

## SUBCHAPTER 02T – WASTE NOT DISCHARGED TO SURFACE WATERS

### SECTION .0100 – GENERAL REQUIREMENTS

#### 15A NCAC 02T .0101 PURPOSE

The rules in this Subchapter shall govern application for and issuance of permits for the following systems that do not discharge to surface waters of the state:

- (1) sewer systems;
- (2) disposal systems;
- (3) treatment works;
- (4) residual and residue disposal/utilization systems;
- (5) animal waste management systems;
- (6) treatment of contaminated soils; and
- (7) stormwater management systems pursuant to 15A NCAC 02H .1000.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a)(1);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### 15A NCAC 02T .0102 SCOPE

The rules in this Subchapter shall apply to all persons proposing to construct, alter, extend, or operate any sewer system, treatment works, disposal system, contaminated soil treatment system, animal waste management system, stormwater management system, or residual management system, that does not discharge to surface waters of the State. However, these Rules shall not apply to sanitary sewage systems or solid waste management facilities that are permitted under the authority of the Commission for Public Health. The provisions for stormwater NPDES systems that discharge to waters of the State are codified in 15A NCAC 02H .1000. The rules in this Section are general requirements that shall apply to all program rules in this Subchapter.

*History Note:* Authority G.S. 130A-335; 143-215.1; 143-215.3(a)(1);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### 15A NCAC 02T .0103 DEFINITIONS

The terms used in this Subchapter shall have the meanings set forth in G.S. 143-212 and G.S. 143-213, in this Rule, and in program-specific rules in this Subchapter:

- (1) "Agronomic rate" means the amount of waste and other materials applied to soil to meet the nitrogen needs of the crop, but does not overload the soil with nutrients or other constituents that cause or contribute to a contravention of surface water or groundwater standards, limit crop growth, or adversely impact soil quality. Nitrogen needs of the crop shall be based on realistic yield expectations (RYE) established for a soil series through published Cooperative Extension Service bulletins, Natural Resources Conservation Service publications, county soil surveys, or site specific agronomist reports.
- (2) "Animal waste" means livestock or poultry excreta or a mixture of excreta with feed, bedding, litter or other materials generated at a feedlot.
- (3) "Bedrock" is defined in 15A NCAC 02L .0102.
- (4) "Buffer" means a natural or vegetated area as defined in 15A NCAC 02B .0202.
- (5) "CFR" means Code of Federal Regulations.
- (6) "Commission" is defined in G.S. 143-212 or their delegate.
- (7) "Compliance boundary" is defined in 15A NCAC 02L .0102.
- (8) "Deemed permitted" means that a facility is considered to have a needed permit and to be compliant with the permitting requirements of G.S. 143-215.1(a), even though it has not received an individual permit for its construction or operation.
- (9) "Department" is defined in G.S. 143-212.
- (10) "Director" means the Director of the Division or its delegate.
- (11) "Division" means the Division of Water Resources in the Department.

- (12) "Effluent" means wastewater discharged from a water pollution control facility following all treatment processes or from other point source whether treated or untreated.
- (13) "Engineer" means an individual who is currently licensed by the North Carolina Board of Examiners For Engineers and Land Surveyors or is authorized to practice under G.S. 89C as an engineer.
- (14) "EPA" means the United States Environmental Protection Agency.
- (15) "Ephemeral (stormwater) stream" is defined in 15A NCAC 02B .0233.
- (16) "Essential treatment unit" means any unit associated with the wastewater treatment process whose loss would likely render the facility incapable of meeting the required performance criteria, including aeration units or other main treatment units, clarification equipment, filters, disinfection equipment, pumps and blowers.
- (17) "General Permit" means a permit issued pursuant to G.S. 143-215.1(b)(3), 143-215.1(b)(4) or 143-215.10C.
- (18) "Groundwaters" is defined in 15A NCAC 02L .0102.
- (19) "Groundwater standards" means groundwater standards as established in 15A NCAC 02L .0200.
- (20) "Industrial wastewater" means all wastewater other than sewage or animal waste, and includes:
  - (a) wastewater resulting from any process of industry or manufacture, or from the development of any natural resource;
  - (b) wastewater resulting from processes of trade or business, including wastewater from laundromats and vehicle or equipment washes, but excluding wastewater from restaurants;
  - (c) stormwater that is contaminated with an industrial wastewater;
  - (d) any combination of sewage and industrial wastewater;
  - (e) municipal wastewater, unless it can be demonstrated that the wastewater contains no industrial wastewater; and
  - (f) contaminated groundwater extracted as part of an approved groundwater remediation system approved by the Division in accordance with 15A NCAC 02L .0100.
- (21) "Intermittent stream" is defined in 15A NCAC 02B .0233.
- (22) "NPDES" means National Pollutant Discharge Elimination System.
- (23) "Perennial stream" is defined in 15A NCAC 02B .0233.
- (24) "Perennial waterbody" is defined in 15A NCAC 02B .0233.
- (25) "Pollutant" means waste as defined in G.S. 143-213.
- (26) "Potable waters" is defined in 15A NCAC 02L .0102.
- (27) "Private well" means any potable or irrigation well not directly controlled by a public authority or a public utility authorized by the North Carolina Public Utilities Commission. This may include a private individual or community well as defined in the public water supply rules codified in 15A NCAC 18C.
- (28) "Professional engineer" means a person who is presently registered and licensed as a professional engineer by the North Carolina Board of Examiners For Engineers and Land Surveyors.
- (29) "Public or community sewage system" means a single system of sewage collection, treatment, or disposal owned and operated by a sanitary district, a metropolitan sewage district, a water and sewer authority, a county, a municipality, or a public utility authorized to operate by the North Carolina Utilities Commission.
- (30) "Residuals" means any solid, semisolid, or liquid waste, other than effluent or residues from agricultural products and processing, generated from a wastewater treatment facility, water supply treatment facility, or air pollution control facility permitted under the authority of the Commission.
- (31) "Residues from agricultural products and processing" means solids, semi-solids, or liquid residues from food and beverage processing and handling, silviculture, agriculture, and aquaculture operations permitted under the authority of the Commission that are non-toxic, non-hazardous, and contain no domestic wastewater.
- (32) "Restrictive horizon" is the layer in a soil profile that is capable of reducing the downward water movement to the minimum rate, as evidenced by lowest saturated hydraulic conductivity among all the soil layers. Restrictive horizon is often capable of perching ground water or wastewater effluent and is characterized by accumulation of finer soil particles (such as aluminum, clay, iron, silica, organic matter, or other compounds) or compaction due to heavy equipment.
- (33) "Review boundary" is defined in 15A NCAC 02L .0102.

- (34) "Seasonal High Water Table" or "SHWT" is the highest level to which the soil is saturated, as may be determined through the identification of redoximorphic features in the soil profile, including low chroma mottling. This does not include temporary perched conditions. Alternatively, the SHWT can also be determined from water level measurements or via soil or groundwater modeling.
- (35) "Secretary" is defined in G.S. 143-212 and includes the Secretary's delegate.
- (36) "Setback" means the separation in linear feet, measured on a horizontal plane, required between a treatment works, disposal system, or utilization system and physical features such as buildings, roads, property lines, or water bodies.
- (37) "Sewage" means the liquid and solid human waste and liquid waste generated by domestic water-using fixtures and appliances from any residence, place of business, or place of public assembly. Sewage does not include wastewater that is totally or partially industrial wastewater or any other wastewater that is not domestic waste.
- (38) "Soil scientist" means an individual who is currently licensed or authorized to practice soil science pursuant to G.S. 89F by the North Carolina Board for Licensing of Soil Scientists.
- (39) "Staff" means the staff of the Division.
- (40) "Surface waters" means all waters as defined in G.S. 143-212 except underground waters.
- (41) "Surface water standards" means surface water standards established in 15A NCAC 02B .0200.
- (42) "Technical specialist" means an individual designated by the Soil and Water Conservation Commission to certify that the planning, design, and implementation of Best Management Practices, including all or part of an animal waste management plan, meet the standards and specifications of the Soil and Water Conservation Commission or the U.S. Department of Agriculture, Natural Resources Conservation Service.
- (43) "Toxicity test" means a test for toxicity conducted using the procedures contained in 40 CFR 261.24, which is incorporated by reference including any subsequent amendments and editions.
- (44) "Treatment works or disposal system that does not discharge to surface waters" means any treatment works, facility, utilization system, or disposal system that is designed to:
  - (a) operate as closed system with no discharge to waters of the State; or
  - (b) dispose of or use wastes, including residuals, residues, contaminated soils and animal waste, on the surface of the land; or
  - (c) dispose of wastes through a subsurface disposal system pursuant to G.S. 143-215.1(a4).
- (45) "Waste oil" means any used nonhazardous petroleum product other than crankcase oil. Crankcase oil mixed with other used nonhazardous petroleum products shall be deemed to be waste oil.
- (46) "Wetlands" are waters as defined in G.S. 143-212 and are areas that are inundated or saturated by an accumulation of surface or ground water as defined in 15A NCAC 02B .0202.

*History Note:* Authority G.S. 130A-335; 143-213; 143-215.3(a)(1);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0104 ACTIVITIES WHICH REQUIRE A PERMIT**

*History Note:* Authority G.S. 130A-335; 143-215.1; 143-215.3(a)(1);  
 Eff. September 1, 2006;  
 Repealed Eff. September 1, 2018.

#### **15A NCAC 02T .0105 GENERAL REQUIREMENTS**

- (a) Jurisdiction. Applications for permits from the Division shall be made in accordance with this Rule. Applications for permits under the jurisdiction of a local program shall be made in accordance with the requirements of the Division-approved program.
- (b) Applications. Application for a permit shall be made on Division-approved forms completely filled out, where applicable, and fully executed in the manner set forth in Rule .0106 of this Section. A processing fee as described in G.S. 143-215.3D shall be submitted with each application in the form of a check or money order made payable to the Department. Applications shall be returned if incomplete. Permits for sewer line extensions shall be applied for separately from treatment, utilization, and disposal systems. The applicant shall provide adequate documentation to the Division to ensure that the proposed system will meet all design and performance criteria as required under this

Subchapter and other applicable rules, be operated as a non-discharge system, and protect surface water and groundwater standards. Variances to this Subchapter or adopted design criteria shall be specifically requested in the application and, if approved pursuant to Paragraph (n) of this Rule, incorporated into the permit. The Division shall accept certification that the design meets or exceeds minimum design criteria applicable to the project if the certification is provided by a licensed or certified professional, such as a professional engineer, licensed soil scientist, licensed geologist, or technical specialist. Division acceptance of certifications that were specifically requested by the Division to be provided with the application from the applicant or from licensed or certified professionals preparing reports for the application and that were approved in the permit shall constitute approval of a variance to this Subchapter or to applicable minimum design and performance criteria.

(c) Application packages for new and expanding facilities shall include the following items:

- (1) the number of executed copies necessary for each review office and one additional copy. Additional copies shall be required if needed for federal and state grant and loan projects;
- (2) reports, engineering plans, specifications, and calculations as required by the applicable rules of this Subchapter. If prepared by licensed or certified professionals these reports shall be submitted in accordance with the respective statutes and rules governing that profession;
- (3) operational agreements as required by Rule .0115 of this Section;
- (4) for projects that require environmental documentation pursuant to the North Carolina Environmental Policy Act, a final environmental document (Finding of No Significant Impact or Record of Decision);
- (5) a general scaled location map, showing orientation of the facility with reference to at least two geographic references (e.g. numbered roads, named streams or rivers);
- (6) documentation that other environmental permit or certification applications that are needed to properly construct and operate the facilities permitted under this Subchapter are being prepared, have been applied for, or have been obtained, such as 401 certifications, erosion and sedimentation control plans, and stormwater management plans;
- (7) a description of the project including the origin, type and flow of waste to be treated. For industrial processing facilities, a waste analysis extensive enough to allow a complete evaluation of the system's capability to treat the waste and any potential impacts on the waters of the state shall be included;
- (8) documentation of compliance with Article 21 Part 6 (Floodway Regulations) of Chapter 143 of the General Statutes;
- (9) documentation as required by other applicable rules in this Subchapter; and
- (10) documentation of the presence or absence of threatened or endangered aquatic species using information provided by the Natural Heritage Program of the Department. This shall only apply to the area whose boundary is encompassed by, and is for the purpose of, the installation, operation, and maintenance of facilities permitted herein (wastewater collection, treatment, storage, utilization, or disposal). This documentation shall provide information on the need for permit conditions pursuant to Paragraph (i) of this Rule.

(d) Application packages for renewals shall include updated site plans, if required as part of the original submittal.

(e) Application and annual Fees.

- (1) Application Fee. For every application for a new or major modification of a permit pursuant to this Section, a nonrefundable application processing fee in the amount provided in G.S. 143-215.3D shall be submitted to the Division by the applicant at the time of application. For a facility with multiple treatment units governed by a single permit, the application fee shall be set by the total design treatment capacity. Modification fees shall be based on the projected annual fee for the facility.
- (2) Annual Fees. An annual fee for administering and compliance monitoring shall be charged in each year of the term of every renewable permit according to the schedule in G.S. 143-215.3D(a). Annual fees shall be paid for any facility operating on an expired permit that has not been rescinded or revoked by the Division. Permittees shall be billed annually by the Division. A change in the facility that changes the annual fee shall result in the revised annual fee being billed effective with the next anniversary date.

(f) Designs for facilities permitted under this Section shall use the practicable waste treatment and disposal alternative with the least adverse impact on the environment in accordance with G.S. 143-215.1(b)(2).

(g) The Division shall incorporate pretreatment requirements under 15A NCAC 02H .0900 into the permit.

- (h) Setbacks and required separation distances shall be provided as required by the rules in this Subchapter. Setbacks to perennial and intermittent streams, perennial waterbodies, and wetlands shall be determined using the methodology set forth in 15A NCAC 02B .0233(4)(a). Setbacks to wells shall apply to those wells outside the compliance boundary. If wells and subsurface groundwater lowering drainage systems would otherwise be inside the compliance boundary as established in 15A NCAC 02L .0107, the applicant may request the compliance boundary be established closer to the waste disposal area and this shall be granted provided the groundwater standards can be met at the newly established compliance boundary.
- (i) Permits shall provide specific conditions to address the protection of threatened or endangered aquatic species, as provided in plans developed pursuant in 15A NCAC 02B .0110, if the construction and operation of the facility directly impacts such species.
- (j) Except as otherwise required by Rule .1306 in this Subchapter, the Permittee shall comply with all permit conditions and requirements until the waste treatment systems authorized by the permit are properly closed or subsequently permitted by another permit issued by the appropriate permitting authority for that activity.
- (k) Monitoring of waste and surface waters shall be in accordance with 15A NCAC 02B .0505 except as otherwise provided by applicable rules in this Subchapter.
- (l) Reporting shall be in accordance with 15A NCAC 02B .0506 except as otherwise provided by applicable rules in this Subchapter.
- (m) Monitoring of groundwater shall be in accordance with Sections 15A NCAC 02L .0100 and 15A NCAC 02C .0100 except as otherwise provided by applicable rules in this Subchapter.
- (n) The Director shall approve alternative Design Criteria and Application Submittal requirements if the applicant can demonstrate that the alternative will provide:
- (1) equal or better treatment of the waste;
  - (2) equal or better protection of the waters of the state; and
  - (3) no increased potential for nuisance conditions from noise, odor or vermin.
- (o) The Permittee shall retain the Division-approved plans and specifications for the life of the facility.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0106 SUBMISSION OF PERMIT APPLICATIONS**

- (a) Permit applications, supporting information, and processing fees for permits issued by the Division shall be filed with the Division. Applications for permits from a Division-approved local permitting program shall be submitted to the local program director. Division permit processing fees shall not be required for permits issued by delegated local permitting programs.
- (b) Permit applications shall be signed as follows:
- (1) in the case of corporations, by a principal executive officer of at least the level of vice-president or his authorized representative;
  - (2) in the case of a partnership or a limited partnership, by a general partner;
  - (3) in the case of a sole proprietorship, by the proprietor;
  - (4) in the case of a municipal, state, or other public entity, by either an executive officer, elected official in the highest level of elected office, or other authorized employee.
- (c) Delegation of authority to sign permit applications to other authorized employees or any employee in a specific position shall be provided in writing to the Division and signed by an authorized person pursuant to Paragraph (b) of this Rule. The delegation may be for a specific permit application or for certain or all types of water quality permits. The letter shall identify the extent of delegation.

*History Note:* Authority G.S. 143-215.3(a)(1); 143-215.1;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0107 STAFF REVIEW AND PERMIT PREPARATION**

- (a) The staff of the Division shall conduct a review of plans, specifications, and other project data accompanying the application and shall determine if the application and required information are complete. The staff shall acknowledge receipt of a complete application except for fast-track sewer applications. The local government unit or

units having jurisdiction over specific residential projects shall be notified of permit applications in accordance with G.S. 143-215.1(d1).

(b) If the application does not include all required information and the application fee, the application shall be returned to the applicant. The staff shall advise the applicant:

- (1) how the application or accompanying supporting information may be modified to make it acceptable for review; and
- (2) that the 90 day processing period required in G.S. 143-215.1 and Rule .0108 of this Section begins upon receipt of a corrected application with required supporting information.

(c) In reviewing a permit application for sewer system construction or sewer system extensions, the staff of the Division shall determine whether the treatment works or the sewer system to which the proposed system will discharge is adequate to receive waste which will be discharged from the proposed system, pursuant to G.S. 143-215.67(a).

(d) In reviewing a permit application for new and expanding treatment works and disposal systems, the staff shall make a site-specific evaluation to determine the potential impacts of the proposed project on surface and ground water quality. The applicant shall make the site accessible to the Division.

(e) If an application is accepted and later found to be incomplete, the applicant shall be advised how the application or accompanying supporting information may be modified to make it complete. The staff shall advise the applicant:

- (1) that the 90 day processing period required in G.S. 143-215.1(d) and Rule .0108 of this Section begins on the date the additional information is received; and
- (2) that if all required information is not submitted within 30 days, the project will be returned as incomplete. Any resubmittal of a returned application shall be accompanied with a new application fee.

*History Note:* Authority G.S. 143-215.1(b); 143-215.1(d); 143-215.3(a)(1); 143-215.3(a)(4);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0108 FINAL ACTION ON PERMIT APPLICATIONS TO THE DIVISION**

(a) The Director shall take final action on all applications not later than 90 days following receipt of a complete application together with all required information. All permits, renewals of permits, and decisions denying permits or renewals shall be in writing.

(b) The Director shall:

- (1) issue a permit:
  - (A) containing such conditions as are necessary to effectuate the purposes of Article 21, Chapter 143 of the General Statutes; and
  - (B) containing time schedules for achieving compliance with applicable effluent standards and limitations, surface water or groundwater standards and other legally applicable requirements;
- (2) deny a permit application if necessary to effectuate:
  - (A) the purposes of Article 21, Chapter 143;
  - (B) the purposes of G.S. 143-215.67(a); or
  - (C) rules on groundwater quality standards found in Subchapter 02L of this Chapter; or
- (3) hold public meetings if necessary to obtain additional information needed to complete the review of the application. The application shall be considered as incomplete until the close of the meeting record.

(c) The Division may require monitoring and reporting requirements, including of groundwater, surface water or wetlands, waste, wastewater, residuals, soil, treatment processes, lagoon or storage ponds, and plant tissue, if necessary to determine the source, quantity, and quality of the waste and its effect upon the surface water, ground waters, or wetlands. All reports shall be submitted on Division-supplied forms or forms approved by the Division as providing the same information as required by the Division's forms.

(d) If a permit is denied, the letter of denial shall state the reason for denial and reasonable measures that the applicant may take to make the application approvable.

(e) All permits requiring an annual fee shall be issued for a time period not to exceed eight years, except for those permits subject to Sections .1300 and .1400 of this Subchapter, which shall not exceed five years.

*History Note:* Authority G.S. 143-215.1(a); 143-215.1(b); 143-215.1(d); 143-215.3(a)(1);

*Eff. September 1, 2006;*  
*Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0109 PERMIT RENEWALS**

Requests for permit renewals shall be submitted to the Director at least 180 days prior to expiration unless the permit has been revoked by the Director in accordance with Rule .0110 of this Section or a request has been made to rescind the permit. Renewal requests shall be made in accordance with Rule .0105 and Rule .0106 of this Section.

*History Note: Authority G.S. 143-215.3(a)(1);*  
*Eff. September 1, 2006;*  
*Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0110 MODIFICATION AND REVOCATION OF PERMITS**

A permit issued by the Division pursuant to this Subchapter shall be subject to revocation or modification upon 60 days notice by the Director in whole or part for the following reasons:

- (1) violation of any terms or conditions of the permit or this Subchapter;
- (2) obtaining a permit by misrepresentation or failure to disclose all relevant facts;
- (3) refusal of the permittee to allow authorized employees of the Department upon presentation of credentials:
  - (a) to enter upon permittee's premises where a system is located or where any records are required to be kept under terms and conditions of the permit;
  - (b) to have access to any documents and records required to be kept under terms and conditions of the permit;
  - (c) to inspect any monitoring equipment or method required in the permit; or
  - (d) to sample any pollutants;
- (4) failure to pay the annual fee for administering and compliance monitoring; or
- (5) a determination by the Division that the conditions of the permit are in conflict with the North Carolina Administrative Code or General Statutes.

*History Note: Authority G.S. 143.215.1(b)(4)(c); 143-215.3(a)(1);*  
*Eff. September 1, 2006;*  
*Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0111 CONDITIONS FOR ISSUING GENERAL PERMITS**

(a) After issuance of a general permit by the Director pursuant to G.S. 143-215.1(b), (c), or (d), persons operating facilities described by the general permit may request coverage under it. An operation that receives a "Certificate of Coverage" under a general permit shall be permitted under the general permit for which the coverage was issued. A Certificate of Coverage shall mean that approval is given to facilities that meet the requirements of coverage under the general permit. Persons operating facilities covered under general permits developed in accordance with this Rule shall be subject to the same limits, conditions, management practices, enforcement authorities, and rights and privileges specified in the general permit.

(b) Upon development of a draft general permit, the Director shall publicly notice an intent to issue the general permit, pursuant to G.S. 143-215.4(b)(1) and (2), at least 30 days prior to final action. The notice shall provide the name, address, and phone number of the Division, a brief description of the intended action, and a brief description of the procedures for the formulation of final determinations, including a 30-day comment period and other means by which interested persons may comment upon the determinations.

(c) No provisions in any general permit issued under this Rule shall be interpreted to allow the permittee to violate state surface water standards, groundwater standards outside a Compliance Boundary established in accordance with 15A NCAC 02L .0107, or other applicable environmental Rules. Construction of new water supply wells for human consumption shall be prohibited within Compliance Boundaries for facilities covered under general permits issued pursuant to this Section. General permits issued pursuant to this Rule shall be considered individual permits for purposes of Compliance Boundaries established under 15A NCAC 02L .0107.

(d) To obtain a Certificate of Coverage, a Notice of Intent to be covered by the general permit shall be given by the applicant to the Division using Division-approved forms. Coverage pursuant to the general permit shall be granted unless the Director makes a determination under Paragraph (h) of this Rule that an individual permit is required. If

all requirements of Paragraph (h) are not met, an individual permit application and full application review procedure shall be required.

(e) A general permit shall be effective for a term not to exceed eight years, at the end of which the Division may renew it pursuant to G.S. 143-215.1. The Division shall satisfy public notice requirements specified in Paragraph (b) of this Rule prior to renewal of a general permit. If the Division does not renew a general permit, all operations covered under that general permit shall be notified to submit applications for individual permits.

(f) Anyone engaged in activities covered by the general permit rules but not permitted in accordance with this Subchapter, shall be in violation of G.S. 143-215.1.

(g) Any individual covered or considering coverage under a general permit may choose to pursue an individual permit for any operation covered by this Rule.

(h) The Director may require any person, otherwise eligible for coverage under a general permit, to apply for an individual permit by notifying that person that an application is required. Notification shall consist of a written description of the reason for the decision, appropriate permit application forms and application instructions, a statement establishing the required date for submission of the application, and a statement informing the person that coverage by the general permit shall automatically terminate upon issuance of the individual permit. Reasons for requiring application for an individual permit shall include:

- (1) the operation is a significant contributor of pollutants to the waters of the State;
- (2) conditions at the permitted site change, altering the constituents or characteristics of the wastewater such that the operation no longer qualifies for coverage under a general permit;
- (3) noncompliance with the general permit;
- (4) noncompliance with the rules in this Chapter;
- (5) a change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the operation;
- (6) a determination by the Division that there has been or is the potential to have a direct discharge of wastewater or residuals to waters of the State; or
- (7) the system has been allowed to deteriorate or leak such that it poses an immediate threat to the environment.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a)(1); 143-215.10C;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0112 DELEGATION OF AUTHORITY**

For permits issued by the Division, the Director is authorized to delegate any or all of the functions contained in the rules of this Subchapter except the following:

- (1) denial of a permit application;
- (2) revocation of a permit not requested by the permittee; and
- (3) modification of a permit not requested by the permittee.

*History Note:* Authority G.S. 143-215.3(a)(1); 143-215.3(a)(4);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0113 PERMITTING BY REGULATION**

(a) The following disposal systems as well as those in Permitting By Regulation rules in this Subchapter (i.e., Rules .0203, .0303, .0403, .1103, .1203, .1303, .1403, and .1503) shall be deemed to be permitted pursuant to G.S. 143-215.1(b), and it shall not be necessary for the Division to issue individual permits or coverage under a general permit for construction or operation of the following disposal systems provided the system does not result in any violations of surface water or groundwater standards, there is no direct discharge to surface waters, and all criteria required for the specific system are met:

- (1) swimming pool and spa filter backwash and drainage, filter backwash from aesthetic fountains, and filter backwash from commercial or residential water features such as garden ponds or fish ponds, that is discharged to the land surface;
- (2) backwash from raw water intake screening devices that is discharged to the land surface;
- (3) condensate from residential or commercial air conditioning units that is discharged to the land surface;



- (4) discharges to the land surface from individual non-commercial car washing operations;
- (5) discharges to the land surface from flushing and hydrostatic testing water associated with utility distribution systems, new sewer extensions, or new reclaimed water distribution lines;
- (6) street wash water that is discharged to the land surface;
- (7) discharges to the land surface from firefighting activities;
- (8) discharges to the land surface associated with emergency removal and treatment activities for spilled oil authorized by the federal or state on-scene coordinator when such removals are undertaken to minimize overall environmental damage due to an oil spill;
- (9) discharges to the land surface associated with biological or chemical decontamination activities performed as a result of an emergency declared by the Governor or the Director of the Division of Emergency Management, that are conducted by or under the direct supervision of the federal or state on-scene coordinator, and that meet the following criteria:
  - (A) the volume produced by the decontamination activity is too large to be contained onsite;
  - (B) the Division is informed prior to commencement of the decontamination activity; and
  - (C) the wastewater is not radiologically contaminated or classified as hazardous waste;
- (10) drilling muds, cuttings, and well water from the development of wells or from other construction activities, including directional boring, except such wastes generated in the construction and development of oil and gas wells regulated by Article 27 of G.S. 113;
- (11) purge water from groundwater monitoring wells;
- (12) composting facilities for animal mortality if the construction and operation of the facilities is approved by the North Carolina Department of Agriculture and Consumer Services; the facilities are constructed on an impervious, weight-bearing foundation, and are operated under a roof; and the facilities are approved by the State Veterinarian pursuant to G.S. 106-403. In the event of an imminent threat of a contagious animal disease, any emergency measure or procedure related to composting of animal mortality pursuant to G.S. 106-399.4(a);
- (13) overflow from elevated potable water storage facilities;
- (14) mobile carwashes if:
  - (A) all detergents used are biodegradable;
  - (B) no steam cleaning, engine or parts cleaning is being conducted;
  - (C) notification is made prior to operation by the owner to the municipality or, if not in a municipality, then the county where the cleaning service is being provided; and
  - (D) non-recyclable washwater is collected and discharged into a sanitary sewer or wastewater treatment facility, upon approval of the facility's owner, such that no ponding or runoff of the washwater occurs;
- (15) mine tailings if no chemicals are used in the mining process;
- (16) mine dewatering if no chemicals are used in the mining process;
- (17) wastewater created from the washing of produce, with no further processing on-site, on farms where the wastewater is irrigated onto fields so as not to create runoff or cause a discharge; and
- (18) discharges to the land surface of less than 5,000 gallons per week of backwash water from greensand filters at potable water wells, not including conventional filters, reverse osmosis, and ion exchange filters, provided ponding or runoff does not occur and the backwash does not exceed the Maximum Contaminant Level (MCL) for radionuclides or arsenic; and
- (19) discharges to the land surface of less than 350 gallons per week of backwash water from reverse osmosis, ion exchange filters, greensand filters at private drinking water wells, provided ponding or runoff does not occur.

(b) Nothing in this Rule shall be deemed to allow the violation of any surface water, groundwater, or air quality standards and, in addition, any such violation shall be considered a violation of a condition of a permit. Further, nothing in this Rule shall be deemed to apply to or permit disposal systems for which a state National Pollutant Discharge Elimination System permit is otherwise required.

(c) Any violation of this Rule or any discharge to surface waters from the disposal systems listed in Paragraph (a) of this Rule or the activities listed in other Permitted By Regulation rules in this Subchapter shall be reported in accordance with 15A NCAC 02B .0506.

