during the minimum time required for the flow measuring device or method to produce a result in that instance. To the extent practical, instantaneous flow measurements coincide with the collection of any grab samples required for the same sampling period so that together the samples and flow are representative of the discharge during that sampling period.

Monthly Average (concentration limit)
The arithmetic mean of all "daily discharges" of a pollutant measured during the calendar month. In the case of fecal coliform or other bacterial parameters or indicators, the geometric mean of such discharges.

Permit Issuing Authority
The Director of the Division of Water Resources.

Quarterly Average (concentration limit)
The arithmetic mean of all samples taken over a calendar quarter.

Severe property damage
Substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage excludes economic loss caused by delays in production.

Toxic Pollutant:
Any pollutant listed as toxic under Section 307(a)(1) of the CWA.

Upset
An incident beyond the reasonable control of the Permittee causing unintentional and temporary noncompliance with permit effluent limitations and/or monitoring requirements. An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Weekly Average (concentration limit)
The arithmetic mean of all "daily discharges" of a pollutant measured during the calendar week. In the case of fecal coliform or other bacterial parameters or indicators, the geometric mean of such discharges.

Section B. General Conditions

1. Duty to Comply
   The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application [40 CFR 122.41].

   a. The Permittee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

   b. The CWA provides that any person who violates section[s] 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $37,500 per day for each violation. [33 USC 1319(d) and 40 CFR 122.41(a)(2)]

   c. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or

imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. [33 USC 1319(c)(1) and 40 CFR 122.41(a)(2)]

d. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. [33 USC 1319(c)(2) and 40 CFR 122.41(a)(2)]

e. Any person who *knowingly* violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions. [40 CFR 122.41(a)(2)]

f. Under state law, a civil penalty of not more than $25,000 per violation may be assessed against any person who violates or fails to act in accordance with the terms, conditions, or requirements of a permit. [North Carolina General Statutes § 143-215.6A]

g. Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $37,500. Penalties for Class II violations are not to exceed $16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $177,500. [33 USC 1319(g)(2) and 40 CFR 122.41(a)(3)]

2. Duty to Mitigate
The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit with a reasonable likelihood of adversely affecting human health or the environment [40 CFR 122.41(d)].

3. Civil and Criminal Liability
Except as provided in permit conditions on "Bypassing" (Part II.C.4), "Upsets" (Part II.C.5) and "Power Failures" (Part II.C.7), nothing in this permit shall be construed to relieve the Permittee from any responsibilities, liabilities, or penalties for noncompliance pursuant to NCGS 143-215.3, 143-215.6 or Section 309 of the Federal Act, 33 USC 1319. Furthermore, the Permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

4. Oil and Hazardous Substance Liability
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under NCGS 143-215.75 et seq. or Section 311 of the Federal Act, 33 USG 1321. Furthermore, the Permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

5. Property Rights
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations [40 CFR 122.41(g)].

6. Onshore or Offshore Construction
This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

7. Severability
The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby [NCGS 150B-23].

8. Duty to Provide Information
The Permittee shall furnish to the Permit Issuing Authority, within a reasonable time, any information which the Permit Issuing Authority may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Permit Issuing Authority upon request, copies of records required by this permit [40 CFR 122.41(h)].

9. Duty to Reapply
If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit [40 CFR 122.41(b)].

10. Expiration of Permit
The Permittee is not authorized to discharge after the expiration date. In order to receive automatic authorization to discharge beyond the expiration date, the Permittee shall submit such information, forms, and fees as are required by the agency authorized to issue permits no later than 180 days prior to the expiration date unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.) [40 CFR 122.21(d)] Any Permittee that has not requested renewal at least 180 days prior to expiration, or any Permittee that does not have a permit after the expiration and has not requested renewal at least 180 days prior to expiration, will subject the Permittee to enforcement procedures as provided in NCGS 143-215.6 and 33 USC 1251 et. seq.

11. Signatory Requirements
All applications, reports, or information submitted to the Permit Issuing Authority shall be signed and certified [40 CFR 122.41(k)].

    a. All permit applications shall be signed as follows:

        (1) For a corporation: by a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (a) 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 (b) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where 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 agency: by either a principal executive officer or ranking elected official [40 CFR 122.22].

    b. All reports required by the permit and other information requested by the Permit Issuing Authority shall be signed by a person described in paragraph a. above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

        (1) The authorization is made in writing by a person described above;

        (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, a position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

        (3) The written authorization is submitted to the Permit Issuing Authority [40 CFR 122.22]

c. Changes to authorization: If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative [40 CFR 122.22]

d. Certification. Any person signing a document under paragraphs a. or b. of this section shall make the following certification [40 CFR 122.22]. NO OTHER STATEMENTS OF CERTIFICATION WILL BE ACCEPTED:

"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 fines and imprisonment for knowing violations."

12. Permit Actions
This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition [40 CFR 122.41(f)].

13. Permit Modification, Revocation and Reissuance, or Termination
The issuance of this permit does not prohibit the permit issuing authority from reopening and modifying the permit, revoking and reissuing the permit, or terminating the permit as allowed by the laws, rules, and regulations contained in Title 40, Code of Federal Regulations, Parts 122 and 123; Title 15A of the North Carolina Administrative Code, Subchapter 02H .0100; and North Carolina General Statute 143.215.1 et. al.

14. Annual Administering and Compliance Monitoring Fee Requirements
The Permittee must pay the annual administering and compliance monitoring fee within thirty days after being billed by the Division. Failure to pay the fee in a timely manner in accordance with 15A NCAC 02H .0105(b)(2) may cause this Division to initiate action to revoke the permit.

Section C. Operation and Maintenance of Pollution Controls

1. Certified Operator
Owners of classified water pollution control systems must designate operators, certified by the Water Pollution Control System Operators Certification Commission (WPCSOCC), of the appropriate type and grade for the system, and, for each classification must [T15A NCAC 08G .0201]:

a. designate one Operator In Responsible Charge (ORC) who possesses a valid certificate of the type and grade at least equivalent to the type and grade of the system;

b. designate one or more Back-up Operator(s) in Responsible Charge (Back-up ORCs) who possesses a valid certificate of the type of the system and no more than one grade less than the grade of the system, with the exception of no backup operator in responsible charge is required for systems whose minimum visitation requirements are twice per year; and

c. submit a signed completed "Water Pollution Control System Operator Designation Form" to the Commission (or to the local health department for owners of subsurface systems) countersigned by the designated certified operators, designating the Operator in Responsible Charge (ORC) and the Back-up Operator in Responsible Charge (Back-up ORC):

(1) 60 calendar days prior to wastewater or residuals being introduced into a new system; or

(2) within 120 calendar days following:

- receiving notification of a change in the classification of the system requiring the designation of a new Operator in Responsible Charge (ORC) and Back-up Operator in Responsible Charge (Back-up ORC) of the proper type and grade; or
- a vacancy in the position of Operator in Responsible Charge (ORC) or Back-up Operator in Responsible Charge (Back-up ORC).

(3) within seven calendar days of vacancies in both ORC and Back-up ORC positions replacing or designating at least one of the responsibilities.

The ORC of each Class I facility (or the Back-up ORC, when acting as surrogate for the ORC) must:

- Visit the facility as often as is necessary to insure proper operation of the treatment system; the treatment facility must be visited at least weekly
- Comply with all other conditions of 15A NCAC 08G .0204.

The ORC of each Class II, III and IV facility (or the Back-up ORC, when acting as surrogate for the ORC) must:

- Visit the facility as often as is necessary to insure proper operation of the treatment system; the treatment facility must be visited at least five days per week, excluding holidays
- Properly manage and document daily operation and maintenance of the facility
- Comply with all other conditions of 15A NCAC 08G .0204.

2. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the Permittee to install and operate backup or auxiliary facilities only when necessary to achieve compliance with the conditions of the permit [40 CFR 122.41(e)].

NOTE: Properly and officially designated operators are fully responsible for all proper operation and maintenance of the facility, and all documentation required thereof, whether acting as a contract operator [subcontractor] or a member of the Permittee's staff.

3. Need to Halt or Reduce not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the condition of this permit [40 CFR 122.41(c)].

4. Bypassing of Treatment Facilities

a. Bypass not exceeding limitations [40 CFR 122.41(m)(2)]

The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Paragraphs b. and c. of this section.

b. Notice [40 CFR 122.41(m)(3)]

(1) Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and effect of the bypass.

