

Appendix C: Miscellaneous Documentation

Letter of Intent from Harnett County, Wastewater Capacity in North Harnett Regional WWTP



May 21, 2021

Mr. Steve Ward, Director
Harnett Regional Water
PO Box 1119
700 McKinney Parkway
Lillington, NC 27546

Re: Letter of Intent - NHRWWTP Treatment Capacity

Dear Mr. Ward,

In response to your April 23, 2021 letter, and under the Agreement dated November 9, 2000, this notice is to confirm the Town of Fuquay-Varina's decision to participate in the expansion of the North Harnett Regional Wastewater Treatment Plant (NHRWWTP).

Currently, the Town is contracted with Harnett County to receive 2.6 MGD of treatment capacity from the NHRWWTP. This notice is to affirm the Town's request to increase our capacity by 3.4 MGD for a total of 6.0 MGD of treatment capacity. Following the November 9, 2000 Agreement, this written notice serves as the Town's statement regarding our decision to participate in the facility expansion. Upon completing this project's preliminary engineering reports, on the condition that additional treatment capacity may be available for allocation, the Town would like to discuss securing additional treatment capacity beyond its 4.0 MGD entitled treatment capacity allotment.

We look forward to working with Harnett Regional Water on this very important project. In the future, please coordinate this project's activities with Jim Seymour, Assistant Town Manager (Development Services), jseymour@fuquay-varina.org | (919) 567-3919.

Sincerely,

A handwritten signature in blue ink, appearing to read "Adam Mitchell", is written over a horizontal line.

Adam Mitchell
Town Manager

Cc: Jim Seymour, Asst. Town Manager
Jay Meyers, Public Utility Director
James Adcock, Town Attorney

OFFICE OF THE TOWN MANAGER

Town of Fuquay-Varina NPDES Permit for
Terrible Creek WWTP

ROY COOPER
Governor

DIONNE DELLI-GATTI
Secretary

S. DANIEL SMITH
Director



June 9, 2021

Mr. Chris Grimes, Utilities Operations Manager
Town of Fuquay-Varina
401 Old Honeycutt Road
Fuquay-Varina, NC 27526

Subject: Final NPDES Permit Renewal
Permit NC0066516
Terrible Creek WWTP
Wake County
Facility Class IV
SIC Code 4952

Dear Mr. Grimes:

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** 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 draft permit sent to you on March 9, 2021:

- The description of solids dewatering facility in the component list has been modified as two (2) 3-belt filter presses with gravity thickening ability.
- The 7Q10 for the receiving stream is zero while 30Q2 is greater than zero. Per 15A NCAC 02B .0206 (d), for the expanded discharges of 6 MGD, oxygen consuming waste shall be set as BOD₅ = 5 mg/l, NH₃-N = 2 mg/l, and DO = 6 mg/l. As a result, the winter BOD₅ limits have been corrected to 5 mg/l as monthly average and 7.5 mg/l as weekly average, and the daily average of DO has been corrected from 5 mg/l to 6 mg/l [See A. (2.)].
- Footnote 12 has been added to A. (1.) in the permit to indicate the Permittee can request reduction in monitoring frequencies to twice per week with three years of satisfactory data (presently there are 34-month data available and two additional satisfactory consecutive months will be required) per the Monitoring Frequency Reduction Review Guidance for exceptionally performing facilities. This change will be considered as minor modification since there is a permit condition.



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

- The years for performing the Effluent Pollutant Scans have been updated to 2023, 2024, and 2025 [See A. (7.)].

The final permit maintains the following significant changes identified in the letter sent on March 9, 2021:

- Upon completion of facility expansion in 2018, the Terrible Creek WWTP entered the 3.0 MGD flow tier. As such, effluent limitations and monitoring requirements for the 1.0 MGD flow tier have been removed from the permit.
- The component list of the Terrible Creek WWTP has been updated.
- The Terrible Creek WWTP is receiving wastewater from one Categorical Industrial User. As a result, the monitoring requirement for effluent and instream conductivity has been added to the permit.
- Given that the facility utilizes only ultraviolet for disinfection and no chlorine is present on the site as backup disinfection, the total residual chlorine (TRC) limit and monitoring requirement have been removed from the permit at both the 3.0 and the 6.0 MGD flow tiers.
- Based on the reasonable potential analysis (RPA) showing reasonable potential to violate state water quality standards, a monthly average limit of 15.7 µg/L and a daily maximum limit of 22.4 µg/L for total copper at both the 3.0 and the 6.0 MGD have been added to the permit with a requirement that samples be taken monthly [See A. (1.) and A. (2.)].
- The facility reported Selenium at less than detection, with a detection level < 2 µg/L. DWR's laboratory identifies the target Practical Quantification Limits (PQLs) for Selenium as 1 µg/L. 15A NCAC 2B .0505 (e) (4) requires that all test procedures must produce detection and reporting levels that are below the permit discharge requirements and all data generated must be reported to the approved detection level or lower reporting level of the procedure. If no approved methods are determined capable of achieving detection and reporting levels below permit discharge requirements, then the approved method with the lowest detection and reporting level must be used. The facility must use sufficiently sensitive test methods for all pollutants, including when performing Effluent Pollutant Scans.
- Based on Mercury TMDL evaluation showing mercury values reported at levels > 1 ng/L and since the permitted flow is greater than 2 MGD, Special Condition A. (8.) Mercury Minimization Plan has been added to the permit. Results of the MMP shall be summarized and submitted with the next permit renewal. The annual monitoring requirement for Mercury has been removed at both the 3.0 and the 6.0 MGD.
- The NC 2007-2014 Water Quality Standard (WQS) Triennial Review was approved by the NC Environmental Management Committee (EMC) on November 13, 2014. The US EPA subsequently approved the WQS revisions on April 6, 2016 with some exceptions. The NC Division of Water Resources NPDES Permitting Unit is required to implement the new dissolved metal standards in all permits public noticed after April 6, 2016. The new standards for most metals include acute standards. Further, the freshwater standards for several metals are expressed as the dissolved form of the metals, and seven metals have hardness-dependent equations. As a result, the NPDES Permitting Unit will need site-specific effluent hardness data and instream hardness data, upstream of the discharge, for each facility monitoring these metals in order to calculate permit limitations. However, since the summer 7Q10 of the receiving stream is zero, upstream hardness sampling is not necessary. Only effluent hardness has been added to the permit at a monitoring frequency of quarterly [See A. (1.) and A. (2.)].

- Some of the wording has changed and an email address for electronic submittal of toxicity testing results has been added in Special Condition A. (6.), Chronic Toxicity Permit Limit. Please review each paragraph carefully.
- Special Condition A. (7.) has been modified to include the specific three years in which the Effluent Pollutant Scan shall be performed (2023, 2024, 2025), and to allow for electronic submittal. 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.
- A notation was made concerning the Electronic Reporting Rule – NPDES Electronic Reporting Rule – Phase 2 Extension. EPA extended the Phase 2 deadline to December 21, 2025. The current compliance date, effective January 4, 2021, was extended as a final regulation change published in the November 2, 2020 Federal Register.
- 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 added to your NPDES permit [See Special Condition A. (9.)].
- Parameter codes have been added to the Effluent Limitations and Monitoring Requirements [See A. (1.) and A. (2.)] and the Effluent Pollutant Scan [See A. (7.)].
- 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, PE at (919) 707-3644 or via email at Min.Xiao@ncdenr.gov.

