

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
LINDA CULPEPPER
Director



September 24, 2019

JOHN D. NICHOLS – UTILITIES DIRECTOR
BRUNSWICK COUNTY
POST OFFICE BOX 249
BOLIVIA, NORTH CAROLINA 28462

Subject: Permit No. WQ0000798
Shalotte WWTF
Wastewater Irrigation System
Brunswick County

Dear Mr. Nichols:

In accordance with your permit renewal request received April 30, 2019, and subsequent additional information received August 5, 2019, we are forwarding herewith Permit No. WQ0000798 dated September 24, 2019, to Brunswick County for the continued operation of the subject wastewater treatment and irrigation facilities. Please note that this renewed permit shall become effective on November 1, 2019 (i.e., the day after the expiration date of the existing permit).

This permit shall be effective from November 1, 2019 through December 31, 2024, shall void Permit No. WQ0000798 issued December 18, 2014, and shall be subject to the conditions and limitations therein. **The Permittee shall submit a renewal application no later than July 4, 2024.**

Please pay attention to the monitoring requirements listed Attachments A, B, and C for they may differ from the previous permit issuance. Failure to establish an adequate system for collecting and maintaining the required operational information shall result in future compliance problems.

The Division has removed the following permit conditions since the last permit issuance dated December 18, 2014:

- Old Condition I.1. – Gauges in the 2.75-acre facultative lagoon and 11.6-acre treatment and storage lagoon have been installed.
- Old Condition I.3. – This facility is not an interim facility.
- Old Condition I.4. – Monitoring wells MW-9 and MW-14 have been abandoned.
- Old Condition I.5. – MW-9A and MW-14A have been installed.
- Old Condition II.4. – This condition has been replaced with new condition II.4.
- Old Condition VI.2. – This permit is not voidable.



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 following permit conditions are new since the last permit issuance dated December 18, 2014:

- Condition II.4. – References the associated wastewater collection system permits.
- Condition II.13. – Setbacks in this condition have been corrected to reflect 15A NCAC 02H .0219(j)(5).
- Condition III.16 – Requires metering equipment to be tested and calibrated annually.
- Condition VI.10. – States this permit shall not be renewed if the Permittee or any affiliation has not paid the required annual fee.
- Attachment A – Chloride, Total Nitrogen, Total Phosphorus, and Total Dissolved Solids have been added as required effluent monitoring parameters per the Non-Discharge Effluent Monitoring Policy.

If any parts, requirements, or limitations contained in this permit are unacceptable, the Permittee has the right to request an adjudicatory hearing upon written request within 30 days following receipt of this permit. This request shall 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 at 6714 Mail Service Center, Raleigh, NC 27699-6714. Otherwise, this permit shall be final and binding.

If you need additional information concerning this permit, please contact Ashley Kabat at (919) 707-3658 or ashley.kabat@ncdenr.gov.

Sincerely,


Linda Culpepper, Director
Division of Water Resources

cc: Brunswick County Health Department (Electronic Copy)
Wilmington Regional Office, Water Quality Regional Operations Section (Electronic Copy)
Laserfiche File (Electronic Copy)
Digital Permit Archive (Electronic Copy)
Central Files

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENTAL QUALITY
RALEIGH
WASTEWATER IRRIGATION SYSTEM PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

Brunswick County
Brunswick County

FOR THE

operation of a 500,000 gallon per day (GPD) wastewater treatment and irrigation facility consisting of the:

continued operation of a 175,000 GPD wastewater treatment and irrigation facility consisting of: an ultrasonic influent flowmeter; dual 2.75 acre clay-lined facultative lagoons with reserve storage capacity; dual manually-cleaned coarse screens; a manually-cleaned fine mesh screen; chlorine disinfection units; a mechanical effluent flowmeter; an irrigation pump station with two 400 gallon per minute (GPM) pumps; a 40.8 acre solid-set spray irrigation field containing Fields 1A, 1B, 2A, 2B, 9, 10, 11, and 12; and all associated piping, valves, controls, and appurtenances; and the

continued operation of a 325,000 GPD wastewater treatment and irrigation facility consisting of: 7,400 linear feet (LF) of eight-inch force main; an ultrasonic influent flowmeter; a 11.6 acre treatment/storage lagoon with a 40-millimeter high-density polyethylene (HDPE) liner; a trash screen; a chlorine gas disinfection system and contact basin; an irrigation pump station with two 820 GPM vertical turbine pumps and in-line strainers; an ultrasonic effluent flowmeter; a 93.4 acre solid-set spray irrigation field containing Fields 3, 4, 5, 6, 7, 8, and 13; and all associated piping, valves, controls, and appurtenances

to serve the Shallotte WWTF, with no discharge of wastes to surface waters, pursuant to the application received April 30, 2019, subsequent additional information received August 5, 2019, and in conformity with the Division-approved plans and specifications considered a part of this permit.