(d) Disposal systems deemed permitted under this Subchapter shall remain deemed permitted, notwithstanding any violations of surface water or groundwater standards or violations of this Rule or other Permitted By Regulation rules in this Subchapter, until such time as the Director determines that they shall not be deemed permitted in accordance with the criteria established in this Rule.

(e) The Director may determine that a disposal system shall not be deemed to be permitted in accordance with this Rule or other Permitted By Regulation rules in this Subchapter and require the disposal system to obtain an individual permit or a certificate of coverage under a general permit. This determination shall be made based on existing or projected environmental impacts, compliance with the provisions of this Rule or other Permitted By Regulation rules in this Subchapter, and the compliance history of the facility owner.

*History Note: Authority G.S. 130A-300; 143-215.1(a)(1); 143-215.1(b)(4)(e); 143-215.3(a); Eff. September 1, 2006; Amended Eff. March 19, 2015; June 18, 2011; Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0114 WASTEWATER DESIGN FLOW RATES**

(a) This Rule shall be used to determine wastewater flow rates for all systems governed by this Subchapter unless alternate criteria are provided by a program-specific rule or for flow used for the purposes of 15A NCAC 02H .0105. Higher flow rates shall be required where usage and occupancy are atypical, including those in Paragraph (e) of this Rule. Wastewater flow calculations shall take hours of operation and anticipated maximum occupancies and usage into account when calculating peak flows for design.

(b) In determining the volume of sewage from dwelling units, the flow rate shall be 120 gallons per day per bedroom. The minimum volume of sewage from each dwelling unit shall be 240 gallons per day and each additional bedroom above two bedrooms shall increase the volume by 120 gallons per day. Each bedroom or any other room or addition that can function as a bedroom shall be considered a bedroom for design purposes. When the occupancy of a dwelling unit exceeds two persons per bedroom, the volume of sewage shall be determined by the maximum occupancy at a rate of 60 gallons per person per day.

(c) The following table shall be used to determine the minimum allowable design daily flow of wastewater facilities. Design flow rates for establishments not identified below shall be determined using available flow data, water-using fixtures, occupancy or operation patterns, and other measured data.

| Type of Establishments                                       | Daily Flow For Design            |
|--|----------------------------------|
| Barber and beauty shops                                      |                                  |
| Barber Shops   | 50 gal/chair                     |
| Beauty Shops   | 125 gal/booth or bowl            |
| Businesses, offices and factories                            |                                  |
| General business and office facilities                       | 25 gal/employee/shift            |
| Factories, excluding industrial waste                        | 25 gal/employee/shift            |
| Factories or businesses with showers or food preparation     | 35 gal/employee/shift            |
| Warehouse  | 100 gal/loading bay              |
| Warehouse – self storage (not including caretaker residence) | 1 gal/unit                       |
| Churches   |                                  |
| Churches without kitchens, day care or camps                 | 3 gal/seat                       |
| Churches with kitchen  | 5 gal/seat                       |
| Churches providing day care or camps                         | 25 gal/person (child & employee) |
| Fire, rescue and emergency response facilities               |                                  |
| Fire or rescue stations without on site staff                | 25 gal/person                    |
| Fire or rescue stations with on-site staff                   | 50 gal/person/shift              |
| Food and drink facilities                                    |                                  |
| Banquet, dining hall   | 30 gal/seat                      |
| Bars, cocktail lounges                                       | 20 gal/seat                      |
| Caterers   | 50 gal/100 sq ft floor space     |
| Restaurant, full Service                                     | 40 gal/seat                      |
| Restaurant, single service articles                          | 20 gal/seat                      |
| Restaurant, drive-in   | 50 gal/car space                 |
| Restaurant, carry out only                                   | 50 gal/100 sq ft floor space     |
| Institutions, dining halls                                   | 5 gal/meal                       |
| Deli   | 40 gal/100 sq ft floor space     |
| Bakery   | 10 gal/100 sq ft floor space     |
| Meat department, butcher shop or fish market                 | 75 gal/100 sq ft floor space     |

|  |                                    |
|--|------------------------------------|
| Specialty food stand or kiosk  | 50 gal/100 sq ft floor space       |
| Hotels and Motels  |                                    |
| Hotels, motels and bed & breakfast facilities,<br>without in-room cooking facilities | 120 gal/room                       |
| Hotels and motels, with in-room cooking facilities                                   | 175 gal/room                       |
| Resort hotels  | 200 gal/room                       |
| Cottages, cabins   | 200 gal/unit                       |
| Self service laundry facilities  | 500 gal/machine                    |
| Medical, dental, veterinary facilities   |                                    |
| Medical or dental offices  | 250 gal/practitioner/shift         |
| Veterinary offices (not including boarding)  | 250 gal/practitioner/shift         |
| Veterinary hospitals, kennels, animal boarding facilities                            | 20 gal/pen, cage, kennel or stall  |
| Hospitals, medical   | 300 gal/bed                        |
| Hospitals, mental  | 150 gal/bed                        |
| Convalescent, nursing, rest homes without laundry facilities                         | 60 gal/bed                         |
| Convalescent, nursing, rest homes with laundry facilities                            | 120 gal/bed                        |
| Residential care facilities  | 60 gal/person                      |
| Parks, recreation, camp grounds, R-V parks and other outdoor activity facilities     |                                    |
| Campgrounds with comfort station, without<br>water or sewer hookups                  | 75 gal/campsite                    |
| Campgrounds with water and sewer hookups   | 100 gal/campsite                   |
| Campground dump station facility   | 50 gal/space                       |
| Construction, hunting or work camps with flush toilets                               | 60 gal/person                      |
| Construction, hunting or work camps with chemical or<br>portable toilets             | 40 gal/person                      |
| Parks with restroom facilities   | 250 gal/plumbing fixture           |
| Summer camps without food preparation or laundry facilities                          | 30 gal/person                      |
| Summer camps with food preparation and laundry facilities                            | 60 gal/person                      |
| Swimming pools, bathhouses and spas  | 10 gal/person                      |
| Public access restrooms  | 325 gal/plumbing fixture           |
| Schools, preschools and day care   |                                    |
| Day care and preschool facilities  | 25 gal/person (child & employee)   |
| Schools with cafeteria, gym and showers  | 15 gal/student                     |
| Schools with cafeteria   | 12 gal/student                     |
| Schools without cafeteria, gym or showers  | 10 gal/student                     |
| Boarding schools   | 60 gal/person (student & employee) |
| Service stations, car wash facilities  |                                    |
| Service stations, gas stations   | 250 gal/plumbing fixture           |
| Car wash facilities  | 1200 gal/bay                       |
| Sports centers   |                                    |
| Bowling center   | 50 gal/lane                        |
| Fitness, exercise, karate or dance center  | 50 gal/100 sq ft                   |
| Tennis, racquet ball   | 50 gal/court                       |
| Gymnasium  | 50 gal/100 sq ft                   |
| Golf course with only minimal food service   | 250 gal/plumbing fixture           |
| Country clubs  | 60 gal/member or patron            |
| Mini golf, putt-putt   | 250 gal/plumbing fixture           |
| Go-kart, motocross   | 250 gal/plumbing fixture           |
| Batting cages, driving ranges  | 250 gal/plumbing fixture           |
| Marinas without bathhouse  | 10 gal/slip                        |
| Marinas with bathhouse   | 30 gal/slip                        |
| Video game arcades, pool halls   | 250 gal/plumbing fixture           |
| Stadiums, auditoriums, theaters, community centers                                   | 5 gal/seat                         |
| Stores, shopping centers, malls and flea markets                                     |                                    |
| Auto, boat, recreational vehicle dealerships/showrooms<br>with restrooms             | 125 gal/plumbing fixture           |

|  |                          |
|--|--------------------------|
| Convenience stores, with food preparation                        | 60 gal/100 sq ft         |
| Convenience stores, without food preparation                     | 250 gal/plumbing fixture |
| Flea markets   | 30 gal/stall             |
| Shopping centers and malls with food service                     | 130 gal/1000 sq ft       |
| Stores and shopping centers without food service                 | 100 gal/1000 sq ft       |
| Transportation terminals – air, bus, train, ferry, port and dock | 5 gal/passenger          |

(d) Design daily flow rates for proposed non-residential developments where the types of use and occupancy are not known shall be designed for a minimum of 880 gallons per acre, or the applicant shall specify an anticipated flow based upon anticipated or potential uses.

(e) Design daily flow rates for residential property on barrier islands and similar communities located south or east of the Atlantic Intracoastal Waterway and used as vacation rental as defined in G.S. 42A-4 shall be 120 gallons per day per habitable room. Habitable room shall mean a room or enclosed floor space used or intended to be used for living or sleeping, excluding kitchens and dining areas, bathrooms, shower rooms, water closet compartments, laundries, pantries, foyers, connecting corridors, closets, and storage spaces.

(f) An adjusted daily sewage flow design rate shall be granted for permitted but not yet tributary connections and future connections tributary to the system upon showing that the capacity of a sewage system is adequate to meet actual daily wastewater flows from a facility included in Paragraph (b) or (c) of this Rule without causing flow violations at the receiving wastewater treatment plant or capacity-related sanitary sewer overflows within the collection system as follows:

- (1) Documented, representative data from that facility or a comparable facility shall be submitted by an authorized signing official in accordance with Rule .0106 of this Section to the Division for all flow reduction requests, as follows:
  - (A) dates of flow meter calibrations during the time frame evaluated and indication if any adjustments were necessary;
  - (B) a breakdown of the type of connections (e.g. two bedroom units, three bedroom units) and number of customers for each month of submitted data as applicable. Identification of any non-residential connections including subdivision clubhouses and pools, restaurants, schools, churches and businesses. For each non-residential connection, information identified in Paragraph (c) of this Rule (e.g. 200 seat church, 40 seat restaurant, 35 person pool bathhouse);
  - (C) a letter of agreement from the owner or an official, meeting the criteria of Rule .0106 of this Section, of the receiving collection system or treatment works accepting the wastewater and agreeing with the adjusted design rate;
  - (D) age of the collection system;
  - (E) analysis of inflow and infiltration within the collection system or receiving treatment plant, as applicable;
  - (F) if a dedicated wastewater treatment plant serves the specific area and is representative of the residential wastewater usage, at least the 12 most recent consecutive monthly average wastewater flow readings and the daily total wastewater flow readings for the highest average wastewater flow month per customers, as reported to the Division;
  - (G) if daily data from a wastewater treatment plant cannot be used or is not representative of the project area: 12 months worth of monthly average wastewater flows from the receiving treatment plant shall be evaluated to determine the peak sewage month. Daily wastewater flows shall then be taken from a flow meter installed at the most downstream point of the collection area for the peak month selected that is representative of the project area. Justification for the selected placement of the flow meter shall also be provided; and
  - (H) an estimated design daily sewage flow rate shall be determined by calculating the numerical average of the top three daily readings for the highest average flow month. The calculations shall also account for seasonal variations, excessive inflow and infiltration, age and suspected meter reading and recording errors.
- (2) The Division shall evaluate all data submitted but shall also consider other factors in granting, with or without adjustment, or denying a flow reduction request including: applicable weather conditions during the data period (i.e. rainy or drought), other historical monitoring data for the particular facility or other similar facilities available to the Division, the general accuracy of

- monitoring reports and flow meter readings, and facility usage, such as whether the facility is in a resort area.
- (3) Flow increases shall be required if the calculations required by Subparagraph (f)(1) of this Rule yield design flows higher than that specified in Paragraphs (b) or (c) of this Rule.
  - (4) The permittee shall retain the letter of any approved adjusted daily design flow rate for the life of the facility and shall transfer such letter to a future permittee.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a)(1);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0115 OPERATIONAL AGREEMENTS**

(a) Prior to issuance or reissuance of a permit pursuant to this Subchapter for a wastewater facility or sewer extension as specified in G.S. 143-215.1(d1), a private applicant shall:

- (1) demonstrate that the applicant has been designated as a public utility by the North Carolina Utilities Commission and is authorized to provide service to the specific project area. This may be a Certificate of Public Convenience and Necessity or letter from the Public Staff; or
- (2) enter into and submit an executed Operational Agreement pursuant to G.S. 143-215.1(d1) with the Division.

(b) If the applicant is a developer of lots to be sold, an executed Operational Agreement shall be submitted with the permit application. A copy of the Articles of Incorporation, Declarations, and By-laws, with the engineer's certification, shall be submitted prior to operation of the permitted facilities to the Division, as required by 15A NCAC 02T .0116.

(c) If the applicant is a legally formed Homeowners' or Property Owner's Association, an executed Operational Agreement and a copy of the Articles of Incorporation, Declarations, and By-laws shall be submitted to the Division with the permit application.

*History Note:* Authority G.S. 143-215.1(d1);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0116 CERTIFICATION OF COMPLETION**

(a) Prior to the operation of any sewer system, treatment works, utilization system, or disposal system for which an individual permit has been issued in accordance with this Subchapter and the application prepared by licensed professional, a certification shall be received by the Division from a professional certifying that the sewer system, treatment works, utilization system, or disposal system has been installed in accordance with the rules, all minimum design criteria except as noted, and approved plans and specifications. The professional certification shall be on Division-approved forms completely filled out, where applicable, and submitted to the Division. For facilities with phased construction or if there is a need to operate certain equipment under actual operating conditions prior to certification, additional certification shall be required as follow-ups to the initial, pre-operation certification. The Division may not acknowledge receipt of engineering certifications. The permittee and the professional shall track the submittal of certifications.

(b) To transfer ownership of a sewer extension, a change of ownership request shall be submitted on Division-approved forms after certifying completion of the project.

(c) All deeds, easements, and encroachment agreements necessary for installation, operation, and maintenance of the system shall be obtained prior to operation of the system.

(d) The permittee shall maintain a copy of the individual permit and a set of final record drawings for the life of the facility.

*History Note:* Authority G.S. 143-215.1;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0117 TREATMENT FACILITY OPERATION AND MAINTENANCE**

(a) For facilities permitted under this Subchapter, the permittee shall designate an Operator in Responsible Charge and a back-up operator as required by the Water Pollution Control System Operators Certification Commission pursuant to 15A NCAC 08F .0200 and 15A NCAC 08G .0200.

(b) The Operator in Responsible Charge or a back-up operator when appropriate shall operate and visit the facility as required by the Water Pollution Control System Operators Certification Commission pursuant to 15A NCAC 08F .0200 and 15A NCAC 08G .0200.

*History Note:* Authority G.S. 143-215.3;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0118 DEMONSTRATION OF FUTURE WASTEWATER TREATMENT CAPACITIES**

No permits for sewer line extensions shall be issued to wastewater treatment systems owned or operated by municipalities, counties, sanitary districts, or public utilities unless they meet the following requirements:

- (1) Prior to exceeding 80 percent of the system's permitted hydraulic capacity (based on the average flow during the last calendar year), the permittee shall submit an engineering evaluation of their future wastewater treatment, utilization, and disposal needs. This evaluation shall outline plans for meeting future wastewater treatment, utilization, or disposal needs by either expansion of the existing system, elimination or reduction of extraneous flows, or water conservation and shall include the source of funding for the improvements. If expansion is not proposed or is proposed for a later date, a justification shall be made that wastewater treatment needs will be met based on past growth records and future growth projections and, as appropriate, shall include conservation plans or other measures to achieve waste flow reductions.
- (2) Prior to exceeding 90 percent of the system's permitted hydraulic capacity (based on the average flow during the last calendar year), the permittee shall obtain all permits needed for the expansion of the wastewater treatment, utilization, or disposal system and, if construction is needed, submit final plans and specifications for expansion, including a construction schedule. If expansion is not proposed or is proposed for a later date, a justification shall be made that wastewater treatment needs will be met based on past growth records and future growth projections and, as appropriate, shall include conservation plans or other specific measures to achieve waste flow reductions.
- (3) The Director shall allow permits to be issued to facilities that are exceeding the 80 percent or 90 percent disposal capacity if the additional flow is not projected to result in the facility exceeding its permitted hydraulic capacity, the facility is in compliance with all other permit limitations and requirements, and adequate progress is being made in developing the required engineering evaluations or plans and specifications. In determining the adequacy of the progress, the Director shall consider the projected flows, the complexity and scope of the work to be completed, and any projected environmental impacts.

*History Note:* Authority G.S. 143-215.3;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0119 RESERVED FOR FUTURE CODIFICATION**

#### **15A NCAC 02T .0120 HISTORICAL CONSIDERATION IN PERMIT APPROVAL**

(a) The Division shall consider an applicant's compliance history in accordance with G.S. 143-215.1(b)(4)b.2. and with the requirements contained in this Rule for environmental permits and certifications issued pursuant to Article 21.

(b) When any of the following apply, permits for new and expanding facilities shall not be granted unless the Division determines that the permit is specifically and solely needed for the construction of facilities to resolve non-compliance with any environmental statute or rule:

- (1) The applicant or any parent, subsidiary, or other affiliate of the applicant 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.

- (2) The applicant or any parent, subsidiary, or other affiliate of the applicant has previously abandoned a wastewater treatment facility without properly closing the facility in accordance with its permit or this Subchapter.
- (3) The applicant or any parent, subsidiary, or other affiliate of the applicant has not paid a civil penalty and all appeals of this penalty have been abandoned or exhausted.
- (4) The applicant or any parent, subsidiary, or other affiliate of the applicant is currently not compliant with any compliance schedule in a permit, settlement agreement, or order.
- (5) The applicant or any parent, subsidiary, or other affiliate of the applicant has not paid an annual fee in accordance with Rule .0105(e)(2) of this Section.

(c) Permits for renewing facilities shall not be granted if the applicant or any affiliation has not paid an annual fee in accordance with Rule .0105(e)(2) of this Section.

(d) Any variance to this Rule shall be subject to approval by the Director and shall be based on the current compliance status of the permittee's facilities and the magnitude of previous violations. Variance approval shall not be delegated to subordinate staff.

*History Note:* Authority G.S. 143-215.1(b); 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

## **SECTION .0200 – WASTEWATER PUMP AND HAUL SYSTEMS**

### **15A NCAC 02T .0201 SCOPE**

This Section shall apply to all pump and haul activities of wastewater under the authority of the Division. This Section shall not apply to the transport of animal waste from animal waste management systems permitted under Section .1300 of this Subchapter and Section .1400 of this Subchapter. In addition, this Section shall not apply to the transport of wastewater residuals or biosolids permitted under Section .1100 of this Subchapter or Section .1200 of this Subchapter.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

### **15A NCAC 02T .0202 RESERVED FOR FUTURE CODIFICATION**

### **15A NCAC 02T .0203 PERMITTING BY REGULATION**

(a) The following systems shall be deemed permitted pursuant to Rule .0113 of this Subchapter if the system meets the criteria in Rule .0113 of this Subchapter and all criteria required for that system in this Rule:

- (1) wastewater from single-beverage kiosks and similar operations not regulated under the authority of the Division of Public Health if the following criteria are met:
  - (A) the facility notifies the appropriate Division regional office in writing advising of the type of operation, type and quantity of wastewater generated, and the receiving wastewater treatment facility. A letter from the facility that is accepting the wastewater (type and quantity) agreeing to accept wastewater from the applicant shall be included;
  - (B) the wastewater does not contain any human waste; and
  - (C) the waste is collected and discharged into a sewer or treatment system designed and permitted to accept the type of wastewater being pumped and hauled.
- (2) industrial wastewater if the following criteria are met:
  - (A) the facility notifies the appropriate Division regional office in writing advising of the type of operation, type, and quantity of wastewater generated, the location of wastewater generation, and the receiving wastewater treatment facility. A letter from the facility accepting the wastewater (type and quantity) agreeing to accept wastewater from the applicant shall be included;
  - (B) the wastewater does not contain any human waste;
  - (C) the waste is collected and discharged into a sewer or treatment system designed and permitted to accept the type of wastewater being pumped and hauled;
  - (D) the pump and haul activity is not to alleviate a failing wastewater system; and

(E) the Division regional office concurs in writing that the activity meets the criteria in this Rule.

(3) pumping and hauling of waste from sewer cleaning activities.

(b) The Director may determine that a system shall not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0204 PERMITTING**

(a) Permits for domestic wastewater shall only be issued in cases of environmental emergencies, nuisance conditions such as odors and vectors, health problems, or for unavoidable delays in construction of systems previously permitted under this Section. Applications for pump and haul permits for unavoidable construction delays shall include documentation demonstrating the delay could not be avoided. Failure to complete construction prior to the expiration of a pump and haul permit due to unavoidable construction delays shall subject the permittee to enforcement action by the Division if the delay could have been avoided by payment of additional costs. The permits shall be issued for a period of no more than six months unless the Director determines that conditions are such that the final waste management options cannot be implemented within six months.

(b) Applications shall include a letter from the facility accepting the wastewater, agreeing to accept both the type and quantity of wastewater from the applicant for the proposed activity.

(c) Pump and haul facilities shall include at a minimum 24 hours storage equipped with high-water alarms.

(d) Permitted pump and haul facilities or activities under this rule shall be inspected at least daily by the permittee or its representative.

*History Note: Authority G.S. 143-215.1; 143-215.3(a.);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

### **SECTION .0300 - SEWER EXTENSIONS**

#### **15A NCAC 02T .0301 SCOPE**

The rules in this Section shall apply to all sewer extensions, including gravity sewers, pump stations, force mains, vacuum sewers, pressure sewers including septic tank effluent pump (STEP) systems, or alternative sewer systems that discharge to another sewer system, and to requirements for local delegated sewer extension permitting programs.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0302 DEFINITIONS**

(a) The following definitions shall apply in this Section:

(1) "Alternative sewer system" means any sewer system or collection system other than a gravity system or standard pump station and force main. These include pressure sewer systems, septic tank with effluent pump (STEP) sewer systems, vacuum sewer system, and small diameter variable grade gravity sewers.

(2) "Building" means any structure occupied or intended for supporting or sheltering any occupancy.

(3) "Building drain" means that part of the lowest piping of a drainage system that receives the discharge from soil, waste, and other drainage pipes that extends 10 feet beyond the walls of the building and conveys the drainage to the building sewer.

(4) "Building sewer" means that part of the drainage system that extends from the end of the building drain and conveys the discharge from a single building to a public gravity sewer, private gravity sewer, individual sewage disposal system, or other point of disposal.



- (5) "Fast-track" means a permitting process whereby a professional engineer certifies that a sewer design and associated construction documents conform to all applicable sewer related rules and design criteria.
- (6) "Pressure sewer system" means an interdependent system of grinder pump stations, typically for residences, serving individual wastewater connections for single buildings that share a pressure pipe with a diameter of 1.5 inches through 6 inches. Duplex or greater pump stations connected to a common pressure pipe that can operate both independently and simultaneously with other pump stations while maintaining operation of the system within the operating constraints shall be excluded from the definition of a pressure sewer system.
- (7) "Private sewer" means any part of a sewer system that collects wastewater from one building and crosses another property or travels along a street right of way or from more than one building and is not a public sewer.
- (8) "Public sewer" means a sewer located in a dedicated public street, roadway, or dedicated public right-of-way or easement that is owned or operated by any municipality, county, water or sewer district, or any other political subdivision of the state authorized to construct or operate a sewer system.
- (9) "Sewer system" means pipelines or conduits, pumping stations including lift stations and grinder stations, alternative systems, and appurtenant appliances used for conducting wastewater to a point of ultimate treatment and disposal.
- (10) "Small diameter, variable grade gravity sewer system" means a system of wastewater collection using an interceptor tank to remove solids and grease from the waste stream. Flow is transferred to the central gravity system in the public right-of-way by gravity or effluent pumps. With venting and design, inflected gradients may also be accommodated.
- (11) "Septic tank with effluent pump (STEP) system" means a pressure sewer system in which the individual grinder pump is replaced with a septic tank and an effluent pump either in the second chamber of the septic tank or in a separate pump tank that follows the septic tank.
- (12) "Vacuum sewer system" means a mechanized system of wastewater collection using differential air pressure to move the wastewater. Centralized stations provide the vacuum with valve pits providing the collection point from the source and also the inlet air required to move the wastewater. In conjunction with the vacuum pumps, a standard non-vacuum pump station and force main is used to transport the wastewater from the vacuum tanks to a gravity sewer or ultimate point of treatment and disposal.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0303 PERMITTING BY REGULATION**

(a) The following systems shall be deemed permitted pursuant to Rule .0113 of this Subchapter if the system meets the criteria in Rule .0113 of this Subchapter and all criteria required for that system in this Rule:

- (1) a building sewer documented by the local building inspector to be in compliance with the North Carolina State Plumbing Code and that serves a single building with the sole purpose of conveying wastewater from that building into a gravity sewer that extends onto or is adjacent to the building's property. A building sewer that contributes more than five percent of the existing wastewater treatment facility's design capacity or 50,000 gallons per day of flow as calculated using the wastewater design flow rates in Rule .0114 of this Subchapter shall not commence operations until a letter of agreement, meeting the requirements of 15A NCAC 02T .0304(g), has been submitted to and approved by the regional office;
- (2) a gravity sewer serving a single building with less than 600 gallons per day of flow as calculated using rates in 15A NCAC 02T .0114 that crosses another property or parallels a right-of-way, provided that:
  - (A) an easement for crossing another property is obtained, a map is created, and both are recorded at the Register of Deeds office in the county of residence for both property owners and runs with the land or, in the case of a building sewer traveling along a right-of-way, documented permission from the dedicated right-of-way owner to use such right-of-way;

- (B) the building inspector certifies the sewer to the point of connection to the existing sewer is in accordance with state or local plumbing code; and
- (C) no other connections are made to the sewer without prior approval from the Division;
- (3) a pump station and force main serving a single building with less than 600 gallons per day of flow as calculated using the wastewater design flow rates in Rule .0114 of this Subchapter provided that:
  - (A) an easement for crossing another property is obtained, a map is created, and both are recorded at the Register of Deeds office in the county of residence for both property owners and runs with the land or, in the case of a force main traveling along a right-of-way, documented permission from the dedicated right-of-way owner to use such right-of-way;
  - (B) if a force main is used, it ties into a non-pressurized pipe, manhole or wetwell;
  - (C) the system is approved by the local building inspector as being in complete compliance with the North Carolina Plumbing Code to the point of connection to the existing sewer; and
  - (D) no other connections are made to the sewer without prior approval from the Division;
- (4) the following sewer operations, provided that the work conforms to all rules, setbacks and design standards; record drawings of the completed project are kept for the life of the project; and new sources of wastewater flow, immediate or future, are not planned to be connected to the sewer other than previously permitted but not yet tributary:
  - (A) rehabilitation or replacement of sewers of the same size and with the same horizontal and vertical alignment;
  - (B) rehabilitation or replacement of public 6-inch sewers with 8-inch sewers, provided that the rehabilitation or replacement is to correct deficiencies and bring the sewer up to current standards;
  - (C) line relocations of the same pipe size and within the same right-of-way or easement;
  - (D) parallel line installations of the same size and within the right-of-way or easement where the existing line will be abandoned;
  - (E) point repairs; and
  - (F) in-place pump station repairs or upgrades that maintain permitted capacity to within five percent of the original permitted capacity for pump replacement.

(b) The Director may determine that a system shall not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0304 APPLICATION SUBMITTAL**

- (a) Applications for permits pursuant to this Section shall be made on forms provided by the Division which may be found at <https://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/collection-systems/sewer-extension-permitting>.
- (b) Applications shall not be submitted unless the permittee has assured downstream sewer capacity.
- (c) For pressure sewers, vacuum sewers, STEP systems, and other alternative sewer systems discharging into a sewer system, the Permittee, by certifying the permit application and receiving an issued permit, shall maintain in operable condition all pumps, tanks, service laterals, and main lines as permitted, excluding the line from a building to the septic or pump tank.
- (d) For sewer extensions that have been designed in accordance with all applicable rules and design criteria, and if plans, calculations, specifications, and other supporting documents have been sealed by a professional engineer, application may be made according to the fast-track permitting process.
- (e) An application for sewers involving an Environmental Assessment shall not be considered complete until either a Finding of No Significant Impact or an Environmental Impact Statement and Record of Decision has been issued.
- (f) Sewer systems for which the design criteria has not been developed or that do not meet all applicable rules and design criteria shall be submitted for a full technical review using the official application form for those systems which may be found at <https://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/collection-systems/sewer-extension-permitting>.

(g) If the application is not submitted by the owner of the receiving collection system or treatment works, the application shall include a letter of agreement from the owner or an official of the receiving collection system or treatment works that accepts the wastewater and that meets the criteria if Rule .0106 of this Subchapter. In addition, this letter shall:

- (1) specifically refer to the project, regardless whether capacity has been purchased through an intergovernmental agreement of contract;
- (2) signify that the owner of the receiving collection system or treatment works has adequate capacity to transport and treat the proposed new wastewater; and
- (3) shall be dated within 12 months from the date of submitting the application.

This letter shall not obviate the need for the downstream sewer capacity calculations.