(2) Unanticipated bypass. The Permittee shall submit notice of an unanticipated bypass as required in Part II.E.6. (24-hour notice).

c. Prohibition of Bypass

(1) Bypass from the treatment facility is prohibited and the Permit Issuing Authority may take enforcement action against a Permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The Permittee submitted notices as required under Paragraph b. of this section.

(2) Bypass from the collection system is prohibited and the Permit Issuing Authority may take enforcement action against a Permittee for a bypass as provided in any current or future system-wide collection system permit associated with the treatment facility.

(3) The Permit Issuing Authority may approve an anticipated bypass, after considering its adverse effects, if the Permit Issuing Authority determines that it will meet the three conditions listed above in Paragraph c. (1) of this section.

5. Upsets
   a. Effect of an upset [40 CFR 122.41(n)(2)]: An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph b. of this condition are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset: Any Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      (1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
      (2) The Permittee facility was at the time being properly operated; and
      (3) The Permittee submitted notice of the upset as required in Part II.E.6.(b) of this permit.
      (4) The Permittee complied with any remedial measures required under Part II.B.2. of this permit.
   c. Burden of proof [40 CFR 122.41(n)(4)]: The Permittee seeking to establish the occurrence of an upset has the burden of proof in any enforcement proceeding.

6. Removed Substances
   Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be utilized/disposed of in accordance with NCGS 143-215.1 and in a manner such as to prevent any pollutant from such materials from entering waters of the State or navigable waters of the United States except as permitted by the Commission. The Permittee shall comply with all applicable state and Federal regulations governing the disposal of sewage sludge, including 40 CFR 503, Standards for the Use and Disposal of Sewage Sludge; 40 CFR Part 258, Criteria For Municipal Solid Waste Landfills; and 15A NCAC Subchapter 2T, Waste Not Discharged To Surface Waters. The Permittee shall notify the Permit Issuing Authority of any significant change in its sludge use or disposal practices.

7. Power Failures
   The Permittee is responsible for maintaining adequate safeguards (as required by 15A NCAC 02H .0124) to prevent the discharge of untreated or inadequately treated wastes during electrical power failures either by means of alternate power sources, standby generators or retention of inadequately treated effluent.

Section D. Monitoring and Records

1. Representative Sampling
   Samples collected and measurements taken, as required herein, shall be representative of the permitted discharge. Samples collected at a frequency less than daily shall be taken on a day and time that is representative of the discharge for the period the sample represents. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Permit Issuing Authority [40 CFR 122.41(j)].

2. Reporting
   Monitoring results obtained during the previous month(s) shall be summarized for each month and reported on a monthly Discharge Monitoring Report (DMR) Form (MR 1, 1.1, 2, 3) or alternative forms approved by the Director, postmarked no later than the last calendar day of the month following the completed reporting period.

   The first DMR is due on the last day of the month following the issuance of the permit or in the case of a new facility, on the last day of the month following the commencement of discharge. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the following address:

NC DEQ / Division of Water Resources / Water Quality Permitting Section
ATTENTION: Central Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

3. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from the true discharge rates throughout the range of expected discharge volumes. Flow measurement devices shall be accurately calibrated at a minimum of once per year and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. The Director shall approve the flow measurement device and monitoring location prior to installation.

Once-through condenser cooling water flow monitored by pump logs, or pump hour meters as specified in Part I of this permit and based on the manufacturer's pump curves shall not be subject to this requirement.

4. Test Procedures

Laboratories used for sample analysis must be certified by the Division. Permittees should contact the Division's Laboratory Certification Section (919 733-3908) or visit https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch for information regarding laboratory certifications.

Facilities whose personnel are conducting testing of field-certified parameters only must hold the appropriate field parameter laboratory certifications.

Test procedures for the analysis of pollutants shall conform to the EMC regulations (published pursuant to NCGS 143-215.63 et. seq.), the Water and Air Quality Reporting Acts, and to regulations published pursuant to Section 304(g), 33 USC 1314, of the CWA (as amended), and 40 CFR 136; or in the case of sludge use or disposal, approved under 40 CFR 136, unless otherwise specified in 40 CFR 503, unless other test procedures have been specified in this permit [40 CFR 122.41].

To meet the intent of the monitoring required by this permit, all test procedures must produce minimum detection and reporting levels that are below the permit discharge requirements and all data generated must be reported down to the minimum detection or lower reporting level of the procedure. If no approved methods are determined capable of achieving minimum detection and reporting levels below permit discharge requirements, then the most sensitive (method with the lowest possible detection and reporting level) approved method must be used.

5. Penalties for Tampering

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 CFR 122.41].

6. Records Retention

Except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR 503), the Permittee shall retain records of all monitoring information, including:

- all calibration and maintenance records
- all original strip chart recordings for continuous monitoring instrumentation
- copies of all reports required by this permit
- copies of all data used to complete the application for this permit

These records or copies shall be maintained for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time [40 CFR 122.41].

7. Recording Results
For each measurement or sample taken pursuant to the requirements of this permit, the Permittee shall record the following information [40 CFR 122.41]:

   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

8. Inspection and Entry
The Permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Director), upon the presentation of credentials and other documents as may be required by law, to;

   a. Enter, at reasonable times, upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
   d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location [40 CFR 122.41(i)].

Section E Reporting Requirements

1. Change in Discharge
All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

2. Planned Changes
The Permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility [40 CFR 122.41(l)]. Notice is required only when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for new sources at 40 CFR 122.29(b); or
   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1); or
   c. The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

3. Anticipated Noncompliance
The Permittee shall give advance notice to the Director of any planned changes to the permitted facility or other activities that might result in noncompliance with the permit [40 CFR 122.41(l)(2)].

4. Transfers
This permit is not transferable to any person without prior written notice to and approval from the Director in accordance with 40 CFR 122.61. The Director may condition approval in accordance with NCGS 143-215.1, in

particular NCGS 143-215.1(b)(4)b.2., and may require modification or revocation and reissuance of the permit, or a minor modification, to identify the new permittee and incorporate such other requirements as may be necessary under the CWA [40 CFR 122.41(l)(3), 122.61] or state statute.

5. Monitoring Reports
Monitoring results shall be reported at the intervals specified elsewhere in this permit [40 CFR 122.41(l)(4)].
   a. Monitoring results must be reported on a Discharge Monitoring Report (DMR) (See Part II.D.2) or forms provided by the Director for reporting results of monitoring of sludge use or disposal practices.
   b. If the Permittee monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR Part 136 and at a sampling location specified in this permit or other appropriate instrument governing the discharge, the results of such monitoring shall be included in the calculation and reporting of the data submitted on the DMR.
6. Twenty-four Hour Reporting
   a. The Permittee shall report to the Director or the appropriate Regional Office any noncompliance that potentially threatens public health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance, and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [40 CFR 122.41(l)(6)].
   b. The Director may waive the written report on a case-by-case basis for reports under this section if the oral report has been received within 24 hours.
   c. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 858-0368 or (919) 733-3300.
7. Other Noncompliance
The Permittee shall report all instances of noncompliance not reported under Part II.E.5 and 6. of this permit at the time monitoring reports are submitted. The reports shall contain the information listed in Part II.E.6. of this permit [40 CFR 122.41(l)(7)].
8. 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 to the Director, it shall promptly submit such facts or information [40 CFR 122.41(l)(8)].
9. Noncompliance Notification
The Permittee shall report by telephone to either the central office or the appropriate regional office of the Division as soon as possible, but in no case more than 24 hours or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:
   a. Any occurrence at the water pollution control facility which results in the discharge of significant amounts of wastes which are abnormal in quantity or characteristic, such as the dumping of the contents of a sludge digester; the known passage of a slug of hazardous substance through the facility; or any other unusual circumstances.
   b. Any process unit failure, due to known or unknown reasons, that render the facility incapable of adequate wastewater treatment such as mechanical or electrical failures of pumps, aerators, compressors, etc.
   c. Any failure of a pumping station, sewer line, or treatment facility resulting in a by-pass without treatment of all or any portion of the influent to such station or facility.

   Persons reporting such occurrences by telephone shall also file a written report within 5 days following first knowledge of the occurrence. Also see reporting requirements for municipalities in Part IV.C.2.c. of this permit.
10. Availability of Reports
Except for data determined to be confidential under NCGS 143-215.3 (a)(2) or Section 308 of the Federal Act, 33 USC 1318, all reports prepared in accordance with the terms shall be available for public inspection at the offices

of the Division. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NCGS 143-215.1(b)(2) or in Section 309 of the Federal Act.