This permit shall be effective from November 1, 2019 through December 31, 2024, shall void Permit No. WQ0000798 issued December 18, 2014, and shall be subject to the following conditions and limitations:

I. SCHEDULES

1. The Permittee shall request renewal of this permit on Division-approved forms no later than July 4, 2024. [15A NCAC 02T .0105(b), 02T .0109]

II. PERFORMANCE STANDARDS

1. The Permittee shall maintain and operate the subject non-discharge facilities so there is no discharge to surface waters, nor any contravention of groundwater or surface water standards. In the event the facilities fail to perform satisfactorily, including the creation of nuisance conditions due to improper operation and maintenance, or failure of the irrigation areas to assimilate the effluent, the Permittee shall take immediate corrective actions, including Division required actions, such as the construction of additional or replacement wastewater treatment or disposal facilities. [15A NCAC 02T .0108(b)(1)(A)]
2. This permit shall not relieve the Permittee of their responsibility for damages to groundwater or surface water resulting from the operation of this facility. [15A NCAC 02T .0108(b)(1)(A)]
3. Groundwater monitoring wells shall be constructed in accordance with 15A NCAC 02C .0108 (Standards of Construction for Wells Other than Water Supply), and any other jurisdictional laws and regulations pertaining to well construction. [15A NCAC 02C .0108]
4. The wastewater collection facilities shall be properly maintained and operated at all times. The Permittee shall maintain compliance with an individual system-wide collection system permit (Permit Nos. WQCS00296 and WQCS00284) for the operation and maintenance of these facilities. [15A NCAC 02T .0400]
5. Effluent quality shall not exceed the limitations specified in Attachment A. [15A NCAC 02T .0108(b)(1)(A)]
6. Application rates, whether hydraulic, nutrient, or other pollutant, shall not exceed those specified in Attachment B. [15A NCAC 02T .0108(b)(1)(A)]
7. Wastewater irrigation fields (i.e., Fields 9, 10, 11, and 12) permitted prior to December 30, 1983 have a compliance boundary that is either 500 feet from the wastewater irrigation area, or at the property boundary, whichever is closest to the wastewater irrigation area. Any exceedance of groundwater standards at or beyond the compliance boundary shall require corrective action. Division-approved relocation of the compliance boundary shall be noted in Attachment B. Multiple contiguous properties under common ownership and permitted for use as a disposal system shall be treated as a single property with regard to determination of a compliance boundary. [15A NCAC 02L .0106(e), 02L .0107(a), 02T .0105(h), G.S. 143-215.1(i), G.S. 143-215.1(k)]
8. Wastewater irrigation fields (i.e., Fields 1A, 1B, 2A, 2B, 3, 4, 5, 6, 7, 8, and 13) permitted on or after December 30, 1983 have a compliance boundary that is either 250 feet from the wastewater irrigation area, or 50 feet within the property boundary, whichever is closest to the wastewater irrigation area. Any exceedance of groundwater standards at or beyond the compliance boundary shall require corrective action. Division-approved relocation of the compliance boundary shall be noted in Attachment B. Multiple contiguous properties under common ownership and permitted for use as a disposal system shall be treated as a single property with regard to determination of a compliance boundary. [15A NCAC 02L .0106(d)(2), 02L .0107(b), 02T .0105(h), G.S. 143-215.1(i), G.S. 143-215.1(k)]
9. The review boundary is midway between the compliance boundary and the wastewater irrigation area. Any exceedance of groundwater standards at or beyond the review boundary shall require preventative action. [15A NCAC 02L .0106(d)(1), 02L .0108]
10. The Permittee shall apply for a permit modification to establish a new compliance boundary prior to any sale or transfer of property affecting a compliance boundary (i.e., parcel subdivision). [15A NCAC 02L .0107(c)]
11. No wells, excluding Division-approved monitoring wells, shall be constructed within the compliance boundary except as provided for in 15A NCAC 02L .0107(g). [15A NCAC 02L .0107]

12. Except as provided for in 15A NCAC 02L .0107(g), the Permittee shall ensure any landowner who is not the Permittee and owns land within the compliance boundary shall execute and file with the Brunswick County Register of Deeds an easement running with the land containing the following items:
- a. A notice of the permit and number or other description as allowed in 15A NCAC 02L .0107(f)(1);
 - b. Prohibits construction and operation of water supply wells within the compliance boundary; and
 - c. Reserves the right of the Permittee or the State to enter the property within the compliance boundary for purposes related to the permit.

The Director may terminate the easement when its purpose has been fulfilled or is no longer needed.