*History Note: Authority G.S. 143-215.1; 143-215.3(a); 143-215.67;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

### **15A NCAC 02T .0305 DESIGN CRITERIA**

(a) Sewer and sewer extensions shall not be constructed in the following areas:

- (1) a natural area designated on the State Registry of Natural Heritage Areas by a protection agreement between the owner and the Secretary, unless no prudent, feasible, or technologically possible alternative exists; or,
- (2) a natural area dedicated as a North Carolina Nature Preserve by mutual agreement between the owner and State of North Carolina represented by the Governor and Council of State, unless the Governor and Council of State agree that no prudent, feasible, or technologically possible alternative exists;

(b) Engineering design documents. The following documents shall be prepared prior to submitting a permit application to the Division. If submittal of such documents is not requested in the permitting process (i.e., fast-track), they shall be available upon request by the Division. If required by G.S. 89C, a professional engineer shall prepare these documents:

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]

- (1) a plan and profile of sewers, showing their proximity to other utilities and natural features such as water supply lines, water lines, wells, storm drains, surface waters, wetlands, roads and other trafficked areas;
- (2) design calculations, including pipe and pump sizing, velocity, pump cycle times and level control settings, pump station buoyancy, wet well storage, surge protection, detention time in the wet well and force main, ability to flush low points in force mains with a pump cycle, and downstream sewer capacity analysis; and
- (3) sewer system specifications describing all materials to be used, methods of construction, and means for assuring the quality and integrity of the finished project.

(c) All deeds, easements, and encroachment agreements necessary for installation, operation, and maintenance of the system shall be obtained prior to operation of the system.

(d) There shall be no by-pass or overflow lines designed in any new sewer system except for valved piping and appurtenances intended for emergency pumping operations.

(e) Two feet protection from a 100-year flood shall be provided unless there is a water-tight seal on all station hatches and manholes, with control panels and vents extending two feet above the 100-year flood elevation.

(f) The following separations shall be provided from the sewer system to the listed feature except as allowed by Paragraph (g) of this Rule:

|   |           |
|---|-----------|
| Storm sewers and other utilities not listed below (vertical)  | 18 inches |
| Water mains (vertical-water over sewer including in benched trenches)   | 18 inches |
| or (horizontal)   | 10 feet   |
| Reclaimed water lines (vertical – reclaimed over sewer)   | 18 inches |
| or (horizontal)   | 2 feet    |
| Any private or public water supply source consisting of wells, WS-I waters, Class I, Class II, or Class III reservoirs used as a source of drinking water | 100 feet  |

|  |           |
|--|-----------|
| Waters classified WS-II, WS-III, WS-IV, B, SA, ORW, HQW, or SB from normal high water or tide elevation, wetlands that are directly abutting these waters, and wetlands classified as UWL or SWL | 50 feet   |
| Any other stream, lake, impoundment, wetlands classified as WL, waters classified as C, SC, or WS-V, or ground water lowering and surface drainage ditches                                       | 10 feet   |
| Any building foundation  | 5 feet    |
| Any basement   | 10 feet   |
| Top slope of embankment or cuts of 2 feet or more vertical height  | 10 feet   |
| Drainage systems and interceptor drains  | 5 feet    |
| Any swimming pool  | 10 feet   |
| Final earth grade (vertical)   | 36 inches |

(g) The following separations shall be permitted if separations in Paragraph (f) of this Rule cannot be achieved, provided that nothing in this Paragraph shall supersede the allowable alternatives provided in the Commission for Public Health Public Water Supply Rules (15A NCAC 18C), Commission for Public Health Sanitation Rules (15A NCAC 18A) or the Groundwater Protection Rules (15A NCAC 02L and 15A NCAC 02C) that pertain to the separation of sewer systems from water mains or public or private wells:

- (1) for storm sewers, engineering solutions such as ductile iron pipe or structural bridging to prevent crushing the underlying pipe;
- (2) for public or private wells, piping materials, testing methods, and acceptability standards meeting water main standards shall be used where these separations cannot be maintained. All appurtenances shall be outside the 100-foot radius of the well. The separation shall however not be less than 25 feet from a private well or 50 feet from a public well;
- (3) for public water main horizontal or vertical separations, alternatives as described in 15A NCAC 18C .0906(b) and (c);
- (4) for less than 36-inches cover from final earth grade, ductile iron pipe shall be required in any alternative. Ductile iron pipe or other pipe with proper bedding to develop design supporting strength shall be provided where sewers are subject to traffic bearing loads; and
- (5) for all other separations, materials, testing methods, and acceptability standards meeting water main standards (15A NCAC 18C) shall be required in any alternative.

(h) The following criteria shall be met for all pumping stations and force mains:

- (1) Pump Station Reliability:
  - (A) Pump stations shall be designed with multiple pumps such that peak flow can be pumped with the largest pump out of service. Simplex pump stations, which are pump stations with only one pump, shall serve only a single building with an average daily design flow less than or equal to 600 gallons per day as calculated using Rule .0114 of this Subchapter.
  - (B) A standby power source or pump shall be required at all pump stations except for simplex pump stations. Controls shall be provided to automatically activate the standby source and signal an alarm condition.
  - (C) As an alternative to Part (B) of this Subparagraph for pump stations with an average daily design flow less than 15,000 gallons per day as calculated using Rule .0114 of this Subchapter, a portable power source or pumping capability may be used. The portable source shall be owned or contracted by the permittee and shall be compatible with the station. If the portable power source or pump is dedicated to multiple pump stations, an evaluation of all the pump stations' storage capacities and the rotation schedule of the portable power source or pump in a multiple station power outage, including travel timeframes, shall be provided.
  - (D) Simplex pump or vacuum stations connecting a single building to a sewer system shall provide 24-hours worth of wastewater storage or shall provide storage in excess of that needed during the greatest power outage over the last three years or the documented response time to replace a failed pump, whichever is greater. Documentation of wastewater storage shall be provided with the permit application. In no case shall less than 6 hours worth of wastewater storage be provided above the pump-on level.
  - (E) All pump stations designed for two pumps or more shall have a telemetry system to provide remote notification of a problem condition, including power failure and high water alarm.

- (F) All pump stations shall have a high water audio and visual alarm.
- (2) Pump stations shall have a permanent weatherproof sign stating the pump station identifier, 24-hour emergency number, and instructions to call in case of emergency. Simplex pump or vacuum stations serving a single-family residence shall have a placard or sticker placed inside the control panel with a 24-hour emergency contact number.
- (3) Wet wells shall be equipped with screened vents.
- (4) The public shall be restricted from access to the site and equipment.
- (5) Air relief valves shall be provided at all high points along force mains where the vertical distance exceeds ten feet.
- (i) The following criteria shall be met for gravity sewers:
  - (1) public gravity sewers shall be equipped with a minimum eight inch diameter pipe and private gravity sewers shall be equipped with a minimum six inch diameter pipe;
  - (2) the maximum separation between manholes shall be 425 feet unless documentation is submitted with the application that the owner has the capability to perform routine cleaning and maintenance of the sewer at the specified manhole separation; and
  - (3) drop manholes shall be provided where invert separations exceed 2.5 feet.
- (j) The following criteria shall be met for low pressure sewers, vacuum sewers, STEP, and other alternative sewers discharging into another sewer system:
  - (1) Hydraulic modeling of the system shall be submitted using the statistically projected number of pumps running at one time. If computer modeling is provided by a pump manufacturer, it shall be indicated and shall be considered part of the design calculations pursuant to Subparagraph (b)(2) of this Rule.
  - (2) Simplex pump stations shall only serve a single building with an average daily design flow less than 600 gallons per day as calculated using Rule .0114 of this Subchapter. All other buildings connected to the system shall at a minimum have duplex pumps.
  - (3) Septic tanks shall adhere to the standards established in 15A NCAC 18A .1900.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

### **15A NCAC 02T .0306 LOCAL PROGRAMS FOR SEWER SYSTEMS**

(a) Jurisdiction. Municipalities, counties, local boards or commissions, water and sewer authorities, or groups of municipalities and counties may apply to the Commission for certification of local programs for permitting construction, modification, and operation of public and private sewer systems in their utility service areas pursuant to G.S. 143-215.1(f). Permits issued by certified local programs serve in place of permits issued by the Division except for projects involving an Environmental Impact Statement, projects that do not meet all applicable sewer related rules and minimum design criteria, or if the certified local program has not been certified such as alternative sewer systems, which shall continue to be permitted by the Division. The Division may choose to cede permitting authority to the certified local program after review of Environmental Assessment projects and issuance of a Finding of No Significant Impact.

(b) An application for certification of a local program shall provide adequate information to assure compliance with the requirements of G.S. 143-215.1 (f) and the following requirements:

- (1) Applications for certified local programs shall be submitted to the Director.
- (2) The program application shall include:
  - (A) the intended permit application forms;
  - (B) permit shells;
  - (C) design criteria and specifications;
  - (D) sewer ordinance;
  - (E) flow chart of permitting;
  - (F) staffing;
  - (G) inspection and certification procedures;
  - (H) intended permit application fees; and
  - (I) downstream capacity assurance methods.

The applicant shall specify in a cover letter which permits the certified local program desires to issue. The options are any of the following: gravity sewers, pump stations, force mains, or

pressure sewers. The applicant shall also specify whether these permits will be issued to sewer systems that are publicly or privately owned.

- (3) Local ordinances and rules governing processing permit applications, setting permit requirements, enforcement, and penalties shall be compatible with rules and statutes governing permits issued by the Division.
- (4) If the treatment and disposal system receiving the wastewater from the sewer line extension permitted under the certified local program is under the jurisdiction of another local unit of government, the program application shall contain a written statement from the other local unit of government that the proposed program complies with all its requirements and that the applicant has entered into a satisfactory contract that assures continued compliance.
- (5) All future amendments to the requirements of this Section shall be incorporated into certified local program within 60 days of the effective date of the amendments.
- (6) A Professional Engineer shall be on the staff of the certified local program or be retained as a consultant to review unusual situations or designs and to answer questions that arise in the review of proposed projects.
- (7) Each project permitted by the certified local program shall be inspected for compliance with the requirements of the certified local program at least once during construction.

(c) Approval of Certified Local Programs. The staff of the Division shall acknowledge receipt of an application for a certified local program in writing, review the application, notify the applicant of additional information that may be required, and make a recommendation to the Commission regarding certification of the proposed certified local program.

(d) Conditions of Local Program Approval. Once approved by the Commission, the certified local program shall adhere to the following:

- (1) Adequacy of Receiving Facilities. Certified local programs shall not issue a permit for a sewer project that would increase the flow or change the characteristics of waste to a treatment works or sewer system unless the certified local program has received a written determination from the Division that, pursuant to G.S. 143-215.67 (a), the treatment works or sewer system can adequately treat the waste. The Division staff may, when appropriate, provide one written determination that covers all local permits for domestic sewage sewer projects with total increased flow to a particular treatment works less than a specified amount and that are issued within a specified period of time. The certified local program shall not issue a permit for additional wastewater if the receiving wastewater treatment is in noncompliance with its Division issued permit unless the additional flow is allowed as part of a special order pursuant to G.S. 143-215.2. The certified local program shall not issue a permit for additional wastewater without documenting capacity assurance along the tributary wastewater path to the wastewater treatment plant.
- (2) All permitting actions shall be summarized and submitted to the Division and the appropriate Division Regional Office annually on Division forms unless more frequent reporting is required by the Division. The report shall also provide a listing and summary of all enforcement actions taken or pending during the reporting period. The report shall be submitted by February 1 of each year. Reporting forms are available at: <https://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/collection-systems/local-programs>.
- (3) A copy of all program documents, such as specifications, permit applications, permit shells, shell certification forms, and ordinance pertaining to permitting, shall be submitted to the Division annually along with a summary of all other program changes. Program changes shall include staffing changes, processing fees, and ordinance revisions. After initial submittal of such documents and if no further changes occur in subsequent years, a letter stating such may be submitted in lieu of the required documentation.
- (4) Modification of a Certified Local Program. Modifications to certified local programs, including the expansion of permitting authority, shall not be required to be approved by the Commission, but shall be subject to approval by the Director.

(e) Appeal of Local Decisions. Appeal of individual permit denials or issuance with conditions the permit applicant finds unacceptable shall be made according to the approved local ordinance. The Commission shall not consider individual permit denials or issuance with conditions to which a permittee objects. This Paragraph does not alter the enforcement authority of the Commission as specified in G.S. 143-215.1(f).

- (f) The Division may audit the certified local program for compliance with this Rule and with G.S. 143-215.1(f) at any time with a scheduled appointment with the certified local program.
- (g) The Division shall maintain a list of all local units of government with certified local programs and make copies of the list available to the public upon request and payment of reasonable costs for reproduction. The list may be obtained from the Division.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

## **SECTION .0400 – SYSTEM-WIDE COLLECTION SYSTEM PERMITTING**

### **15A NCAC 02T .0401 SCOPE**

The rules of this Section shall apply to system-wide collection systems pursuant to G.S. 143-215.9B, governing the issuance of system-wide permits for collection systems relating to operation and maintenance of sewers, pump stations, force mains, and all appurtenances.

*History Note:* Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

### **15A NCAC 02T .0402 DEFINITIONS**

The following definitions shall apply in this Section:

- (1) "Collection system" means a public or private sewer system that conveys wastewater to a designated wastewater treatment facility or separately-owned sewer system. For purposes of permitting, the collection system shall include any existing or newly installed sewer system extension up to the wastewater treatment facility property or point of connection with a separately-owned sewer system.
- (2) "High-priority sewer" means any aerial sewer, sewer contacting surface waters, siphon, sewer positioned parallel to streambanks that is subject to erosion that undermines or deteriorates the sewer, or sewer designated as a high priority in a Division-issued permit if the sewer does not meet minimum design requirements.

*History Note:* Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

### **15A NCAC 02T .0403 PERMITTING BY REGULATION**

(a) Collection systems having an actual, permitted or Division-approved average daily flow less than 200,000 gallons per day shall be deemed permitted, pursuant to Rule .0113 of this Subchapter if the system meets the criteria in Rule .0113 of this Subchapter and all criteria required in this Rule:

- (1) The collection system shall be effectively maintained and operated at all times to prevent discharge to land or surface waters and to prevent any contravention of groundwater standards or surface water standards.
- (2) A map of the collection system shall have been developed and shall be maintained.
- (3) An operation and maintenance plan, including pump station inspection frequency, preventative maintenance schedule, spare parts inventory, and overflow response shall have been developed and implemented.
- (4) Pump stations that are not connected to a telemetry system shall be inspected by the permittee or its representative every day, 365 days per year, unless the permittee demonstrates that daily inspections are not necessary because the pump station has sufficient storage capacity, above the elevation at which the pump activates, to justify a longer inspection interval. In no case shall the inspection interval exceed seven days. Pump stations that are connected to a telemetry system shall be inspected once per week.
- (5) High-priority sewers shall be inspected by the permittee or its representative once every six-months, and inspections shall be documented.

- (6) A general observation by the permittee or its representative of the entire collection system shall be conducted once per year.
- (7) Overflows and bypasses shall be reported to the appropriate Division regional office in accordance with 15A NCAC 02B .0506(a), and public notice shall be provided as required by G.S. 143-215.1C.
- (8) A Grease Control Program shall be in place as follows:
  - (A) For publicly owned collection systems, the Grease Control Program shall include bi-annual distribution of educational materials for both commercial and residential users and the legal means to require grease interceptors for new construction and retrofit and if necessary, of grease interceptors at existing establishments. The plan shall also include legal means for inspections of the grease interceptors, enforcement for violators and the legal means to control grease entering the system from other public and private satellite collection systems.
  - (B) For privately owned collection systems, the Grease Control Program shall include bi-annual distribution of grease education materials to users of the collection system by the permittee or its representative.
  - (C) Grease education materials shall be distributed more often than required in Parts (A) and (B) of this Subparagraph if necessary to prevent grease-related sanitary sewer overflows.
- (9) Right-of-ways and easements shall be maintained in the full easement width for personnel and equipment accessibility.
- (10) Documentation of compliance with Subparagraphs (a)(1) through (a)(9) of this Rule shall be maintained by the collection system owner for three years with the exception of the map, which shall be maintained for the life of the system.

(b) Private collection systems on a single property serving an industrial facility from which the domestic wastewater contribution is less than 200,000 gallons per day shall be deemed permitted.

(c) The Director may determine that a collection system shall not be deemed to be permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note:* Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0404 MULTIPLE COLLECTION SYSTEMS UNDER COMMON OWNERSHIP**

If a public entity owns multiple but separate collection systems, such as those that are tributary to separate plants, and any one is subject to an individual permit, all of the collection systems shall be covered by one permit. This shall not be applicable to public utilities authorized to operate by the North Carolina Utilities Commission that own several individual systems within the state.

*History Note:* Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0405 IMPLEMENTATION**

(a) Permit applications for the initial issuance of a collection system permit shall be completed and submitted to the Division within 60 days of the collection system owner's certified mail receipt of the Division's request for application submittal. Permit renewal requests shall be submitted to the Director at least 180 days prior to expiration, unless the permit has been revoked in accordance with 15A NCAC 02T .0110, a request has been made to rescind the permit, or the Director extends this deadline after a request from the permittee and based on factors such as the degree of delay in submission of the application or conditions out of the control of the permittee. All applications shall be submitted in duplicate, completed on official forms, and fully executed. Application forms are available at: <https://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/collection-systems/system-wide-collection-system-permitting>.

(b) Collection systems subject to an individual permit shall comply with the standards in Rule .0403 of this Section and with conditions contained in an individual permit.



*History Note:* Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

## **SECTION .0500 – WASTEWATER IRRIGATION SYSTEMS**

### **15A NCAC 02T .0501 SCOPE**

The rules in this Section shall apply to all surface irrigation of wastewater systems not otherwise specifically governed by other rules of this Subchapter. Surface irrigation of wastewater shall include spray irrigation, drip irrigation, and any other application of wastewater to the ground surface.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

### **15A NCAC 02T .0502 RESERVED FOR FUTURE CODIFICATION**

### **15A NCAC 02T .0503 RESERVED FOR FUTURE CODIFICATION**

### **15A NCAC 02T .0504 APPLICATION SUBMITTAL**

(a) The requirements in this Rule shall apply to all new and expanding facilities.

(b) Soils report. A soil evaluation of the disposal site shall be provided to the Division by the applicant in a report that includes the following. If required by G.S. 89F, a soil scientist shall prepare this evaluation:

- (1) a field description of the soil profile, based on examinations of excavation pits or auger borings, within seven feet of land surface or to bedrock, describing the following parameters by individual diagnostic horizons:
  - (A) the thickness of the horizon;
  - (B) the texture;
  - (C) the color and other diagnostic features;
  - (D) the structure;
  - (E) the internal drainage;
  - (F) the depth, thickness, and type of restrictive horizon; and
  - (G) the presence or absence and depth of evidence of any seasonal high water table.Applicants shall dig pits when necessary for evaluation of the soils at the site;
- (2) recommendations concerning loading rates of liquids, solids, other wastewater constituents, and amendments. Annual hydraulic loading rates shall be based on in-situ measurement of saturated hydraulic conductivity in the most restrictive horizon for each soil mapping unit. Maximum irrigation precipitation rates shall be provided for each soil mapping unit;
- (3) a field-delineated soil map delineating soil mapping units within each land application site and showing all physical features, location of pits and auger borings, legends, scale, and a north arrow. The legends shall also include dominant soil series name and family or higher taxonomic class for each soil mapping unit; and
- (4) a Standard Soil Fertility Analysis conducted on each land application site. The Standard Soil Fertility Analysis shall include the following parameters:
  - (A) acidity;
  - (B) base saturation (by calculation);
  - (C) calcium;
  - (D) cation exchange capacity;
  - (E) copper;
  - (F) exchangeable sodium percentage (by calculation);
  - (G) magnesium;
  - (H) manganese;
  - (I) percent humic matter;
  - (J) pH;
  - (K) phosphorus;
  - (L) potassium;

- (M) sodium; and
- (N) zinc.

[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science pursuant to G.S. 89F.]

(c) Engineering design documents. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:

- (1) engineering plans for the entire system, including treatment, storage, application, and disposal facilities and equipment except those previously permitted unless those previously permitted are directly tied into the new units or are necessary to understanding the complete process;
- (2) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product, including leakage testing; and
- (3) engineering calculations, including hydraulic and pollutant loading for each treatment unit, treatment unit sizing criteria, hydraulic profile of the treatment system, total dynamic head, and system curve analysis for each pump, buoyancy calculations, and irrigation design.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering pursuant to G.S. 89C.]

(d) Site plans. If required by G.S. 89C, a professional land surveyor shall provide location information on boundaries and physical features not under the purview of other licensed professions. Site plans or maps shall be provided to the Division by the applicant depicting the location, orientation, and relationship of facility components including:

- (1) a scaled map of the site, with topographic contour intervals not exceeding 10 feet or 25 percent of total site relief, showing:
  - (A) all facility-related structures and fences within the treatment, storage, and disposal areas; and
  - (B) soil mapping units on all disposal sites;
- (2) the location of each of the following that are located within 500 feet of a waste treatment, storage, or disposal site, including a delineation of their review and compliance boundaries:
  - (A) wells, including usage and construction details if available;
  - (B) ephemeral, intermittent, and perennial streams;
  - (C) springs;
  - (D) lakes;
  - (E) ponds; and
  - (F) other surface drainage features;
- (3) setbacks as required by Rule .0506 of this Section; and
- (4) site property boundaries within 500 feet of all waste treatment, storage, and disposal sites.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not under the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying pursuant to G.S. 89C.]

(e) Hydrogeologic report. A hydrogeologic description prepared by a Licensed Geologist, Licensed Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C, respectively, shall be provided to the Division by the applicant for systems treating industrial waste and any system with a design flow over 25,000 gallons per day. Industrial facilities with a design flow less than 25,000 gallons per day of wastewater that demonstrate that the effluent will be of quality similar to domestic wastewater, including effluent requirements established in 15A NCAC 02T .0505(b)(1), shall, upon request, be exempted from this requirement. The hydrogeologic evaluation shall be of the subsurface to a depth of 20 feet or bedrock, whichever is less deep. An investigation to a depth greater than 20 feet shall be required if the respective depth is used in predictive calculations. This evaluation shall be based on sufficient numbers, locations, and depths of borings to define the components of the hydrogeologic evaluation. In addition to borings, other techniques may be used to investigate the subsurface conditions at the site, including geophysical well logs, surface geophysical surveys, and tracer studies. This evaluation shall be presented in a report that includes the following components:

- (1) a description of the regional and local geology and hydrogeology;
- (2) a description, based on field observations of the site, of the site topographic setting, streams, springs and other groundwater discharge features, drainage features, existing and abandoned wells, rock outcrops, and other features that may affect the movement of the contaminant plume and treated wastewater;

- (3) changes in the lithology underlying the site;
- (4) the depth to bedrock and the occurrence of any rock outcrops;
- (5) the hydraulic conductivity and transmissivity of the affected aquifer as determined by in-situ field testing, such as slug tests or pumping tests, in the intended area of irrigation;
- (6) the depth to the seasonal high water table;
- (7) a discussion of the relationship between the affected aquifers of the site to local and regional geologic and hydrogeologic features;
- (8) a discussion of the groundwater flow regime of the site prior to the operation of the proposed facility and the post operation of the proposed facility, focusing on the relationship of the system to groundwater receptors, groundwater discharge features, and groundwater flow media; and
- (9) if the seasonal high water table is within six feet of the surface, a mounding analysis to predict the level of the seasonal high water table after wastewater application.

[Note: The North Carolina Board for Licensing of Geologists, via letter dated April 6, 2006, North Carolina Board for Licensing of Soil Scientists, via letter dated December 1, 2005, and North Carolina Board of Examiners for Engineers and Surveyors, via letter dated December 1, 2005, have determined that preparation of hydrogeologic description documents pursuant to this Paragraph constitutes practicing geology pursuant to G.S. 89E, soil science pursuant to G.S. 89F, or engineering pursuant to G.S. 89C.]

(f) Property Ownership Documentation shall be provided to the Division by the applicant consisting of:

- (1) legal documentation of ownership, such as a contract, deed, or article of incorporation;
- (2) an agreement of an intent to purchase the property that is written, notarized, and signed by both parties, accompanied by a plat or survey map; or
- (3) an agreement to lease the property that is written, notarized, and signed by both parties, indicating the intended use of the property, accompanied by a plat or survey map. Lease agreements shall adhere to the requirements of 15A NCAC 02L .0107.

(g) Public utilities shall submit to the Division a Certificate of Public Convenience and Necessity or a letter from the NC Utilities Commission stating that it has received a franchise application.

(h) A chemical analysis of the typical wastewater to be irrigated shall be provided to the Division by the applicant for industrial waste, which shall include:

- (1) total organic carbon;
- (2) 5-day biochemical oxygen demand (BOD<sub>5</sub>);
- (3) chemical oxygen demand (COD);
- (4) nitrate nitrogen (NO<sub>3</sub>-N);
- (5) ammonia nitrogen (NH<sub>3</sub>-N);
- (6) total kjeldahl nitrogen (TKN);
- (7) pH;
- (8) chloride;
- (9) total phosphorus;
- (10) phenol;
- (11) total volatile organic compounds;
- (12) fecal coliform;
- (13) calcium;
- (14) sodium;
- (15) magnesium;
- (16) sodium adsorption ratio (SAR);
- (17) total trihalomethanes; and
- (18) total dissolved solids.

(i) A project evaluation and a receiver site agronomic management plan (if applicable) and recommendations concerning cover crops and their ability to accept the proposed application rates of liquid, solids, minerals, and other constituents of the wastewater shall be provided to the Division by the applicant.

(j) A Residuals Management Plan as required by Rule .0508(a) of this Section shall be provided to the Division by the applicant.

(k) The applicant shall provide to the Division a water balance that determines the required effluent storage based on the most limiting factor from the following:

- (1) hydraulic loading based on the most restrictive horizon;
- (2) hydraulic loading based on the groundwater mounding analysis;
- (3) nutrient management based on agronomic rates for the specified cover crop; or

- (4) nutrient management based on crop management.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0505 DESIGN CRITERIA**

- (a) The requirements in this Rule shall apply to all new and expanding facilities.
- (b) New and expanding systems:
  - (1) that are municipal, domestic, or commercial facilities, except systems subject to Subparagraph (b)(2) of this Rule, shall meet a monthly average of each of the following:
    - (A) five-day biochemical oxygen demand (BOD<sub>5</sub>) ≤ 30 mg/L;
    - (B) total suspended solids (TSS) ≤ 30 mg/L;
    - (C) ammonia (NH<sub>3</sub>-N) ≤ 15 mg/L; and
    - (D) fecal coliforms ≤ 200 colonies/100 mL;
  - (2) with lagoon treatment systems, except those permitted as new under Subparagraph (b)(1) of this Rule, shall meet a monthly average of each of the following:
    - (A) five-day biochemical oxygen demand (BOD<sub>5</sub>) ≤ 30 mg/L;
    - (B) total suspended solids (TSS) ≤ 90 mg/L; and
    - (C) fecal coliforms ≤ 200 colonies/100 mL; or
  - (3) that are not described in Subparagraphs (b)(1) and (b)(2) of this Rule shall meet treatment standards that assure that surface water or groundwater standards will not be exceeded.
- (c) All wastes shall be applied at agronomic rates unless predictive calculations are provided that demonstrate State groundwater standards will be protected.
- (d) All open-atmosphere treatment lagoons and ponds and open-atmosphere storage units shall have at least two feet of freeboard.
- (e) Waste, including treated waste, shall not be placed directly into, or in contact with, GA classified groundwater unless such placement will not result in a contravention of GA groundwater standards, as demonstrated by predictive calculations or modeling.
- (f) Treatment works and disposal systems using earthen basins, lagoons, ponds, or trenches, excluding holding ponds containing non-industrial treated effluent prior to irrigation, for treatment, storage, or disposal, shall have either a liner of natural material at least one foot in thickness and having a hydraulic conductivity of no greater than  $1 \times 10^{-6}$  centimeters per second when compacted, or a synthetic liner of sufficient thickness to exhibit structural integrity and an effective hydraulic conductivity no greater than that of the natural material liner.
- (g) The bottoms of earthen impoundments, trenches, or other similar excavations shall be at least four feet above the bedrock surface, except that the bottom of excavations that are less than four feet above bedrock shall have a liner with a hydraulic conductivity no greater than  $1 \times 10^{-7}$  centimeters per second. Liner thickness shall be that thickness necessary to achieve a leakage rate consistent with the sensitivity of classified groundwaters. Liner requirements may be reduced if the applicant demonstrates through predictive calculations or modeling that construction and use of these treatment and disposal units will not result in contravention of surface water or groundwater standards.
- (h) Impoundments, trenches, or other excavations made for the purpose of storing or treating waste shall not be excavated into bedrock unless the placement of waste into such excavations will not result in a contravention of surface water or groundwater standards, as demonstrated by predictive calculations or modeling.
- (i) Each facility, except for those using septic tanks or lagoon treatment, shall provide flow equalization with either a capacity based upon a representative diurnal hydrograph or a capacity of 25 percent of the daily system design flow.
- (j) By-pass and overflow lines shall be prohibited.
- (k) Multiple pumps shall be provided wherever pumps are used.
- (l) Power reliability shall be provided, consisting of:
  - (1) automatically activated standby power supply, located onsite, and capable of powering all essential treatment units under design conditions; or
  - (2) approval by the Director that the facility:
    - (A) serves a private water distribution system that has automatic shut-off at power failure and no elevated water storage tanks;
    - (B) has sufficient storage capacity that no potential for overflow exists; and
    - (C) can tolerate septic wastewater during prolonged detention.