11. Penalties for Falsification of Reports
The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $25,000 per violation, or by imprisonment for not more than two years per violation, or by both [40 CFR 122.41].

12. Annual Performance Reports
Permittees who own or operate facilities that primarily collect or treat municipal or domestic wastewater and have an average annual flow greater than 200,000 gallons per day shall provide an annual report to the Permit Issuing Authority and to the users/customers served by the Permittee (NCGS 143-215.1C). The report shall summarize the performance of the collection or treatment system, as well as the extent to which the facility was compliant with applicable Federal or State laws, regulations and rules pertaining to water quality. The report shall be provided no later than sixty days after the end of the calendar or fiscal year, depending upon which annual period is used for evaluation.

The report shall be sent to:

NC DEQ / Division of Water Resources / Water Quality Permitting Section
ATTENTION: Central Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

PART III
OTHER REQUIREMENTS

Section A. Construction

a. The Permittee shall not commence construction of wastewater treatment facilities, nor add to the plant's treatment capacity, nor change the treatment process(es) utilized at the treatment plant unless (1) the Division has issued an Authorization to Construct (AtC) permit or (2) the Permittee is exempted from such AtC permit requirements under Item b. of this Section.

b. In accordance with NCGS 143-215.1(a5) [SL 2011-394], no permit shall be required to enter into a contract for the construction, installation, or alteration of any treatment work or disposal system or to construct, install, or alter any treatment works or disposal system within the State when the system's or work's principle function is to conduct, treat, equalize, neutralize, stabilize, recycle, or dispose of industrial waste or sewage from an industrial facility and the discharge of the industrial waste or sewage is authorized under a permit issued for the discharge of the industrial waste or sewage into the waters of the State. Notwithstanding the above, the permit issued for the discharge may be modified if required by federal regulation.

c. Issuance of an AtC will not occur until Final Plans and Specifications for the proposed construction have been submitted by the Permittee and approved by the Division.

Section B. Groundwater Monitoring

The Permittee shall, upon written notice from the Director, conduct groundwater monitoring as may be required to determine the compliance of this NPDES permitted facility with the current groundwater standards.

Section C. Changes in Discharges of Toxic Substances

The Permittee shall notify the Permit Issuing Authority as soon as it knows or has reason to believe (40 CFR 122.42):

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels";

   (1) One hundred micrograms per liter (100 µg/L);

   (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

   (3) Five times the maximum concentration value reported for that pollutant in the permit application.

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels";

   (1) Five hundred micrograms per liter (500 µg/L);

   (2) One milligram per liter (1 mg/L) for antimony;

   (3) Ten times the maximum concentration value reported for that pollutant in the permit application.

Section D. Facility Closure Requirements

The Permittee must notify the Division at least 90 days prior to the closure of any wastewater treatment system covered by this permit. The Division may require specific measures during deactivation of the system to prevent adverse impacts to waters of the State. This permit cannot be rescinded while any activities requiring this permit continue at the permitted facility.

PART IV
SPECIAL CONDITIONS FOR MUNICIPAL FACILITIES

Section A. Definitions

In addition to the definitions in Part II of this permit, the following definitions apply to municipal facilities:

Indirect Discharge or Industrial User
Any non-domestic source that discharges wastewater containing pollutants into a POTW regulated under section 307(b), (c) or (d) of the CWA. [40 CFR 403.3 (i) and (j) and 15A NCAC 02H .0903(b)(11)]

Interference
Inhibition or disruption of the POTW treatment processes; operations; or its sludge process, use, or disposal which causes or contributes to a violation of any requirement of the Permittee's (or any satellite POTW's if different from the Permittee) NPDES, collection system, or non-discharge permit or prevents sewage sludge use or disposal in compliance with specified applicable State and Federal statutes, regulations, or permits. [15A NCAC 02H .0903(b)(14)]

Pass Through
A discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or with discharges from other sources, causes a violation, including an increase in the magnitude or duration of a violation, of the Permittee's (or any satellite POTW's, if different from the Permittee) NPDES, collection system, or non-discharge permit. [15A NCAC 02H .0903(b)(23)]

Publicly Owned Treatment Works (POTW)
A treatment works as defined by Section 212 of the CWA, which is owned by a State or local government organization. This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes the collection system, as defined in 15A NCAC 2T .0402, only if it conveys wastewater to a POTW treatment plant. The term also means the local government organization, or municipality, as defined in section 502(4) of the CWA, which has jurisdiction over indirect discharges to and the discharges from such a treatment works. In this context, the organization may be the owner of the POTW treatment plant or the owner of the collection system into which an indirect discharger discharges. This second type of POTW may be referred to as a "satellite POTW organization." [15A NCAC 02H .0903(b)(26)]

"Significant Industrial User" or "SIU"
An Industrial User that discharges wastewater into a publicly owned treatment works and that [15A NCAC 02H .0903(b)(33)]:

1. Discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewaters); or
2. Contributes process wastewater which makes up five percent or more of the NPDES or non-discharge permitted flow limit or organic capacity of the POTW treatment plant. In this context, organic capacity refers to BOD, TSS and ammonia; or
3. Is subject to categorical standards under 40 CFR Part 403.6 and 40 CFR Parts 405-471; or
4. Is designated as such by the Permittee on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, or the POTW's effluent limitations and conditions in its NPDES or non-discharge permit, or to limit the POTW's sludge disposal options;
5. Subject to approval under 15A NCAC 02H .0907(b), the Permittee may determine that an Industrial User meeting the criteria in paragraphs 1 or 2 of this definition above has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the POTW's effluent limitations and conditions in its NPDES or non-discharge permit, or to limit the POTW's sludge disposal options, and thus is not a Significant Industrial User (SIU); or
6. Subject to approval under 15A NCAC 02H .0907(b), the Permittee may determine that an Industrial User meeting the criteria in paragraph 3 of this definition above meets the requirements of 40 CFR Part 403.3(v)(2) and thus is a non-significant categorical Industrial User.

Section B. Publicly Owned Treatment Works (POTWs)

All POTWs must provide adequate notice to the Director of the following [40 CFR 122.42(b)]:

1. Any new introduction of pollutants into the POTW from an indirect discharger, regardless of the means of transport, which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and
2. Any substantial change in the volume or character of pollutants being introduced by an indirect discharger as influent to that POTW at the time of issuance of the permit.
3. For purposes of this paragraph, adequate notice shall include information on (1) the quality and quantity of effluent introduced into the POTW, and (2) any anticipated impact that may result from the change of the quantity or quality of effluent to be discharged from the POTW.

Section C. Municipal Control of Pollutants from Industrial Users.

1. Effluent limitations are listed in Part I of this permit. Other pollutants attributable to inputs from Industrial Users discharging to the POTW may be present in the Permittee's discharge. At such time as sufficient information becomes available to establish limitations for such pollutants, this permit may be revised to specify effluent limitations for any or all of such other pollutants in accordance with best practicable technology or water quality standards.
2. Prohibited Discharges
   a. The Permittee shall develop and enforce their Pretreatment Program to implement the prohibition against the introduction of pollutants or discharges into the waste treatment system or waste collection system which cause or contribute to Pass Through or Interference as defined in 15A NCAC 02H .0900 and 40 CFR 403. [40 CFR 403.5(a)(1)]
   b. The Permittee shall develop and enforce their Pretreatment Program to implement the prohibitions against the introduction of the following wastes in the waste treatment or waste collection system [40 CFR 403.5(b)]:
      (1) Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;
      (2) Pollutants which cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works is specifically designed to accommodate such discharges;
      (3) Solid or viscous pollutants in amounts which cause obstruction to the flow in the POTW resulting in Interference;
      (4) Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a Discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;
      (5) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW Treatment Plant exceeds 40°C (104°F) unless the Division, upon request of the POTW, approves alternate temperature limits;
      (6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;
      (7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; or
      (8) Any trucked or hauled pollutants, except at discharge points designated by the POTW.
   c. The Permittee shall investigate the source of all discharges into the POTW, including slug loads and other unusual discharges, which have the potential to adversely impact the Permittee's Pretreatment Program and/or the operation of the POTW.