Sincerely,

DocuSigned by:

Michael Montebello

C464531431644FE...

for S. Daniel Smith, Director

Division of Water Resources, NCDEQ

Hardcopy: NPDES Files

Ecocy: US EPA Region 4

DWR/Raleigh Regional Office/Water Quality/Scott Vinson

DWR/Operator Certification Program/Maureen Kinney

DWR/Ecosystems Branch/Mark Vander Borgh

DWR/Aquatic Toxicology Branch/Zach Thomas, Cindy Moore

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,

Town of Fuquay-Varina

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

Terrible Creek WWTP
5812 Hill Top Road
East of Fuquay-Varina
Wake County

to receiving waters designated as Terrible Creek in the Neuse 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 July 1, 2021.

This permit and authorization to discharge shall expire at midnight on April 30, 2026.

Signed this day June 9, 2021.

DocuSigned by:

C464531431644FE...

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.

The **Town of Fuquay-Varina** is hereby authorized to:

1. Continue to operate a 3.0 MGD wastewater treatment facility consisting of the following components:
 - Influent pump station
 - Mechanical coarse bar screen
 - Mechanical step bar screens
 - Manual bar rack
 - Grit removal
 - Flow distribution box
 - Two (2) 5-stage conventional BNR basins
 - Two (2) secondary clarifiers
 - RAS pump station
 - Two (2) ultrascreen disc filters
 - UV disinfection
 - Effluent flow measurement
 - WAS pump station
 - One (1) aerated sludge holding tank
 - Two (2) 3-belt filter presses with gravity thickening ability
 - Stand-by power

This facility is located at Terrible Creek Wastewater Treatment Plant, 5812 Hill Top Road, east of Fuquay-Varina in Wake County. Terrible WWTP is currently rated a Class IV facility.

2. After receiving an Authorization to Construct from the Division for expansion and submission of an engineer's certification, construct and operate a wastewater treatment facility with a design capacity of 6.0 MGD.
3. Discharge from said treatment works at the location specified on the attached map into Terrible Creek, which is classified C-NSW waters in the Neuse River Basin.

Part I**A. (1.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (3.0 MGD)**

[15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

Grade IV Biological Water Pollution Control System [15A NCAC 08G .0302]

- a. During the period beginning upon the effective date and lasting until expansion above 3.0 MGD or expiration, the Permittee is authorized to discharge treated wastewater through Outfall 001. Such discharges shall be limited and monitored¹ by the Permittee as specified below:

EFFLUENT CHARACTERISTICS <i>Parameter Code</i>	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS		
	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ²
Flow 50050	3.0 MGD			Continuous	Recording	Influent or Effluent
Total Monthly Flow (MG) 82220	Monitor and Report			Monthly	Recorded or Calculated	Effluent
BOD, 5-day, 20°C (Summer) ^{3,4,12} CO310	5.0 mg/L	7.5 mg/L		Daily	Composite	Influent & Effluent
BOD, 5-day, 20°C (Winter) ^{3,4,12} CO310	10.0 mg/L	15.0 mg/L		Daily	Composite	Influent & Effluent
Total Suspended Solids ^{3,12} CO530	30.0 mg/L	45.0 mg/L		Daily	Composite	Influent & Effluent
NH ₃ as N (Summer) ⁴ CO610	1.0 mg/L	3.0 mg/L		Daily	Composite	Effluent
NH ₃ as N (Winter) ⁴ CO610	2.0 mg/L	6.0 mg/L		Daily	Composite	Effluent
Dissolved Oxygen 00300	Daily average ≥ 5.0 mg/L			Daily	Grab	Effluent
Fecal Coliform ¹² 31616	200/100mL	400/100mL		Daily	Grab	Effluent
pH 00400	Between 6.0 and 9.0 s.u.			Daily	Grab	Effluent
Temperature 00010	Monitor and Report			Daily	Grab	Effluent
Conductivity 00094	Monitor and Report			Daily	Grab	Effluent
Total Phosphorus ⁵ CO665	2.0 mg/L (Quarterly Average) ⁵			Weekly	Composite	Effluent
TKN (mg/L) ⁶ 00625	Monitor and Report			Weekly	Composite	Effluent
NO ₂ + NO ₃ (mg/L) ⁶ 00630	Monitor and Report			Weekly	Composite	Effluent
TN (mg/L) ⁶ CO660	Monitor and Report			Weekly	Composite	Effluent
Total Nitrogen Load ⁷ QY600	Monitor and Report (pounds/month)			Monthly	Calculated	Effluent
	68,489 pounds per year			Annually	Calculated	Effluent
Total Copper 01042	15.7 µg/L		22.4 µg/L	Monthly	Composite	Effluent
Total Zinc 01092	Monitor and Report			Quarterly	Composite	Effluent
Chronic Toxicity ⁸ TGP3B	Monitor and Report			Quarterly	Composite	Effluent
Temperature 00010	Monitor and Report			Footnote 9	Grab	U, D
Conductivity 00094	Monitor and Report			Footnote 9	Grab	U, D
Dissolved Oxygen 00300	Monitor and Report			Footnote 9	Grab	U, D
Fecal Coliform 31616	Monitor and Report			Footnote 9	Grab	U, D
Total Hardness [as CaCO ₃] (mg/L) ¹⁰ 00900	Monitor and Report			Quarterly	Composite	Effluent
Effluent Pollutant Scan NC01	Monitor and Report			Footnote 11	Footnote 11	Effluent

All footnotes are listed on the following page.

Footnotes:

1. The permittee shall submit discharge monitoring reports electronically using the NC DWR's eDMR application system [see A. (9.)].
 2. U: Upstream at least 100 feet from the outfall. D: Downstream at NCSR 2751.
 3. The monthly average effluent BOD₅ and Total Suspended Solids concentrations shall not exceed 15% of the respective influent value (85% removal).
 4. Summer is defined as the period from April 1 through October 31, while winter is defined as November 1 through March 31.
 5. The quarterly average for total phosphorus shall be the average of composite samples collected weekly during the calendar quarter (January-March, April-June, July-September, October-December).
 6. For a given wastewater sample, $TN = TKN + NO_3-N + NO_2-N$, where TN is Total Nitrogen, TKN is Total Kjeldahl Nitrogen, and NO_3-N and NO_2-N are Nitrate and Nitrite Nitrogen, respectively.
 7. This is the mass quantity of Total Nitrogen discharged in a given period of time. See condition A. (3.). Compliance with this limit shall be determined in accordance with Special Condition A. (4.) of this permit.
 8. Chronic Toxicity (Ceriodaphnia) P/F at 90% with testing in March, June, September and December (see condition A. (6.)).
 9. Sample collected three times per week during June 1 through September 30 and once per week October 1 through May 31. Monitoring for upstream and downstream are provisionally waived based upon membership in the Lower Neuse River Basin Association (LNBA). If at anytime during the term of this permit, membership in the LNBA is terminated, the Division shall be notified immediately, and in-stream monitoring shall immediately be conducted as stipulated in this permit.
 10. Effluent hardness sampling should be performed in conjunction with testing for hardness dependent metals (cadmium, copper, lead, nickel, silver, and zinc).
 11. The Permittee shall perform three Effluent Pollutant Scans during the term of this permit [see A. (7.)].
 12. The Permittee can request reduction in monitoring frequencies to twice per week with three years of satisfactory data (presently there are 34-month data available and two additional satisfactory consecutive months will be required) per the Monitoring Frequency Reduction Review Guidance for exceptionally performing facilities.
- b. There shall be no discharge of floating solids or visible foam in other than trace amounts.**

A. (2.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (6.0 MGD)

[15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

Grade IV Biological Water Pollution Control System [15A NCAC 08G .0302]

- a. During the period beginning upon expansion above 3.0 MGD and lasting until expiration, the Permittee is authorized to discharge treated wastewater through outfall 001. Such discharges shall be limited and monitored¹ by the Permittee.