- (m) A water-tight seal on all treatment and storage units or two feet of protection from the 100-year flood elevation shall be provided.
- (n) Irrigation system design shall not exceed the recommended precipitation rates established in the soils report prepared pursuant to Rule .0504 of this Section.
- (o) 30 days of residual storage shall be provided.
- (p) Disposal areas shall be designed to maintain a one-foot vertical separation between the seasonal high water table and the ground surface.
- (q) The public shall be prohibited access to the treatment, storage, and irrigation facilities.
- (r) Influent pump stations shall meet the sewer design criteria set forth in Section .0300 of this Subchapter.
- (s) Septic tanks shall adhere to the standards established in 15A NCAC 18A .1900.
- (t) Facilities shall be provided with a flow meter to measure the volume of treated wastewater applied to each field.
- (u) Coastal waste treatment facilities, defined in 15A NCAC 02H .0403, shall be equipped with noise and odor control devices that shall be enclosed.
- (v) For coastal waste treatment facilities, defined in 15A NCAC 02H .0403, all essential treatment and disposal units shall be provided in duplicate.
- (w) Facilities serving residential communities shall provide five days of effluent storage unless additional storage is determined to be necessary pursuant to the water balance requirements in Rule .0504(k) of this Section,
- (x) Automatically activated irrigation systems shall be connected to a rain or moisture sensor to prevent irrigation during precipitation events or wet conditions that would cause runoff.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0506 SETBACKS**

(a) The setbacks for irrigation sites shall be as follows:

|  | Spray<br>(feet) | Drip<br>(feet) |
|--|-----------------|----------------|
| Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site | 400             | 100            |
| Each habitable residence or place of assembly owned by the permittee to be maintained as part of the project site          | 200             | 15             |
| Each private or public water supply source   | 100             | 100            |
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands                             | 100             | 100            |
| Groundwater lowering ditches where the bottom of the ditch intersects the SHWT   | 100             | 100            |
| Surface water diversions such as ephemeral streams, waterways, and ditches   | 25              | 25             |
| Each well with exception of monitoring wells   | 100             | 100            |
| Each property line   | 150             | 50             |
| Top of slope of embankments or cuts of two feet or more in vertical height   | 15              | 15             |
| Each water line from a disposal system   | 10              | 10             |
| Subsurface groundwater lowering drainage systems   | 100             | 100            |
| Public right of way  | 50              | 50             |
| Nitrification field  | 20              | 20             |
| Each building foundation or basement   | 15              | 15             |

(b) The setbacks for treatment and storage units shall be as follows:

|  | (feet) |
|--|--------|
| Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site | 100    |
| Each private or public water supply source   | 100    |
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands                             | 50     |
| Each well with exception of monitoring wells   | 100    |
| Each property line   | 50     |

- (c) Achieving the reclaimed water effluent standards established in 15A NCAC 02U .0301 shall permit the system to use the setbacks set forth in 15A NCAC 02U .0701(d) for property lines, and the compliance boundary shall be at the irrigation area boundary.
- (d) Setback waivers shall be written, notarized, signed by all parties involved, and recorded with the county Register of Deeds. Waivers involving the compliance boundary shall be in accordance with 15A NCAC 02L .0107.
- (e) Setbacks to property lines established in Paragraphs (a) and (b) of this Rule shall not be applicable if the permittee, or the entity from which the permittee is leasing, owns both parcels separated by the property line.
- (f) Habitable residences or places of assembly under separate ownership constructed after the non-discharge facilities were originally permitted or subsequently modified are exempt from the setback requirements in Paragraphs (a) and (b) of this Rule.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Amended Eff. June 18, 2011;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0507 OPERATION AND MAINTENANCE**

- (a) An operation and maintenance plan shall be maintained for all systems. The plan shall:
  - (1) describe the operation of the system in sufficient detail to show what operations are necessary for the system to function and by whom the operations are to be conducted;
  - (2) describe the anticipated maintenance of the system;
  - (3) include provisions for safety measures, including restriction of access to the site and equipment, as appropriate; and
  - (4) include spill control provisions, including:
    - (A) response to upsets and bypasses, including control, containment, and remediation; and
    - (B) contact information for plant personnel, emergency responders, and regulatory agencies.
- (b) Irrigation areas shall have a year-round vegetative cover.
- (c) Irrigation shall not result in ponding or runoff of treated effluent.
- (d) Irrigation and metering equipment shall be tested and calibrated annually or as established by permit.
- (e) Vehicles and heavy machinery shall not be allowed on the irrigation area except during installation or maintenance activities.
- (f) Water level gauges shall be provided for all open-atmosphere treatment lagoons and ponds and open-atmosphere storage units.
- (g) Vegetative cover shall be maintained on all earthen embankments.
- (h) The permittee shall keep a log of maintenance activities that occur at the facility.
- (i) The permittee shall perform inspections and maintenance to ensure proper operation of the facility.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readoption Eff. September 1, 2018.*

#### **15A NCAC 02T .0508 RESIDUALS MANAGEMENT**

- (a) A Residuals Management Plan shall be maintained for all systems that generate residuals. The plan shall include the following:
  - (1) a detailed explanation as to how the residuals will be collected, handled, processed, stored, and disposed;
  - (2) an evaluation of the residuals storage requirements for the treatment facility, based upon the maximum anticipated residuals production rate and the ability to remove residuals;
  - (3) a permit for residuals management or a written commitment to the permittee of a Department-approved residuals management program accepting the residuals that demonstrates that the approved program has adequate capacity to accept the residuals or that an application for approval has been submitted; and
  - (4) if oil, grease, grit, or screenings removal and collection is a designed unit process, a detailed explanation as to how these materials will be collected, handled, processed, stored, and disposed.
- (b) The permittee shall maintain a record of all residuals removed from the facility.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

## **SECTION .0600 – SINGLE-FAMILY RESIDENCE WASTEWATER IRRIGATION SYSTEMS**

### **15A NCAC 02T .0601 SCOPE**

The rules in this Section shall apply to all surface irrigation of wastewater systems designed for one building single-family residences. One building single-family residences generating and utilizing reclaimed water shall meet requirements established in 15A NCAC 02U. Surface irrigation systems serving single-family residences shall be deemed to be ground absorption systems in accordance with 15A NCAC 02L .0107.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

### **15A NCAC 02T .0602 RESERVED FOR FUTURE CODIFICATION**

### **15A NCAC 02T .0603 RESERVED FOR FUTURE CODIFICATION**

### **15A NCAC 02T .0604 APPLICATION SUBMITTAL**

(a) The requirements in this Rule shall apply to all new and expanding facilities.

(b) Soils report. A soil evaluation of the disposal site shall be provided to the Division by the applicant in a report that includes the following. If required by G.S. 89F, a soil scientist shall prepare this evaluation:

- (1) a field description of the soil profile, based on examinations of excavation pits and auger borings, within seven feet of land surface or to bedrock, describing the following parameters by individual diagnostic horizons:
  - (A) the thickness of the horizon;
  - (B) the texture;
  - (C) the color and other diagnostic features;
  - (D) the structure;
  - (E) the internal drainage;
  - (F) the depth, thickness, and type of restrictive horizon; and
  - (G) the presence or absence and depth of evidence of any seasonal high water table.Applicants may be required to dig pits when necessary for proper evaluation of the soils at the site.
- (2) recommendations concerning loading rates of liquids, solids, other wastewater constituents, and amendments. Annual hydraulic loading rates shall be based on in-situ measurement of saturated hydraulic conductivity in the most restrictive horizon for each soil mapping unit. Maximum irrigation precipitation rates shall be provided for each soil mapping unit.
- (3) a field-delineated soil map delineating soil mapping units within each land application site and showing all physical features, location of pits and auger borings, legends, scale, and a north arrow. The legends shall also include dominant soil series name and family or higher taxonomic class for each soil mapping unit; and
- (4) a Standard Soil Fertility Analysis conducted on each land application site. The Standard Soil Fertility Analysis shall include the following parameters:
  - (A) acidity;
  - (B) base saturation (by calculation);
  - (C) calcium;
  - (D) cation exchange capacity;
  - (E) copper;
  - (F) exchangeable sodium percentage (by calculation);
  - (G) magnesium;
  - (H) manganese;
  - (I) percent humic matter;
  - (J) pH;
  - (K) phosphorus;

- (L) potassium;
- (M) sodium; and
- (N) zinc.

[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science pursuant to G.S. 89F.]

(c) Engineering design documents. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:

- (1) engineering plans for the entire system, including treatment, storage, application, and disposal facilities and equipment except those previously permitted unless those previously permitted are directly tied into the new units or are necessary to understanding the complete process;
- (2) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product, including leakage testing; and
- (3) engineering calculations, including hydraulic and pollutant loading for each treatment unit, treatment unit sizing criteria, hydraulic profile of the treatment system, total dynamic head, and system curve analysis for each pump, buoyancy calculations, and irrigation design.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering pursuant to G.S. 89C.]

(d) Site plans. If required by G.S. 89C, a professional land surveyor shall provide location information on boundaries and physical features not under the purview of other licensed professions. Site plans or maps shall be provided to the Division by the applicant depicting the location, orientation, and relationship of facility components including:

- (1) a scaled map of the site, with topographic contour intervals not exceeding 10 feet or 25 percent of total site relief, showing:
  - (A) all facility-related structures and fences within the treatment, storage, and disposal areas; and
  - (B) soil mapping units on all disposal sites;
- (2) the location of each of the following that are located within 500 feet of a waste treatment, storage, or disposal site, including a delineation of their review and compliance boundaries:
  - (A) wells, including usage and construction details if available;
  - (B) ephemeral, intermittent, and perennial streams;
  - (C) springs;
  - (D) lakes;
  - (E) ponds; and
  - (F) other surface drainage features;
- (3) setbacks as required by Rule .0606 of this Section; and
- (4) site property boundaries within 500 feet of all waste treatment, storage, and disposal sites.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not under the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying pursuant to G.S. 89C.]

(e) Property Ownership Documentation shall be provided to the Division consisting of:

- (1) legal documentation of ownership, such as a contract, deed, or article of incorporation;
- (2) an agreement of an intent to purchase the property that is written, notarized, and signed by both parties, accompanied by a plat or survey map; or
- (3) an agreement to lease the property that is written, notarized, and signed by both parties, indicating the intended use of the property, accompanied by a plat or survey map. Lease agreements shall adhere to the requirements of 15A NCAC 02L .0107.

(f) An Operation and Maintenance Plan addressing routine inspections, maintenance schedules, troubleshooting, and a layman's explanation about the wastewater treatment and irrigation disposal systems shall be submitted to the Division by the applicant.

(g) A letter from the local county health department denying the site for all subsurface systems shall be submitted to the Division by the applicant.

(h) A properly executed Operation and Maintenance Agreement shall be submitted to the Division by the applicant.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;*



*Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0605 DESIGN CRITERIA**

- (a) The requirements in this Rule shall apply to new and expanding facilities.
- (b) Minimum degree of treatment for new and expanding systems shall meet a monthly average of each of the following:
  - (1) five-day biochemical oxygen demand (BOD<sub>5</sub>) ≤ 30 mg/L;
  - (2) total suspended solids (TSS) ≤ 30 mg/L;
  - (3) ammonia (NH<sub>3</sub>-N) ≤ 15 mg/L; and
  - (4) fecal coliforms ≤ 200 colonies/100 mL.
- (c) Waste, including treated waste, shall not be placed directly into, or in contact with, GA classified groundwater unless such placement will not result in a contravention of GA groundwater standards, as demonstrated by predictive calculations or modeling.
- (d) Excavation into bedrock shall be lined with a 10 millimeter synthetic liner.
- (e) Earthen treatment and storage facilities shall be prohibited.
- (f) By-pass and overflow lines shall be prohibited.
- (g) A water-tight seal on all treatment and storage units or two feet of protection from the 100-year flood elevation shall be provided.
- (h) Preparation of an operational management plan and, if appropriate, a crop management plan shall be provided.
- (i) Fencing shall be provided to prevent access to the irrigation site and treatment units shall be lockable.
- (j) Irrigation system design shall not exceed the recommended precipitation rates in the soils report prepared pursuant to Rule .0604 of this Section.
- (k) Septic tanks shall adhere to 15A NCAC 18A .1900.
- (l) Tablet chlorination or ultraviolet disinfection shall be provided.
- (m) Five days of storage based on average daily flow between the pump off float and inlet invert pipe shall be provided.
- (n) Pump and dosing tanks shall have audible and visual alarms external to any structure.
- (o) A rain or moisture sensor shall be provided to prevent irrigation during precipitation events or wet conditions that would cause runoff.
- (p) 18 inches of vertical separation between the apparent seasonal high water table and the ground surface shall be provided.
- (q) One foot of vertical separation between any perched seasonal high water table and the ground surface shall be provided.
- (r) Loading rates shall not exceed 50 inches per year.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0606 SETBACKS**

- (a) The setbacks for irrigation sites shall be as follows:

|  | Spray<br>(feet) | Drip<br>(feet) |
|--|-----------------|----------------|
| Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site | 400             | 100            |
| Each habitable residence or place of assembly owned by the permittee to be maintained as part of the project site          | 200             | 15             |
| Each private or public water supply source   | 100             | 100            |
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands                             | 100             | 100            |
| Groundwater lowering ditches where the bottom of the ditch intersects the SHWT   | 100             | 100            |
| Surface water diversions such as ephemeral streams, waterways, and ditches   | 25              | 25             |
| Each well with exception of monitoring wells   | 100             | 100            |
| Each property line   | 150             | 50             |
| Top of slope of embankments or cuts of two feet or more in vertical height   | 15              | 15             |
| Each water line from a disposal system   | 10              | 10             |

|  |     |     |
|--|-----|-----|
| Subsurface groundwater lowering drainage systems | 100 | 100 |
| Public right of way                              | 50  | 50  |
| Nitrification field                              | 20  | 20  |
| Each building foundation or basement             | 15  | 15  |

(b) Treatment and storage facilities associated with systems permitted under this Section shall adhere to the setback requirements in Section .0500 of this Subchapter except as provided in this Rule.

(c) Setback waivers shall be written, notarized, signed by all parties involved, and recorded with the county Register of Deeds. Waivers involving the compliance boundary shall be in accordance with 15A NCAC 02L .0107.

(d) Setbacks to property lines established in Paragraphs (a) and (b) of this Rule shall not be applicable if the permittee, or the entity from which the permittee is leasing, owns both parcels separated by the property line.

(e) Habitable residences or places of assembly under separate ownership constructed after the non-discharge facilities were originally permitted or subsequently modified are exempt from the setback requirements in Paragraphs (a) and (b) of this Rule.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

**15A NCAC 02T .0607 CONNECTION TO REGIONAL SYSTEM**

If a public or community sewage system is or becomes available, the subject wastewater treatment facilities shall be closed and all wastewater shall be discharged into the public or community sewage system.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

**15A NCAC 02T .0608 OPERATION AND MAINTENANCE**

(a) Irrigation areas shall have a year-round vegetative cover.

(b) Irrigation shall not result in ponding or runoff of treated effluent.

(c) Metering equipment shall be tested and calibrated annually or as established by permit.

(d) Vehicles and heavy machinery shall not be allowed on the irrigation area except during installation or maintenance activities.

(e) The permittee shall keep a log of maintenance activities that occur at the facility.

(f) The permittee shall perform inspections and maintenance to ensure proper operation of the facility.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2018.

**SECTION .0700 – HIGH-RATE INFILTRATION SYSTEMS**

**15A NCAC 02T .0701 SCOPE**

This Section shall apply to all high-rate infiltration facilities. High-rate infiltration facilities shall include all facilities that dispose of wastewater effluent onto the land at an application rate that meets or exceeds the rates provided in Rule .0702 of this Section.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

**15A NCAC 02T .0702 DEFINITIONS**

As used in this Section, "High-rate infiltration" shall mean any application rate that exceeds 1.75 inches of wastewater effluent per week or 0.156 gallons per day per square foot of land.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

**15A NCAC 02T .0703    RESERVED FOR FUTURE CODIFICATION**

**15A NCAC 02T .0704    APPLICATION SUBMITTAL**

(a) The requirements in this Rule shall apply to all new and expanding facilities.

(b) Soils report. A soil evaluation of the disposal site shall be provided to the Division by the applicant in a report that includes the following. If required by G.S. 89F, a soil scientist shall prepare this evaluation:

- (1) a field description of the soil profile, based on examinations of excavation pits or auger borings, within seven feet of land surface or to bedrock, describing the following parameters by individual diagnostic horizons:
  - (A) the thickness of the horizon;
  - (B) the texture;
  - (C) the color and other diagnostic features;
  - (D) the structure;
  - (E) the internal drainage;
  - (F) the depth, thickness, and type of restrictive horizon; and
  - (G) the presence or absence and depth of evidence of any seasonal high water table.Applicants shall dig pits when necessary for evaluation of the soils at the site;
- (2) recommendations concerning loading rates of liquids, solids, other wastewater constituents, and amendments. Annual hydraulic loading rates shall be based on in-situ measurement of saturated hydraulic conductivity in the most restrictive horizon for each soil mapping unit. Maximum infiltration rates shall be provided for each soil mapping unit.
- (3) a field-delineated soil map delineating soil mapping units within each land application site and showing all physical features, location of pits and auger borings, legends, scale, and a north arrow. The legends shall also include dominant soil series name and family or higher taxonomic class for each soil mapping unit; and
- (4) a Standard Soil Fertility Analysis conducted on each land application site. The Standard Soil Fertility Analysis shall include the following parameters:
  - (A) acidity;
  - (B) base saturation (by calculation);
  - (C) calcium;
  - (D) cation exchange capacity;
  - (E) copper;
  - (F) exchangeable sodium percentage (by calculation);
  - (G) magnesium;
  - (H) manganese;
  - (I) percent humic matter;
  - (J) pH;
  - (K) phosphorus;
  - (L) potassium;
  - (M) sodium; and
  - (N) zinc.

[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science pursuant to G.S. 89F.]

(c) Engineering design documents. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:

- (1) engineering plans for the entire system, including treatment, storage, application, and disposal facilities and equipment except those previously permitted unless those previously permitted are directly tied into the new units or are necessary to understanding the complete process;
- (2) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product including leakage testing; and
- (3) engineering calculations, including hydraulic and pollutant loading for each treatment unit, treatment unit sizing criteria, hydraulic profile of the treatment system, total dynamic head, and system curve analysis for each pump, buoyancy calculations, and infiltration design.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering pursuant to G.S. 89C.]

(d) Site plans. If required by G.S. 89C, a professional land surveyor shall provide location information on boundaries and physical features not under the purview of other licensed professions. Site plans or maps shall be provided to the Division by the applicant depicting the location, orientation, and relationship of facility components including:

- (1) a scaled map of the site, with topographic contour intervals not exceeding 10 feet or 25 percent of total site relief, showing:
  - (A) all facility-related structures and fences within the treatment, storage, and disposal areas; and
  - (B) soil mapping units on all disposal sites;
- (2) the location of each of the following that are located within 500 feet of a waste treatment, storage, or disposal site, including a delineation of their review and compliance boundaries:
  - (A) wells, including usage and construction details if available;
  - (B) ephemeral, intermittent, and perennial streams;
  - (C) springs;
  - (D) lakes;
  - (E) ponds; and
  - (F) other surface drainage features;
- (3) setbacks as required by Rule .0706 of this Section; and
- (4) site property boundaries within 500 feet of all waste treatment, storage, and disposal sites.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not under the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying pursuant to G.S. 89C.]

(e) Hydrogeologic report. A hydrogeologic description prepared by a Licensed Geologist, Licensed Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C, respectively, shall be provided to the Division by the applicant for systems treating industrial waste and any system with a design flow over 25,000 gallons per day. Industrial facilities with a design flow less than 25,000 gallons per day of wastewater that demonstrate that the effluent will be of quality similar to domestic wastewater, including effluent requirements established in 15A NCAC 02T .0705(b) and 02T .0706(b) or (c) as applicable, may request and receive an exemption from this requirement. The hydrogeologic evaluation shall be of the subsurface to a depth of 20 feet or bedrock, whichever is less deep. An investigation to a depth greater than 20 feet shall be required if the respective depth is used in predictive calculations. This evaluation shall be based on sufficient numbers, locations, and depths of borings to define the components of the hydrogeologic evaluation. In addition to borings, other techniques may be used to investigate the subsurface conditions at the site, including, geophysical well logs, surface geophysical surveys, and tracer studies. This evaluation shall be presented in a report that includes the following components:

- (1) a description of the regional and local geology and hydrogeology;
- (2) a description, based on field observations of the site, of the site topographic setting, streams, springs and other groundwater discharge features, drainage features, existing and abandoned wells, rock outcrops, and other features that may affect the movement of the contaminant plume and treated wastewater;
- (3) changes in the lithology underlying the site;
- (4) the depth to bedrock and the occurrence of any rock outcrops;
- (5) the hydraulic conductivity and transmissivity of the affected aquifer as determined by in-situ field testing, such as slug tests or pumping tests, in the intended area of infiltration;
- (6) the depth to the seasonal high water table;
- (7) a discussion of the relationship between the affected aquifers of the site to local and regional geologic and hydrogeologic features;
- (8) a discussion of the groundwater flow regime of the site prior to the operation of the proposed facility and the post operation of the proposed facility, focusing on the relationship of the system to groundwater receptors, groundwater discharge features, and groundwater flow media; and
- (9) a mounding analysis to predict the level of the seasonal high water table after wastewater application.

[Note: The North Carolina Board for Licensing of Geologists, via letter dated April 6, 2006, North Carolina Board for Licensing of Soil Scientists, via letter dated December 1, 2005, and North Carolina Board of Examiners for

Engineers and Surveyors, via letter dated December 1, 2005, have determined that preparation of hydrogeologic description documents pursuant to this Paragraph constitutes practicing geology pursuant to G.S. 89E, soil science pursuant to G.S. 89F, or engineering pursuant to G.S. 89C.]

(f) Property Ownership Documentation shall be provided to the Division consisting of:

- (1) legal documentation of ownership, such as a contract, deed, or article of incorporation;
- (2) an agreement of an intent to purchase the property that is written, notarized, and signed by both parties, accompanied by a plat or survey map; or
- (3) an agreement to lease the property that is written, notarized, and signed by both parties, indicating the intended use of the property, accompanied by a plat or survey map. Lease agreements shall adhere to the requirements of 15A NCAC 02L .0107.

(g) Public utilities shall submit a Certificate of Public Convenience and Necessity or a letter from the NC Utilities Commission stating that it has received a franchise application.

(h) A chemical analysis of the typical wastewater to be infiltrated shall be provided to the Division by the applicant for industrial waste, which shall include:

- (1) total organic carbon;
- (2) 5-day biochemical oxygen demand (BOD<sub>5</sub>);
- (3) chemical oxygen demand (COD);
- (4) nitrate nitrogen (NO<sub>3</sub>-N);
- (5) ammonia nitrogen (NH<sub>3</sub>-N);
- (6) total kjeldahl nitrogen (TKN);
- (7) pH;
- (8) chloride;
- (9) total phosphorus;
- (10) phenol;
- (11) total volatile organic compounds;
- (12) fecal coliform;
- (13) calcium;
- (14) sodium;
- (15) magnesium;
- (16) sodium adsorption ratio (SAR);
- (17) total trihalomethanes; and
- (18) total dissolved solids.

(i) A project evaluation and a receiver site agronomic management plan (if applicable) containing recommendations concerning cover crops and their ability to accept the proposed application rates of liquid, solids, minerals, and other constituents of the wastewater shall be provided to the Division.

(j) A Residuals Management Plan as required by Rule .0708(a) of this Section is to be provided to the Division.

(k) The applicant shall provide to the Division a water balance that determines the required effluent storage based on the most limiting factor from the following:

- (1) hydraulic loading based on the most restrictive horizon;
- (2) hydraulic loading based on the groundwater mounding analysis;
- (3) nutrient management based on agronomic rates for the specified cover crop; or
- (4) nutrient management based on crop management.

(l) Facilities utilizing subsurface groundwater lowering drainage systems shall demonstrate that groundwater and surface water standards will be protected.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .0705 DESIGN CRITERIA**

(a) The requirements in this Rule shall apply to all new and expanding facilities.

(b) New and expanding systems:

- (1) that are municipal, domestic, or commercial facilities, except systems subject to Subparagraph (b)(2) of this Rule, shall meet a monthly average of each of the following:
  - (A) five-day biochemical oxygen demand (BOD<sub>5</sub>) ≤ 10 mg/L;
  - (B) total suspended solids (TSS) ≤ 15 mg/L;

- (C) ammonia ( $\text{NH}_3\text{-N}$ )  $\leq 4$  mg/L;
  - (D) fecal coliforms  $\leq 14$  colonies/100 mL; and
  - (E) nitrate nitrogen ( $\text{NO}_3\text{-N}$ )  $\leq 10$  mg/L; or
- (2) that are not described in Subparagraph (b)(1) of this Rule shall meet treatment standards that assure that surface water or groundwater standards will not be exceeded.
- (c) All open-atmosphere treatment lagoons and ponds and open-atmosphere storage and basin infiltration units shall have at least two feet of freeboard.
- (d) Waste, including treated waste, shall not be placed directly into, or in contact with, GA classified groundwater unless such placement will not result in a contravention of GA groundwater standards, as demonstrated by predictive calculations or modeling.
- (e) Treatment works and disposal systems using earthen basins, lagoons, ponds, or trenches, excluding holding ponds containing non-industrial treated effluent prior to infiltration, for treatment, storage, or disposal, shall have either a liner of natural material at least one foot in thickness and having a hydraulic conductivity of no greater than  $1 \times 10^{-6}$  centimeters per second when compacted, or a synthetic liner of sufficient thickness to exhibit structural integrity and an effective hydraulic conductivity no greater than that of the natural material liner.
- (f) The bottoms of earthen impoundments, trenches, or other similar excavations shall be at least four feet above the bedrock surface, except that the bottom of excavations that are less than four feet above bedrock shall have a liner with a hydraulic conductivity no greater than  $1 \times 10^{-7}$  centimeters per second. Liner thickness shall be that thickness necessary to achieve a leakage rate consistent with the sensitivity of classified groundwaters. Liner requirements may be reduced if the applicant demonstrates through predictive calculations or modeling that construction and use of these treatment and disposal units will not result in contravention of surface water or groundwater standards.
- (g) Impoundments, trenches, or other excavations made for the purpose of storing or treating waste shall not be excavated into bedrock unless the placement of waste into such excavations will not result in a contravention of surface water or groundwater standards, as demonstrated by predictive calculations or modeling.
- (h) Each facility, except for those using septic tanks or lagoon treatment, shall provide flow equalization with either a capacity based upon a representative diurnal hydrograph or a capacity of 25 percent of the daily system design flow.
- (i) By-pass and overflow lines shall be prohibited.
- (j) Multiple pumps shall be provided wherever pumps are used.
- (k) Power reliability shall be provided, consisting of:
- (1) automatically activated standby power supply, located onsite and capable of powering all essential treatment units under design conditions; or
  - (2) approval by the Director that the facility:
    - (A) serves a private water distribution system that has automatic shut-off at power failure and no elevated water storage tanks;
    - (B) has sufficient storage capacity that no potential for overflow exists; and
    - (C) can tolerate septic wastewater during prolonged detention.
- (l) A water-tight seal on all treatment and storage units or two feet of protection from the 100-year flood elevation shall be provided.
- (m) Infiltration system design shall not exceed the recommended precipitation rates established in the soils report prepared pursuant to Rule .0704 of this Section.
- (n) 30 days of residuals storage shall be provided.
- (o) Disposal areas shall be designed to maintain a one-foot vertical separation between the seasonal high water table and the ground surface.
- (p) The public shall be prohibited access to the treatment, storage and infiltration facilities.
- (q) Influent pump stations shall meet the sewer design criteria set forth in Section .0300 of this Subchapter.
- (r) Septic tanks shall adhere to 15A NCAC 18A .1900.
- (s) Infiltration areas shall be designed to allow routine maintenance of the area without interruption of disposal.
- (t) Subsurface groundwater lowering drainage systems permitted under this Subchapter shall be subject to the corrective action requirements in 15A NCAC 02L .0106.
- (u) Waste treatment facilities shall be equipped with noise and odor control devices that shall be enclosed.
- (v) All essential treatment and disposal units shall be provided in duplicate.
- (w) The application rate shall not exceed 10 gallons per day per square foot (GPD/ft<sup>2</sup>).
- (x) Facilities shall be provided with a flow meter to measure the volume of treated wastewater applied to each infiltration site.
- (y) Subsurface groundwater lowering drainage systems shall be prohibited within the compliance boundary.