[15A NCAC 02L .0107(f)]

13. The facilities herein were permitted per the following setbacks:

- a. The original facilities permitted herein have no setbacks (i.e., the dual clay-lined treatment lagoons and Fields 9, 10, 11, and 12). The original permit pre-dates administrative code 15A NCAC 02H .0219(j), which was effective October 1, 1987. Since no modifications or expansions have been made to the originally permitted facility, the facility is still covered under the 15A NCAC 02H .0200 rules effective February 1, 1976, which contain no setback requirements. [15A NCAC 02H .0200]
- b. The irrigation sites (i.e., Fields 1A, 1B, 2A, 2B, 3, 4, 5, 6, 7, 8, and 13) were modified August 6, 2001. The setbacks for spray irrigation sites originally permitted or modified from February 1, 1993 to August 31, 2006 are as follows (all distances in feet):

i. Each habitable residence or place of assembly under separate ownership:	400 ¹
ii. Each private or public water supply source:	100
iii. Surface waters:	100
iv. Groundwater lowering ditches:	100
v. Surface water diversions (upslope):	100
vi. Surface water diversions (downslope):	100
vii. Each well with exception of monitoring wells:	100
viii. Each property line:	150 ²
ix. Top of slope of embankments or cuts of two feet or more in vertical height:	15
x. Each water line:	10
xi. Each swimming pool:	100
xii. Public right of way:	50
xiii. Nitrification field:	20
xiv. Each building foundation or basement:	15

¹ Habitable residences or places of assembly under separate ownership constructed after the facilities herein were originally permitted or subsequently modified are exempt from this setback.

² Setbacks to property lines are not applicable when the Permittee, or the entity from which the Permittee is leasing, owns both parcels separated by the property line.

[15A NCAC 02H .0219(j)(5)]

c. The storage and treatment units (excluding the dual clay-lined treatment lagoons) were modified August 6, 2001. The setbacks for storage and treatment units originally permitted or modified from February 1, 1993 to August 31, 2006 are as follows (all distances in feet):

- | | |
|--|------------------|
| i. Each habitable residence or place of assembly under separate ownership: | 400 ¹ |
| ii. Each private or public water supply source: | 100 |
| iii. Surface waters: | 50 |
| iv. Each well with exception of monitoring wells: | 100 |
| v. Each property line: | 50 ² |
| vi. Nitrification field: | 20 |

¹ Habitable residences or places of assembly under separate ownership constructed after the facilities herein were originally permitted or subsequently modified are exempt from this setback.

² Setbacks to property lines are not applicable when the Permittee, or the entity from which the Permittee is leasing, owns both parcels separated by the property line.

[15A NCAC 02H .0219(j)(5)]

III. OPERATION AND MAINTENANCE REQUIREMENTS

1. The Permittee shall operate and maintain the subject facilities as a non-discharge system. [15A NCAC 02T .0500]
2. The Permittee shall maintain an Operation and Maintenance Plan, which shall include operational functions, maintenance schedules, safety measures, and a spill response plan. [15A NCAC 02T .0507(a)]
3. Upon the Water Pollution Control System Operators Certification Commission's (WPCSOCC) classification of the subject non-discharge facilities, the Permittee shall designate and employ a certified operator in responsible charge (ORC), and one or more certified operators as back-up ORCs. The ORC or their back-up shall operate and visit the facilities as required by the WPCSOCC. [15A NCAC 02T .0117]
4. The Permittee shall maintain vegetative cover on the irrigation sites, such that crop health is optimal, allows even effluent distribution, and allows inspection of the irrigation system. [15A NCAC 02T .0507(b)]
5. The Permittee shall take measures to prevent effluent ponding in or runoff from the irrigation sites listed in Attachment B. [15A NCAC 02T .0507(c)]
6. The Permittee shall not irrigate treated effluent during inclement weather, or when the soil is in a condition that will cause ponding or runoff. [15A NCAC 02T .0505(x)]
7. Irrigation equipment shall be tested and calibrated once per permit cycle. [15A NCAC 02T .0507(d)]
8. Only treated effluent from the Shallotte WWTF shall be irrigated on the sites listed in Attachment B. [15A NCAC 02T .0501]
9. The Permittee shall not allow vehicles or heavy machinery on the irrigation area, except during equipment installation or maintenance activities. [15A NCAC 02T .0507(e)]
10. The Permittee shall prohibit public access to the wastewater treatment, storage, and irrigation facilities. [15A NCAC 02T .0505(q)]

11. The Permittee shall dispose or utilize generated residuals in a Division-approved manner. [15A NCAC 02T .0508, 02T .1100].
12. The Permittee shall not divert or bypass untreated or partially treated wastewater from the subject facilities. [15A NCAC 02T .0505(j)]
13. Freeboard in the dual 2.75 acre clay-lined facultative lagoons and the 11.6 acre treatment/storage lagoon shall not be less than two feet at any time. [15A NCAC 02T .0505(d)]
14. Gauges to monitor waste levels in the 2.75 acre clay-lined facultative lagoons and the 11.6 acre treatment/storage lagoon shall be provided. These gauges shall have readily visible permanent markings, at inch or tenth of a foot increments, indicating the following elevations: maximum liquid level at the top of the temporary liquid storage volume; minimum liquid level at the bottom of the temporary liquid storage volume; and the lowest point on top of the dam. [15A NCAC 02T .0507(f)]
15. A protective vegetative cover shall be established and maintained on all berms, pipe runs, erosion control areas, surface water diversions, and earthen embankments (i.e., outside toe of embankment to maximum allowable temporary storage elevation on the inside of the embankment). Trees, shrubs, and other woody vegetation shall not be allowed to grow on the earthen dikes or embankments. Earthen embankments shall be kept mowed or otherwise controlled and accessible. [15A NCAC 02T .0507(g)]
16. Metering equipment shall be tested and calibrated annually. [15A NCAC 02T .0507(d)]
17. An automatically activated standby power source capable of powering all essential treatment units shall be on site and operational at all times. If a generator is employed as an alternate power supply, it shall be tested weekly by interrupting the primary power source. [15A NCAC 02T .0505(l)]