EFFLUENT CHARACTERISTICS <i>Parameter Code</i>	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS		
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Flow ¹² 50050	6.0 MGD			Continuous	Recording	Influent or Effluent
Total Monthly Flow (MG) 82220	Monitor and Report			Monthly	Recorded or Calculated	Effluent
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Temperature 00010	Monitor and Report			Footnote 9	Grab	U, D
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Dissolved Oxygen 00300	Monitor and Report			Footnote 9	Grab	U, D
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Total Hardness [as CaCO ₃] (mg/L) ¹⁰ 00900	Monitor and Report			Quarterly	Composite	Effluent
Effluent Pollutant Scan NC01	Monitor and Report			Footnote 11	Footnote 11	Effluent

All footnotes are listed on the following page.

Footnotes:

1. The permittee shall submit discharge monitoring reports electronically using the NC DWR's eDMR application system [see A. (9.)].
 2. U: Upstream at least 100 feet from the outfall. D: Downstream at NCSR 2751.
 3. The monthly average effluent BOD₅ and Total Suspended Solids concentrations shall not exceed 15% of the respective influent value (85% removal).
 4. Summer is defined as the period from April 1 through October 31, while winter is defined as November 1 through March 31.
 5. The quarterly average for total phosphorus shall be the average of composite samples collected weekly during the calendar quarter (January-March, April-June, July-September, October-December).
 6. For a given wastewater sample, TN = TKN + NO₃-N + NO₂-N, where TN is Total Nitrogen, TKN is Total Kjeldahl Nitrogen, and NO₃-N and NO₂-N are Nitrate and Nitrite Nitrogen, respectively.
 7. This is the mass quantity of Total Nitrogen discharged in a given period of time. See condition A. (3.). Compliance with this limit shall be determined in accordance with Special Condition A. (4.) of this permit.
 8. Chronic Toxicity (Ceriodaphnia) P/F at 90% with testing in March, June, September and December (see condition A. (6.)).
 9. Sample collected three times per week during June 1 through September 30 and once per week October 1 through May 31. Monitoring for upstream and downstream are provisionally waived based upon membership in the Lower Neuse River Basin Association (LNBA). If at anytime during the term of this permit, membership in the LNBA is terminated, the Division shall be notified immediately, and in-stream monitoring shall immediately be conducted as stipulated in this permit.
 10. Effluent hardness sampling should be performed in conjunction with testing for hardness dependent metals (cadmium, copper, lead, nickel, silver, and zinc).
 11. The Permittee shall perform three Effluent Pollutant Scans during the term of this permit [see A. (7.)].
 12. In accordance with 15A NCAC 02H .0124, reliability measures for facilities with a design capacity equal to or greater than 5 MGD, continuous operation, 24 hours, seven days per week, are required to have at least one certified operator on each shift, unless the applicant can show the requirement is unwarranted for a particular case.
- b. There shall be no discharge of floating solids or visible foam in other than trace amounts.**

A. (3.) CALCULATION OF TOTAL NITROGEN LOADS [G.S. 143-215.1(b)]

- a. The permittee shall calculate monthly and annual TN Loads as follows:
 - i. Monthly TN Load (lb/mo) = TN x TMF x 8.34
 where:

TN = the average Total Nitrogen 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
 - ii. Annual TN Load (lb/yr) = Sum of the 12 Monthly TN Loads for the calendar year
- b. The permittee shall report monthly Total Nitrogen results (mg/L and lb/mo) in the discharge monitoring report for that month and shall report each year's annual results (lb/yr) in the December report for that year.

A. (4.) ANNUAL LIMITS FOR TOTAL NITROGEN [G.S. 143-215.1(b)]

- a. Total Nitrogen (TN) allocations and TN Load limits for NPDES dischargers in the Neuse River basin apply on a calendar year basis.
- b. For any given calendar year, the permittee shall be in compliance with the annual TN Load limit in this Permit if:
 - i. the permittee's annual TN discharge is less than or equal to its TN Load limit, or
 - ii. the permittee is a co-permittee member of a compliance association.
- c. 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.
- d. The TN Load limit in this Permit (if any) may be modified as the result of allowable changes in the permittee's TN allocation.
 - i. Allowable changes include those resulting from purchase of TN allocation from the Wetlands Restoration Fund; purchase, sale, trade, or lease of allocation between the permittee and other dischargers; regionalization; and other transactions approved by the Division.
 - ii. The permittee may request a modification of the TN Load limit in this Permit to reflect allowable changes in its TN allocation. Upon receipt of timely and proper application, the Division will modify the permit as appropriate and in accordance with state and federal program requirements.
 - iii. Changes in TN 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.
 - iv. Application shall be sent to:

NCDWR / NPDES Programs
Attn: Neuse River Basin Coordinator
1617 Mail Service Center
Raleigh, NC 27699-1617
- e. If the permittee is a member and co-permittee of an approved compliance association, its TN discharge during that year is governed by that association's group NPDES permit and the TN limits therein.
 - i. 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.
 - ii. Association roster(s) and members' TN allocations will be updated annually and in accordance with state and federal program requirements.
 - iii. 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.
 - (A) Upon receipt of timely and proper notification, the Division will modify the permit as appropriate and in accordance with state and federal program requirements.
 - (B) Membership changes in a compliance association become effective on January 1 of the year following modification of the association's permit.
- f. The TN monitoring and reporting requirements in this Permit remain in effect until expiration of this Permit and are not affected by the permittee's membership in a compliance association.

A. (5.) TOTAL NITROGEN ALLOCATIONS [G.S. 143-215.1(b)]

- a. The following table lists the Total Nitrogen (TN) allocations assigned to, acquired by, or transferred to or from the permittee in accordance with the Neuse River nutrient strategy (15A NCAC 02B .0700) and the status of each as of permit issuance. These allocations are not enforceable limits nor do they supersede any TN limit(s) established elsewhere in this permit or in the NPDES permit of a compliance association of which the permittee is a Co-Permittee Member.

Table 1. TN Allocations

ALLOCATION TYPE	SOURCE	DATE	ALLOCATION AMOUNT (lb/yr) ¹		STATUS
			Estuary	Discharge	
Base Allocation	Assigned by Rule ²	12/7/97; 4/1/03	33,790	67,579	Active
Supplemental Allocation	Connection of Southside MHP (NC0030724)	?	253	506	Active
Supplemental Allocation	Connection of Wake Technical C.C. (NC0025631)	?	202	404	Active
TOTAL			34,244	68,489	Active

Footnotes:

1. Transport Factor = 50%. Values are displayed to the nearest pound per year.
2. 15A NCAC 02B .0713 (formerly 02B .0234)

- b. Any addition, deletion, or modification of the listed allocations (other than typographical errors) or any change to Active status of any reserve 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.) 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 March, June, September, and December**. 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:

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. (7.) EFFLUENT POLLUTANT SCAN (Municipal POTWs) [G.S. 143-215.1(b)]

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: 2023, 2024, and 2025.** 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	<u>01051</u>	<u>Acid-extractable compounds:</u>		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
<u>Volatile organic compounds:</u>		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	<u>Base-neutral compounds:</u>		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		

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

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. (8.) MERCURY MINIMIZATION PLAN [G.S. 143-215.1(b)]

The Permittee shall develop and implement a Mercury Minimization Plan (MMP) during this permit term. The MMP shall be developed within 180 days of the NPDES Permit Effective Date, and shall be available for inspection on-site. A sample MMP was developed through a stakeholder review process and has been placed on the Division website for guidance (<http://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/npdes-wastewater-permits>, under NC Model Mercury Minimization Plan). The MMP should place emphasis on identification of mercury contributors and goals for reduction. Results shall be summarized and submitted with the next permit renewal. Performance of the Mercury Minimization Plan will meet the requirements of the TMDL (Total Maximum Daily Load) for mercury approved by USEPA on October 12, 2012, unless and until a Waste Load Allocation specific to this facility is developed and this NPDES permit is amended to require further actions to address the Waste Load Allocation.