- (z) Facilities serving residential communities shall provide five days of effluent storage unless the applicant demonstrates that the infiltrated effluent will not pond, runoff, or breakout regardless of weather or soil conditions.
- (aa) Automatically activated infiltration systems, excluding basin, rotary, and spray bed infiltration systems, shall be connected to a rain or moisture sensor to prevent infiltration during precipitation events or wet conditions that would cause runoff.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0706 SETBACKS**

(a) The setbacks for infiltration sites shall be as follows:

|  | Spray<br>(feet) | Drip<br>(feet) | Basin<br>(feet) |
|--|-----------------|----------------|-----------------|
| Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site | 400             | 100            | 100             |
| Each habitable residence or place of assembly owned by the permittee to be maintained as part of the project site          | 200             | 15             | 50              |
| Each private or public water supply source   | 100             | 100            | 100             |
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands                             | 200             | 200            | 200             |
| Groundwater lowering ditches where the bottom of the ditch intersects the SHWT   | 200             | 200            | 200             |
| Subsurface groundwater lowering drainage systems   | 200             | 200            | 200             |
| Surface water diversions such as ephemeral streams, waterways, and ditches   | 50              | 50             | 50              |
| Each well with exception of monitoring wells   | 100             | 100            | 100             |
| Each property line   | 150             | 50             | 50              |
| Top of slope of embankments or cuts of two feet or more in vertical height   | 100             | 100            | 100             |
| Each water line from a disposal system   | 10              | 10             | 10              |
| Public right of way  | 50              | 50             | 50              |
| Nitrification field  | 20              | 20             | 20              |
| Each building foundation or basement   | 15              | 15             | 15              |
| Impounded public water supplies  | 500             | 500            | 500             |
| Public shallow groundwater supply (less than 50 feet deep)   | 500             | 500            | 500             |

(b) Setbacks in Paragraph (a) of this Rule to surface waters, groundwater lowering ditches, and subsurface groundwater lowering drainage systems shall be 100 feet if the treatment units are designed to meet effluent limits of 7 mg/L of total nitrogen and 3 mg/L of total phosphorus.

(c) Setbacks in Paragraph (a) of this Rule to surface waters, groundwater lowering ditches, and subsurface groundwater lowering drainage systems shall be 50 feet if the treatment units are designed to meet effluent limits of 4 mg/L of total nitrogen and 2 mg/L of total phosphorus. This setback provision shall not apply to SA waters.

(d) Treatment and storage facilities associated with systems permitted under this Section shall adhere to the setback requirements in Section .0500 of this Subchapter, except as provided in this Rule.

(e) Setback waivers shall be written, notarized, signed by all parties involved, and recorded with the county Register of Deeds. Waivers involving the compliance boundary shall be in accordance with 15A NCAC 02L .0107.

(f) Setbacks to property lines established in Paragraphs (a) and (d) of this Rule shall not be applicable if the permittee, or the entity from which the permittee is leasing, owns both parcels separated by the property line.

(g) Habitable residences or places of assembly under separate ownership constructed after the non-discharge facilities were originally permitted or subsequently modified are exempt from the setback requirements in Paragraphs (a) and (d) of this Rule.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0707 OPERATION AND MAINTENANCE**

(a) An operation and maintenance plan shall be maintained for all systems. The plan shall:

- (1) describe the operation of the system in sufficient detail to show what operations are necessary for the system to function and by whom the functions are to be conducted;
  - (2) describe the anticipated maintenance of the system;
  - (3) include provisions for safety measures including restriction of access to the site and equipment, as appropriate; and
  - (4) include spill control provisions including:
    - (A) response to upsets and bypasses including control, containment, and remediation; and
    - (B) contact information for plant personnel, emergency responders, and regulatory agencies.
- (b) Infiltration areas, excluding basin, rotary, and spray bed infiltration systems, shall have a year-round vegetative cover.
- (c) Infiltration, excluding basin infiltration systems, shall not result in ponding or runoff of treated effluent.
- (d) Infiltration and metering equipment shall be tested and calibrated annually or as established by permit.
- (e) Vehicles and heavy machinery shall not be allowed on the infiltration area except during installation or maintenance activities.
- (f) Water level gauges shall be provided for all open-atmosphere treatment lagoons and ponds and all open-atmosphere storage and basin infiltration units.
- (g) Vegetative cover shall be maintained on all earthen embankments.
- (h) Basin, rotary, and spray bed infiltration systems shall be cleaned to remove deposited materials every permit cycle or as established by permit.
- (i) The permittee shall keep a log of all maintenance activities that occur at the facility.
- (j) The permittee shall perform inspections and maintenance to ensure proper operation of the facility.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .0708 RESIDUALS MANAGEMENT**

- (a) A Residuals Management Plan shall be maintained for all systems that generate residuals. The plan shall include the following:
- (1) a detailed explanation as to how the residuals will be collected, handled, processed, stored, and disposed;
  - (2) an evaluation of the residuals storage requirements for the treatment facility, based upon the maximum anticipated residuals production rate and the ability to remove residuals;
  - (3) a permit for residuals management or a written commitment to the permittee of a Department-approved residuals management program accepting the residuals that demonstrates that the approved program has adequate capacity to accept the residuals or that an application for approval has been submitted; and
  - (4) if oil, grease, grit, or screenings removal and collection is a designed unit process, a detailed explanation as to how these materials will be collected, handled, processed, stored, and disposed.
- (b) The permittee shall maintain a record of all residuals removed from the facility.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

### **SECTION .0800 – OTHER NON-DISCHARGE WASTEWATER SYSTEMS**

#### **15A NCAC 02T .0801 SCOPE**

This Section shall apply to systems not specifically regulated by other rules in this Subchapter and governs waste that is disposed of by ground absorption systems or other non-discharge systems such as infiltration lagoons and evaporative systems, as well as authorizations to construct for NPDES facilities.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a.);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.



**15A NCAC 02T .0802    RESERVED FOR FUTURE CODIFICATION**

**15A NCAC 02T .0803    RESERVED FOR FUTURE CODIFICATION**

**15A NCAC 02T .0804    APPLICATION SUBMITTAL**

Submittal requirements shall be the same as systems permitted pursuant to 15A NCAC 02T .0504, except those that are not applicable to authorization to construct type permits.

*History Note:*    *Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0805    DESIGN CRITERIA**

Design requirements shall be the same as systems permitted pursuant to 15A NCAC 02T .0505, except those that are not applicable to authorization to construct type permits or specifically addressed by Section 15A NCAC 02H .0100.

*History Note:*    *Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0806    SETBACKS**

Setbacks shall be the same as those listed in 15A NCAC 02T .0506 except infiltration basins, which shall meet the setbacks listed in 15A NCAC 02T .0706.

*History Note:*    *Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .0807    OPERATION AND MAINTENANCE**

Operation and maintenance requirements shall be the same as systems permitted pursuant to 15A NCAC 02T .0707.

*History Note:*    *Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2018.*

**15A NCAC 02T .0808    RESIDUALS MANAGEMENT**

Residuals management requirements shall be the same as systems permitted pursuant to 15A NCAC 02T .0708.

*History Note:*    *Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2018.*

**SECTION .0900 – RECLAIMED WATER SYSTEMS**

**15A NCAC 02T .0901    SCOPE**

**15A NCAC 02T .0902    DEFINITIONS**

**15A NCAC 02T .0903    PERMITTING BY REGULATION**

**15A NCAC 02T .0904    APPLICATION SUBMITTAL – CONJUNCTIVE SYSTEMS**

**15A NCAC 02T .0905    APPLICATION SUBMITTAL – NON-CONJUNCTIVE SYSTEMS**

**15A NCAC 02T .0906    RECLAIMED WATER EFFLUENT STANDARDS**

**15A NCAC 02T .0907    DESIGN CRITERIA FOR WASTEWATER TREATMENT FACILITIES –  
CONJUNCTIVE SYSTEMS**

**15A NCAC 02T .0908    DESIGN CRITERIA FOR WASTEWATER TREATMENT FACILITIES – NON-  
CONJUNCTIVE SYSTEMS**

**15A NCAC 02T .0909    DESIGN CRITERIA FOR DISTRIBUTION LINES**

**15A NCAC 02T .0910    RECLAIMED WATER UTILIZATION**

**15A NCAC 02T .0911    BULK DISTRIBUTION OF RECLAIMED WATER**

**15A NCAC 02T .0912    SETBACKS**

**15A NCAC 02T .0913 OPERATION AND MAINTENANCE PLAN**  
**15A NCAC 02T .0914 RESIDUALS MANAGEMENT PLAN**

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Repealed Eff. June 18, 2011.

**15A NCAC 02T .0915 LOCAL PROGRAM APPROVAL**

*History Note:* Authority G.S. 143-215.1; 143-215.3(a); S.L. 2006-250;  
Eff. January 1, 2007;  
Repealed Eff. June 18, 2011.

**SECTION .1000 - CLOSED-LOOP RECYCLE SYSTEMS**

**15A NCAC 02T .1001 SCOPE**

This Section applies to closed-loop recycle systems in which nondomestic wastewater is repeatedly recycled back through the process in which the waste was generated. The following systems are not regulated by this Section:

- (1) the reuse or return of wastewater from a permitted animal waste lagoon facility for waste flushing covered by Section .1300 of this Subchapter;
- (2) the recycling of wastewater from groundwater remediation systems through an Injection Well or Infiltration Gallery covered by Section .1600 of this Subchapter;
- (3) the reuse of wastewater through treatment and distribution as reclaimed water covered by Section .0900 of this Subchapter; and
- (4) the recycling of wastewater or well drilling fluids for well construction, well development, well stimulation, or well rehabilitation regulated by Article 27 of G.S. 113.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Amended Eff. March 19, 2015.

**15A NCAC 02T .1002 RESERVED FOR FUTURE CODIFICATION**

**15A NCAC 02T .1003 PERMITTING BY REGULATION**

(a) The following systems are deemed permitted pursuant to Rule .0113 of this Subchapter provided the system meets the criteria in Rule .0113 of this Subchapter and all criteria required for the specific system in this Rule:

- (1) Return of wastewater contained and under roof within an industrial or commercial process where there is no anticipated release of wastewater provided the facility develops and maintains a spill control plan in the event of a release and no earthen basins are used.
- (2) Recycling of rinse water at concrete mixing facilities for concrete mix removal from equipment provided the wastewater is contained within concrete structures, there is sufficient storage capacity to contain the runoff from a 24-hour, 25-year storm event plus one foot freeboard and the facility develops and maintains a spill control plan in the event of a wastewater release. The facility must notify the appropriate Division regional office in writing noting the owner, location, and that the design complies with the above criteria.
- (3) Recycling of wash and rinse water at vehicle wash facilities provided the wastewater is contained within concrete, steel or synthetic structures (i.e. not including earthen basins), all vehicle washing is conducted under roof and there are no precipitation inputs (direct or indirect), and the facility develops and maintains a spill control plan in the event of a wastewater release.
- (4) The reuse or return of wastewater within the treatment works of a permitted wastewater treatment system.

(b) The Director may determine that a system should not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);

*Eff. September 1, 2006.*

**15A NCAC 02T .1004 APPLICATION SUBMITTAL**

(a) A general description including how the wastewater is generated, how the wastewater will be recycled, and contingencies in case of system failure shall be provided to the Division.

(b) Engineering design documents. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]

- (1) engineering plans for the entire system, including treatment, storage, application, and disposal facilities and equipment except those previously permitted unless those previously permitted are directly tied into the new units or are critical to the understanding of the complete process;
- (2) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product;
- (3) engineering calculations including hydraulic and pollutant loading for each treatment unit, treatment unit sizing criteria, hydraulic profile of the treatment system, total dynamic head and system curve analysis for each pump, and buoyancy calculations; and
- (4) a water balance calculation documenting all inputs and losses, including residuals, demonstrating the system will not discharge to waters.

(c) Site plans. If required by G.S. 89C, a professional land surveyor shall provide location information on boundaries and physical features not under the purview of other licensed professions. Site plans or maps shall be provided to the Division depicting the location, orientation and relationship of facility components including:

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not under the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying under G.S. 89C.]

- (1) a scaled map of the site, with topographic contour intervals not exceeding two feet and showing all facility-related structures and fences within the treatment, storage and disposal areas;
- (2) the location of all wells (including usage and construction details if available), streams (ephemeral, intermittent, and perennial), springs, lakes, ponds, and other surface drainage features within 500 feet of all waste treatment, storage, and disposal site(s) and delineation of the review and compliance boundaries;
- (3) setbacks as required by Rule .1006 of this Section; and
- (4) site property boundaries within 500 feet of all waste treatment, storage, and disposal site(s).

(d) Property Ownership Documentation shall be provided to the Division consisting of:

- (1) legal documentation of ownership (i.e., contract, deed or article of incorporation);
- (2) written notarized intent to purchase agreement signed by both parties, accompanied by a plat or survey map; or
- (3) written notarized lease agreement signed by both parties, specifically indicating the intended use of the property, as well as a plat or survey map. Lease agreements shall adhere to the requirements of 15A NCAC 02L .0107(f).

(e) Public utilities shall submit a Certificate of Public Conveyance and Necessity or a letter from the NC Utilities Commission to the Division stating that a franchise application has been received.

(f) For industrial waste, a complete chemical analysis of the typical wastewater to be discharged shall be provided to the Division. The analysis may include Total Organic Carbon, 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>), Chemical Oxygen Demand (COD), Nitrate Nitrogen (NO<sub>3</sub>-N), Ammonia Nitrogen (NH<sub>3</sub>-N), Total Kjeldahl Nitrogen (TKN), pH, Chloride, Total Phosphorus, Phenol, Ammonia, Total Volatile Organic Compounds, Fecal Coliform, Calcium, Sodium, Magnesium, Sodium Adsorption Ratio (SAR), Total Trihalomethanes, Toxicity Test Parameters and Total Dissolved Solids. Nitrates, Total Nitrogen, Calcium, Sodium, Magnesium, Total Volatile Organics, Total Coliforms and Total Dissolved Solids.

(g) A detailed explanation as to how the residuals will be collected, handled, processed, stored and disposed of shall be submitted to the Division.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006.*

**15A NCAC 02T .1005 DESIGN CRITERIA**

- (a) Design criteria related to closed-loop recycle systems in general.
  - (1) There shall be no public access to the wastewater treatment equipment, wastewater storage structures or to the wastewater within a closed-loop recycle facility.
  - (2) Where potable water is used to supplement a closed-loop recycle water system, there shall be an air gap separation between the potable water and closed-loop recycle water systems.
- (b) Design criteria related to treatment and storage units utilized in closed-loop recycle systems.
  - (1) The facility shall have the ability to stop production of effluent, return the effluent back to the treatment facility, store the effluent, or discharge the effluent to another permitted wastewater treatment facility when recycling can not be conducted.
  - (2) Essential treatment units shall be provided in duplicate where proper operation of the treatment unit is essential to the operation of the closed-loop recycle system and the operation can not safely or efficiently be immediately stopped or altered to operate without the closed-loop recycle system.
  - (3) An automatically activated standby power source, system shutdown, or other means shall be employed to prevent improperly treated wastewater from entering a treated waste water storage structure or from being recycled where loss of power would create an unsafe condition.
  - (4) Where they are suitable for reuse, residues recovered during the treatment process may be recycled through the processes that generated the wastewater rather than disposed of as a waste.
  - (5) A water tight seal on all treatment/storage units or a minimum of two feet protection from the 100-year flood shall be provided.
  - (6) Storage units in a closed-loop recycle system shall be designed to contain the accumulation of water from a 25-year, 24-hour storm event with 1 foot freeboard, unless the system is protected from rainfall and runoff.
  - (7) The bottoms of earthen impoundments, trenches or other similar excavations shall be at least four feet above the bedrock surface, except that the bottom of excavations which are less than four feet above bedrock shall have a liner with a hydraulic conductivity no greater than  $1 \times 10^{-7}$  centimeters per second. Liner thickness shall be that thickness necessary to achieve a leakage rate consistent with the sensitivity of classified groundwaters. Liner requirements may be reduced if it can be demonstrated by predictive calculations or modeling methods acceptable to the Director that construction and use of these treatment and disposal units will not result in contravention of surface water or groundwater standards.
  - (8) Treatment works and disposal systems utilizing earthen basins, lagoons, ponds or trenches, excluding holding ponds containing non-industrial treated effluent prior to spray irrigation, for treatment, storage or disposal shall have either a liner of natural material at least one foot in thickness and having a hydraulic conductivity of no greater than  $1 \times 10^{-6}$  centimeters per second when compacted, or a synthetic liner of sufficient thickness to exhibit structural integrity and an effective hydraulic conductivity no greater than that of the natural material liner.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006.*

**15A NCAC 02T .1006 SETBACKS**

- (a) The setbacks for Treatment/storage units shall be as follows:

|  | (feet) |
|--|--------|
| Any habitable residence or place of public assembly under separate ownership or not to be maintained as part of the project site | 100    |
| Any private or public water supply source  | 100    |
| Surface waters (streams – intermittent and perennial, perennial waterbodies, and wetlands)                                       | 50     |
| Any well with the exception of a Division approved groundwater monitoring well   | 100    |
| Any property line  | 50     |
- (b) Setback waivers shall be written, notarized, signed by all parties involved and recorded with the County Register of Deeds. Waivers involving the compliance boundary shall be in accordance with 15A NCAC 02L .0107.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006.*

### **15A NCAC 02T .1007 OPERATIONS AND MAINTENANCE PLAN**

An Operations and Maintenance Plan shall be maintained for all systems. The plan shall:

- (1) describe the operation of the system in sufficient detail to show what operations are necessary for the system to function and by whom the functions are to be conducted;
- (2) describe anticipated maintenance of the system;
- (3) include provisions for safety measures including restriction of access to the site and equipment, as appropriate; and
- (4) include spill control provisions including:
  - (a) response to upsets and bypasses including control, containment, and remediation; and
  - (b) contact information for plant personnel, emergency responders, and regulatory agencies.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006.

### **15A NCAC 02T .1008 RESIDUALS MANAGEMENT PLAN**

A Residuals Management Plan shall be maintained for all systems that generate residuals. The plan must include the following:

- (1) a detailed explanation as to how the residuals will be collected, handled, processed, stored and disposed of;
- (2) an evaluation of the residuals storage requirements for the treatment facility based upon the maximum anticipated residuals production rate and ability to remove residuals;
- (3) a written commitment to the Permittee of a Division approved, or that an application for approval has been submitted, residuals disposal/utilization site for the acceptance of the residuals and which demonstrates that the site has adequate capacity to accept the residuals; and
- (4) if oil, grease, grit, or screenings removal and collection is a designed unit process, a detailed explanation as to how the oil/grease will be collected, handled, processed, stored and disposed.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006.

## **SECTION .1100 – RESIDUALS MANAGEMENT**

### **15A NCAC 02T .1101 SCOPE**

This Section shall apply to the treatment, storage, transportation, use, and disposal of residuals. Not regulated under this Section shall be the treatment, storage, transportation, use, or disposal of:

- (1) oil, grease, grit, and screenings from wastewater treatment facilities;
- (2) septage from wastewater treatment facilities;
- (3) ash that is regulated in accordance with Section .1200 of this Subchapter;
- (4) residuals that are regulated in accordance with Section .1300 and Section .1400 of this Subchapter;
- (5) residuals that are prepared for land application, used, or disposed of in a solid waste management facility permitted by the Division of Waste Management;
- (6) residuals that are disposed of in an incinerator permitted by the Division of Air Quality;
- (7) residuals that are transported out of state for treatment, storage, use, or disposal;
- (8) residuals that meet the definition of a hazardous waste in accordance with 40 CFR 260.10 as adopted by reference in 15A NCAC 13A .0102(b) or that have a concentration of polychlorinated biphenyls equal to or greater than 50 milligrams per kilogram of total solids on a dry weight basis; and
- (9) byproduct waste resulting from any process of industry, manufacturing, trade, business, or the development of any natural resource but not from a wastewater treatment, water supply treatment, or air pollution control facility permitted under the authority of the Commission.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

## 15A NCAC 02T .1102 DEFINITIONS

As used in this Section:

- (1) "Aerobic digestion" shall mean the biochemical decomposition of organic matter in residuals into carbon dioxide and water by microorganisms in the presence of air.
- (2) "Agricultural land" shall mean land on which a food crop, feed crop, or fiber crop is grown.
- (3) "Anaerobic digestion" shall mean the biochemical decomposition of organic matter in residuals into methane gas and carbon dioxide by microorganisms in the absence of air.
- (4) "Bag and other container" shall mean a bag, bucket, bin, box, carton, vehicle, trailer, tanker, or an open or closed receptacle with a load capacity of 1.102 short tons or one metric ton, or less.
- (5) "Base flood" shall mean a flood that has a one percent chance of occurring in any given year.
- (6) "Biological residuals" shall mean residuals that have been generated during the treatment of domestic wastewater, the treatment of animal processing wastewater, or the biological treatment of industrial wastewater.
- (7) "Biological treatment" shall mean treatment in a system that uses biological processes, including lagoons, activated sludge systems, extended aeration systems, and fixed film systems.
- (8) "Bulk residuals" shall mean residuals that are transported and not sold or given away in a bag or other container for application to the land.
- (9) "Class A residuals" shall mean residuals that are either bagged or bulk residuals meeting:
  - (a) the pollutant limits in Rule .1105(a) and .1105(c) of this Section;
  - (b) the pathogen reduction requirements in Rule .1106(a) of this Section; and
  - (c) the vector attraction reduction requirements in Rule .1107 of this Section.
- (10) "Class B residuals" shall mean residuals that are bulk residuals meeting:
  - (a) the pollutant limits in Rule .1105(a) and .1105(b) of this Section;
  - (b) the pathogen reduction requirements in Rule .1106(b) of this Section; and
  - (c) the vector attraction reduction requirements in Rule .1107 of this Section.
- (11) "Cover" shall mean soil or Division-approved material used to cover residuals placed in a surface disposal unit.
- (12) "Cumulative pollutant loading rate" shall mean the maximum amount of a pollutant that is permitted to be applied to a unit area of land.
- (13) "Dedicated program" shall mean a program involving the application of residuals in which any of the permitted land meets the definition of a dedicated land application site.
- (14) "Dedicated land application site" shall mean land:
  - (a) to which residuals are applied at greater than agronomic rates;
  - (b) to which residuals are applied through fixed irrigation facilities or irrigation facilities fed through a fixed supply system; or
  - (c) that is primarily used for the disposal of residuals and agricultural crop production is of secondary importance.
- (15) "Density of microorganisms" shall mean the number of microorganisms per unit mass of total solids on a dry weight basis in the residuals.
- (16) "Dry weight basis" shall mean the weight calculated after the residuals have been dried at 105 degrees Celsius until they reach a constant mass.
- (17) "Feed crop" shall mean a crop produced for consumption by animals.
- (18) "Fiber crop" shall mean a crop grown for fiber production, including flax and cotton.
- (19) "Food crop" shall mean a crop produced for consumption by humans, including fruits, vegetables, and tobacco.
- (20) "Grit" shall mean sand, gravel, cinders, or other materials with a high specific gravity generated during preliminary treatment of wastewater in a wastewater treatment facility.
- (21) "Incorporation" shall mean the mixing of residuals with top soil to a depth of four inches by methods such as discing, plowing, and rototilling.
- (22) "Injection" shall mean the subsurface application of liquid residuals to a depth of four to 12 inches.
- (23) "Land application" shall mean the spraying or spreading of residuals onto the land surface, the injection of residuals below the land surface, or the incorporation of residuals into the soil so that the residuals can condition the soil or fertilize crops or vegetation grown in the soil.
- (24) "Lower explosive limit for methane gas" shall mean the lowest percentage of methane gas in air, by volume, that propagates a flame at 25 degrees Celsius and atmospheric pressure.

- (25) "Monthly average" shall mean the arithmetic mean of all measurements taken during a month.
- (26) "Pathogens" shall mean disease-causing organisms, including disease-causing bacteria, protozoa, viruses, and viable helminth ova.
- (27) "Place residuals" shall mean to dispose of residuals in a surface disposal unit.
- (28) "Person who prepares residuals" shall mean either the person who generates residuals during the treatment of waste in a wastewater treatment facility or the person who derives a material from residuals.
- (29) "Pollutant limit" shall mean a numerical value that describes the amount of a pollutant allowed per unit amount of residuals or the amount of a pollutant that can be applied to a unit area of land.
- (30) "Public contact site" shall mean land with a high potential for contact by the public as defined in 40 CFR 503.11(1), including public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
- (31) "Runoff" shall mean rainwater, leachate, or other liquid that drains over the land surface.
- (32) "Screenings" shall mean rags or other large materials generated during preliminary treatment of wastewater in a wastewater treatment facility.
- (33) "Seismic impact zone" shall mean an area that has a 10 percent or greater probability that the horizontal ground level acceleration of the rock in the area exceeds 0.10 gravity once in 250 years.
- (34) "Specific oxygen uptake rate (SOUR)" shall mean the mass of oxygen consumed per unit time per unit mass of total solids on a dry weight basis in the residuals.
- (35) "Surface disposal unit" shall mean the land on which only residuals are placed for final disposal, including monofills, lagoons, and trenches, and not including land on which residuals are either treated or stored.
- (36) "Surface disposal unit boundary" shall mean the outermost perimeter of a surface disposal unit.
- (37) "Total solids" shall mean the materials that remain as residue after the residuals have been dried at between 103 and 105 degrees Celsius until they reach a constant mass.
- (38) "Water treatment residuals" shall mean residuals that have been generated during the treatment of potable or process water.
- (39) "Unstabilized residuals" shall mean residuals that have not been treated in either an aerobic or an anaerobic treatment process.
- (40) "Unstable area" shall mean land subject to natural or human-induced forces that may damage the structural components of a surface disposal unit, including land on which the soils are subject to mass movement.
- (41) "Vector attraction" shall mean the characteristic of residuals that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.
- (42) "Volatile solids" shall mean the amount of the total solids in the residuals lost when they are combusted at 550 degrees Celsius in the presence of excess air.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

**15A NCAC 02T .1103 PERMITTING BY REGULATION**

(a) The following systems shall be deemed permitted pursuant to Rule .0113 of this Subchapter if the system meets the criteria in Rule .0113 of this Subchapter and all criteria required for that system in this Rule:

- (1) preparation for land application, use, or disposal of residuals in a solid waste facility permitted by the Division of Waste Management that is approved to receive the residuals;
- (2) land application of residuals that have been prepared for land application in a solid waste facility permitted by the Division of Waste Management and approved to receive the residuals if the requirements of this Section are met;
- (3) land application sites onto which Class A residuals that are sold or given away in a bag or other container are applied, provided the following criteria are met:
  - (A) the residuals meet the pollutant limits in Rule .1105(a) and Rule .1105(c) of this Section;
  - (B) the residuals meet the pathogen requirements in Rule .1106(a) of this Section;
  - (C) the residuals meet the vector attraction reduction requirements in Rule .1107(a) of this Section; and

- (D) the land application activities are carried out according to the instructions provided in the informational sheet, bag, or other container label as required in Rule .1109(c) of this Section;
  - (4) land application sites onto which Class A biological residuals are applied, if the residuals and activities meet the following criteria:
    - (A) the residuals meet the pollutant limits in Rule .1105(a) and Rule .1105(c) of this Section;
    - (B) the residuals meet the pathogen requirements in Rule .1106(a) of this Section;
    - (C) the residuals meet the vector attraction reduction requirements in Rule .1107(a) of this Section; and
    - (D) the land application activities meet all applicable conditions of Rule .1108(b) and Rule .1109(a)(1) of this Section;
  - (5) land application sites onto which Class A non-biological residuals are applied, if the residuals and activities meet the following criteria:
    - (A) the residuals meet the pollutant limits in Rule .1105(a) and Rule .1105(c) of this Section;
    - (B) the residuals meet the pathogen requirements in Rule .1106(b) of this Section; and
    - (C) the land application activities meet all applicable conditions of Rule .1108(b) and Rule .1109(a)(1) of this Section; and
  - (6) transportation of residuals from the residuals-generating source facility to other Division or Division of Waste Management facilities approved to treat, store, use, or dispose the residuals.
- (b) The Director may determine that a system shall not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

**15A NCAC 02T .1104 APPLICATION SUBMITTAL**

- (a) For new and expanding residuals treatment and storage facilities:
- (1) Site plans. If required by G.S. 89C, a professional land surveyor shall provide location information on boundaries and physical features not under the purview of other licensed professions. Site plans or maps shall be provided to the Division by the applicant depicting the location, orientation, and relationship of facility components, including:
    - (A) a scaled map of the site, with topographic contour intervals not exceeding 10 feet or 25 percent of total site relief and showing all facility-related structures and fences within the treatment and storage areas;
    - (B) the location of each of the following that are located within 500 feet of a waste treatment, or storage site, including a delineation of their review and compliance boundaries:
      - (i) wells, including usage and construction details if available;
      - (ii) ephemeral, intermittent, and perennial streams;
      - (iii) springs;
      - (iv) lakes;
      - (v) ponds; and
      - (vi) other surface drainage features;
    - (C) setbacks as required by Rule .1108 of this Section; and
    - (D) site property boundaries within 500 feet of all treatment and storage facilities.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not under the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying pursuant to G.S. 89C.]
  - (2) Engineering design documents. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:
    - (A) engineering plans for the facilities and equipment except those previously permitted unless they are directly tied into the new units or are necessary to understanding the complete process;
    - (B) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product, including leakage testing; and



- (C) engineering calculations, including hydraulic and pollutant loading for each unit, unit sizing criteria, hydraulic profile of the facilities, total dynamic head and system curve analysis for each pump, and buoyancy calculations.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering pursuant to G.S. 89C.]