IV. MONITORING AND REPORTING REQUIREMENTS

1. The Permittee shall conduct and report any Division required monitoring necessary to evaluate this facility's impact on groundwater and surface water. [15A NCAC 02T .0108(c)]
2. A Division-certified laboratory shall conduct all analyses for the required effluent, groundwater, and surface water parameters. [15A NCAC 02H .0800]
3. Flow through the treatment facility shall be continuously monitored, and daily flow values shall be reported on Form NDMR. Facilities with a permitted flow less than 10,000 GPD may estimate their flow from water usage records provided the water source is metered. [15A NCAC 02T .0105(k), 02T .0108(c)]
4. The Permittee shall monitor the treated effluent at the frequencies and locations for the parameters specified in Attachment A. [15A NCAC 02T .0108(c)]
5. The Permittee shall maintain records tracking the amount of effluent irrigated. These records shall include the following information for each irrigation site listed in Attachment B:
 - a. Date of irrigation;
 - b. Volume of effluent irrigated;
 - c. Site irrigated;
 - d. Length of time site is irrigated;
 - e. Continuous weekly, monthly, and year-to-date hydraulic (inches/acre) loadings;
 - f. Continuous monthly and year-to-date loadings for any non-hydraulic parameter specifically limited in Attachment B;
 - g. Weather conditions; and
 - h. Maintenance of cover crops.

[15A NCAC 02T .0108(c)]

6. Freeboard (i.e., waste level to the lowest embankment elevation) in the 2.75 acre clay-lined facultative lagoons and the 11.6 acre treatment/storage lagoon shall be measured to the nearest inch or tenth of a foot, and recorded weekly. Weekly freeboard records shall be maintained for five years, and shall be made available to the Division upon request. [15A NCAC 02T .0108(c)]
7. Three copies of all monitoring data (as specified in Conditions IV.3. and IV.4.) on Form NDMR for each PPI and three copies of all operation and disposal records (as specified in Conditions IV.5. and IV.6.) on Form NDAR-1 for every site in Attachment B shall be submitted on or before the last day of the following month. If no activities occurred during the monitoring month, monitoring reports are still required documenting the absence of the activity. All information shall be submitted to the following address:

Division of Water Resources
Information Processing Unit
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

[15A NCAC 02T .0105(l)]

8. Pursuant to G.S. 143-215.1C(a), the Permittee shall provide to its users and the Division of Water Resources an annual report summarizing the performance of the wastewater treatment and irrigation facility and the extent to which the facility has violated this permit, or federal or State laws, regulations, or rules related to the protection of water quality. This report shall be prepared on either a calendar or fiscal year basis and shall be provided no later than 60 days after the end of the calendar or fiscal year. Two copies of the annual report provided to the Permittee's users shall be submitted to:

Division of Water Resources
Water Quality Permitting Section
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

[G.S. 143-215.1C(a)]

9. The Permittee shall maintain a record of all residuals removed from this facility. This record shall be maintained for five years, and shall be made available to the Division upon request. This record shall include:
 - a. Name of the residuals hauler;
 - b. Non-Discharge permit number authorizing the residuals disposal, or a letter from a municipality agreeing to accept the residuals;
 - c. Date the residuals were hauled; and
 - d. Volume of residuals removed.

[15A NCAC 02T .0508(b)]

10. A maintenance log shall be kept at this facility. This log shall be maintained for five years, and shall be made available to the Division upon request. This log shall include:
 - a. Date of flow measurement device calibration;
 - b. Date of irrigation equipment calibration;
 - c. Date and results of power interruption testing on alternate power supply;
 - d. Visual observations of the plant and plant site; and
 - e. Record of preventative maintenance (e.g., changing of equipment, adjustments, testing, inspections and cleanings, etc.).