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 monthly 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, 2025**, 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.

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:

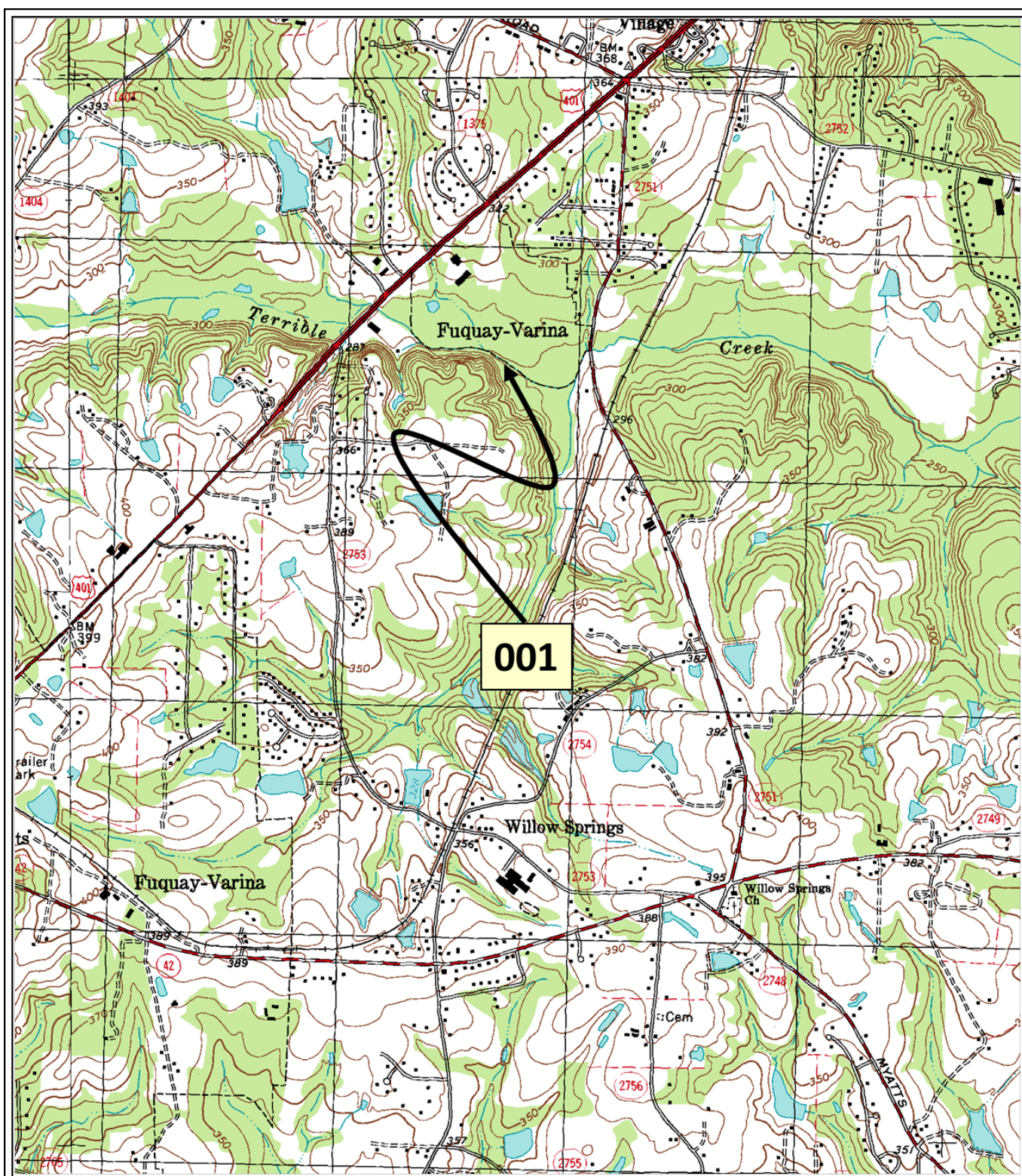
<http://deq.nc.gov/about/divisions/water-resources/edmr>

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].



Terrible Creek WWTP

Latitude: 35°36'49"
 Longitude: 78°43'44"
 Quad #: E 24 SW - Angier
 Stream Class: C-NSW
 Receiving Stream: Terrible Creek
 Permitted Flow: 3.0 and 6.0 MGD

Sub-Basin: 03-04-03
 8-Digit HUC: 03020201



North

Facility
Location



Town of Fuquay-Varina
 NC0066516
 Terrible Creek WWTP

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**I. 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 USC 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 service 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.

Town of Fuquay-Varina Communication with
Town of Cary RE: Western Wake Regional WRF

Sadler, Mary

From: Michael Wagner <mwagner@fuquay-varina.org>
Sent: Monday, January 30, 2023 10:35 AM
To: Sadler, Mary
Subject: Fw: Fuquay-Varina & Western Wake WRF

Caution! *External email – think before you click*

Mary,

Good morning. Please see the communication below regarding capacity in WWRWRF.

Mike

Michael Wagner
Public Utilities Director
Town of Fuquay-Varina
Office:

1415 Holland Road
Fuquay-Varina, NC 27526
www.fuquay-varina.org
[Facebook](#) [Instagram](#) [Twitter](#)



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From: Jamie Revels <Jamie.Revels@townofcary.org>
Sent: Monday, January 30, 2023 9:44 AM
To: Michael Wagner <mwagner@fuquay-varina.org>
Cc: Michael.Deaton@apexnc.org <michael.deaton@apexnc.org>
Subject: Fuquay-Varina & Western Wake WRF

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Mike,

Good to hear from you. Yes, we've been following your IBT since Jay Meyers was with F-V. As you know, Cary and Apex have a long history with IBT and our IBT was a driving factor in forming our partnership to construct the Western Wake Regional Water Reclamation Facility (WWRWRF) and associated pipelines and pumping facilities. I'm copying our partner, Michael Deaton, Water Resources Director from Apex, on my reply. Cary and Apex are now engaged with a process to master plan for future expansion of the WWRWRF, which we expect to take place sometime in the next 10-years.

When we formed the partnership and constructed the facilities, it was a substantial long-term capital investment for both Cary and Apex. The WWRWRF is still the biggest capital project ever completed by Cary, one in which we are still paying the debt service after nearly 10-years of operation. The regional facility was designed to serve long-term growth and economic development of Western Wake County portions of Cary, Apex, Morrisville, and Wake County's portion of Research Triangle Park.

Under our current partnership, we built sufficient capacity in the trunk lines to meet the long term needs of the Western Wake Partners, knowing that we would eventually need to expand the treatment facility as we grow into the previously built conveyance infrastructure, but there isn't additional capacity within the conveyance system including 11.5 miles of effluent pipeline that is required to reach the Cape Fear River discharge based on current projections. We are working on master planning for the future and an important part of our planning is renewing our population projections. We expect this master planning phase to take a couple of years to complete and then we'll make necessary adjustments as needed to our 20-year CIP for the Western Wake Partner owned facilities.

At this time, I think we're not a viable alternative. Let us know if we can answer any further questions.

Best regards,
Jamie

Jamie Revels, P.E.

Utilities Director

CARY

UTILITIES DEPARTMENT

PO Box 8005 | Cary, NC 27512-8005

400 James Jackson Avenue | Cary, NC 27513-8005

phone: (919) 469-4303 | fax: (919) 469-4304

mobile: (919) 418-7572

Email: jamie.revels@townofcary.org

In keeping with the NC Public Records Law, e-mails, and attachments, may be released to others upon request for inspection and copying.