      The Permittee shall report such discharges into the POTW to the Director or the appropriate Regional Office. Any information shall be provided orally within 24 hours from the time the Permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the discharge; the investigation into possible sources; the period of the discharge, including exact dates and times; if the discharge has not ceased, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance,

3. With regard to the effluent requirements listed in Part I of this permit, it may be necessary for the Permittee to supplement the requirements of the Federal Pretreatment Standards (40 CFR, Part 403) to ensure compliance by the Permittee with all applicable effluent limitations. Such actions by the Permittee may be necessary regarding some or all of the industries discharging to the municipal system.
4. The Permittee shall require any Industrial User (IU) discharging to the POTW to meet Federal Pretreatment Standards developed under Section 307(b) of the Act as amended (which includes categorical standards and specific local limits, best management practices and narrative requirements). Prior to accepting wastewater from any Significant Industrial User (SIU), the Permittee shall either develop and submit to the Division a new Pretreatment Program or, as necessary, a modification of an existing Pretreatment Program, for approval as required under section D below as well as 15A NCAC 02H .0907(a) and (b). [40 CFR 122.44(j)(2)]
5. This permit shall be modified, or alternatively, revoked and reissued, to incorporate or modify an approved POTW Pretreatment Program or to include a compliance schedule for the development of a POTW Pretreatment Program as required under Section 402 (b)(8) of the CWA and implementing regulations or by the requirements of the approved State pretreatment program, as appropriate.

Section D. Pretreatment Programs

Under authority of sections 307 (b) and (c) and 402(b)(8) of the CWA and implementing regulations 40 CFR 403, North Carolina General Statute 143-215.3(14) and implementing regulations 15A NCAC 02H .0900, and in accordance with the approved pretreatment program, all provisions and regulations contained and referenced in the pretreatment program submittal are an enforceable part of this permit. [40 CFR 122.44(j)(2)]

The Permittee shall operate its approved pretreatment program in accordance with Section 402(b)(8) of the CWA, 40 CFR 403, 15A NCAC 02H .0900, and the legal authorities, policies, procedures, and financial provisions contained in its pretreatment program submission and Division approved modifications thereof. Such operation shall include but is not limited to the implementation of the following conditions and requirements. Terms not defined in Part II or Part IV of this permit are as defined in 15A NCAC 02H .0903 and 40 CFR 403.3.

1. Sewer Use Ordinance (SUO)
   The Permittee shall maintain adequate legal authority to implement its approved pretreatment program. [15A NCAC 02H .0903(b)(32), .0905 and .0906(b)(1); 40 CFR 403.8(f)(1) and 403.9(b)(1) and (2)]

2. Industrial Waste Survey (IWS)
   The Permittee shall implement an IWS consisting of the survey of users of the POTW collection system or treatment plant, as required by 40 CFR 403.8(f)(2)(i-iii) and 15A NCAC 02H .0905 [also 40 CFR 122.44(j)(1)], including identification of all Industrial Users that may have an impact on the POTW and the character and amount of pollutants contributed to the POTW by these Industrial Users and identification of those Industrial Users meeting the definition of SIU. Where the Permittee accepts wastewater from one or more satellite POTWs, the IWS for the Permittee shall address all satellite POTW services areas, unless the pretreatment program in those satellite service areas is administered by a separate Permittee with an approved Pretreatment Program. The Permittee shall submit a summary of its IWS activities to the Division at least once every five years, and as required by the Division. The IWS submission shall include a summary of any investigations conducted under paragraph C.2.c. of this Part. [15A NCAC 02H .0903(b)(13), .0905 and .0906(b)(2); 40 CFR 403.8(f)(2) and 403.9]

3. Monitoring Plan
   The Permittee shall implement a Division-approved Monitoring Plan for the collection of facility specific data to be used in a wastewater treatment plant Headworks Analysis (HWA) for the development of specific pretreatment local limits. Effluent data from the Plan shall be reported on the DMRs (as required by Parts II.D and II.E.5.). [15A NCAC 02H .0903(b)(16), .0906(b)(3) and .0905]

4. Headworks Analysis (HWA) and Local Limits
   The Permittee shall obtain Division approval of a HWA at least once every five years, and as required by the Division. Within 180 days of the effective date of this permit (or any subsequent permit modification) the Permittee shall submit to the Division a written technical evaluation of the need to revise local limits (i.e., an updated HWA or documentation of why one is not needed) [40 CFR 122.44]. The Permittee shall develop, in accordance with 40 CFR 403.5(c) and 15A NCAC 02H .0909, specific Local Limits to implement the prohibitions listed in 40 CFR 403.5(a) and (b) and 15A NCAC 02H .0909. Pursuant to 40 CFR 403.5, local limits are

enforceable Pretreatment Standards as defined by 40 CFR 403.3(1). [15A NCAC 02H .0903(b)(10), .0905, and .0906(b)(4)]

5. Industrial User Pretreatment Permits (IUP) & Allocation Tables
In accordance with NCGS 143-215.1, the Permittee shall issue to all Significant Industrial Users, permits for operation of pretreatment equipment and discharge to the Permittee's collection system or treatment works. These permits shall contain limitations, sampling protocols, reporting requirements, appropriate standard and special conditions, and compliance schedules as necessary for the installation of treatment and control technologies to assure that their wastewater discharge will meet all applicable pretreatment standards and requirements. The Permittee shall maintain a current Allocation Table (AT) which summarizes the results of the HWA and the limits from all IUPs. Permitted IUP loadings for each parameter cannot exceed the treatment capacity of the POTW as determined by the HWA. [15A NCAC 02H .0906(b)(6), .0909, .0916, and .0917; 40 CFR 403.5, 403.8(f)(1)(iii); NCGS 143-215.67(a)]

6. Authorization to Construct (AtC)
The Permittee shall ensure that an Authorization to Construct permit (AtC) is issued to all applicable Industrial Users for the construction or modification of any pretreatment facility. Prior to the issuance of an AtC, the proposed pretreatment facility and treatment process must be evaluated for its capacity to comply with all Industrial User Pretreatment Permit (IUP) limitations. [15A NCAC 02H .0906(b)(7) and .0905; NCGS 143-215.1(a)(8)]

7. POTW Inspection & Monitoring of their IUs
The Permittee shall conduct inspection, surveillance, and monitoring activities as described in its Division approved pretreatment program in order to determine, independent of information supplied by Industrial Users, compliance with applicable pretreatment standards. [15A NCAC 02H .0908(e); 40 CFR 403.8(f)(2)(v)] The Permittee must:

   a. Inspect all Significant Industrial Users (SIUs) at least once per calendar year;
   b. Sample all Significant Industrial Users (SIUs) at least once per calendar year for all SIU permit-limited parameters including flow except as allowed under 15A NCAC .0908(e); and
   c. At least once per year, document an evaluation of any non-significant categorical Industrial User for compliance with the requirements in 40 CFR 403.3(v)(2), and either continue or revoke the designation as non-significant.

8. IU Self Monitoring and Reporting
The Permittee shall require all Industrial Users to comply with the applicable monitoring and reporting requirements outlined in the Division-approved pretreatment program, the industry's pretreatment permit, or in 15A NCAC 02H .0908. [15A NCAC 02H .0906(b)(5) and .0905; 40 CFR 403.8(f)(1)(v) and (2)(iii); 40 CFR 122.44(j)(2) and 40 CFR 403.12]

9. Enforcement Response Plan (ERP)
The Permittee shall enforce and obtain appropriate remedies for violations of all pretreatment standards promulgated pursuant to section 307(b) and (c) of the CWA (40 CFR 405 et. seq.), prohibitive discharge standards as set forth in 40 CFR 403.5 and 15A NCAC 02H .0909, specific local limitations, and other pretreatment requirements. All remedies, enforcement actions and other, shall be consistent with the Enforcement Response Plan (ERP) approved by the Division. [15A NCAC 02H .0903(b)(7), .0906(b)(8) and .0905; 40 CFR 403.8(f)(5)]

10. Pretreatment Annual Reports (PAR)
The Permittee shall report to the Division in accordance with 15A NCAC 02H .0908. In lieu of submitting annual reports, Modified Pretreatment Programs developed under 15A NCAC 02H .0904 (b) may be required to submit a partial annual report or to meet with Division personnel periodically to discuss enforcement of pretreatment requirements and other pretreatment implementation issues.