[15A NCAC 02T .0507(h)]

11. Monitoring wells MW-6, MW-7, MW-8, MW-9A, MW-10, MW-11, MW-12, MW-14A, and MW-15 shall be sampled at the frequencies and for the parameters specified in Attachment C. All mapping, well construction forms, well abandonment forms and monitoring data shall refer to the permit number and the well nomenclature as provided in Attachment C and Figure 1. [15A NCAC 02T .0105(m)]

12. Two copies of the monitoring well sampling and analysis results shall be submitted on a Compliance Monitoring Form (GW-59), along with attached copies of laboratory analyses, on or before the last working day of the month following the sampling month. The Compliance Monitoring Form (GW-59) shall include this permit number, the appropriate well identification number, and one GW-59a certification form shall be submitted with each set of sampling results. All information shall be submitted to the following address:

Division of Water Resources
 Information Processing Unit
 1617 Mail Service Center
 Raleigh, North Carolina 27699-1617

[15A NCAC 02T .0105(m)]

13. An annual representative soils analysis (i.e., Standard Soil Fertility Analysis) shall be conducted on each irrigation site listed in Attachment B. These results shall be maintained at the facility for five years, and shall be made available to the Division upon request. Each Standard Soil Fertility Analysis shall include the following parameters:

Acidity	Exchangeable Sodium Percentage	Phosphorus
Base Saturation (by calculation)	Magnesium	Potassium
Calcium	Manganese	Sodium
Cation Exchange Capacity	Percent Humic Matter	Zinc
Copper	pH	

[15A NCAC 02T .0108(c)]

14. Noncompliance Notification:

The Permittee shall report to the Wilmington Regional Office, telephone number (910) 796-7215, within 24 hours of first knowledge of the following:

- a. Treatment of wastes abnormal in quantity or characteristic, including the known passage of a hazardous substance.
- b. Any process unit failure (e.g., mechanical, electrical, etc.) rendering the facility incapable of adequate wastewater treatment.
- c. Any facility failure resulting in a discharge to surface waters.
- d. Any time self-monitoring indicates the facility has gone out of compliance with its permit limitations.
- e. Ponding in or runoff from the irrigation sites.

Emergencies requiring reporting outside normal business hours shall call the Division's Emergency Response personnel at telephone number (800) 662-7956, (800) 858-0368, or (919) 733-3300. All noncompliance notifications shall file a written report to the Wilmington Regional Office within five days of first knowledge of the occurrence, and this report shall outline the actions proposed or taken to ensure the problem does not recur. [15A NCAC 02T .0108(b)(1)(A)]

V. INSPECTIONS

1. The Permittee shall perform inspections and maintenance to ensure proper operation of the wastewater treatment and irrigation facilities. [15A NCAC 02T .0507(i)]
2. The Permittee shall inspect the wastewater treatment and irrigation facilities to prevent malfunctions, facility deterioration, and operator errors that may result in discharges of wastes to the environment, threats to human health, or public nuisances. The Permittee shall maintain an inspection log that includes the date and time of inspection, observations made, and maintenance, repairs, or corrective actions taken. The Permittee shall maintain this inspection log for a period of five years from the date of the inspection, and this log shall be made available to the Division upon request. [15A NCAC 02T .0507(h), 02T .0507(i)]
3. Division authorized representatives may, upon presentation of credentials, enter and inspect any property, premises, or place related to the wastewater treatment and irrigation facilities permitted herein at any reasonable time for determining compliance with this permit. Division authorized representatives may inspect or copy records maintained under the terms and conditions of this permit, and may collect groundwater, surface water, or leachate samples. [G.S. 143-215.3(a)(2)]

VI. GENERAL CONDITIONS

1. Failure to comply with the conditions and limitations contained herein may subject the Permittee to a Division enforcement action. [G.S. 143-215.6A, 143-215.6B, 143-215.6C]
2. This permit is effective only with respect to the nature and volume of wastes described in the permit application, and Division-approved plans and specifications. [G.S. 143-215.1(d)]
3. Unless specifically requested and approved in this permit, there are no variances to administrative codes or general statutes governing the construction or operation of the facilities permitted herein. [15A NCAC 02T .0105(n)]
4. The issuance of this permit does not exempt the Permittee from complying with all statutes, rules, regulations, or ordinances that other jurisdictional government agencies (e.g., local, state, and federal) may require. [15A NCAC 02T .0105(c)(6)]
5. If the permitted facilities change ownership, or the Permittee changes their name, the Permittee shall submit a permit modification request on Division-approved forms. The Permittee shall comply with all terms and conditions of this permit until the permit is transferred to the successor-owner. [G.S. 143-215.1(d3)]
6. The Permittee shall retain a set of Division-approved plans and specifications for the life of the facilities permitted herein. [15A NCAC 02T .0105(o)]
7. The Permittee shall maintain this permit until the proper closure of all facilities permitted herein, or until the facilities permitted herein are permitted by another authority. [15A NCAC 02T .0105(j)]

8. This permit is subject to revocation or modification upon 60-day notice from the Division Director, in whole or part for:
- a. violation of any terms or conditions of this permit or Administrative Code Title 15A Subchapter 02T;
 - b. obtaining a permit by misrepresentation or failure to disclose all relevant facts;
 - c. the Permittee's refusal to allow authorized Department employees upon presentation of credentials:
 - i. to enter the Permittee's premises where a system is located or where any records are required to be kept;
 - ii. to have access to any permit required documents and records;
 - iii. to inspect any monitoring equipment or method as required in this permit; or
 - iv. to sample any pollutants;
 - d. the Permittee's failure to pay the annual fee for administering and compliance monitoring; or
 - e. a Division determination that the conditions of this permit are in conflict with North Carolina Administrative Code or General Statutes.