From: Michael Wagner <mwagner@fuquay-varina.org>

Sent: Friday, January 27, 2023 2:47 PM

To: Jamie Revels <Jamie.Revels@townofcary.org>

Subject: Fuquay-Varina & Western Wake WRF

You don't often get email from mwagner@fuquay-varina.org. [Learn why this is important](#)

Jamie,

Good afternoon and happy Friday. I hope this email finds you well.

The Town of Fuquay-Varina is finalizing the draft environmental impact statement for our IBT request of 6 mgd. As a part of our Alternatives Analysis, Hazen needed to identify alternatives to return water to the Cape Fear River Basin. Understanding the impacts on everyone's regional growth and long range planning, the alternative for a partnership and capacity at WWRWRF did not present itself as a viable option and feasibility was not undertaken. I am not sure if Jay Meyers previously reached out, but DWR has requested that F-V ask if a partnership and capacity in the Western Wake WRF is a viable alternative at this time?

I hope you have a wonderful weekend.

Thanks,

Mike

Michael Wagner
Public Utilities Director
Town of Fuquay-Varina
Office:

1415 Holland Road
Fuquay-Varina, NC 27526
www.fuquay-varina.org
[Facebook](#) [Instagram](#) [Twitter](#)



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Water Balance for City of Sanford

City of Sanford

Average Day and Maximum Month Water Balance and Interbasin Transfer Estimate

Average Day

Year	Finished Water Production, mgd	Basin Water Demand Distribution		Water Demand in (IBT) Basin (mgd)		Consumptive Loss, mgd (Notes 2, 3, 4)		Wastewater Flow Projections (Note 5, 6, 7, 8), mgd	Total Surface Water Transfer, mgd (Note 9)	Wastewater Distribution	
	Cape Fear (Note 1)	Cape Fear	Deep River	Cape Fear	Deep River	Cape Fear (water lines on septic)	Deep River (water lines on septic)	Deep River		Cape Fear	Deep River
2022	6.33	42.0%	58.0%	2.7	3.7	2.17	1.25	3.8	1.25	24.2%	75.8%
2025	7.01	42.0%	58.0%	2.9	4.1	2.27	1.31	4.1	1.31	24.2%	75.8%
2030	8.13	42.0%	58.0%	3.4	4.7	2.46	1.41	4.8	1.41	24.2%	75.8%
2035	8.60	42.0%	58.0%	3.6	5.0	2.66	1.53	5.6	1.53	24.2%	75.8%
2040	9.08	42.0%	58.0%	3.8	5.3	2.87	1.65	6.5	1.65	24.2%	75.8%
2045	9.55	42.0%	58.0%	4.0	5.5	3.10	1.78	7.5	1.78	24.2%	75.8%
2050	10.11	42.0%	58.0%	4.2	5.9	3.36	1.93	8.7	1.93	24.2%	75.8%
2055	10.50	42.0%	58.0%	4.4	6.1	3.63	2.09	10.1	2.09	24.2%	75.8%

Maximum Month

Year	Finished Water Production, mgd	Basin Water Demand Distribution		Water Demand in (IBT) Basin (mgd)		Consumptive Loss, mgd Cape Fear Deep River (water lines on (water lines septic) on septic)		Wastewater Flow Projections (Sanford only), mgd	Total Surface Water Transfer, mgd	Wastewater Distribution	
	Cape Fear	Cape Fear	Deep River	Cape Fear	Deep River	Cape Fear (water lines on septic)	Deep River (water lines on septic)	Deep River		Cape Fear	Deep River
2022	7.60	42.0%	58.0%	3.2	4.4	2.60	1.50	4.6	1.50	24.2%	75.8%
2025	8.41	42.0%	58.0%	3.5	4.9	2.73	1.57	4.9	1.57	24.2%	75.8%
2030	9.75	42.0%	58.0%	4.1	5.7	2.95	1.70	5.8	1.70	24.2%	75.8%
2035	10.32	42.0%	58.0%	4.3	6.0	3.19	1.83	6.7	1.83	24.2%	75.8%
2040	10.89	42.0%	58.0%	4.6	6.3	3.45	1.98	7.8	1.98	24.2%	75.8%
2045	11.46	42.0%	58.0%	4.8	6.6	3.73	2.14	9.0	2.14	24.2%	75.8%
2050	12.13	42.0%	58.0%	5.1	7.0	4.03	2.31	10.4	2.31	24.2%	75.8%
2055	12.60	42.0%	58.0%	5.3	7.3	4.35	2.50	12.1	2.50	24.2%	75.8%

NOTES

- 1 Finished water production data in Sanford service area from 2022 Local Water Supply Plan. Water supply from the Cape Fear River.
- 2 Consumptive loss is the amount of water lost to groundwater (e.g., septic systems).
- 3 Number of homes on water and septic *2.67*126 gpcd / 10⁶
- 4 A septic growth rate of 1.57% was assumed based on Local Water Supply Plan data.
- 5 Wastewater flow projections are for Sanford service area.
- 6 Wastewater flow projections reflect sewer gallon per capita day rates and infiltration and inflow.
- 7 Wastewater flow projections calculated using number of people per account x sewer account increase x gpcd
- 8 The City of Sanford is not subject to an interbasin transfer. The Cork Rule per 15A NCAC 02E .0401(b) is applicable to the City's system:
The discharge point is situated upstream of the withdrawal point such that the water discharged will naturally flow past the withdrawal point.
- 9 Maximum month water and wastewater flow projections estimated at 1.2 x annual average

Water Balance for Town of Fuquay-Varina

Average Day and Maximum Month Water Balance and Interbasin Transfer Estimate

Average Day

				[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[E] + [F]	[G] + [H]	[A] - ([E]+[F]) - [C]									
Year	Total Water Purchased, mgd	Basin Water Demand Distribution		Water Demand in (IBT) Basin (mgd)		Consumptive Loss, mgd		Supply by Seller (mgd)				Supply from Each Basin (mgd)				Wastewater Distribution		Wastewater Flow Projections, mgd (Notes 8 and 9) Cape Fear (Terrible Creek (North Harnett Regional WWTP)		Septic Discharges on Water Lines, mgd		Well System Wastewater Discharge to Sewer, mgd (Note 11)	
		Neuse	Cape Fear	Neuse (Note 1)	Cape Fear (Note 4)	Neuse (Notes 2 and 3)	Cape Fear (Note 5)	Raleigh (Neuse)	Johnston County (Neuse)	Harnett County (Cape Fear)	Sanford (Cape Fear)	Neuse	Cape Fear	Total Surface Water Transfer, mgd	Neuse	Cape Fear	Neuse (Note 6)	Cape Fear (Note 5)	Septic Systems in Neuse	Septic Systems in Cape Fear			
2020	3.0	62.0%	38.0%	1.85	1.13	0.018	0.103	1.75	0.5	2	0	2.25	2	0.00	55.8%	44.3%	1.4	1.4	0.037	0.103	0.025	0.070	
2025	3.6	61.7%	38.3%	2.21	1.37	0.018	0.103	1.75	0.5	2	6	2.25	8	0.00	55.8%	44.3%	1.9	2.0	0.037	0.103	0.025	0.070	
2030	4.4	61.7%	38.3%	2.70	1.68	0.018	0.103	1.75	0.5	2	6	2.25	8	0.47	55.8%	44.3%	3.1	2.9	0.037	0.103	0.025	0.070	
2035	5.2	62.0%	38.0%	3.21	1.97	0.018	0.103	1.75	0.5	2	6	2.25	8	0.98	55.8%	44.3%	4.1	4.1	0.037	0.103	0.025	0.070	
2036	5.3	62.0%	38.0%	3.31	2.03	0.018	0.103	0	0.5	2	6	0.5	8	2.83	55.8%	44.3%	4.1	4.2	0.037	0.103	0.025	0.070	
2040	6.0	62.0%	38.0%	3.70	2.27	0.018	0.103	0	0.5	2	6	0.5	8	3.22	55.8%	44.3%	4.4	4.6	0.037	0.103	0.025	0.070	
2041	6.1	62.0%	38.0%	3.80	2.33	0.018	0.103	0	0.5	2	6	0.5	8	3.32	55.8%	44.3%	4.5	4.7	0.037	0.103	0.025	0.070	
2045	6.8	62.0%	38.0%	4.20	2.58	0.018	0.103	0	0.5	2	8	0.5	10	3.71	55.8%	44.3%	4.9	5.0	0.037	0.103	0.025	0.070	
2049	7.4	62.0%	38.0%	4.59	2.82	0.018	0.103	0	0.5	2	8	0.5	10	4.11	55.8%	44.3%	5.2	5.5	0.037	0.103	0.025	0.070	
2050	7.6	62.0%	38.0%	4.69	2.88	0.018	0.103	0	0	2	10	0	12	4.71	55.8%	44.3%	5.3	5.6	0.037	0.103	0.025	0.070	
2055	8.4	62.3%	37.7%	5.21	3.16	0.018	0.103	0	0	2	11	0	13	5.23	55.8%	44.3%	5.9	6.2	0.037	0.103	0.025	0.070	