    For all other active pretreatment programs, the Permittee shall submit two copies of a Pretreatment Annual Report (PAR) describing its pretreatment activities over the previous calendar year to the Division at the following address:

NC DEQ / Division of Water Resources / Water Quality Permitting Section
Pretreatment, Emergency Response, and Collection Systems (PERCS) Unit
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

These reports shall be submitted by March 1 of each year and shall contain the following:

a. Narrative
A narrative summary detailing actions taken, or proposed, by the Permittee to correct significant non-compliance and to ensure compliance with pretreatment requirements;

b. Pretreatment Program Summary (PPS)
A pretreatment program summary (PPS) on forms or in a format provided by the Division;

c. Significant Non-Compliance Report (SNCR)
A list of Industrial Users (IUs) in significant noncompliance (SNC) with pretreatment requirements, and the nature of the violations on forms or in a format provided by the Division;

d. Industrial Data Summary Forms (IDSF)
Monitoring data from samples collected by both the POTW and the Significant Industrial Users (SIUs). These analytical results must be reported on Industrial Data Summary Forms (IDSF) or on other forms or in a format provided by the Division;

e. Other Information
Copies of the POTW's allocation table, new or modified enforcement compliance schedules, public notice of IUs in SNC, a summary of data or other information related to significant noncompliance determinations for IUs that are not considered SIUs, and any other information, upon request, which in the opinion of the Director is needed to determine compliance with the pretreatment implementation requirements of this permit;

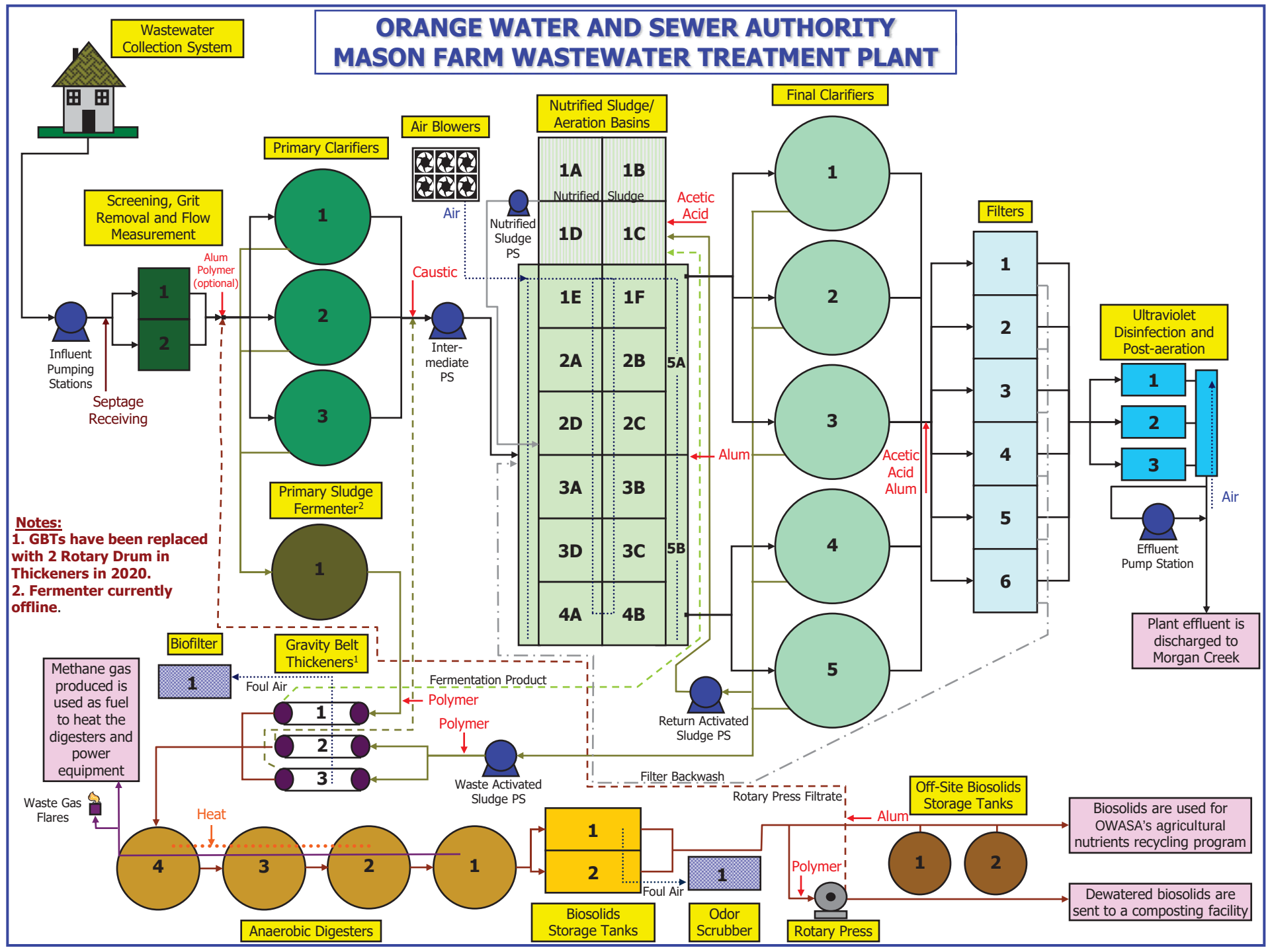
11. Public Notice
The Permittee shall publish annually a list of Industrial Users (IUs) that were in significant noncompliance (SNC) as defined in the Permittee's Division-approved Sewer Use Ordinance with applicable pretreatment requirements and standards during the previous twelve month period. This list shall be published within four months of the applicable twelve-month period. [15A NCAC 02H .0903(b)(34), .0908(b)(5) and .0905 and 40 CFR 403.8(f)(2)(viii)]

12. Record Keeping
The Permittee shall retain for a minimum of three years records of monitoring activities and results, along with support information including general records, water quality records, and records of industrial impact on the POTW and shall retain all other Pretreatment Program records as required by 15A NCAC 02H .0908(f). [15A NCAC 02H .0908(f); 40 CFR 403.12(o)]

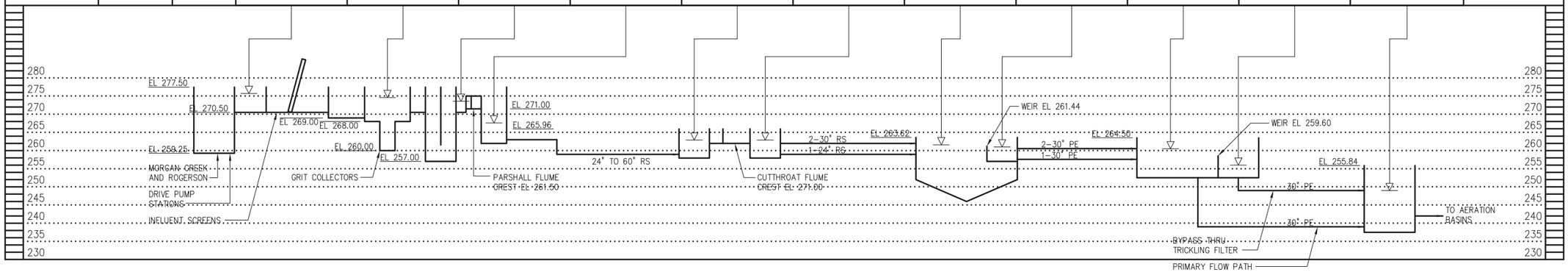
13. Pretreatment Program Resources
The Permittee shall maintain adequate funding and qualified personnel to accomplish the objectives of its approved pretreatment program. and retain a written description of those current levels of inspection. [15A NCAC 02H .0906(b)(9) and (10) and .0905; 40 CFR 403.8(f)(3), 403.9(b)(3)]

14. Modification to Pretreatment Programs
Modifications to the approved pretreatment program including but not limited to local limits modifications, POTW monitoring of their Significant Industrial Users (SIUs), and Monitoring Plan modifications, shall be considered a permit modification and shall be governed by 40 CFR 403.18, 15 NCAC 02H .0114 and 15A NCAC 02H .0907.