[15A NCAC 02T .0110]

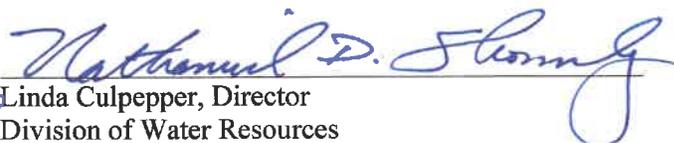
9. Unless the Division Director grants a variance, expansion of the facilities permitted herein shall not occur if any of the following apply:
- a. The Permittee or any parent, subsidiary, or other affiliate of the Permittee has been convicted of environmental crimes under G.S. 143-215.6B, or under Federal law that would otherwise be prosecuted under G.S. 143-215.6B, and all appeals of this conviction have been abandoned or exhausted.
 - b. The Permittee or any parent, subsidiary, or other affiliate of the Permittee has previously abandoned a wastewater treatment facility without properly closing the facility.
 - c. The Permittee or any parent, subsidiary, or other affiliate of the Permittee has not paid a civil penalty, and all appeals of this penalty have been abandoned or exhausted.
 - d. The Permittee or any parent, subsidiary, or other affiliate of the Permittee is currently not compliant with any compliance schedule in a permit, settlement agreement, or order.
 - e. The Permittee or any parent, subsidiary, or other affiliate of the Permittee has not paid an annual fee.

[15A NCAC 02T .0120(b), 02T .0120(d)]

10. This permit shall not be renewed if the Permittee or any affiliation has not paid the required annual fee.
[15A NCAC 02T .0120(c)]

Permit issued this the 24th day of September 2019

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION


Linda Culpepper, Director
Division of Water Resources
By Authority of the Environmental Management Commission

Permit Number WQ0000798

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PPI 001 – WWTF Effluent (Original Plant)

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
00310	BOD, 5-Day (20 °C)	mg/L					Monthly	Grab
00940	Chloride (as Cl)	mg/L					3 x Year ¹	Grab
50060	Chlorine, Total Residual	mg/L					Weekly	Grab
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					Monthly	Grab
50050	Flow, in Conduit or thru Treatment Plant	GPD	175,000				Continuous	Recorder
00610	Nitrogen, Ammonia Total (as N)	mg/L					Monthly	Grab
00625	Nitrogen, Kjeldahl, Total (as N)	mg/L					Monthly	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					Monthly	Grab
00600	Nitrogen, Total (as N)	mg/L					Monthly	Grab
00400	pH	su					Weekly	Grab
00665	Phosphorus, Total (as P)	mg/L					Monthly	Grab
70300	Solids, Total Dissolved – 180 °C	mg/L					3 x Year ¹	Grab
00530	Solids, Total Suspended	mg/L					Monthly	Grab

1. 3 x Year sampling shall be conducted in March, July, and November.

PPI 002 – WWTF Effluent (Expansion Plant)

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
00310	BOD, 5-Day (20 °C)	mg/L					Monthly	Grab
00940	Chloride (as Cl)	mg/L					3 x Year ¹	Grab
50060	Chlorine, Total Residual	mg/L					Weekly	Grab
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					Monthly	Grab
50050	Flow, in Conduit or thru Treatment Plant	GPD	325,000				Continuous	Recorder
00610	Nitrogen, Ammonia Total (as N)	mg/L					Monthly	Grab
00625	Nitrogen, Kjeldahl, Total (as N)	mg/L					Monthly	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					Monthly	Grab
00600	Nitrogen, Total (as N)	mg/L					Monthly	Grab
00400	pH	su					Weekly	Grab
00665	Phosphorus, Total (as P)	mg/L					Monthly	Grab
70300	Solids, Total Dissolved – 180 °C	mg/L					3 x Year ¹	Grab
00530	Solids, Total Suspended	mg/L					Monthly	Grab

1. 3 x Year sampling shall be conducted in March, July, and November.

PPI 003¹, PPI 004², PPI 005³, PPI 006⁴, and PPI 007⁵ – Surface Water Monitoring

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS				MONITORING REQUIREMENTS		
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					Monthly	Grab
00600	Nitrogen, Total (as N)	mg/L					Monthly	Grab
00400	pH	su					Monthly	Grab

1. PPI 003 shall be sampled upstream in Woodward Branch at Edimburgh Dr.
2. PPI 004 shall be sampled upstream in Charles Branch.
3. PPI 005 shall be sampled upstream in Mulberry Branch at Forest Drive.
4. PPI 006 shall be sampled downstream in Woodward Branch at the Charles Branch meeting.
5. PPI 007 shall be sampled downstream in Mulberry Branch at SR 1348.