Maximum Month

		Basin Water Demand Distribution		Water Demand in (IBT) Basin (mgd)		Consumptive Loss, mgd		Supply by Seller (mgd)				Supply from Each Basin (mgd)				Wastewater Distribution		Wastewater Flow Projections, mgd (Notes 8, 9, 10)		Septic Discharges on Water Lines, mgd		Well System Wastewater Discharge to Sewer, mgd (Note 11)	
Year	Total Water Purchased, mgd	Neuse	Cape Fear	Neuse (Note 1)	Cape Fear (Note 4)	Neuse (Notes 2 and 3)	Cape Fear (Note 5)	Raleigh (Neuse)	Johnston County (Neuse)	Harnett County (Cape Fear)	Sanford (Cape Fear)	Neuse	Cape Fear	Total Surface Water Transfer, mgd	Neuse	Cape Fear	Neuse (Terrible Creek WWTP)	Cape Fear (North Harnett Regional WWTP)	Neuse (Notes 6, 7, 10)	Cape Fear (Notes 5, 7, 10)	Septic Systems in Neuse	Septic Systems in Cape Fear	
2020	3.5	62.0%	38.0%	2.18	1.33	0.018	0.103	1.75	1.5	2	0	3.25	2	0.00	55.8%	44.3%	1.7	1.7	0.044	0.123	0.030	0.084	
2025	4.2	61.7%	38.3%	2.61	1.62	0.018	0.103	1.75	1.5	2	6	3.25	8	0.00	55.8%	44.3%	2.3	2.4	0.044	0.123	0.030	0.084	
2030	5.2	61.7%	38.3%	3.19	1.98	0.018	0.103	1.75	1.5	2	6	3.25	8	0.00	55.8%	44.3%	3.7	3.5	0.044	0.123	0.030	0.084	
2035	6.1	62.0%	38.0%	3.79	2.32	0.018	0.103	1.75	1.5	2	6	3.25	8	0.56	55.8%	44.3%	4.9	4.9	0.044	0.123	0.030	0.084	
2036	6.3	62.0%	38.0%	3.90	2.39	0.018	0.103	0	1.5	2	6	1.5	8	2.42	55.8%	44.3%	4.9	5.0	0.044	0.123	0.030	0.084	
2040	7.1	62.0%	38.0%	4.37	2.68	0.018	0.103	0	1.5	2	6	1.5	8	2.89	55.8%	44.3%	5.3	5.5	0.044	0.123	0.030	0.084	
2041	7.2	62.0%	38.0%	4.49	2.75	0.018	0.103	0	1.5	2	6	1.5	8	3.01	55.8%	44.3%	5.4	5.6	0.044	0.123	0.030	0.084	
2045	8.0	62.0%	38.0%	4.95	3.04	0.018	0.103	0	1.5	2	8	1.5	10	3.47	55.8%	44.3%	5.9	6.0	0.044	0.123	0.030	0.084	
2049	8.7	62.0%	38.0%	5.42	3.32	0.018	0.103	0	1.5	2	8	1.5	10	3.94	55.8%	44.3%	6.2	6.6	0.044	0.123	0.030	0.084	
2050	8.9	62.0%	38.0%	5.54	3.40	0.018	0.103	0	0	2	10	0	12	5.55	55.8%	44.3%	6.4	6.7	0.044	0.123	0.030	0.084	
2055	9.9	62.3%	37.7%	6.15	3.73	0.018	0.103	0	0	2	11	0	13	6.17	55.8%	44.3%	7.1	7.4	0.044	0.123	0.030	0.084	

NOTES

- 1 All finished water supplied to the Neuse River Basin is discharged in the Neuse River Basin (with the exception of 512 homes - Notes 2 and 3)
- 2 512 homes in Cape Fear Basin HUC but in Neuse legislative boundary. Water supplied by CF and WW returned to CF. Only transfer is consumptive loss.
- 3 512 homes * 2.36*85 gpcd / 10*6 * 17.5% consumptive loss factor
- 4 All finished water supplied to the Cape Fear River Basin is discharged to the Cape Fear River basin.
- 5 Approximately 438 non-vacant parcels on water lines and septic in Cape Fear. Since this water is returned to the Cape Fear basin, this amount is not a transfer.
- 6 Approximately 208 non-vacant parcels on water lines and septic in Neuse
- 7 The number of septic systems on public water lines in the Town's service area is not expected to increase.
- 8 Wastewater flow projections between the Neuse and the Cape Fear reflect different sewer gallon per capita day rates and infiltration and inflow
- 9 Wastewater flow projections calculated using number of people per account x sewer account increase x gpcd
- 10 Maximum month wastewater flow projections estimated at 1.2 x annual average
- 11 The number of systems on wells and sewer in the Town's service area is not expected to increase.

City of Sanford RSST Results for Carbon Selection

Hazen *Technical Memorandum*

January 16, 2023

To: City of Sanford, North Carolina

From: David Briley, P.E. – Hazen and Sawyer
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cc: Tom Tant, P.E. – Hazen and Sawyer
Z. Michael Wang, Ph.D., P.E – Hazen and Sawyer
Cory Hopkins, P.E – Hazen and Sawyer
Sara Gibson, P.E – Hazen and Sawyer

**Re: City of Sanford, NC – PD--RSSCT Results for Carbon Selection
for the Sanford WFF Expansion Project**

1.1 Introduction

This Technical Memorandum (TM) documents the bench-scale testing conducted in support of the design of the post-filtration granular activated carbon (GAC) adsorption process for the Sanford Water Filtration Facility Expansion. The primary objective of this round of bench scale testing is to select carbon products and specify manufacturers in the GAC design technical specification.

1.2 Rapid Small Scale Column Testing (RSSCTs)

Rapid small scale column tests (RSSCTs) are widely employed as a lab-scale adsorbent comparison tool capable of screening adsorption performance of GAC in a treatment scenario quickly and at a lower cost compared to pilot testing. RSSCTs utilize short bed depths and ground GAC to expedite breakthrough with less water and materials. The design and operation of RSSCTs are contingent on a proportional diffusivity (PD) adsorption assumption which dictates that the interparticle diffusivity of an adsorbate is proportional to the adsorbent particle size. PD-RSSCTs have demonstrated sufficient performance in poly- and perfluoroalkyl substances (PFAS) removal prediction through numerous literature studies on a variety of PFAS contaminated water types. Three commercial products were compared: Calgon F400, Norit GAC 400, and Evoqua UC1240 LD. The selection of these Calgon and Norit products is based on a machine learning simulation of bed volume to 10% breakthrough (BV10), for which simulation results are shown in Figure 1. In addition to the top-two performing commercial carbon, a relatively new GAC product by Evoqua was also included in the analysis.