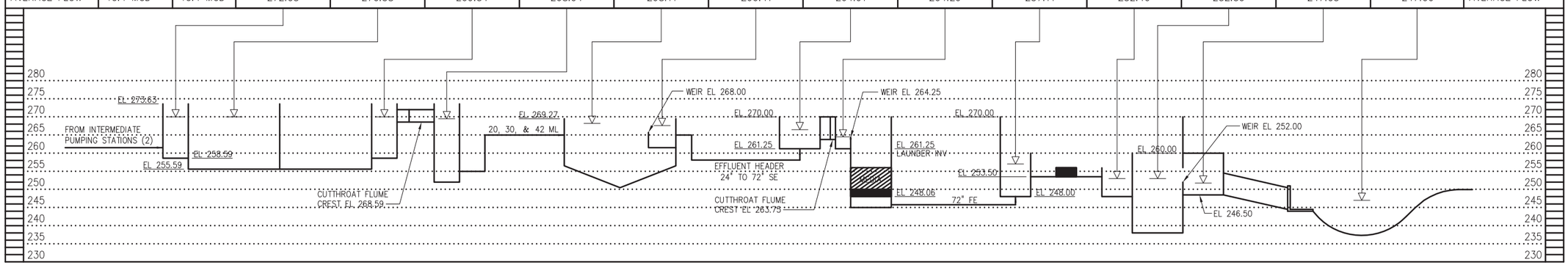
ORANGE WATER AND SEWER AUTHORITY
MASON FARM WASTEWATER TREATMENT PLANT



CONDITION	PLANT FLOW	RAS FLOW	HEADWORKS		INFLUENT FLUME		SPLITTER BOX 1		PRIMARY CLARIFIERS		SPLITTER BOX 2		INTERMEDIATE PUMP STATION	CONDITION
PEAK FLOW	43.5 MGD	14.5 MGD	275.60	274.41	273.49	268.12	264.77	263.67	261.64	261.24	260.56	259.90	249.00	PEAK FLOW
MAX MONTH FLOW	14.5 MGD	14.5 MGD	273.91	272.71	272.23	264.41	263.41	261.98	261.58	260.31	260.12	251.17	249.00	MAX MONTH FLOW
AVERAGE FLOW	10.4 MGD	10.4 MGD	273.45	272.36	271.99	263.56	263.03	261.77	261.57	260.12	260.02	250.13	249.00	AVERAGE FLOW



CONDITION	PLANT FLOW	RAS FLOW	AERATION BASINS				SECONDARY CLARIFIERS		EFFLUENT FILTERS		UV DISINFECTION		POST-AERATION		MORGAN CREEK	CONDITION
PEAK FLOW	43.5 MGD	14.5 MGD	272.97	271.79	270.17	269.99	268.21	267.60	266.61	264.47	257.12	253.16	253.12	N/A	262.00	PEAK FLOW
MAX MONTH FLOW	14.5 MGD	14.5 MGD	272.28	270.87	269.52	268.83	268.11	266.39	265.18	264.31	257.11	252.50	252.50	251.75	251.00	MAX MONTH FLOW
AVERAGE FLOW	10.4 MGD	10.4 MGD	272.05	270.58	269.54	268.94	268.11	266.41	264.91	264.29	257.11	252.40	252.39	247.03	247.00	AVERAGE FLOW



NOTE: PEAK FLOW PROFILE UPSTREAM OF INTERMEDIATE PUMP STATION ASSUMES 10 MGD PC BYPASS

HAZEN AND SAWYER
Environmental Engineers & Scientists

MASON FARM WWTP

EXISTING PLANT
HYDRAULIC PROFILE

PLOT DATE 09/03/09 9:53am FILE= O:\30853\30853-014\drawings\Figures\Hydraulic Profile Mason Farm by BGOODWIN XREF FILE = NONE

ATTACHMENT 1

AGREEMENT
BETWEEN

ORANGE WATER AND SEWER AUTHORITY,

a political subdivision of the State of North Carolina, its successors and assigns, hereinafter referred to as "Owner" through its Board of Directors,

and

CONSULTANT NAME

its successors and assigns, hereinafter referred to as "Consultant"

IN ORANGE COUNTY NORTH CAROLINA

FOR
CONSULTING SERVICES

W I T N E S S E T H :

WHEREAS, Owner intends to ; and,

WHEREAS, Owner requires certain consulting services in connection with the project (the Services); and,

WHEREAS, Consultant is prepared to provide the Services;

NOW THEREFORE, in consideration of the mutual terms and conditions, promises and payments contained in this Agreement, Owner and Consultant agree as follows:

ARTICLE 1 - TIME FOR PERFORMANCE

1.1 The effective date of this Agreement is _____ and shall remain in effect until terminated. Consultant shall perform the services described in Attachment B (herein, the Project Scope of Services) to this Agreement. Owner will issue a separate Notice to Proceed for the work, and the work shall proceed according to the schedule as described in the Project Scope of Services. Any work initiated by Consultant prior to the Owner's written authorization of the Project will be at the Consultant's sole risk.

ARTICLE 2 - GOVERNING LAW

2.1 This Agreement shall be governed by the laws of the state of North Carolina. Any disputes which may arise out of this agreement shall be filed in the North Carolina Court of Justice, The Superior Court of Orange County NC.

ARTICLE 3 - SERVICES TO BE PERFORMED

3.1 Consultant shall perform the Services described in the Project Scope of Services as authorized under this Agreement. Consultant shall provide all services as set forth in the Project Scope of Services, including the necessary, incidental and related activities and services required and contemplated in the Consultant's level of effort.

3.2 Consultant and Owner acknowledge that the Scope of Services described for the Project does not delineate every detail and minor work task required to be performed by Consultant to complete the work authorized by the Scope of Services. If during the course of the performance of the services authorized by this Agreement, Consultant determines that work should be performed to complete the Project which is in the Consultant's opinion outside the level of effort originally anticipated, whether or not the Project Scope of Services identifies the work items, Consultant shall notify Contract Administrator in writing within 30 days and wait for Owner approval before proceeding with the work. If Consultant proceeds with said work without notifying the Contract Administrator, said work shall be deemed to be within the original level of effort described in the Project Scope of Services. Notice to the Contract Administrator does not constitute authorization or approval by Owner to perform the work. Performance of work by Consultant outside the originally anticipated level of effort without prior written Owner approval is at the Consultant's sole risk.

3.3 Upon mutual written agreement, the Project Scope of Services may be modified. The Owner and the Consultant may negotiate additional scopes of services, compensation, time of performance and other matters related to the project. If the Owner and Consultant cannot contractually agree, Owner shall have the right to immediately terminate negotiations at no cost to the Owner and to procure services from another source.

ARTICLE 4 - OWNER'S RESPONSIBILITIES

4.1 Owner shall be responsible for all matters described in the Project Scope of Services (Attachment B).

ARTICLE 5 - COMPENSATION AND METHOD OF PAYMENT

5.1 Owner agrees to pay Consultant as compensation for performance of services as described in the Project Scope of Services. Compensation may be as a lump sum or as maximum amount not-to-exceed. The maximum amount not-to-exceed method of compensation will utilize hourly billing rates established as part of this Agreement.

5.2 Consultant shall separately invoice for services rendered each month. Each project invoice shall reflect percentage of work completed to date and for the invoiced month. Invoices shall provide a detailed breakdown of hours worked, hourly billing rates by each individual, and the expenses attributable to the project during the period.

5.3 The Owner shall assign a Project CIP Number, as well as a Purchase Order Number for the Project to facilitate internal contract administration. Each Project Invoice must reference the assigned CIP Number and the Purchase Order Number for the Project and be sent directly to the Owner’s Project Manager as assigned. Payment terms shall be the net invoice amount within 30 days.

5.4 The hourly billing rates for this agreement are set forth in Attachment A to this agreement and

shall be used for work compensated on a maximum not-to-exceed basis. Beginning two years from the effective date of the agreement, billing rates may be amended annually upon mutual agreement of both parties and upon execution of formal contract amendment documenting the changes to Attachment A.

5.5 The reimbursable expenses for this agreement are set forth in Attachment A to this agreement and shall be used for maximum amount not-to-exceed compensation. Consultant shall be allowed to adjust expense items in accordance with changes in IRS criteria for deductible expenses.

5.6 Consultant shall keep such records and accounts and require any and all consultants and sub-consultants to keep records and accounts as may be necessary in order to record complete and correct entries as to personnel hours charged to the project and any expenses for which Consultant expects to be reimbursed. All books and records relative to the project shall be available at all reasonable times for examination and audit by Owner and shall be kept for a period of three (3) years after completion of all work pursuant to this Agreement. Incomplete or incorrect entries in such books and records shall be grounds for Owner's disallowance of any fees or expenses based upon such entries.

ARTICLE 6 - STANDARD OF CARE

6.1 General: Consultant shall exercise the same degree of care and diligence in the performance of the Services as is ordinarily exercised by a professional serving under similar circumstances.

ARTICLE 7 - LIABILITY AND INDEMNIFICATION

7.1 General: Having considered the potential liabilities that may exist during the performance of the Scope of Services, the benefits of the project, and the Consultant's fee for the Services, and in consideration of the promises contained in this Agreement, Owner and Consultant agree to allocate and limit such liabilities in accordance with this Article.