(b) For new and modified sources of residuals:

- (1) Site maps shall be provided to the Division by the applicant depicting the location of the source.
- (2) An analysis of the residuals shall be provided to the Division by the applicant. The analysis shall include:
  - (A) all pollutants identified in Rule .1105 of this Section;
  - (B) nutrients and micronutrients;
  - (C) hazardous waste characterization tests; and
  - (D) proof of compliance with Rule .1106 and Rule .1107 of this Section if applicable.
- (3) A sampling and monitoring plan that describes how compliance with Rule .1105, Rule .1106, and Rule .1107 of this Section if applicable shall be provided to the Division by the applicant.

(c) For new and expanding non-dedicated land application sites:

- (1) Setback maps shall be provided to the Division by the applicant depicting the location, orientation, and relationship of land application site features including:
  - (A) a scaled map of the land application site, showing all related structures and fences within the land application area;
  - (B) the location of each of the following that are located within 500 feet of the land application site, including a delineation of its review and compliance boundaries:
    - (i) wells, including usage and construction details if available;
    - (ii) ephemeral, intermittent, and perennial streams;
    - (iii) springs;
    - (iv) lakes;
    - (v) ponds; and
    - (vi) other surface drainage features;
  - (C) setbacks as required by Rule .1108 of this Section; and
  - (D) property boundaries within 500 feet of the land application site.
- (2) Soils report. A soil evaluation of the land application site shall be provided to the Division by the applicant. This evaluation shall be presented in a report that includes the following. If required by G.S. 89F, a soil scientist shall prepare this evaluation:
  - (A) confirmation of a county soils map, soil evaluation, and verification of the presence or absence of a seasonal high water table within three feet of land surface or establishment of a soil map through field description of soil profile, based on examinations of excavation pits or auger borings, within seven feet of land surface or to bedrock describing the following parameters by individual diagnostic horizons: thickness of the horizon; texture; color and other diagnostic features; structure; internal drainage; depth, thickness, and type of restrictive horizon; and presence or absence and depth of evidence of any seasonal high water table; and
  - (B) a representative soils analysis for standard soil fertility and all pollutants listed in Rule .1105(b) of this Section. The Standard Soil Fertility Analysis shall include the following parameters: acidity; base saturation (by calculation); calcium; cation exchange capacity; copper; exchangeable sodium percentage (by calculation); magnesium; manganese; percent humic matter; pH; phosphorus; potassium; sodium, and zinc.

[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science pursuant to G.S. 89F.]

- (3) A project evaluation and a land application site management plan, if applicable, with recommendations concerning cover crops and their ability to accept the proposed application rates of liquid, solids, minerals and other constituents of the residuals shall be provided to the Division.
- (4) Unless the land application site is owned by the permittee, property ownership documentation consisting of a notarized landowner agreement shall be provided to the Division.

(d) For new and expanding dedicated land application sites:

- (1) Site plans. If required by G.S. 89C, a professional land surveyor shall provide location information on boundaries and physical features not under the purview of other licensed professions. Site plans or maps shall be provided to the Division by the applicant depicting the location, orientation, and relationship of land application site features including:
  - (A) a scaled map of the site, with topographic contour intervals not exceeding 10 feet or 25 percent of total site relief and showing all facility-related structures and fences within the land application area;
  - (B) the location of each of the following that are located within 500 feet of the land application site, including a delineation of its review and compliance boundaries:
    - (i) wells, including usage and construction details if available;
    - (ii) ephemeral, intermittent, and perennial streams;
    - (iii) springs;
    - (iv) lakes;
    - (v) ponds; and
    - (vi) other surface drainage features;
  - (C) setbacks as required by Rule .1108 of this Section; and
  - (D) property boundaries within 500 feet of the land application site.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not under the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying pursuant to G.S. 89C.]

- (2) Engineering design documents for land applications sites onto which residuals are applied only through fixed irrigation facilities or irrigation facilities fed through a fixed supply system. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:
  - (A) engineering plans for the facilities and equipment except those previously permitted unless they are directly tied into the new units or are necessary to understanding the complete process;
  - (B) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product, including leakage testing; and
  - (C) engineering calculations, including hydraulic and pollutant loading, sizing criteria, hydraulic profile, total dynamic head and system curve analysis for each pump, and irrigation design.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering pursuant to G.S. 89C.]

- (3) Soils report. A soil evaluation of the land application site shall be provided. This evaluation shall be presented to the Division by the applicant in a report that includes the following. If required by G.S. 89F, a soil scientist shall prepare this evaluation:
  - (A) field description of soil profile, based on examinations of excavation pits or auger borings, within seven feet of land surface or to bedrock describing the following parameters by individual diagnostic horizons: thickness of the horizon; texture; color and other diagnostic features; structure; internal drainage; depth, thickness, and type of restrictive horizon; and presence or absence and depth of evidence of any seasonal high water table. Applicants shall dig pits if necessary for proper evaluation of the soils at the site;
  - (B) recommendations concerning loading rates of liquids, solids, other residuals constituents, and amendments for land application sites onto which residuals are applied only through fixed irrigation facilities or irrigation facilities fed through a fixed supply system. Annual hydraulic loading rates shall be based on in-situ measurement of saturated hydraulic conductivity in the most restrictive horizon for each soil mapping unit. Maximum irrigation precipitation rates shall be provided for each soil mapping unit;
  - (C) a field-delineated soil map delineating soil mapping units within the land application site and showing all physical features, location of pits and auger borings, legends, scale, and a north arrow. The legends shall also include dominant soil series name and family or higher taxonomic class for each soil mapping unit; and

- (D) a representative soils analysis for standard soil fertility and all pollutants listed in Rule .1105(b) of this Section. The Standard Soil Fertility Analysis shall include the following parameters: acidity, base saturation (by calculation), calcium, cation exchange capacity, copper, exchangeable sodium percentage (by calculation), magnesium, manganese, percent humic matter, pH, phosphorus, potassium, sodium, and zinc.

[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science pursuant to G.S. 89F.]

- (4) Hydrogeologic report. A hydrogeologic description prepared by a Licensed Geologist, Licensed Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C, respectively, shall be provided to the Division by the applicant. The hydrogeologic evaluation shall be of the subsurface to a depth of 20 feet or bedrock, whichever is less deep. An investigation to a depth greater than 20 feet shall be required if the respective depth is used in predictive calculations. This evaluation shall be based on sufficient numbers, locations, and depths of borings to define the components of the hydrogeologic evaluation. In addition to borings, other techniques may be used to investigate the subsurface conditions at the site, including geophysical well logs, surface geophysical surveys, and tracer studies. This evaluation shall be presented in a report that includes the following components:

- (A) a description of the regional and local geology and hydrogeology;
- (B) a description, based on field observations of the land application site, of the land application site topographic setting, streams, springs and other groundwater discharge features, drainage features, existing and abandoned wells, rock outcrops, and other features that may affect the movement of the contaminant plume and treated wastewater;
- (C) changes in the lithology underlying the site;
- (D) depth to the bedrock and the occurrence of any rock outcrops;
- (E) the hydraulic conductivity and transmissivity of the affected aquifer as determined by in-situ field testing, such as slug tests or pumping tests, in the intended area of irrigation;
- (F) the depth to the seasonal high water table;
- (G) a discussion of the relationship between the affected aquifers of the land application site to local and regional geologic and hydrogeologic features;
- (H) a discussion of the groundwater flow regime of the site prior to the operation of the proposed site and the post operation of the proposed site, focusing on the relationship of the site to groundwater receptors, groundwater discharge features, and groundwater flow media; and
- (I) if residuals are applied through fixed irrigation facilities or irrigation facilities fed through a fixed supply system only and if the seasonal high water table is within six feet of the surface, a mounding analysis to predict the level of the seasonal high water table after residuals land application.

[Note: The North Carolina Board for Licensing of Geologists, via letter dated April 6, 2006, North Carolina Board for Licensing of Soil Scientists, via letter dated December 1, 2005, and North Carolina Board of Examiners for Engineers and Surveyors, via letter dated December 1, 2005, have determined that preparation of hydrogeologic description documents pursuant to this Paragraph constitutes practicing geology pursuant to G.S. 89E, soil science pursuant to G.S. 89F, or engineering pursuant to G.S. 89C.]

- (5) For land application sites onto which residuals are applied through fixed irrigation facilities or irrigation facilities fed through a fixed supply system only, the applicant shall provide to the Division a water balance that determines the required residuals storage based upon the following most limiting factor:
  - (A) hydraulic loading based on the most restrictive horizon;
  - (B) hydraulic loading based on the groundwater mounding analysis;
  - (C) nutrient management based on agronomic rates for the specified cover crop; or
  - (D) nutrient management based on crop management.
- (6) A project evaluation and a receiver site management plan (if applicable) with recommendations concerning cover crops and their ability to accept the proposed application rates of liquid, solids, minerals and other constituents of the residuals shall be provided to the Division by the applicant.

- (7) Property Ownership Documentation shall be provided to the Division by the applicant consisting of:
- (A) legal documentation of ownership, such as a contract, deed, or article of incorporation;
  - (B) an agreement of an intent to purchase the property that is written, notarized, and signed by both parties, accompanied by a plat or survey map; or
  - (C) an agreement to lease the property that is written, notarized, and signed by both parties, indicating the intended use of the property, accompanied by a plat or survey map. Lease agreements shall adhere to the requirements of 15A NCAC 02L .0107.
- (e) For new and expanding surface disposal units:
- (1) Site plans. If required by G.S. 89C, a professional land surveyor shall provide location information on boundaries and physical features not under the purview of other licensed professions. Site plans or maps shall be provided to the Division by the applicant depicting the location, orientation, and relationship of the surface disposal unit features including:
    - (A) a scaled map of the surface disposal unit, with topographic contour intervals not exceeding 10 feet or 25 percent of total site relief and showing all surface disposal unit-related structures and fences within the surface disposal unit;
    - (B) the location of each of the following that are located within 500 feet of a waste treatment, storage, or disposal site, including a delineation of their review and compliance boundaries:
      - (i) wells, including usage and construction details if available;
      - (ii) ephemeral, intermittent, and perennial streams;
      - (iii) springs;
      - (iv) lakes;
      - (v) ponds; and
      - (vi) other surface drainage features;
    - (C) setbacks as required by Rule .1108 of this Section; and
    - (D) site property boundaries within 500 feet of the surface disposal unit.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not under the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying pursuant to G.S. 89C.]
  - (2) Engineering design documents. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:
    - (A) engineering plans for the surface disposal unit and equipment except those previously permitted unless they are directly tied into the new units or are necessary to understanding the complete process;
    - (B) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product, including leakage testing; and
    - (C) engineering calculations, including hydraulic and pollutant loading, sizing criteria, hydraulic profile, and total dynamic head and system curve analysis for each pump.

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering pursuant to G.S. 89C.]
  - (3) Soils report. A soil evaluation of the surface disposal unit site shall be provided to the Division by the applicant in a report that includes the following. If required by G.S. 89F, a soil scientist shall prepare this evaluation:
    - (A) field description of soil profile, based on examinations of excavation pits or auger borings, within seven feet of land surface or to bedrock describing the following parameters by individual diagnostic horizons: thickness of the horizon; texture; color and other diagnostic features; structure; internal drainage; depth, thickness, and type of restrictive horizon; and presence or absence and depth of evidence of any seasonal high water table. Applicants may be required to dig pits when necessary for proper evaluation of the soils at the site; and
    - (B) a field-delineated soil map delineating major soil mapping units within the surface disposal unit site and showing all physical features, location of pits and auger borings,

legends, scale, and a north arrow. The legends shall also include dominant soil series name and family or higher taxonomic class for each soil mapping unit.

[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science pursuant to G.S. 89F.]

- (4) Hydrogeologic report. A hydrogeologic description prepared by a Licensed Geologist, Licensed Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C, respectively, shall be provided to the Division by the applicant. The hydrogeologic evaluation shall be of the subsurface to a depth of 20 feet or bedrock, whichever is less deep. An investigation to a depth greater than 20 feet shall be required if the respective depth is used in predictive calculations. This evaluation shall be based on sufficient numbers, locations, and depths of borings to define the components of the hydrogeologic evaluation. In addition to borings, other techniques may be used to investigate the subsurface conditions at the site, including geophysical well logs, surface geophysical surveys, and tracer studies. This evaluation shall be presented in a report that includes the following components:
- (A) a description of the regional and local geology and hydrogeology;
  - (B) a description, based on field observations of the site, of the site topographic setting, streams, springs and other groundwater discharge features, drainage features, existing and abandoned wells, rock outcrops, and other features that may affect the movement of the contaminant plume and treated wastewater;
  - (C) changes in the lithology underlying the site;
  - (D) the depth to bedrock and the occurrence of any rock outcrops;
  - (E) the hydraulic conductivity and transmissivity of the affected aquifer as determined by in-situ field testing, such as slug tests or pumping tests, in the intended area of irrigation;
  - (F) the depth to the seasonal high water table;
  - (G) a discussion of the relationship between the affected aquifers of the site to local and regional geologic and hydrogeologic features; and
  - (H) a discussion of the groundwater flow regime of the site prior to the operation of the proposed unit and the post operation of the proposed unit, focusing on the relationship of the unit to groundwater receptors, groundwater discharge features, and groundwater flow media.

[Note: The North Carolina Board for Licensing of Geologists, via letter dated April 6, 2006, North Carolina Board for Licensing of Soil Scientists, via letter dated December 1, 2005, and North Carolina Board of Examiners for Engineers and Surveyors, via letter dated December 1, 2005, have determined that preparation of hydrogeologic description documents pursuant to this Paragraph constitutes practicing geology pursuant to G.S. 89E, soil science pursuant to G.S. 89F, or engineering pursuant to G.S. 89C.]

- (5) Property Ownership Documentation shall be provided to the Division by the applicant consisting of:
- (A) legal documentation of ownership, such as a contract, deed, or article of incorporation;
  - (B) an agreement of an intent to purchase the property that is written, notarized, and signed by both parties, accompanied by a plat or survey map; or
  - (C) an agreement to lease the property that is written, notarized, and signed by both parties, indicating the intended use of the property, accompanied by a plat or survey map. Lease agreements shall adhere to the requirements of 15A NCAC 02L .0107.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .1105 POLLUTANT LIMITS**

(a) Residuals shall not be land applied if the concentration of any pollutant in the residuals exceeds the ceiling concentration for that pollutant as stipulated in the following on a dry weight basis:

| Pollutant | Ceiling Concentration<br>(milligrams per kilogram) |
|-----------|--|
|-----------|--|

|            |       |
|------------|-------|
| Arsenic    | 75    |
| Cadmium    | 85    |
| Copper     | 4,300 |
| Lead       | 840   |
| Mercury    | 57    |
| Molybdenum | 75    |
| Nickel     | 420   |
| Selenium   | 100   |
| Zinc       | 7,500 |

(b) Class B residuals shall not be land applied if the application causes the cumulative pollutant loading rate, on a dry weight basis, to be exceeded for any pollutant as stipulated in the following:

| Pollutant | Cumulative Pollutant Loading Rate<br>(kilograms per hectare) |
|-----------|--|
| Arsenic   | 41   |
| Cadmium   | 39   |
| Copper    | 1,500  |
| Lead      | 300  |
| Mercury   | 17   |
| Nickel    | 420  |
| Selenium  | 100  |
| Zinc      | 2,800  |

Compliance with the cumulative pollutant loading rates shall be determined using one of the following methods:

- (1) by calculating the existing cumulative level of pollutants using analytical data from all historical land application of residuals not otherwise exempted by this Paragraph; or
- (2) for land on which land application events of residuals has not occurred or for which the data required in Paragraph (b) of this Rule is incomplete, by determining background concentrations through representative soil sampling.

(c) Class A residuals shall not be applied if the concentration of any pollutant in the residuals exceeds the concentration for that pollutant, as stipulated in the following on a dry weight basis:

| Pollutant | Monthly Average Concentration<br>(milligrams per kilogram) |
|-----------|--|
| Arsenic   | 41   |
| Cadmium   | 39   |
| Copper    | 1,500  |
| Lead      | 300  |
| Mercury   | 17   |
| Nickel    | 420  |
| Selenium  | 100  |
| Zinc      | 2,800  |

(d) Residuals shall not be placed in a surface disposal unit if the concentration of any pollutant in the residuals exceeds the concentration for that pollutant, as stipulated in the following on a dry weight basis:

| Distance from Surface Disposal Unit Boundary to Closest Property Line<br>(meters) | Ceiling Concentration<br>(milligrams per kilogram) |          |        |
|---|--|----------|--------|
|   | Arsenic  | Chromium | Nickel |
| 0 to less than 25   | 30   | 200      | 210    |
| 25 to less than 50  | 34   | 220      | 240    |
| 50 to less than 75  | 39   | 260      | 270    |
| 75 to less than 100   | 46   | 300      | 320    |
| 100 to less than 125  | 53   | 360      | 390    |
| 125 to less than 150  | 62   | 450      | 420    |
| greater than 150  | 73   | 600      | 420    |

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1106 PATHOGEN REDUCTION REQUIREMENTS**

(a) Class A biological residuals shall meet the following requirements:

- (1) The requirements in this Paragraph shall be met no later than meeting the vector attraction reduction requirements in Rule .1107 of this Section, unless the vector attraction reduction methods in Rule .1107(a)(6), Rule .1107(a)(7), and Rule .1107(a)(8) of this Section are met.
- (2) Biological residuals shall be monitored for the density of fecal coliform or Salmonella sp. bacteria at the time that the residuals are used or disposed, or at the time they are prepared for sale or giving away in a bag or other container for land application, to demonstrate that:
  - (A) the density of fecal coliform is less than 1,000 Most Probable Number per gram of total solids on a dry weight basis; or
  - (B) the density of Salmonella sp. bacteria is less than three Most Probable Number per four grams of total solids on a dry weight basis.
- (3) The biological residuals meet one of the following requirements:
  - (A) Time and Temperature. The temperature of the biological residuals shall be maintained at a specific value for a period of consecutive time in accordance with the following:

| Total Solids<br>(percent) | Temperature (t)<br>(degrees Celsius) | Time                        | Equation to Determine<br>Minimum Holding Time<br>(D) (days) |
|---------------------------|--------------------------------------|-----------------------------|---|
| ≥ 7                       | ≥ 50                                 | ≥ 20 minutes                | $\frac{131,700,000}{10^{0.1400t}}$                          |
| ≥ 7                       | ≥ 50                                 | ≥ 15 seconds <sup>1</sup>   | $\frac{131,700,000}{10^{0.1400t}}$                          |
| < 7                       | ≥ 50                                 | ≥ 15 seconds<br><30 minutes | $\frac{131,700,000}{10^{0.1400t}}$                          |
| < 7                       | ≥ 50                                 | ≥ 30 minutes                | $\frac{50,070,000}{10^{0.1400t}}$                           |

<sup>1</sup> – when residuals are heated by warmed gases or an immiscible liquid

- (B) Alkaline Treatment. The pH of the biological residuals shall be raised to above 12 and shall remain above 12 for 72 consecutive hours. The temperature of the biological residuals shall be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the biological residuals is above 12. At the end of the 72-hour period during which the pH is above 12, the biological residuals shall be air dried to achieve a total solids greater than 50 percent;
- (C) Prior Testing for Enteric Viruses or Viable Helminth Ova. The biological residuals shall be analyzed prior to pathogen reduction treatment to determine whether the biological residuals contain enteric viruses or viable helminth ova. The density of enteric viruses prior to pathogen reduction treatment shall be less than one Plaque-forming Unit per four grams of total solids on a dry weight basis or the density of viable helminth ova shall be less than one per four grams of total solids on a dry weight basis. When the density of enteric viruses or viable helminth ova are equal to or greater than these values, the biological residuals shall be considered Class A following pathogen reduction treatment if the resultant densities are less than these values and the operating parameters for the pathogen reduction treatment are documented. After this demonstration, the biological residuals shall be considered Class A if the operating parameters for the pathogen reduction treatment are met and documented;
- (D) No Prior Testing for Enteric Viruses or Viable Helminth Ova. The density of enteric viruses in the biological residuals shall be less than one Plaque-forming Unit per four

grams of total solids on a dry weight basis or the density of viable helminth ova in the biological residuals shall be less than one per four grams of total solids on a dry weight basis at the time that the biological residuals are used or disposed or are prepared for sale or giving away in a bag or other container for land application;

- (E) Process to Further Reduce Pathogens - Composting. The biological residuals shall be composted using either the within-vessel method or the static aerated pile method, during which the temperature of the biological residuals is maintained at 55 degrees Celsius or higher for three consecutive days or longer. Alternatively, the biological residuals shall be composted using the windrow method, during which the temperature of the biological residuals is maintained at 55 degrees Celsius or higher for 15 consecutive days or longer. The windrow shall be turned five times during the period when the biological residuals are maintained at 55 degrees Celsius or higher. Natural decay of the biological residuals under uncontrolled conditions shall not be deemed to comply with these composting requirements;
  - (F) Process to Further Reduce Pathogens - Heat Drying. The biological residuals shall be dried by direct or indirect contact with hot gases to reduce the moisture content of the biological residuals to 10 percent or lower. During the process, either the temperature of the biological residuals particles shall exceed 80 degrees Celsius or the wet bulb temperature of the gas in contact with the biological residuals as they leave the dryer shall exceed 80 degrees Celsius;
  - (G) Process to Further Reduce Pathogens - Heat Treatment. The biological residuals shall be heated to a temperature of 180 degrees Celsius or higher for 30 minutes. This process shall be applied only to biological residuals that are in a liquid state;
  - (H) Process to Further Reduce Pathogens - Thermophilic Aerobic Digestion. The biological residuals shall be agitated with air or oxygen to maintain aerobic conditions, and the mean cell residence time of the biological residuals shall be 10 days at between 55 and 60 degrees Celsius. This process shall be applied only to biological residuals that are in a liquid state;
  - (I) Process to Further Reduce Pathogens - Beta Ray Irradiation. The biological residuals shall be irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature, approximately 20 degrees Celsius;
  - (J) Process to Further Reduce Pathogens - Gamma Ray Irradiation. The biological residuals shall be irradiated with gamma rays from certain isotopes, such as Cobalt 60 and Cesium 137, at room temperature, approximately 20 degrees Celsius; or
  - (K) Process to Further Reduce Pathogens - Pasteurization. The temperature of the biological residuals shall be maintained at 70 degrees Celsius or higher for 30 minutes or longer.
- (b) Class B biological residuals shall meet one of the following requirements:
- (1) Fecal Coliform Density Demonstration. Seven samples of the biological residuals shall be collected at the time the residuals are used or disposed, and the geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 Most Probable Number per gram of total solids on a dry weight basis or 2,000,000 Colony Forming Units per gram of total solids on a dry weight basis.
  - (2) Process to Significantly Reduce Pathogens. The biological residuals meet one of the following requirements:
    - (A) Aerobic Digestion. Biological residuals shall be agitated with air or oxygen to maintain aerobic conditions for a specific mean cell time at a specific temperature. Values for the mean cell residence time and temperature shall be between 40 days at 20 degrees Celsius and 60 days at 15 degrees Celsius;
    - (B) Air Drying. Biological residuals shall be dried on sand beds or on paved or unpaved basins for three months. During two of the three months, the ambient average daily temperature shall be above zero degrees Celsius;
    - (C) Anaerobic Digestion. Biological residuals shall be treated in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35 to 55 degrees Celsius and 60 days at 20 degrees Celsius;



- (D) Composting. Using either the within-vessel, static aerated pile, or windrow composting methods, the temperature of the biological residuals shall be raised to 40 degrees Celsius or higher and shall remain at 40 degrees Celsius or higher for five days. For four hours during the five days, the temperature in the compost pile shall exceed 55 degrees Celsius. Natural decay of the biological residuals under uncontrolled conditions shall not be deemed to comply with these composting requirements; or
- (E) Lime Stabilization. Sufficient lime shall be added to the biological residuals to raise the pH to 12 after two hours of contact.

(c) Biological residuals placed in a surface disposal unit shall be exempt from meeting the Class A or Class B pathogen requirements if the vector attraction method in Rule .1107(b)(2) of this Section is met.

(d) The pathogen reduction requirements in Subparagraph (a)(2) and Paragraph (b) of this Rule shall not apply for biological residuals generated from treatment of waste to not contain pathogens.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

### **15A NCAC 02T .1107 VECTOR ATTRACTION REDUCTION REQUIREMENTS**

(a) Biological residuals shall not be land applied unless the requirements of one of the following vector attraction reduction alternatives have been met:

- (1) 38-Percent Volatile Solids Reduction. The mass of the volatile solids in the biological residuals shall be reduced by 38 percent between the time that the biological residuals enter the digestion process and the time it is land applied;
- (2) 40-Day Bench Scale Test. A portion of previously anaerobically-digested biological residuals shall be further anaerobically-digested in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. The volatile solids in the biological residuals shall be reduced by less than 17 percent as measured from the beginning to the end of the test;
- (3) 30-Day Bench Scale Test. A portion of previously aerobically-digested biological residuals shall be further aerobically-digested in the laboratory in a bench-scale unit for 30 additional days at a temperature of 20 degrees Celsius. The previously aerobically-digested biological residuals shall either have a concentration of two percent total solids or less or shall be diluted with effluent down to two percent total solids at the start of the test. The volatile solids in the biological residuals shall be reduced by less than 15 percent as measured from the beginning to the end of the test;
- (4) Specific Oxygen Uptake Rate Test. The specific oxygen uptake rate (SOUR) for biological residuals treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids on a dry weight basis corrected to a temperature of 20 degrees Celsius;
- (5) 14-Day Aerobic Processes. The biological residuals shall be treated in an aerobic process for 14 days or longer. During that time the temperature of the biological residuals shall be higher than 40 degrees Celsius, and the average temperature of the biological residuals shall be higher than 45 degrees Celsius;
- (6) Alkaline Stabilization. The pH of the biological residuals shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours;
- (7) Drying of Stabilized Residuals. The biological residuals shall be dried to 75 percent total solids if the biological residuals contain no unstabilized solids from a primary wastewater treatment process. The biological residuals shall not be mixed with other materials to meet this requirement;
- (8) Drying of Unstabilized Residuals. The biological residuals shall be dried to 90 percent total solids if the biological residuals contain unstabilized solids from a primary wastewater treatment process. The biological residuals shall not be mixed with other materials to meet this requirement;
- (9) Injection.
  - (A) Class B biological residuals shall be injected below the land surface in accordance with 40 CFR 503.33(b)(9)(ii); and
  - (B) Class A biological residuals shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process; or

- (10) Incorporation.
  - (A) Class B biological residuals shall be incorporated into the soil within six hours after land application; and
  - (B) Class A biological residuals shall be land applied within eight hours after being discharged from the pathogen treatment process.
- (b) Biological residuals shall not be placed in a surface disposal unit unless one of the following vector attraction reduction alternatives have been met:
  - (1) Any alternative stipulated in Paragraph (a) of this Rule; or
  - (2) Daily Cover. Biological residuals shall be covered with soil or Division-approved material at the end of each operating day.
- (c) For biological residuals generated by wastewater treatment facilities treating industrial wastewater only, the vector attraction reduction requirements in Paragraph (a) of this Rule shall be met unless the permittee demonstrates that the residuals are pathogen free or meet the pathogen requirements in Rule .1106(b)(2) of this Section.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1108 SETBACKS**

(a) For residuals treatment and storage facilities, the following setbacks in feet shall be as follows:

|  |     |
|--|-----|
| Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site | 100 |
| Each private or public water supply source   | 100 |
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands                             | 50  |
| Each well with exception of monitoring wells   | 100 |
| Each property line   | 50  |

(b) For land onto which Class A bulk residuals are applied or stockpiled, the following setbacks in feet shall be as follows:

|  | Liquid<br>Residuals | Cake<br>Residuals |
|--|---------------------|-------------------|
| Each private or public water supply source   | 100                 | 100               |
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands | 100                 | 25                |
| Surface water diversions such as ephemeral streams, waterways, and ditches                     | 25                  | 0                 |
| Groundwater lowering ditches where the bottom of the ditch intersects the SHWT                 | 25                  | 0                 |
| Each well with exception of monitoring wells   | 100                 | 100               |
| Bedrock outcrops   | 25                  | 0                 |

(c) For land onto which Class B residuals are applied or stockpiled, the following setbacks in feet shall be as follows:

|   | Surface<br>Application<br>by Vehicle | Surface<br>Application | Injection /<br>Incorporation<br>by Irrigation |
|---|--------------------------------------|------------------------|---|
| Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site  | 400                                  | 400                    | 200   |
| Each habitable residence or place of assembly owned by the permittee, the owner of the land, or the lessee or operator of the land to be maintained as part of the project site | 0                                    | 200                    | 0   |
| Each property line  | 50                                   | 150                    | 50  |
| Public right of way   | 50                                   | 50                     | 50  |
| Each private or public water supply source  | 100                                  | 100                    | 100   |

|  |      |      |      |
|--|------|------|------|
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands | 32.8 | 32.8 | 32.8 |
| Surface water diversions such as ephemeral streams, waterways, and ditches                     | 25   | 25   | 25   |
| Groundwater lowering ditches where the bottom of the ditch intersects the SHWT                 | 25   | 100  | 25   |
| Subsurface groundwater lowering drainage systems   | 0    | 100  | 0    |
| Each well with exception of monitoring wells   | 100  | 100  | 100  |
| Bedrock outcrops   | 25   | 25   | 25   |
| Top of slope of embankments or cuts of two feet or more in vertical height                     | 15   | 15   | 15   |
| Each building foundation or basement   | 0    | 15   | 0    |
| Each water line  | 0    | 10   | 0    |
| Nitrification field  | 0    | 20   | 0    |

(d) For the construction and operation of surface disposal units, the following setbacks in feet shall be as follows:

|  |     |
|--|-----|
| Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site | 400 |
| Each property line   | 50  |
| Public right of way  | 50  |
| Each private or public water supply source   | 100 |
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and Wetlands                             | 100 |
| Surface water diversions such as ephemeral streams, waterways, and ditches   | 25  |
| Groundwater lowering ditches (where the bottom of the ditch intersects the SHWT)   | 100 |
| Subsurface groundwater lowering drainage systems   | 100 |
| Each well with exception of monitoring wells   | 100 |
| Each water line  | 10  |

(e) Setback waivers shall be written, notarized, signed by all parties involved, and recorded with the county Register of Deeds. Waivers involving the compliance boundary shall be in accordance with 15A NCAC 02L .0107.