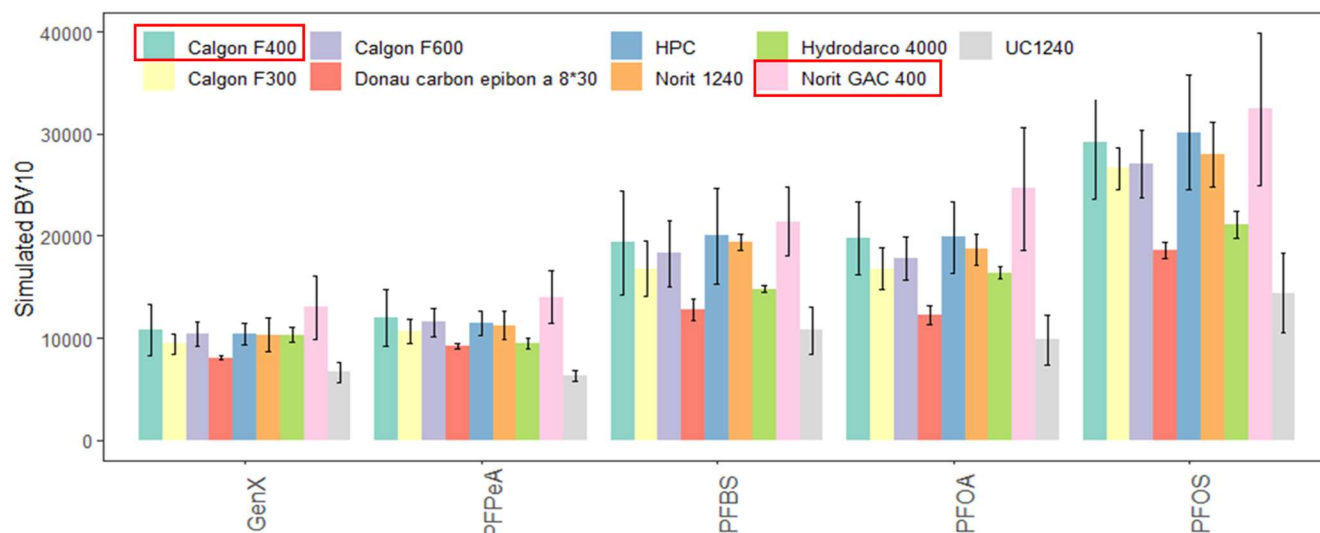


Figure 1: Machine learning prediction of BV10 for multiple PFAS species across multiple GAC products. Note that HPC Super 8x30 by Calgon is not an available commercial product and thus not selected as a candidate carbon product during the RSSCT testing.

1.3 RSSCT Results

1.3.1 PD- RSSCT Results

PD-RSSCTs were conducted by Engineering Performance Solutions lab at a 20-minute simulated empty bed contact time (EBCT) with perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), and (perfluorobutanesulfonic acid) PFBS tracked in the effluent as a function of bed volumes (BVs) processed. Selected results from RSSCT experiments are shown in **Figure 2 through Figure 4** below.

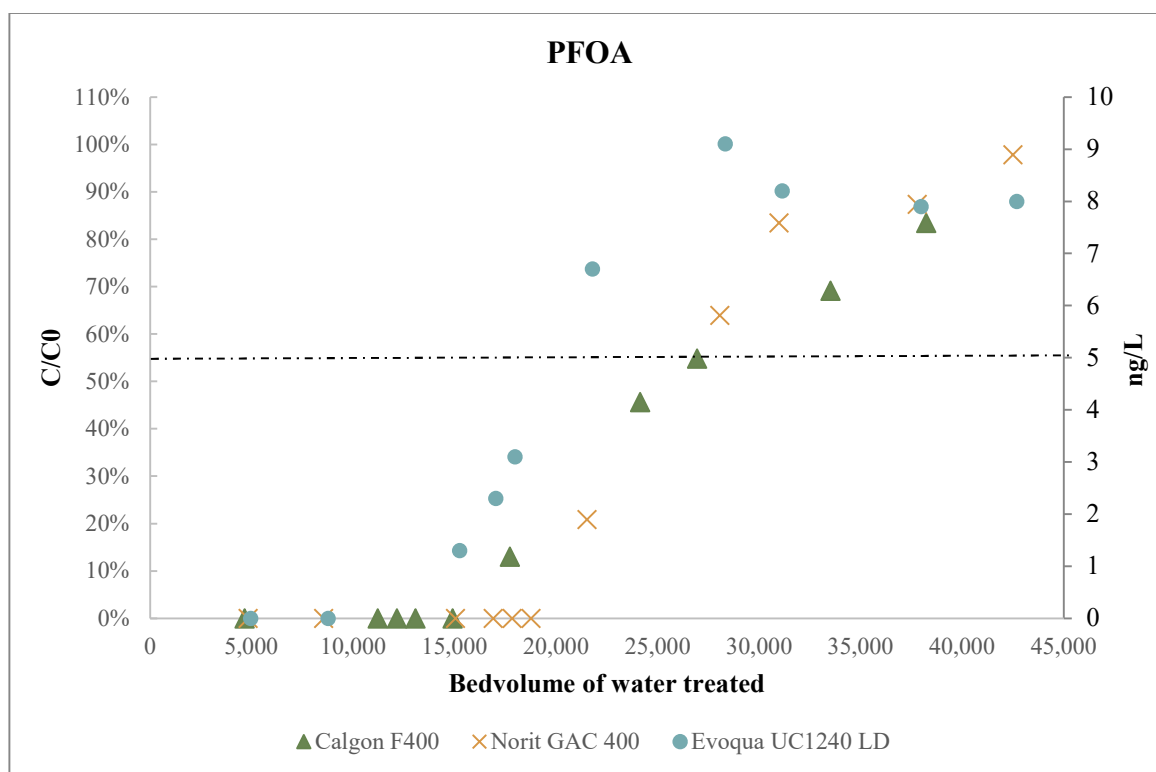


Figure 2: RSSCT-PD Breakthrough Curve for PFOA compounds as a function of bed volumes for 3 commercially available GAC products. Dashed line indicates previously set water quality goal of 5 ng/L.

For PFOA adsorption (Figure 2), Calgon F400 and Norit GAC 400 exhibited similar bed life (~25,000 BVs) at the breakthrough threshold of interest ($C/C_0 = 52\%$). Meanwhile, at the same threshold, Evoqua UC1240 LD's bed life (~20,000 BVs) was about 5,000 BVs shorter than those of the Calgon and Norit products. Hence, the Calgon and Norit products are superior than the Evoqua product in the case of PFOA adsorption.