7.2 Indemnification by Consultant: Consultant agrees to indemnify and hold harmless Owner, its agents, and its employees from and against legal liability for all claims, losses, damages, and expenses to the extent such claims, losses, damages, or expenses are caused by Consultant's negligent acts, errors, or omissions. Consultant shall also be liable to Owner for the costs of defense including but not limited to attorney’s fees, litigation, mediation or arbitration, and any other expenses actually incurred by Owner in defense of third party claims arising out of damages caused by Consultant's negligence or fault.

7.3 Employee Claims: Consultant shall indemnify Owner against legal liability for damages arising out of claims by Consultant's employees to the extent such claims arise out of Consultant's negligent acts, errors or omissions.

7.4 Survival: Upon completion of all Services, obligations, and duties provided for in this Agreement, or if this Agreement is terminated for any reason, the terms and conditions of this Article shall survive.

ARTICLE 8 - INSURANCE

8.1 During the performance of the Services under this Agreement, Consultant shall maintain the minimum levels of insurance shown below and provide certificates of such coverage to Owner prior to performance. All policies must provide ten (10) days advance written notice to Owner in

the event of cancellation, expiration, or alteration.

8.1.1 General Liability Insurance, with a combined single limit of $1,000,000 for each occurrence and $1,000,000 in the aggregate.

8.1.2 Automobile Liability Insurance, with a combined single limit of $1,000,000 for each person and $1,000,000 for each accident.

8.1.3 Workers' Compensation Insurance in accordance with statutory requirements and Employers' Liability Insurance, with a limit of $500,000 for each occurrence.

8.1.4 Professional Liability Insurance, with a limit of $1,000,000 annual aggregate.

ARTICLE 9 - OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY

9.1 Except as otherwise provided herein, documents and reports prepared by Consultant as part of the Services shall become the property of Owner upon payment for same. All finished or unfinished documents, data studies, surveys, drawings, maps, models, photographs and reports prepared or provided by Consultant in connection with this Agreement become the property of the Owner, whether the projects are completed or not, and shall be delivered by Consultant to the Owner within ten (10) days after receipt of written notice and upon payment for same. Consultant shall retain its rights to its specifications, databases, computer software, and other proprietary property. Rights to intellectual property developed, utilized, or modified in the performance of the Services shall remain the property of Consultant. Any use by Consultant of intellectual property owned by Owner is authorized solely for the project.

ARTICLE 10 - TERMINATION

10.1 This Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement. The nonperforming party shall have fifteen calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

10.2 Owner may terminate or suspend performance of this Agreement for Owner's convenience upon written notice to Consultant. Consultant shall terminate or suspend performance of the Services on a schedule acceptable to Owner. If termination or suspension is for Owner's convenience, Owner shall pay Consultant for all the Services performed and termination or suspension expenses. Upon restart, an equitable adjustment shall be made to Consultant's compensation.

ARTICLE 11 - DELAY IN PERFORMANCE

11.1 Neither Owner nor Consultant shall be considered in default of this Agreement for delays in performance caused by circumstances beyond the reasonable control of the nonperforming party. For purposes of this Agreement, such circumstances include: floods; earthquakes; fire; epidemics; war, riots, and other civil disturbances; strikes, lockouts, and other labor disturbances; sabotage; judicial restraint; and the inability to procure permits, licenses, or authorizations from any local, state, or federal agency for which such permits have been properly applied for in accordance with the specified Project Schedule for any of the supplies, materials, accesses, or services required to be provided by either Owner or Consultant under this Agreement.

11.2 Should such circumstances occur, the nonperforming party shall, within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement. Consultant shall be entitled to an equitable adjustment in schedule and compensation in the event such circumstances occur.

ARTICLE 12 - COMMUNICATIONS

12.1 Any communication required by this Agreement shall be made in writing to the address specified in the Project Scope of Services. The Contract Administrator for the Owner shall be specified in the Project Scope of Services. Nothing contained in this Article or the Project Scope of Services shall be construed to restrict the transmission of routine communications between representatives of Owner and Consultant.

ARTICLE 13 - WAIVER

13.1 No waiver by either Owner or Consultant of any breach of this Agreement shall be of any effect unless it shall be written and signed by the waiving party. Such a waiver shall not affect the waiving party's rights with respect to any other or further breach.

ARTICLE 14 - SEVERABILITY

14.1 The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or provision of this Agreement void, shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. Any void provision shall be deemed severed from this Agreement, and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void. The parties further agree to amend this Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this Article shall not prevent this entire Agreement from being void should a provision which is of the essence of this Agreement be determined void.

ARTICLE 15 - SUCCESSORS AND ASSIGNS

15.1 Owner and Consultant each binds itself and its directors, officers, partners, successors, executors, administrators, assigns, and legal representatives to the other party to this Agreement and to the directors, officers, partners, successors, executors, administrators, assigns, and legal representatives of such other party in respect to all provisions of this Agreement.

ARTICLE 16 - ASSIGNMENT

16.1 Neither Owner nor Consultant shall assign any rights or duties under this Agreement without the prior written consent of the other party. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the assignor from any obligation under this Agreement. Nothing contained in this Article shall prevent Consultant from employing independent consultants, associates, and subcontractors to assist in the performance of the Services. Consultant will not employ subcontractors for the performance of the Services without the prior written approval of Owner, which approval shall not be unreasonably withheld. Consultant shall have the right to assign duties to any of Consultant’s related or affiliated companies.

ARTICLE 17 - THIRD PARTY RIGHTS

17.1 Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than Owner and Consultant.

ARTICLE 18 - MISCELLANEOUS

18.1 INTERPRETATION: The language of this Agreement has been agreed to by both parties to express their mutual intent and no rule of strict construction shall be applied against either party hereto. The headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement. All personal pronouns used in this Agreement shall include the other gender, and the singular shall include the plural, and vice versa, unless the context otherwise requires. Terms such as "herein," "hereof," "hereunder," and "hereinafter" refer to this Agreement as a whole and not to any particular sentence, paragraph, or section where they appear, unless the context otherwise requires. Whenever reference is made to a Section or Article of this Agreement, such reference is to the Section or Article as a whole, including all of the subsections of such Section unless the reference is made to a particular subsection or subparagraph of such Section or Article.

18.2 CONSULTANT'S STAFF: Consultant shall provide the key staff identified in their proposal for the Project as long as said key staff are in Consultant's employment.

18.2.1 Consultant will obtain prior written approval of Contract Administrator to change key staff members. Consultant shall provide Contract Administrator with such information as necessary to determine the suitability of proposed new key staff. Contract Administrator shall be reasonable in evaluating key staff qualifications.

18.2.2 If Contract Administrator desires to request removal of any of Consultant's staff, Contract Administrator shall first meet with Consultant and provide reasonable justification for said removal.

18.3 ENTIRE AGREEMENT: This Agreement, including all documents identified below, represents the entire understanding between the Owner and the Consultant as to this particular scope of work and shall supersede all prior and contemporaneous communications, representations, understandings, and Agreements relating to the subject matter hereof and may be amended only by written mutual Agreement of the parties.

18.4 ATTACHMENTS: Current listing of Attachments includes:

- Attachment A – Hourly Billing Rates and Reimbursable Expenses.
- Attachment B – Project Scope of Services.

ARTICLE 19 – PRE-EXISTING CONTAMINATION

19.1 Anything herein to the contrary not withstanding, title to, ownership of, and legal responsibility and liability for any and all pre-existing contamination shall at all times remain with Owner. "Pre-existing contamination" is any hazardous or toxic substance, material, or condition present at the project site or sites concerned which was not brought onto such site or sites by Consultant.

ARTICLE 20 – LIMITATIONS OF RESPONSIBILITY

20.1 Consultant shall not be responsible for: (1) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the Project; (2) the failure of any contractor, subcontractor, vendor, or other participant, not under contract to Consultant, to fulfill contractual responsibilities to Owner or to comply with federal, state, or local laws, regulations, and codes; or (3) procuring permits, certificates, and licenses required for any construction unless such responsibilities are specifically assigned to Consultant in Scope of Services.

ARTICLE 21 – NON DISCRIMINATION CLAUSE

21.1 The Consultant shall not discriminate against any person on the grounds of race, color, national origin, sex, age, or handicap in administration of this Agreement. Nor shall any person be excluded from participation in, or be denied the benefits of any project designed under this Agreement on the grounds of race, color, national origin, sex, age, or handicap.