(f) Setbacks to property lines established in Paragraphs (a), (c), and (d) of this Rule shall not be applicable if the permittee, the entity from which the permittee is leasing, or the entity that executed the notarized landowner agreement in 15A NCAC 02T .1104(c)(4) owns both parcels separated by the property line.

(g) Habitable residences or places of assembly under separate ownership constructed after the non-discharge facilities were originally permitted or subsequently modified are exempt from the setback requirements in Paragraphs (a) and (d) of this Rule.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1109 RESIDUALS MANAGEMENT PRACTICES**

(a) Land applied residuals shall meet the following requirements:

- (1) Residuals shall not be land applied under the following conditions:
  - (A) if the requirements specified by 40 CFR 503.14(a) as stated on January 1, 1996, and incorporated by reference have not been met;
  - (B) if the application causes nuisance conditions;
  - (C) if the land fails to assimilate the residuals or the application causes the contravention of surface water or groundwater standards;
  - (D) if the land is flooded, frozen, or snow-covered or is otherwise in a condition such that runoff of the residuals would occur;
  - (E) within the 100-year flood elevation unless the residuals are injected or incorporated within a 24-hour period following the application of residuals to land;
  - (F) during precipitation events or within 24 hours following a rainfall event of 0.5 inches or greater in a 24-hour period;

- (G) if the slope of the land is greater than 10 percent when liquid residuals are surface applied, and if the slope of the land is greater than 18 percent when liquid residuals are injected or incorporated;
  - (H) if the land does not have an established vegetative cover crop unless the land is a Division-approved no-till site or the residuals are incorporated within a 24-hour period following the injection or application of residuals to land;
  - (I) if the vertical separation of the seasonal high water table and the depth of residuals application is less than one foot;
  - (J) if the vertical separation of the depth to bedrock and the depth of residuals application is less than one foot; or
  - (K) if the application exceeds agronomic rates, except for dedicated sites where the applicant has specifically requested higher rates in an applications pursuant to Rule .1104(d) of this Section.
  - (L) new land application sites located within a WS-I watershed pursuant to 15A NCAC 02B .0212 or within the Critical Area of a WS-II pursuant to Sub-Item (4)(g) of Rule 15A NCAC 02B .0212, or within the Critical Area of a WS-III or WS-IV watershed pursuant to Sub-Item (4)(h) of Rules 15A NCAC 02B .0215, and .0216.
- (2) Class B land application sites shall have the following public access restrictions:
- (A) public access to public contact sites shall be restricted for one calendar year after any land application of residuals;
  - (B) public access to land that is not a public contact site shall be restricted for 30 days after any land application of residuals; and
  - (C) public access to land associated with a dedicated land application site shall be restricted continuously while the land is permitted for active use and for one calendar year after the final land application of residuals.
- (3) Class B land application sites shall have the following harvesting and grazing restrictions:
- (A) animals shall not be allowed to graze on land for 30 calendar days after any land application of residuals;
  - (B) food crops, feed crops, and fiber crops shall not be harvested for 30 calendar days after any land application of residuals;
  - (C) food crops with harvested parts that touch the mixture of residuals and soil and are totally above the land surface shall not be harvested for 14 months after any land application of residuals;
  - (D) food crops with harvested parts below the land surface shall not be harvested for 20 months after any land application of residuals if the residuals remain on the land surface for four months or longer prior to incorporation into the soil;
  - (E) food crops with harvested parts below the land surface shall not be harvested for 38 months after any land application of residuals if the residuals remain on the land surface for less than four months prior to incorporation into the soil; and
  - (F) turf grown on land where residuals are applied shall not be harvested for one calendar year after any land application of residuals.
- (b) Class A residuals that are sold or given away in a bag or other container for land application shall be exempt from Paragraph (a) of this Rule.
- (c) Class A residuals that are sold or given away in a bag or other container for land application, shall either have a label affixed to the bag or other container, or an information sheet shall be provided to the person who receives the residuals. The label or information sheet shall contain the following information:
- (1) the name and address of the person who prepared the residuals;
  - (2) a statement that land application of the residuals is prohibited except with the instructions on the label or information sheet; and
  - (3) that residuals must be applied at agronomic rates and recommended rates for intended uses.
- (d) Surface disposal units shall meet the following requirements:
- (1) New and expanding surface disposal units shall meet the following requirements:
    - (A) Surface disposal units shall not be located in a seismic impact zone unless designed to withstand the maximum recorded horizontal ground level acceleration.
    - (B) Surface disposal units shall not be located less than 60 meters from a fault that has displacement in Holocene time.

- (C) Surface disposal units shall not be located within a geologically unstable area.
  - (D) Surface disposal units shall not be located within the 100-year floodplain.
  - (E) Surface disposal units shall not restrict base flood flow.
  - (F) The vertical separation of the seasonal high water table and the bottom of surface disposal units shall not be less than three feet.
  - (G) Surface disposal units shall be provided with a liner system with a maximum hydraulic conductivity of  $10^{-7}$  centimeters per second. Units into which cake residuals are to be placed shall be equipped with a leachate collection system. Units into which liquid residuals are to be placed shall be equipped with a decanting system and freeboard marker.
- (2) The following requirements shall be met while surface disposal units are permitted for active use and for three calendar years after closure:
- (A) The requirements specified by 40 CFR 503.24(a) as stated on January 1, 1996 and incorporated by reference shall be met.
  - (B) Surface disposal units shall not cause nuisance conditions.
  - (C) Surface disposal units shall not cause the contravention of surface water or groundwater standards.
  - (D) Runoff from a 24-hour 25-year storm event, decant water, and leachate shall be collected from surface disposal units.
  - (E) If biological residuals are placed in the surface disposal unit, the concentration of methane gas shall not exceed 25 percent of the lower explosive limit for methane gas in any structure within the surface disposal unit boundary.
  - (F) If biological residuals are placed in the surface disposal unit, the concentration of methane gas shall not exceed the lower explosive limit for methane gas at any property line of the surface disposal unit.
  - (G) Public access to surface disposal units shall be restricted continuously.
  - (H) Animals shall not be allowed to graze on surface disposal units.
  - (I) Food crops, feed crops, and fiber crops shall not be harvested from surface disposal units.
- (3) Following active use, surface disposal units shall be closed. Permits for surface disposal units shall be maintained for three years following successful closure. Requests for approval of closure plans shall be submitted to the Division at least 180 days prior to the date that a surface disposal unit is to be closed and shall include the following information:
- (A) how the surface disposal unit will be closed;
  - (B) a discussion of how the leachate collection system will be operated and maintained, if applicable;
  - (C) a description of the system used to monitor the air for methane gas in the air in any structures within the surface disposal unit boundary and at the property line of the surface disposal unit, if applicable;
  - (D) a discussion of how public access to the surface disposal unit will be restricted; and
  - (E) proof that the deed for the surface disposal unit property has been amended to provide permanent written notification to subsequent owners of the property that the property was used for the purposes of operating a surface disposal unit.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

**15A NCAC 02T .1110 OPERATION AND MAINTENANCE**

- (a) An Operation and Maintenance Plan shall be maintained for all residuals management programs. The plan shall:
- (1) describe the operation of the program and all associated facilities and equipment in sufficient detail to show what operations are necessary for the program to function and by whom the functions are to be conducted;
  - (2) describe anticipated maintenance of facilities and equipment that are associated with the program;
  - (3) include provisions for safety measures, including restriction of access to the site and equipment, as appropriate;
  - (4) include spill control provisions, including:

- (A) response to upsets and bypasses, including control, containment, and remediation; and
  - (B) contact information for program personnel, emergency responders, and regulatory agencies;
  - (5) detail procedures for sampling and monitoring to ensure that the program stays in compliance with this Section and each issued permit; and
  - (6) for surface disposal units, detail procedures for post-closure care management.
- (b) The permittee shall ensure that an electronic or physical copy of their permit and the Operation and Maintenance Plan required by Paragraph (a) of this Rule is available when land applying residuals.
- (c) Residuals shall be stored or staged in a manner to prevent runoff of leachate and other wastewaters generated from residuals storage or staging.
- (d) Class A residuals may be staged at the application site for up to 30 days for biological residuals and 60 days for non-biological residuals. Storage or staging that exceeds these limits shall require written approval from the Division.
- (e) Class B residuals shall not be stored or staged at any land application site without prior written approval from the Division.
- (f) The permittee shall perform inspections and maintenance on storage, distribution, and application facilities.
- (g) Class B land application areas shall be clearly marked on each site prior to and during any land application of residuals.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1111 MONITORING AND REPORTING**

- (a) Representative samples of residuals that are prepared for land application or placed in a surface disposal unit shall be collected and analyzed.
- (b) The analytical methods listed in 40 CFR 503.8(b) are incorporated by reference with subsequent amendments and editions. This regulation may be found at no cost at: <https://www.epa.gov/laws-regulations/regulations>.
- (c) Residuals land applied or placed in a surface disposal unit shall be monitored for pollutants as required by Rules .1105(a), .1105(d), .1106, and .1107 of this Section, as applicable, at the following frequency:

| Metric Tons per 365 day period<br>(Dry Weight Basis) | Monitoring Frequency                   |
|--|--|
| Greater than zero but less than 290                  | Once per year                          |
| Equal to or greater than 290 but less than 1,500     | Once per quarter (four times per year) |
| Equal to or greater than 1,500 but less than 15,000  | Once per 60 days (six times per year)  |
| Equal to or greater than 15,000                      | Once per month (12 times per year)     |

- (d) A report of all monitoring and reporting requirements as specified in the permit shall be submitted to the Division by the permittee annually on or before March 1st of each calendar year.
- (e) All records shall be retained for five years.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**SECTION .1200 – COAL COMBUSTION PRODUCTS MANAGEMENT**

**15A NCAC 02T .1201 SCOPE**

- (a) This Section shall apply to the treatment, storage, transportation, and beneficial reuse of coal combustion products (CCPs) that meet the definition of wastewater treatment residuals. This Section shall not regulate the treatment, storage, transportation, use, or disposal of:
  - (1) CCPs that are not generated from a wastewater treatment facility;
  - (2) CCPs that are transported out of state for treatment, storage, use, or disposal; and
  - (3) CCPs that are used for structural fill.
- (b) CCPs may be distributed for the following uses:
  - (1) fuel for combustion for energy recovery in equipment such as boilers and furnaces;

- (2) material for manufacturing concrete products, asphalt products, brick products, lightweight aggregate, roofing materials, insulation products, plastics, paints, bowling balls, cosmetics, and other manufactured products in which the CCPs are encapsulated in the manufactured product;
- (3) daily, intermediate, and final cover as well as any other use at a landfill as approved by the Division of Waste Management;
- (4) material for traction control during snow and ice events;
- (5) substitute for blasting grit, roofing granules, and filter cloth precoat for residuals dewatering;
- (6) flowable fill for backfill of trenches for potable water mains as approved by the Division of Environmental Health, sanitary sewers, storm drainage structures, and other similar uses where flowable fill is used in lieu of compacted soil;
- (7) raw product for the stabilization of residuals;
- (8) soil nutrient additive, amendment, or other agricultural purpose;
- (9) overlay for roads, residential driveways, farm roads, and high-traffic farm areas; or
- (10) bedding for pipes, railroad beds, and underground storage tanks.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

### **15A NCAC 02T .1202 DEFINITIONS**

As used in this Section:

- (1) "Coal combustion products" or "CCPs" is defined in G.S. 130A-309.201(4).
- (2) "Dry weight basis" shall mean the weight calculated after the CCPs have been dried at 105 degrees Celsius until they reach a constant mass.
- (3) "Flowable fill" shall mean a controlled, low strength, cementitious material that is used primarily as a backfill in lieu of compacted soil and typically exhibits a compressive strength of greater than 30 pounds per square inch.
- (4) "Land application" shall mean the spraying or spreading of CCPs onto the land surface, the injection of CCPs below the land surface, or the incorporation of CCPs into the soil so that the CCPs can condition the soil or fertilize crops or vegetation grown in the soil.
- (5) "Monthly average" shall mean the arithmetic mean of all measurements taken during a month.
- (6) "Pollutant limit" shall mean a numerical value that describes the amount of a pollutant allowed per unit amount of CCPs.
- (7) "Source of CCPs" shall mean the point of origin of the CCPs, such as a coal fired power plant's wastewater treatment system.
- (8) "Toxicity Characteristic Leaching Procedure" shall mean EPA Test Method Number 1311 as described in EPA publication SW-846, entitled Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

### **15A NCAC 02T .1203 PERMITTING BY REGULATION**

(a) The following activities shall be deemed permitted in accordance with Rule .0113 of this Subchapter if the activity does not result in any violations of groundwater or surface water quality standards, there is no direct discharge to surface waters, the generator of the CCPs provides the information required by Rule .1207(a) of this Section to the recipient of the CCPs, and all other criteria required for the specific activity are met:

- (1) use of CCPs as fuel for combustion in boilers, furnaces, etc. for energy recovery;
- (2) use of CCPs as material for manufacturing concrete products, asphalt products, brick products, lightweight aggregate roofing materials, insulation products, plastics, paints, bowling balls, cosmetics and other manufactured products in which the CCPs are encapsulated in the manufactured product;
- (3) use or disposal of CCPs in a solid waste facility permitted by the Division of Waste Management that is approved to receive the CCPs;

- (4) use of CCPs as material for traction control during snow and ice events, if the CCPs do not exceed the leachate concentrations set forth in Rule .1205(a) of this Section;
  - (5) use of CCPs as a substitute for blasting grit, roofing granules, and filter cloth precoat for residuals dewatering, if the CCPs do not exceed the leachate concentrations of concern in Rule .1205(a) of this Section;
  - (6) use of CCPs in flowable fill for backfill of trenches for potable water mains as approved by the Division of Environmental Health, sanitary sewers, storm drainage structures, and other trenching uses if the CCPs do not exceed the leachate concentrations set forth in Rule .1205(a) of this Section;
  - (7) use of CCPs as a raw product for the stabilization of residuals; and
  - (8) land application of CCPs if the following criteria are met:
    - (A) the CCPs meet the pollutant limits in Rule .1205 of this Section;
    - (B) the land application activities meet all applicable conditions of Rule .1108(b)(1) and Rule.1109(b)(1) of this Subchapter; and
    - (C) less than 12,400 tons are applied to any one site.
- (b) Unless otherwise specified Paragraph (a) of this Rule, CCPs that are used for the activities deemed permitted in this Rule are not subject to the pollutant limits in Rule .1205 of this Section.
- (c) The Director may determine that a system should not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

**15A NCAC 02T .1204 APPLICATION REQUIREMENTS**

- (a) The requirements in this Rule shall apply to activities not deemed permitted under Rule .1203 of this Section.
- (b) For new and modified sources of CCPs:
  - (1) site plans or maps shall be provided to the Division by the applicant, depicting the location of the source;
  - (2) an analysis of the CCPs shall be provided to the Division by the applicant. The analysis shall include all pollutants identified in Rule .1205 of this Section. If the CCPs are to be used in a land application, the analyses shall also include nutrients and micronutrients; and
  - (3) a sampling/monitoring plan that describes how Rule .1205 of this Section shall be complied with shall be provided to the Division by the applicant.
- (c) For uses of CCPs not already approved by the applicant's or permittee's individual permit, information shall be provided to the Division by the applicant that describes and explains site-specific engineering or institutional controls proposed to prevent adverse impacts to public health and the environment.
- (d) For the use of CCR for land application with greater than 12,400 tons of CCP to be applied to a single site, documentation shall be provided to the Division by the applicant, showing that environmental releases to groundwater, surface water, and soil are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, or soil will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use.
- (e) Information listed in Paragraph (c) of this Rule shall not be required if a permit from the Division has been issued to the source of CCPs that addresses the use of CCPs at sites where the CCPs are used for bedding.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

**15A NCAC 02T .1205 POLLUTANT LIMITS**

- (a) Except as provided for in Rule .1203 of this Section, CCPs shall not be distributed for use or used if the concentration of any pollutant during the performance of a Toxicity Characteristic Leaching Procedure of the CCPs exceeds the leachate concentration of concern for that pollutant as follows:

| Pollutant | Leachate Concentration of Concern<br>(milligrams per liter) |
|-----------|---|
|-----------|---|



|          |       |
|----------|-------|
| Arsenic  | 5.0   |
| Barium   | 100.0 |
| Cadmium  | 1.0   |
| Chromium | 5.0   |
| Lead     | 5.0   |
| Mercury  | 0.2   |
| Selenium | 1.0   |
| Silver   | 5.0   |

(b) Except as provided for in Rule .1203 of this Section, CCPs shall not be distributed for use or used if the concentration of any pollutant in the CCPs exceeds the ceiling concentration for that pollutant on a dry weight basis as follows:

| Pollutant  | Ceiling Concentration<br>(milligrams per kilogram) |
|------------|--|
| Arsenic    | 75   |
| Cadmium    | 85   |
| Copper     | 4,300  |
| Lead       | 840  |
| Mercury    | 57   |
| Molybdenum | 75   |
| Nickel     | 420  |
| Selenium   | 100  |
| Zinc       | 7,500  |

(c) Except as provided for in Rule .1203 of this Section, CCPs shall not be distributed for use or used if the concentration of any pollutant in the CCPs exceeds the concentration for that pollutant on a dry weight basis as follows:

| Pollutant  | Monthly Average Concentration<br>(milligrams per kilogram) |
|------------|--|
| Arsenic    | 41   |
| Cadmium    | 39   |
| Copper     | 1,500  |
| Lead       | 300  |
| Mercury    | 17   |
| Molybdenum | 75   |
| Nickel     | 420  |
| Selenium   | 100  |
| Zinc       | 2,800  |

(d) CCPs may be distributed for use or used if the limits specified in Paragraphs (a), (b), or (c) of this Rule are not met if the following criteria are met:

- (1) the potential release of pollutants from the CCPs to the environment is minimized to the extent practicable; and
- (2) the applicant demonstrates that it will meet the applicable surface water and groundwater quality standards at the compliance boundary at the site of use.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1206 SETBACKS**

For areas in which CCPs are stored, the following setbacks, in feet, shall be adhered to:

|  |     |
|--|-----|
| Each private or public water supply source   | 100 |
| Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands | 50  |
| Each well with exception of monitoring wells   | 100 |
| Seasonal high water table  | 2   |

All distances are horizontal distances except for the distance from a seasonal high water table, which is measured as a vertical distance.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .1207 MANAGEMENT PRACTICES**

(a) For CCPs that are distributed for use, the following shall be provided by the permittee to the person who receives the CCPs:

- (1) the name and address of the person who distributed the CCPs;
- (2) materials safety data, pursuant to 29 CFR 1910.1200, for the CCPs;
- (3) guidance regarding how to comply with Paragraphs (b), (c), and (d) of this Rule;
- (4) guidance regarding requirements required by this Section that are specific to the intended use and must be followed by the recipient of the CCPs; and
- (5) a statement that use of the CCPs is prohibited unless in compliance with the guidance provided.

(b) CCPs shall be transported in a manner that does not cause nuisances and hazards to public health or safety or otherwise cause an adverse impact.

(c) The person distributing CCPs shall take preparatory measures to store CCPs prior to distribution for use, as well as prior to use, to prevent unpermitted runoff to surface waters.

(d) The person distributing CCPs shall take actions necessary to prevent wind erosion and surface runoff from conveying CCPs onto adjacent property or into any surface waters prior to distribution for use as well as after use.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .1208 OPERATION AND MAINTENANCE**

An Operation and Maintenance Plan shall be maintained for all CCPs management programs. The plan shall:

- (1) describe the operation of the program and associated wastewater treatment systems and equipment in sufficient detail to show what operations are necessary for the program to function and by whom the functions are to be conducted;
- (2) describe anticipated maintenance of wastewater treatment systems and equipment that are associated with the program;
- (3) include provisions for safety measures, including restriction of access to the site and equipment, as appropriate;
- (4) include spill control provisions, including:
  - (a) response to spills, including control, containment, and remediation; and
  - (b) contact information for program personnel, emergency responders, and regulatory agencies;
- (5) describe the sampling and analysis protocol used to ensure that the program complies with this Section and all issued permits.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .1209 MONITORING AND REPORTING**

(a) Records shall be maintained by the permittee of all CCPs distributed for use or used and shall include the following:

- (1) the source, volume, and type of CCPs distributed for use or used;
- (2) the date of CCPs distributed for use or used; and
- (3) the name of the initial recipient of the CCPs and a description of their intended use.

(b) A report of all monitoring and reporting requirements as specified in the permit shall be submitted annually to the Division by the Permittee on or before March 1<sup>st</sup> of each calendar year.

(c) All records shall be retained for five years.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

## **SECTION .1300 – ANIMAL WASTE MANAGEMENT SYSTEMS**

### **15A NCAC 02T .1301 SCOPE**

The rules in this Section shall apply to all persons proposing to construct, modify, expand, or operate an animal waste management system. These Rules shall not apply to manure haulers regulated pursuant to Section .1400 of this Subchapter.

*History Note: Authority G.S. 143-215.1; 143-215.3(a); 143-215.10A;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

### **15A NCAC 02T .1302 DEFINITIONS**

The definitions in G.S. 143-215.10B, in Rule .0103 and .1102 of this Subchapter, and as follows shall apply to this Section.

- (1) "Animal waste management plan" means a plan to properly collect, store, treat or apply animal waste to the land in an environmentally safe manner developed in accordance with G.S. 143-215.10C.
- (2) "Animal Waste Residuals" means residuals that have been generated during the treatment of animal waste.
- (3) "Bag or other container" shall mean a bag, bucket, bin, box, carton, vehicle, trailer, tanker, or an open or closed receptacle with a load capacity of 1.102 short tons or one metric ton or less.
- (4) "Expanded animal waste management system" means an increase in the permitted steady state live weight associated with the animal waste management system.
- (5) "New animal waste management system" means animal waste management systems that are constructed and operated at a site where no feedlot existed previously or where a permit for a system has been rescinded and then reissued when the permittee confines animals in excess of the thresholds established in G.S. 143-215.10B. Notwithstanding Rule .1307(a) of this Section, a new animal waste management system shall not include a facility where a system serving a feedlot that has been abandoned or unused for a period of less than five years and then put back into service or if the facility:
  - (a) has had no animals on site for five continuous years or more;
  - (b) notifies the Division in writing at least 60 days prior to bringing any animals back on to the site;
  - (c) was depopulated after January 1, 2005, and the system ceased operation no longer than 10 years prior to the current date;
  - (d) at the time the system ceased operation, was in compliance with an individual permit or a general permit issued pursuant to G.S. 143-215.10C;
  - (e) was issued an individual permit or certificate of coverage under a general permit issued pursuant to G.S. 143-215.10C for operation of the system before any animals are brought on the facility;
  - (f) was issued a permit that does not allow production, measured by steady state live weight, to exceed the greatest steady state live weight previously permitted for the system under G.S. 143-215.10C;
  - (g) has no component of the animal waste management system, other than an existing barn or land application site, constructed on land that is located within the 100-year floodplain; and
  - (h) has an inactive animal waste management system that was not closed using the expenditure of public funds and was not closed pursuant to a settlement agreement, court order, cost share agreement, or grant condition.
- (6) "NRCS" means the U.S. Department of Agriculture - Natural Resources Conservation Service.

*History Note: Authority G.S. 143-215.1; 143-215.3(a); 143-215.10A; S.L. 2013-413; S.L. 2015-263; Eff. September 1, 2006; Readopted Eff. September 1, 2018.*

### **15A NCAC 02T .1303 PERMITTING BY REGULATION**

(a) The following systems shall be deemed permitted pursuant to Rule .0113 of this Subchapter provided the system meets the criteria in Rule .0113 of this Subchapter and all criteria required for the specific system by this Rule:

- (1) Systems that do not meet the criteria of an animal operation permitted under Rule .1304 or Rule .1305 of this Subchapter and all other systems not specifically mentioned in this Section if:
  - (A) the animal waste is land applied at no greater than agronomic rates to land owned by the waste generator or under the waste generator's authority;
  - (B) the storage and land application of animal waste is no closer than 100 feet from a well other than a monitoring well;
  - (C) animal waste is not applied on land that is flooded, saturated with water, frozen, or snow covered at the time of land application; and
  - (D) no animal waste is land applied during precipitation events.
- (2) Poultry operations that use a dry litter system with more than 30,000 birds and that do not meet the criteria specified in Rule .1305 of this Subchapter if:
  - (A) records are maintained for three years that include the dates the litter was removed, the estimated amount of litter removed, and the location of the sites where the litter was land applied by the poultry operation;
  - (B) the waste is applied at no greater than agronomic rates;
  - (C) a vegetative buffer of at least 25 feet is maintained from a perennial stream or perennial waterbody for land application sites;
  - (D) land application of litter is no closer than 100 feet from a well other than a monitoring well;
  - (E) litter is stockpiled no closer than 100 feet from a perennial stream, perennial waterbody, or well other than a monitoring well;
  - (F) litter is not stockpiled uncovered for greater than 15 days;
  - (G) litter is not applied on land that is flooded, saturated with water, frozen, or snow covered at the time of land application;
  - (H) no litter is land applied during precipitation events; and
  - (I) if a manure hauler is used, records are maintained of the dates the litter was removed, the estimated amount of litter removed, and the name, address, and phone number of the manure hauler.
- (3) Land application sites under separate ownership from the waste generator, that receive animal waste from animal waste management systems that are deemed permitted, when all the following conditions are met:
  - (A) the waste is applied at no greater than agronomic rates;
  - (B) the storage and land application of animal waste is no closer than 100 feet from a well other than a monitoring well;
  - (C) a vegetative buffer of at least 25 feet is maintained from a perennial stream or perennial waterbody;
  - (D) animal waste is not applied on land that is flooded, saturated with water, frozen, or snow covered at the time of land application; and
  - (E) no animal waste is land applied during precipitation events.

(b) The Director may determine that a system should not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note: Authority G.S. 143-215.1; 143-215.3(a); 143-215.10A; Eff. September 1, 2006; Readopted Eff. September 1, 2018.*

### **15A NCAC 02T .1304 STATE PERMITTING REQUIREMENTS**

- (a) This rule shall apply to animal waste management systems that meet the definition of an animal operation in G.S. 143-215.10B but are not subject to regulation pursuant to Rule .1305 of this Section.
- (b) An animal waste management plan shall be submitted as follows:
- (1) The animal waste management practices or combination of practices that are selected to comprise a plan for a specific facility shall meet NRCS standards, the standard of practices adopted by the Soil and Water Conservation Commission pursuant to 02 NCAC 59E .0104, or standards for any combination of practices that provide water quality protection and are approved by one of these two agencies; and all applicable State statutes and rules at the time of development or design. NRCS standards relating to phosphorus application rates for animal waste shall not be incorporated as part of this rule.
  - (2) Permittee shall submit plans that have been approved by a technical specialist. The technical specialist shall certify that the best management practices that comprise the approved plan meet applicable standards and specifications, pursuant to G.S. 143-215.10C. The certification shall be submitted to the Division on Division-supplied forms or forms approved by the Division as providing the same information as required by the Division's forms.
  - (3) The waste shall not be applied at greater than agronomic rates.
  - (4) The land application and siting setbacks shall meet the applicable conditions established in G.S. 106-803 and NRCS standards at the time of site construction or at the time waste is first applied at the land application site.
  - (5) Notwithstanding Subparagraph (b)(4) of this Rule, land application of waste shall be no closer than 100 feet from a well other than a monitoring well and no closer than 200 feet from a dwelling not owned by the waste generator at the time waste is first applied at the land application site. Setback waivers related to distance of land application of waste from a dwelling not owned by the waste generator shall be written, notarized, signed by all parties involved, and recorded with the county of Register of Deeds.
  - (6) Notwithstanding Rule .1304(b)(4) of this Section, a vegetative buffer of at least 25 feet is maintained from a perennial stream or perennial waterbody for land application sites.
  - (7) The waste shall not be applied on land that is flooded, saturated with water, frozen, or snow covered at the time of land application.
  - (8) Land application of waste shall be prohibited during precipitation events.
  - (9) All waste application equipment shall be tested and calibrated at least once every two calendar years, and the results shall be documented on forms supplied by or approved by the Division as providing the same information as required by the Division's forms.
  - (10) Visible waste-level gauges shall be installed and maintained to mark the level of the waste in each animal waste lagoon or storage pond that does not gravity feed through a free flowing transfer pipe into a subsequent waste storage structure. The gauge shall have readily visible permanent markings.
  - (11) New and expanded animal waste treatment systems, such as lagoons and waste storage structures, shall be located at least 100 feet from a perennial stream or perennial waterbody. For new and expanding systems, this setback requirement shall also apply to areas in feedlots where an established vegetative cover will not be maintained because of the concentration of animals, with the exception of stock trails and stream crossings.
  - (12) For animal waste management facilities desiring to increase their animal population beyond that permitted, a new individual permit or new certificate of coverage to operate under a general permit shall be issued before the additional animals are stocked.
- (c) For each change of ownership of the system, the new owner shall notify the Division in writing within 60 days of transfer of ownership.
- (d) New and expanding swine facilities shall demonstrate compliance with Rule .1307 of this Section prior to receiving a permit from the Division.