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Brunswick County – Shallotte WWTF

IRRIGATION AREA INFORMATION						APPLICATION LIMITATIONS					
Field	Owner	County	Latitude	Longitude	Net Acreage	Dominant Soil Series	Parameter	Hourly Rate	Yearly Max	Units	
1A	Brunswick County	Brunswick	33.998831°	-78.380393°	6.5	Baymeade	01284 – Non-Discharge Application Rate		44.20	inches	
1B	Brunswick County	Brunswick	33.998275°	-78.381637°	6.5	Baymeade	01284 – Non-Discharge Application Rate		44.20	inches	
2A	Brunswick County	Brunswick	33.998577°	-78.383118°	6.5	Baymeade	01284 – Non-Discharge Application Rate		44.20	inches	
2B	Brunswick County	Brunswick	33.997399°	-78.382131°	6.5	Baymeade	01284 – Non-Discharge Application Rate		44.20	inches	
3	Brunswick County	Brunswick	33.998577°	-78.385194°	13	Baymeade	01284 – Non-Discharge Application Rate		44.20	inches	
4	Brunswick County	Brunswick	33.997572°	-78.388016°	13	Baymeade	01284 – Non-Discharge Application Rate		44.20	inches	
5	Brunswick County	Brunswick	33.996683°	-78.390623°	13	Baymeade	01284 – Non-Discharge Application Rate		44.20	inches	
6	Brunswick County	Brunswick	33.996309°	-78.384330°	12.16	Baymeade	01284 – Non-Discharge Application Rate		53.04	inches	
7	Brunswick County	Brunswick	33.994388°	-78.392865°	12.28	Baymeade	01284 – Non-Discharge Application Rate		39.52	inches	
8	Brunswick County	Brunswick	33.994455°	-78.389137°	23.36	Baymeade	01284 – Non-Discharge Application Rate		52.00	inches	
9	Brunswick County	Brunswick	33.996471°	-78.378892°	2	Baymeade	01284 – Non-Discharge Application Rate		100.36	inches	
10	Brunswick County	Brunswick	33.996204°	-78.375223°	5.1	Baymeade	01284 – Non-Discharge Application Rate		78.00	inches	
11	Brunswick County	Brunswick	33.996827°	-78.373850°	4.7	Baymeade	01284 – Non-Discharge Application Rate		78.00	inches	
12	Brunswick County	Brunswick	33.997325°	-78.374858°	3	Baymeade	01284 – Non-Discharge Application Rate		78.00	inches	
13	Brunswick County	Brunswick	33.992664°	-78.392776°	6.6	Baymeade	01284 – Non-Discharge Application Rate		46.80	inches	
Totals					134.2						

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Monitoring Wells: MW-6, MW-7, MW-8, MW-9A, MW-10, MW-11, MW-12, MW-14A, and MW-15