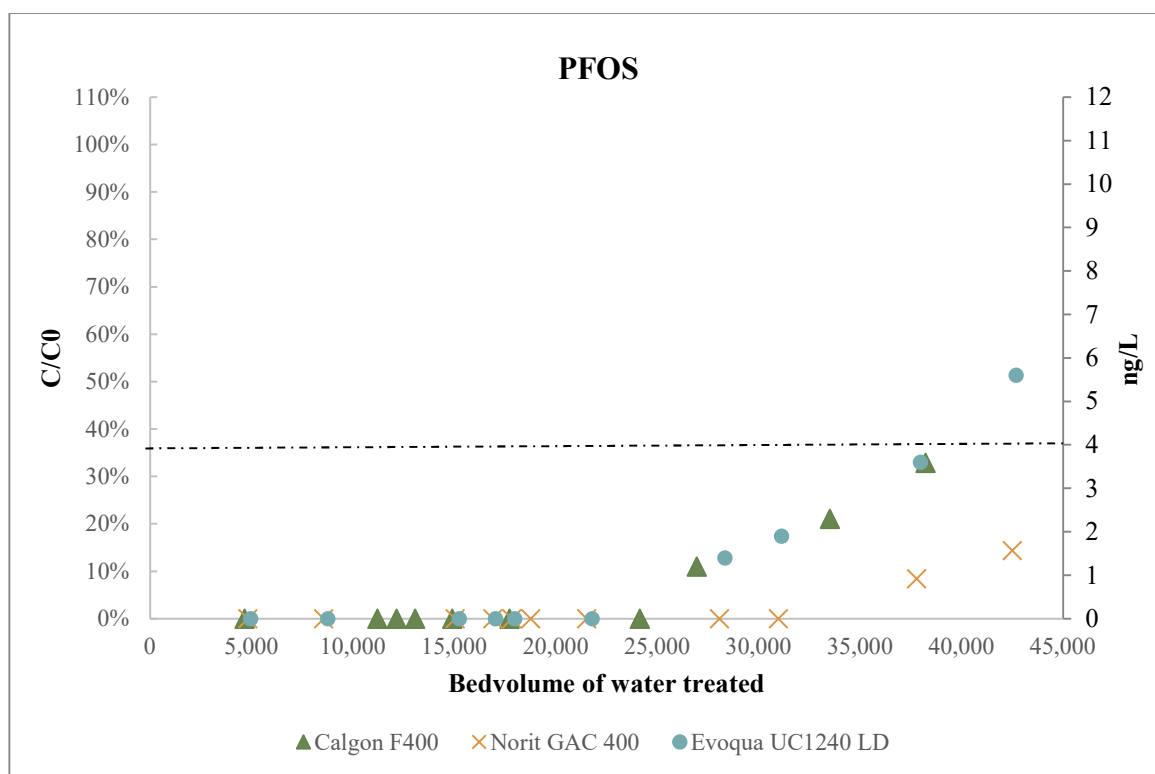


Figure 3: RSSCT-PD Breakthrough Curve for PFOS compounds as a function of bed volumes for 3 commercially available GAC products. Dashed line indicates EPA defined minimum reporting limit (MRL) of 4 ng/L for PFOS.

For PFOS adsorption (Figure 3), Evoqua UC1240LD and Calgon F400 exhibited similar breakthrough behavior for $C/C_0 < 40\%$. Overall, Norit GAC400 broke through later than both the Evoqua and Calgon products in this the tested threshold range, indicating superior adsorption performance.

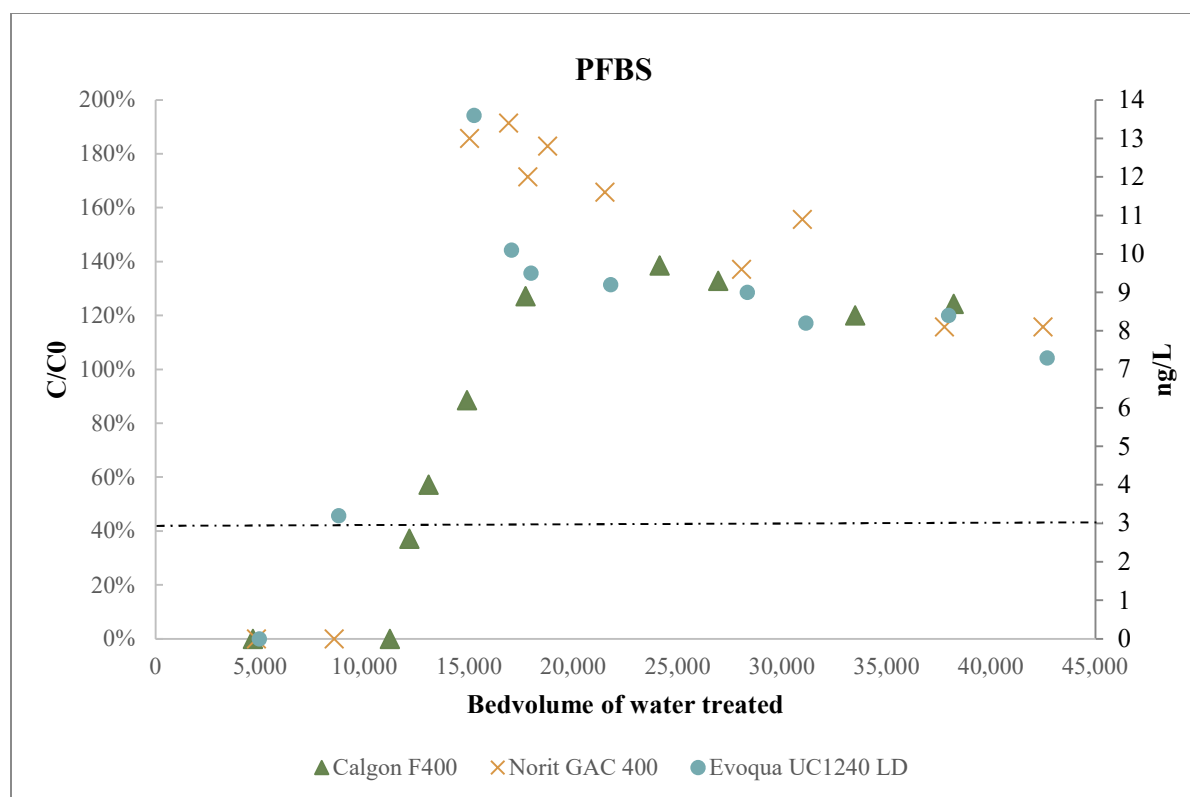


Figure 4: RSSCT-PD Breakthrough Curve for PFBS compounds as a function of bed volumes for 3 commercially available GAC products. Dashed line indicates EPA defined minimum reporting limit (MRL) of 3 ng/L for PFBS.

For PFBS adsorption (Figure 4), since data points are missing between the MRL and $C/C_0 = 100\%$ for Evoqua UC1240LD and Norit GAC400, the comparison between the adsorption performance amongst the three GAC products (Calgon F400, Norit GAC400, and Evoqua UC1240LD) could not be drawn.

1.4 Conclusions

The US EPA revised HALs for PFOA in 2022 and published new HALs for PFBS, and Gen-X. The current HALs are 0.004 ng/L for PFOA, and 0.02 ng/L for PFOS. US EPA is also planning to publish draft Maximum Contaminant Levels for these compounds soon. EPA has announced its intention to publish MCLs by the end of 2022 but it is currently expected to in March 2023. Current analytical methods have a much higher MRL (~4 ng/L for PFOA) as compared to the revised HAL. Therefore, the upcoming draft maximum contaminant levels will likely be set closer to the MRL. PFOA will likely dictate the GAC media change out schedule due to its earlier breakthrough than PFOS.

PD-RSSCT results indicate that Calgon and Norit should be the two preferred manufacturers to be listed in the technical specification for the Sanford WFF expansion project. For PFOA, the GAC products from Calgon and Norit have demonstrated later breakthrough than the GAC product from Evoqua. While minimum reporting limit for PFBS and its breakthrough is shown above, it does not serve as the design

basis since the PFBS concentration present within the background matrix at the Sanford Water Filtration Facility is not yet at a concerning level in terms of the EPA HAL (2000 ng/L).