ARTICLE 22 – MINORITY BUSINESS PARTICIPATION

22.1 It is the policy of OWASA to provide minority businesses an equal opportunity to participate in all aspects of OWASA's contract activities. Consultant shall comply with OWASA's Minority Business Participation Outreach Plan and Guidelines.

ARTICLE 23 – E-VERIFY

23.1 Consultant shall comply with the requirements of Article 2 of Chapter 64 of the General Statutes. Further, if Consultant utilizes a subcontractor, Consultant shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the General Statutes.

IN WITNESS WHEREOF, Owner and Consultant have executed this Agreement.

OWNER:

ORANGE WATER AND SEWER AUTHORITY

BY: _____

TITLE: Executive Director

DATE: _____

CONSULTANT:

CONSULTANT NAME

BY: _____

TITLE:

DATE: _____

APPROVED AS TO FORM AND LEGALITY:

_____ _____

Date Robert Epting, Esquire
Authority General Counsel

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act:

_____ _____

Date Stephen Winters
Director of Finance and Customer Service

ATTACHMENT A

HOURLY BILLING RATES AND REIMBURSABLE EXPENSES

INTRODUCTION

The hourly billing rates are set forth below.

Billing Category	Individual Name and Title	Hourly Billing Rate for the Agreement
Principal		
Senior Project Manager		
Senior Discipline Engineer		
Project Manager		
Project Engineer		
Engineer		
Engineering Associate		
Senior Technician		
Technician		
Administrative Assistant		

BILLING CATEGORY DEFINITIONS

The following table provides broad definitions for various Billing Categories. As a guideline, expected experience and duties for each of the categories have been included in the Billing Category Definitions. It is expected that in some instances the actual experience of an individual may be different than what is required for the corresponding Billing Category. In all such cases, Consultant will provide appropriate justification and seek approval from the Owner.

Principal	This is the firm's corporate officer. In some cases "Principal" may be the owner or one of the partners of the firm, and is generally in a position to make all the corporate level decision for the firm as it pertains to this Agreement.
Senior Project Manager	Person in this position provides senior level project management, provides high level of professional input for the project and is generally responsible for conducting high level project review. This person has a Professional Engineering license in North Carolina and professional-level experience of over 15 years.

Senior Discipline Engineer	Person in this position is considered the firm's expert for a particular discipline. This person will oversee Engineering work of particular discipline at the highest level for the firm. This person has a Professional Engineering license in North Carolina and professional-level experience of over 18 years. Engineering Disciplines may include, but are not limited to: Structural Engineering, Water Resources, Environmental Engineering, Transportation, Electrical Engineering, Mechanical Engineering, Pump Station Design, Instrumentation and Control, Construction Management, Power Generation, etc.
Project Manager	Person in this position provides day-to-day Project Management for the Project and acts as the key client contact. This person has a professional license in North Carolina and professional-level experience of over 8 years.
Project Engineer	Person in this position provides day-to-day engineering work for various disciplines as required by individual projects. This person has a professional license in North Carolina and professional-level experience of over 8 years.
Engineer	Person in this position provides day-to-day engineering support to the Project Manager, Project Engineer and other team members as required for their respective projects. This person has a professional license in North Carolina and professional-level experience of over 3 years.
Engineering Associate	Person in this position provides day-to-day engineering support to the Project Manager, Project Engineer, Engineer and other team members as required for their respective projects. This person is an Engineering Intern or has an Engineering Associates degree with appropriate technical experience.
Senior Technician	Person in this position provides senior technical-level support to the Project Team. Support may include CAD services, GIS, or other technical-level work. This person has 10 years of experience providing technical-level work.
Technician	Person in this position provides technical-level support to the Project Team. Support may include CAD services, GIS, or other technical-level work. This person has 4 years of experience providing technical-level work.
Registered Land Surveyor	This person is a North Carolina Board of Engineers and Land Surveyors certified Land Surveyor and has 4 years of professional-level experience.
2 Person Survey Crew	These individuals form a surveying team, acting as an Instrument Person and Rod-Person.
Administrative Assistant	This person performs administrative and clerical-level work for the Project Team, including data entry, word processing, and other non-technical support work as needed for the Project.

REIMBURSABLE EXPENSES

Reimbursable expenses for each individual project shall be clearly itemized by the Consultant. The following guidelines shall be used to develop these expenses:

1. Overtime at straight time rates shall apply for exempt employees to the extent the employee works more than 40 hours per week on Owner's project.
2. Subcontracted services shall be based on Cost Plus 5%. Consultant shall obtain Owner's approval before authorizing such services.
3. Cost of printing and reproducing drawings and bid documents, except for those included in the lump sum cost.
4. Cost for use of field equipment, safety equipment and field sampling equipment.
5. Cost of courier and express mail services.
6. Living and traveling expenses when Consultant's employees are away from home on Owner's project assignments. The following limitations shall apply:
    - Base room charges (excluding taxes and other fees) shall not exceed $119 per night.
    - Base rental car charges (excluding taxes and other fees) shall not exceed $60 per day.
    - Meal charges per individual shall not exceed $51 per day.
7. Automobile mileage to be reimbursed at rate established and updated by Internal Revenue Service.

ATTACHMENT B

PROJECT SCOPE OF SERVICES

Project Title: …

OWASA's CIP #: …

Project Contract Administrators:

OWASA	**…**
Deepthi Kalyanam, P.E.	**…**
Utilities Engineer	…
Orange Water and Sewer Authority	…
400 Jones Ferry Road	
Carrboro, NC 27510	
Office: (919) 537-4215	

Project Background:

…
…

Project Scope:

Task 1 – Kickoff Meeting, Flow Monitoring and Data Collection
…
Task 2 - … …
…

Deliverables:

Specify deliverables, number of copies, and format.

Project Team:

The Project Team is as follows:

Key Team Members:
…
The OWNER will be notified in writing of changes to the project team members. Other staff may participate in the project in a minor role at Consultant's discretion.

Project Schedule:

….

List durations for interim milestones and final completion in total number of days from Notice to Proceed.

Compensation:

…

Provide compensation basis (lump sum, cost ceiling) and subtotals by task.
Provide separate subtask breakdowns for projects above exemption limit, or as warranted.

Owner Responsibilities

…

Scope Exceptions, Additional Services, etc

COVID-19 Prevention at OWASA Facilities

Orange Water and Sewer Authority
OWASA is Carrboro-Chapel Hill's not-for-profit public service agency
delivering high quality water, wastewater, and reclaimed water services.

COVID-19 Prevention at OWASA facilities and job sites
May 20, 2020

The term 'contractor' below includes all contractors, technicians, consultants, vendors and other hired visitors (as distinguished from OWASA staff or members of the public). Contractors are responsible for communicating safety requirements to their subcontractors.

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1) Minimum requirements for OWASA facilities and work sites:

- **Stay away if sick:** contractors must stay away from OWASA staff and facilities if exhibiting COVID-19 symptoms;
- **Do not enter buildings:** contractors must not enter an OWASA building, including for use of restrooms, unless explicitly authorized by the appropriate OWASA Department manager;
- **Social distancing:** must maintain personal space of at least 6 feet wherever possible;
    - Plan work activities at the jobsite to minimize the density of people in a given area. Minimize on-site personnel such as subcontractors, work crews, QC personnel, and inspection staff to those required for that day's activities. If work is postponed or cancelled, immediately notify appropriate parties.
    - Do not congregate at lunch or breaks. No communal coolers or drink stations are allowed. Bring your own lunch, water bottle, etc.
- **Face covering:** must use masks per OWASA guidelines whenever inside buildings or vehicles, and whenever social distancing is not possible; and
- **Communication:** must be in regular communication with designated OWASA staff as to locations and activities of work. Ensure you have a way of daily tracking job-related personnel should there be a need for contact tracing.
- **Do not approach OWASA personnel**. Use phones as the first line of communication.
- Contractors for longer term projects (generally longer than three weeks) must submit a health and safety plan to address job-specific hazards, including measures to prevent spread of COVID-19. The plan must be reviewed by the OWASA staff responsible for hiring and the appropriate Department manager for compliance with this Return to Normal Operations Plan and any additional requirements warranted.

2) **Additional job specific requirements, if applicable:**

All OWASA staff have the authority and responsibility to call a "Safety Timeout" and report violations of safety protocols by contractors to their supervisor.

OWASA reserves the right to stop a project if safety precautions are not being followed. Depending on the situation, negligence in following these safety protocols could result in termination of the contract.

Thank you for your attention to these guidelines as we all work to protect each other and the public while maintaining critical services.