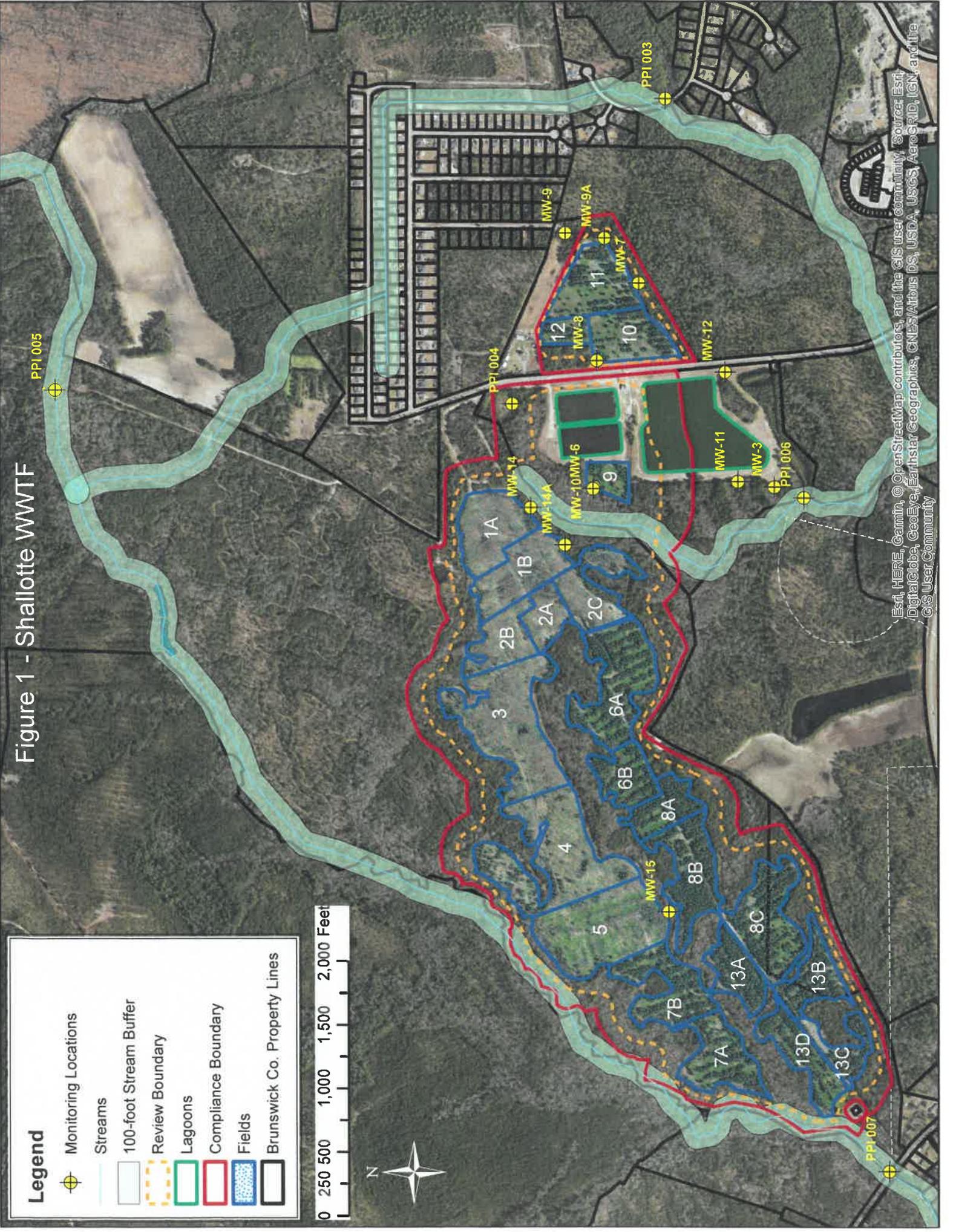
GROUNDWATER CHARACTERISTICS		GROUNDWATER STANDARDS		MONITORING REQUIREMENTS		
PCS Code	Parameter Description	Daily Maximum	Frequency Measurement	Sample Type	Footnotes	
00680	Carbon, Tot Organic (TOC)	mg/L	3 x Year	Grab	1, 6	
00940	Chloride (as Cl)	250	3 x Year	Grab	1	
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL	3 x Year	Grab	1	
00610	Nitrogen, Ammonia Total (as N)	1.5	3 x Year	Grab	1	
00620	Nitrogen, Nitrate Total (as N)	10	3 x Year	Grab	1	
00400	pH	6.5-8.5	3 x Year	Grab	1, 2	
00665	Phosphorus, Total (as P)	mg/L	3 x Year	Grab	1	
70300	Solids, Total Dissolved - 180 °C	500	3 x Year	Grab	1	
GWVOC	Volatile Compounds (GW)	Present: Yes/No	Annually	Grab	1, 4, 5	
82546	Water Level, Distance from measuring point	feet	3 x Year	Calculated	1, 2, 3	

- 3 x Year monitoring shall be conducted in March, July, and November; Annual monitoring shall be conducted in November.
- The measurement of water levels shall be made prior to purging the wells. The depth to water in each well shall be measured from the surveyed point on the top of the casing. The measurement of pH shall be made after purging and prior to sampling for the remaining parameters.
- The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide the relative elevation of the measuring point for each monitoring well. The measuring points (top of casing) of all monitoring wells shall be surveyed relative to a common datum.
- Volatile Organic Compounds (VOC) - In November only, analyze by one of the following methods:
 - Standard Method 6230D, PQL at 0.5 µg/L or less
 - Standard Method 6210D, PQL at 0.5 µg/L or less
 - EPA Method 8021, Low Concentration, PQL at 0.5 µg/L or less
 - EPA Method 8260, Low Concentration, PQL at 0.5 µg/L or less
 - Another method with prior approval by the Water Quality Permitting Section Chief

Any method used shall meet the following qualifications:

 - A laboratory shall be DWR certified to run any method used.
 - The method used shall include all the constituents listed in Table VIII of Standard Method 6230D.
 - The method used shall provide a PQL of 0.5 µg/L or less that shall be supported by laboratory proficiency studies as required by the DWR Laboratory Certification Unit. Any constituents detected above the MDL but below the PQL of 0.5 µg/L shall be qualified (estimated) and reported.
- If any volatile organic compounds (VOC) are detected as a result of monitoring as provided in Attachment C, then the Wilmington Regional Office supervisor, telephone number (910) 796-7215, shall be contacted immediately for further instructions regarding any additional follow-up analyses required.
- If TOC concentrations greater than 10 mg/L are detected in any downgradient monitoring well, additional sampling and analysis shall be conducted to identify the individual constituents comprising this TOC concentration. If the TOC concentration as measured in the background monitor well exceeds 10 mg/L, this concentration will be taken to represent the naturally occurring TOC concentration. Any exceedances of this naturally occurring TOC concentration in the downgradient wells shall be subject to the additional sampling and analysis as described above.
- Monitoring wells shall be reported consistent with the nomenclature and location information provided in Figure 1 and this attachment.

Figure 1 - Shalotte WWTF



- Legend**
- Monitoring Locations
 - Streams
 - 100-foot Stream Buffer
 - Review Boundary
 - Lagoons
 - Compliance Boundary
 - Fields
 - Brunswick Co. Property Lines

0 250 500 1,000 1,500 2,000 Feet



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