*History Note: Authority G.S. 106-803; 143-215.1; 143-215.3(a); 143-215.10A; 143-215.10C; 143-215.10I; Eff. September 1, 2006; Amended Eff. January 1, 2009; Readopted Eff. September 1, 2018.*

(a) This Rule shall apply to animal waste management systems subject to regulation pursuant to G.S. 143-215.10C and 40 CFR 122.23, which is incorporated by reference including subsequent amendments and editions and shall apply throughout this Rule. 40 CFR 122.23 can be accessed free of charge at <http://www.gpo.gov/fdsys/>.

(b) With the exception of dry litter poultry systems, an animal waste management plan shall be submitted as follows:

- (1) The animal waste management practices or combination of practices that are selected to comprise a plan for a specific facility shall meet NRCS standards, the standard of practices adopted by the Soil and Water Conservation Commission pursuant to 02 NCAC 59E .0104, or standards for any combination of practices that provide water quality protection and are approved by one of these two agencies; and all applicable State statutes and rules and all applicable federal requirements at the time of development or design.
- (2) Permittee shall submit plans that have been approved by a technical specialist. The technical specialist shall certify that the best management practices that comprise the approved plan meet applicable standards and specifications, pursuant to G.S. 143-215.10C. The certification shall be submitted to the Division on Division-supplied forms or forms approved by the Division as providing the same information as required by the Division's forms.
- (3) The waste shall not be applied at greater than agronomic rates.
- (4) The land application and siting setbacks shall meet the applicable conditions established in G.S. 106-803, and NRCS standards at the time of site construction or at the time waste is first applied at the land application site.
- (5) The land application and siting setbacks must meet the applicable conditions established in 40 CFR Part 412.
- (6) Notwithstanding Subparagraph (b)(4) of this Rule, land application of waste shall be no closer than 100 feet from a well other than a monitoring well and no closer than 200 feet from a dwelling not owned by the waste generator at the time waste is first applied at the land application site. Setback waivers related to distance of land application of waste from a dwelling not owned by the waste generator shall be written, notarized, signed by all parties involved, and recorded with the county of Register of Deeds.
- (7) The waste shall not be applied on land that is flooded, saturated with water, frozen, or snow covered at the time of land application.
- (8) Land application of waste shall be prohibited during precipitation events.
- (9) All waste application equipment shall be tested and calibrated at least once every calendar year, and the results shall be documented on forms supplied by or approved by the Division as providing the same information as required by the Division's forms.
- (10) Visible waste-level gauges shall be installed and maintained to mark the level of the waste in each animal waste lagoon or storage pond that does not gravity feed through a free flowing transfer pipe into a subsequent waste storage structure. The gauge shall have readily visible permanent markings.
- (11) New and expanded animal waste treatment systems, such as lagoons and waste storage structures, shall be located at least 100 feet from a perennial stream or perennial waterbody. For new and expanding systems, this setback requirement shall also apply to areas in feedlots where an established vegetative cover will not be maintained because of the concentration of animals, with the exception of stock trails and stream crossings.
- (12) For animal waste management facilities desiring to increase their animal population beyond that permitted, a new individual permit or new certificate of coverage to operate under a general permit must be issued before the additional animals are stocked.

(c) Dry litter poultry systems, for the purpose of this Rule and G.S. 143-215.10C, shall submit an animal waste management plan as follows:

- (1) The animal waste management practices or combination of practices that are selected to comprise a plan for a specific facility shall meet NRCS standards, the standard of practices adopted by the Soil and Water Conservation Commission, or standards for any combination of practices that provide water quality protection and are approved by one of these two agencies; and all applicable State statutes and rules and all applicable federal requirements at the time of development or design.
- (2) The land application and siting setbacks shall meet the conditions established in NRCS standards and 40 CFR Part 412 at the time of construction.

- (3) New and expanded animal waste structures, such as houses and dry stacks, shall be protected from the 100-year flood as determined by the Federal Emergency Management Agency.
  - (4) The waste shall not be applied at greater than agronomic rates.
  - (5) Notwithstanding Subparagraph (c)(2) of this Rule, land application of litter shall be no closer than 100 feet from a well other than a monitoring well and no closer than 200 feet from a dwelling not owned by the waste generator at the time waste is first applied at the land application site. Setback waivers related to distance of land application of waste from a dwelling not owned by the waste generator shall be written, notarized, signed by all parties involved, and recorded with the county Register of Deeds.
  - (6) The waste shall not be applied on land that is flooded, saturated with water, frozen, or snow covered at the time of land application.
  - (7) Land application of litter shall be prohibited during precipitation events.
  - (8) All waste application equipment shall be tested and calibrated at least once every calendar year, and the results shall be documented on forms supplied by or approved by the Division as providing the same information as required by the Division's forms.
  - (9) Visible waste-level gauges shall be installed and maintained to mark the level of the waste in each animal waste lagoon or storage pond that does not gravity feed through a free flowing transfer pipe into a subsequent waste storage structure. The gauge shall have readily visible permanent markings.
  - (10) For animal waste management facilities desiring to increase their animal population beyond that permitted, a new individual permit or new certificate of coverage to operate under a general permit shall be issued before the additional animals are stocked.
- (d) For each change of ownership of the system, the new owner shall notify the Division in writing within 60 days of transfer of ownership.
- (e) Systems shall meet all applicable requirements of 40 CFR Part 122 and 40 CFR Part 412.
- (f) New and expanding swine facilities shall demonstrate compliance with Rule .1307 of this Section prior to receiving a permit from the Division.

*History Note: Authority G.S. 106-803; 143-215.1; 143-215.3(a); 143-215.10A; 143-215.10C; 143-215.10I; Eff. September 1, 2006; Amended Eff. January 1, 2009; Readopted Eff. September 1, 2018.*

#### **15A NCAC 02T .1306 CLOSURE REQUIREMENTS**

- (a) Any containment basin, such as a lagoon or a waste storage structure, permitted at an animal operation other than a cattle facility pursuant to this Section shall continue to be subject to the conditions and requirements of the facility's permit until it is closed in compliance with NRCS standards and the permit is rescinded by the Division. Closure shall include pre-notification to the Division and submittal of closure form within 15 days of completion of closure to the Division on a closure form supplied by the Division or a form approved by the Division as providing the same information as required by the Division's forms.
- (b) Any Containment basin, such as a lagoon or a waste storage structure, permitted at a cattle facility pursuant to this Section shall continue to be subject to the conditions and requirements of the facility's permit until that permit is rescinded by the Division, based on the factors set out in 15A NCAC 02T .0113(e). Upon request of the permittee, the permit may be rescinded by the Division prior to closure of the containment basin if the cattle facility has not met the definition of an animal operation as established in G.S. 143-215.120B for the previous three years or longer. Upon permit rescission, the following requirements shall apply:
  - (1) The cattle facility shall be subject to the requirements of Rule .1303 of this Section and Rule .0113 of this Subchapter until the containment basin is closed in compliance with NRCS standards.
  - (2) The farm owner shall maintain records of land application and weekly records of containment basin waste levels on forms provided by or approved by the Division.
  - (3) Closure shall include pre-notification to the Division and the submittal of a closure form within 15 days of completion of closure to the Division on a closure form supplied by the Division or a form approved by the Division as providing the same information as required by the Division's forms.
- (c) The Division shall have the authority to deny a request for permit rescission based on the factors set out in Rule .0113(e) of this Subchapter.

*History Note: Authority G.S. 143-215.1; 143-215.3(a); 143-215.10A; S.L. 2013-413; Eff. September 1, 2006; Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1307 SWINE WASTE MANAGEMENT SYSTEM PERFORMANCE STANDARDS**

(a) This Rule applies to animal waste management systems subject to regulation pursuant to G.S. 143-215.10I and S.L. 2015-263.

(b) An animal waste management system that serves a swine farm subject to regulation pursuant to G.S. 143-215.10I shall meet all of the following performance standards:

- (1) Eliminate the discharge of animal waste to surface waters and groundwater through direct discharge, seepage, or runoff. To meet this standard:
  - (A) earthen structures shall be designed and constructed with synthetic liners to eliminate seepage;
  - (B) solids storage structures shall meet applicable engineering practices and NRCS design standards;
  - (C) the Certified Animal Waste Management Plan (CAWMP) shall include all components listed in G.S. 143-215.10C(e), meet current North Carolina NRCS 590 Nutrient Management Conservation Practice Standard requirements, and comply with the NRCS national policy for Comprehensive Nutrient Management Plans (CNMP) as defined in the NRCS General Manual, Title 190, Part 405, which are incorporated by reference, including subsequent additions or amendments. The General Manual may be downloaded at no cost from the NRCS website: <https://www.nrcs.usda.gov/>;
  - (D) swine waste treatment structures that automatically convey swine waste using pumps shall have audible and visible high water alarms with an auto dialer device set to contact the farm owner or farm manager; a gravity overflow to a basin that can contain the flow rate of the largest pump in the system for the maximum amount of time that an operator will not be on-site; or a secondary containment structure designed, constructed, and operated to contain the volume of the largest animal waste treatment structure and the flow rate of the largest pump in the system for the maximum amount of time that an operator will not be on-site; and
  - (E) no more than the equivalent volume of one month of design flow of untreated swine waste shall be accumulated and stored prior to the initiation of treatment;
- (2) Substantially eliminate atmospheric emission of ammonia. To meet this standard:
  - (A) Combined ammonia emissions from swine waste treatment and storage structures shall not exceed an annual average of 0.2 kg NH<sub>3</sub>-N/wk/1,000 kg of steady-state live weight;
  - (B) Ammonia emissions from land application sites shall not exceed an annual average of 0.2 kg NH<sub>3</sub>-N/wk/1,000 kg of steady-state live weight; and
  - (C) Ammonia emissions from the swine farm shall not exceed an annual average of 0.9 kg NH<sub>3</sub>-N/wk/1,000 kg of steady-state live weight;
- (3) Substantially eliminate the emission of odor that is detectable beyond the boundaries of the parcel or tract of land on which the swine farm is located. To meet this standard, swine waste management systems shall reduce odor levels, frequency, and duration from the whole farm, such that the requirements of 15A NCAC 02D .1808 are met at the property boundary;
- (4) Substantially eliminate the release of disease-transmitting vectors and airborne pathogens. To meet this standard:
  - (A) Swine waste management systems shall meet the vector attraction reduction requirements of Rule .1107 of this Subchapter for the land application of separated solids and animal waste residuals for operations subject to this Rule;
  - (B) Swine waste management systems shall meet the pathogen reduction requirements of Rule .1106(a) of this Subchapter for Class A biosolids that are to be applied to a lawn, home garden, or public contact use site; sold or given away in a bag or container for land application or meet the pathogen reduction requirements of Rule .1106(b) for Class B biosolids that are to be otherwise applied to land; and
  - (C) Fecal coliform concentrations in the final liquid effluent shall not exceed an annual average of 7,000 Most Probable Number/100mL;



- (5) Substantially eliminate nutrient and heavy metal contamination of soil and groundwater. To meet this standard, swine waste management systems that land apply effluent shall:
  - (A) Meet the current North Carolina NRCS 590 Nutrient Management Conservation Practice Standard requirements and comply with the NRCS national policy for Comprehensive Nutrient Management Plans (CNMP) as defined by NRCS General Manual, Title 190, Part 405; and
  - (B) Demonstrate through predictive calculations or modeling that land application of swine waste at the proposed rate will not cause or contribute to a violation of groundwater standards set forth in 15A NCAC 02L.

*History Note: Authority G.S. 143-215.1; 143-215.3(a); 143-215.10A; 143-215.10C; 143-215.10I; S.L. 2015-263; Eff. January 1, 2009; Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1308 EVALUATION AND APPROVAL OF SWINE WASTE MANAGEMENT SYSTEMS**

(a) This Rule shall apply to the evaluation, approval, and permitting of swine waste management systems that are required to meet the performance standards in Rule .1307 of this Section.

(b) APPLICATION: The applicant shall submit a permit application in writing to the Division showing that a swine waste management system meets the performance standards. The application shall include the following:

- (1) operation and maintenance procedures, the system classification, the proposed management entity, and system operator requirements;
- (2) a description of the swine waste management system, including materials used in construction, and its proposed use;
- (3) a summary of literature, published research, and previous experience with and performance of a waste management system of similar waste characteristics;
- (4) the results of 12 months of testing, research, or monitoring of pilot- or full-scale operational systems; and shall identify whether the testing, research, or monitoring provided was conducted by a third party research or testing organization;
- (5) documentation of the protocol used to evaluate the performance of the swine waste management system;
- (6) the identity and qualifications, if applicable, of the proposed research or testing organization and the principal investigators, and an affidavit certifying that the organization and principal investigators have no conflict of interest and do not stand to gain financially from the sale of the technology;
- (7) an affidavit certifying that the swine waste management system submitted for approval is the same as the certified or listed product, or identify any modifications made to the submitted system;
- (8) a procedure to address system malfunction and replacement;
- (9) notification of any proprietary or trade secret information, system, component, or device;
- (10) engineering design documents. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:
  - (A) engineering plans for the entire system, including treatment, storage, application, and disposal facilities and equipment except those previously permitted unless those previously permitted are directly tied into the new units or are necessary to understand the complete process;
  - (B) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product, including leakage testing; and
  - (C) engineering calculations, including hydraulic and pollutant loading for each treatment unit, treatment unit sizing criteria, hydraulic profile of the treatment system, total dynamic head and system curve analysis for each pump, buoyancy calculations, and irrigation design;
- (11) a complete permit application in compliance with Section .0100 of this Subchapter; and
- (12) in lieu of the requirements of Subparagraphs (b)(3) through (b)(6), the applicant may submit data from a full-scale facility previously permitted by the Division.

(c) APPROVAL OF NEW OR EXPANDING SWINE WASTE MANAGEMENT SYSTEMS: The Division shall review all applications submitted in accordance with Rule .0107 of this Subchapter. The Division shall approve the

swine waste management system in accordance with Rule .0108 of this Subchapter when the applicant can show that the performance standards of Rule .1307 of this Section will be met.

(d) **MONITORING REQUIREMENTS:** Once the newly permitted system reaches full capacity or within six months of receipt of the engineering certification pursuant to Rule .0116 of this Subchapter, whichever comes sooner, the permittee shall monitor system performance for two years with quarterly sampling to assure that the treatment system is meeting performance standards. If after two years the treatment system complies with Rule .1307 of this Section, the permittee shall monitor for compliance with the performance standards in Rule .1307 on the following schedule:

- (1) Ammonia emissions monitoring from swine waste treatment and storage structures shall be as follows:
  - (A) Ammonia air emissions from open-air structures shall be directly sampled once per calendar year, with alternating years sampled during the summer and winter seasons, or
  - (B) liquid from open-air waste treatment and storage structures shall be sampled at a minimum of once per quarter.
- (2) Monitoring of odor intensity shall be on an annual basis, with alternating years sampled during the summer and winter seasons.
- (3) Effluent shall be monitored once per quarter, unless a more frequent schedule is required by the Division pursuant to Rule .0108(c) of this Subchapter.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a); 143-215.10A; 143-215.10I;  
Eff. January 1, 2009.  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .1309 LAGOON CONVERSION REQUIREMENTS**

(a) This Rule shall apply to existing swine animal waste management systems that convert from anaerobic lagoons as the primary method of treatment to an animal waste management system that meets the requirements of Rule .1307 of this Section and have not expanded the steady-state live weight of the swine farm.

(b) Upon approval by the Division, a permittee may abandon and close an animal waste management system permitted under Rules .1307 and .1308 of this Section and revert to the requirements of Rule .1304 or .1305 of this Section. The Division shall approve the reversion if all of the following criteria are met:

- (1) the animal waste management system is constructed according to the design and specifications approved by the Division pursuant to the rules in this Section;
- (2) the animal waste management system is operated and maintained in accordance with the rules in this Section;
- (3) the permit for the anaerobic lagoon animal waste management system issued prior to 1 September 2007 pursuant to S.L. 2007-523(1)(b) remains valid; and
- (4) the anaerobic lagoon animal waste management system has been maintained and can operate in compliance with the requirements of its permit.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a); 143-215.10A; 143-215.10I;  
Eff. January 1, 2009;  
Readopted Eff. September 1, 2018.

#### **15A NCAC 02T .1310 ANIMAL WASTE RESIDUALS MANAGEMENT**

(a) This Rule shall apply to the treatment, storage, transportation, use, and disposal of animal waste residuals to be applied to a lawn, home garden, or public contact use site or sold or given away in a bag or other container for application to the land. This Rule shall not apply to the treatment, storage, transportation, use, or disposal of:

- (1) animal waste residuals applied to agricultural land in accordance with Rule .1303, Rule .1304, Rule 1305, or Rule .1307 of this Section or Rule .1403 of this Subchapter;
- (2) up to four cubic yards of animal waste residuals distributed from a facility subject to regulation under Rule .1303 or Rule .1304 of this Section per visit to individuals for personal use, with a maximum of ten cubic yards per year per individual;
- (3) oil, grease, grit, and screenings from wastewater treatment facilities;
- (4) septage from wastewater treatment facilities;
- (5) ash that is regulated in accordance with Section .1200 of this Subchapter;
- (6) residuals that are regulated in accordance with Section .1100 of this Subchapter;

- (7) residuals that are prepared for land application, used, or disposed of in a solid waste management facility permitted by the Division of Waste Management;
- (8) residuals that are disposed of in an incinerator permitted by the Division of Air Quality;
- (9) residuals that are transported out of state for treatment, storage, use, or disposal;
- (10) residuals that meet the definition of a hazardous waste in accordance with 40 CFR 260.10 as adopted by reference in 15A NCAC 13A .0102(b) or that have a concentration of polychlorinated biphenyls equal to or greater than 50 milligrams per kilogram of total solids on a dry weight basis; and
- (11) animal mortality.

(b) For new and modified sources of animal waste residuals, the applicant shall submit a permit application in writing to the Division that includes the following:

- (1) site maps depicting the location of the source and demonstrate compliance with siting setbacks applicable to animal waste management systems established in G.S. 106-803 and NRCS standards at the time of construction;
- (2) a complete analysis of the animal waste residuals. The analysis shall include all pollutants identified in Paragraph (c) in this Rule, nutrients and micronutrients, and proof of compliance with the pathogen and vector requirements in Paragraphs (f) and (g) of this Rule if applicable;
- (3) a sampling and monitoring plan that describes how the source will comply with Paragraphs (c) and (d) of this Rule, if applicable;
- (4) a marketability statement detailing destinations and approximate amounts of the final product to be distributed; and
- (5) a copy of the label and information sheet that complies with Paragraph (e) of this Rule.

(c) Animal waste residuals shall not be applied to a lawn, home garden, or public contact use site nor shall animal waste residuals be sold or given away in a bag or other container for application to the land if the concentration of any pollutant in that residual exceeds the following concentration for that pollutant on a dry weight basis:

| Pollutant | Ceiling Concentration<br>(milligrams per kilogram) |
|-----------|--|
| Copper    | 1,500  |
| Zinc      | 2,800  |

(d) Animal waste residuals to be applied to a lawn, home garden, or public contact use site or sold or given away in a bag or other container for application to the land shall meet the pathogen requirements of Rule .1106(a)(2) of this Subchapter.

(e) For animal waste residuals that are sold or given away in a bag or other container for application to the land, either a label shall be affixed to the bag or other container, or an information sheet shall be provided to the person who receives the animal waste residuals. The label and information sheet shall contain the following information:

- (1) the name and address of the person who prepared the animal waste residuals;
- (2) a statement that land application of the animal waste residuals is prohibited except in accordance with the instructions on the label and information sheet;
- (3) a statement that animal waste residuals must be applied at agronomic rates and recommended rates for intended uses;
- (4) a statement that the animal waste residuals may not be applied to any site that is flooded, frozen, or snow covered;
- (5) a statement that adequate procedures must be provided to prevent surface runoff from carrying any disposed or stored animal waste residuals into any surface waters;
- (6) a statement that identifies that this material must be prevented from entering any public or private water supply source, including wells, stream, lake, or rivers;
- (7) the pollutant concentration for pollutants listed in Paragraph (c) of this Rule; and
- (8) the nitrogen and phosphorous concentration.

(f) Monitoring and Reporting.

- (1) Animal waste residuals subject to this Rule shall be monitored for pollutants listed in Paragraph (c) of this Rule and for pathogens described in Paragraph (d) of this Rule, as applicable, at the frequency stipulated for each residuals source facility:

| Metric Tons per 365 day period<br>(Dry Weight Basis) | Monitoring Frequency                   |
|--|--|
| Greater than zero but less than 290                  | Once per year                          |
| Equal to or greater than 290 but less than 1,500     | Once per quarter (four times per year) |

- |     |   |                                       |
|-----|---|---------------------------------------|
|     | Equal to or greater than 1,500 but less than 15,000   | Once per 60 days (six times per year) |
|     | Equal to or greater than 15,000   | Once per month (12 times per year)    |
| (2) | A report of all monitoring and reporting requirements specified in the permit shall be submitted to the Division by the permittee annually, on or before March 1st of each calendar year. |                                       |
| (3) | All records required by this Paragraph shall be retained for five years.  |                                       |

*History Note:* Authority G.S. 143-215.1; 143-215.3(a); 143-215.10A;  
Eff. September 1, 2018.

## **SECTION .1400 – MANURE HAULER OPERATIONS**

### **15A NCAC 02T .1401 SCOPE**

The rules in this Section shall apply to all manure hauler operations.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

### **15A NCAC 02T .1402 DEFINITIONS**

As used in this Section:

"Manure Hauler" means a person who accepts or purchases animal waste and land applies the animal waste on land not governed by the generator's permit.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

### **15A NCAC 02T .1403 PERMITTING BY REGULATION**

(a) The following systems shall be deemed permitted pursuant to Rule .0113 of this Subchapter provided the system meets the criteria in Rule .0113 of this Subchapter and all criteria required for the specific system by this Rule:

- (1) manure haulers that land apply a total of 100 tons or less of animal waste per calendar year if:
  - (A) animal waste is applied at no greater than agronomic rates; and
  - (B) a vegetated buffer of at least 25 feet is maintained from a perennial stream or perennial waterbody during land application.
- (2) manure haulers that land apply a total of more than 100 tons of animal waste per calendar year if:
  - (A) animal waste is applied at no greater than agronomic rates;
  - (B) animal waste is not stockpiled uncovered for greater than 15 days;
  - (C) animal waste is not stockpiled within 100 feet of a perennial stream or perennial waterbody;
  - (D) a vegetated buffer of at least 25 feet is maintained from a perennial stream or perennial waterbody during land application;
  - (E) the manure hauler registers with the Division prior to accepting or purchasing manure;
  - (F) the manure hauler submits an annual report, as required by this Section, to the Division by March 1 of each year; and
  - (G) the field on which animal waste is applied has had a representative Standard Soil Fertility Analysis within the last three years from a Division-certified laboratory pursuant to 15A NCAC 02H .0800.

(b) The Director may determine that a system should not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.

### **15A NCAC 02T .1404 ANNUAL REPORTS**

- (a) Manure haulers that land apply more than 100 tons but less than 750 tons of animal waste per calendar year shall submit to the Division a report of the activities for the calendar year that includes the following:
- (1) name, mailing address, and phone number of the manure hauler;
  - (2) dates, location, and amount of all animal waste received; and
  - (3) dates, location, amount, and acreage of all animal waste land application.
- (b) Manure haulers that land apply 750 tons or more of animal waste per calendar year shall submit to the Division a report of the activities for the calendar year that includes the following:
- (1) name, mailing address, and phone number of the manure hauler;
  - (2) dates, locations, and amounts of animal waste received; and
  - (3) dates, locations, application rate, acreage, waste analysis, and receiving crop of all animal waste that was land applied.
- (c) Annual reports shall be submitted by March 1 for the preceding calendar year, on Division supplied forms or forms approved by the Division as providing the same information as required by the Division's forms.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

## **SECTION .1500 - SOIL REMEDIATION**

### **15A NCAC 02T .1501 SCOPE**

The rules in this Section shall apply to the Disposal or Treatment of Soils Containing Petroleum Products or other Contaminated Soil by Land Application, Storage, or Containment and Treatment. These Rules shall not apply to:

- (1) "hazardous waste" as defined in 40 CFR 261.3, as adopted by reference in 15A NCAC 13A .0106(a), and North Carolina General Statute 130A-290;
- (2) soil contaminated with "hazardous waste" or "hazardous waste constituents" as defined in 40 CFR 261.3, as adopted by reference in 15A NCAC 13A .0106(a) from a "Facility" as defined in 15A NCAC 13A .0102(c); or
- (3) cuttings and other wastes generated in the construction and development of oil and gas wells regulated by Article 27 of G.S. 113.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Amended Eff. March 19, 2015;  
Readopted Eff. January 1, 2018.*

### **15A NCAC 02T .1502 DEFINITIONS**

The following definitions apply to this Section:

- (1) "Contaminated soil" means soil containing petroleum products or other soil containing non-petroleum substances as a result of a release or discharge as defined in G.S. 143-215.77, but does not include hazardous waste.
- (2) "Dedicated site" means a site used for more than one application of petroleum-contaminated soils onto the same receiver site within an 18-month period.
- (3) "Permitting agency" means the Division of Waste Management, UST Section, for contaminated soils originating from discharges of petroleum and for dedicated sites. For other soils originating from non-petroleum sources, the permitting agency means the Division of Water Resources. If the permitting agency is the Division of Waste Management, the Division of Waste Management shall be considered the Division for the purposes of Section .0100 of this Subchapter.
- (4) "Petroleum-contaminated soil" or "Soil containing petroleum products" shall mean any soil that has been exposed to petroleum products because of any emission, spillage, leakage, pumping, pouring, emptying, or dumping of petroleum products onto or beneath the land surface and that exhibits characteristics or concentrations of petroleum product constituents in quantities that exceed either the soil-to-groundwater contaminant concentrations or the residential maximum soil contaminant concentrations established by the Department pursuant to 15A NCAC 02L .0411, whichever is lower, by compatible laboratory analytical procedures pursuant to 15A NCAC 02H .0800.

- (5) "Petroleum product" means any petroleum product as defined by G.S. 143-215.94A and includes motor gasoline, aviation gasoline, gasohol, jet fuels, kerosene, diesel fuel, fuel oils (#1 through #6), and motor oils (new and used).
- (6) "Soil remediation at conventional rates" means the treatment of contaminated soils by land application methods at an evenly-distributed application layer of contaminated soils not to exceed six inches in thickness.
- (7) "Soil remediation at minimum rates" means the treatment of contaminated soils by land application methods at an evenly-distributed application layer of contaminated soils not to exceed one inch in thickness.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. January 1, 2018.

**15A NCAC 02T .1503 PERMITTING BY REGULATION**

(a) The following systems shall be deemed permitted pursuant to Rule .0113 of this Subchapter, provided that the system meets the criteria in Rule .0113 of this Subchapter and all criteria required for the specific system in this Rule:

- (1) Storage sites for petroleum-contaminated soils that are utilized for less than 45 days. Such sites shall meet the following criteria:
  - (A) storage shall be on 10 mil or thicker plastic;
  - (B) provisions shall be made for containing potential leachate and runoff;
  - (C) setbacks required in Rule .1506 of this Section shall be maintained; and
  - (D) approval of the activity, stating that the site meets the criteria of this Rule, shall have been received from the appropriate Regional Supervisor or his or her designee.
- (2) Land application sites for petroleum-contaminated soils with volumes of soil from each source of less than or equal to 50 cubic yards or for the application of up to 100 cubic yards if the application is at the minimum rate defined in Rule .1502(7) of this Subchapter. Such sites shall meet the following criteria:
  - (A) setbacks required in Rule .1506 of this Section shall be maintained; and
  - (B) approval of the activity, stating that the site meets the criteria of this Rule, shall have been received from the appropriate Regional Supervisor or his or her designee.
- (3) Land application sites for the disposal of drill cuttings if applied on the site where the drilling occurs. Such sites shall meet the following criteria:
  - (A) soils contaminated with non-petroleum substances shall be determined by chemical analysis to be non-hazardous wastes; and
  - (B) setbacks required in Rule .1506 of this Section shall be maintained.

(b) The Director may determine that a system should not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Readopted Eff. January 1, 2018.

**15A NCAC 02T .1504 APPLICATION SUBMITTAL**

(a) For all applications the following shall be submitted to the permitting agency by the applicant:

- (1) a chemical analysis of the contaminated soil to be remediated, including total petroleum hydrocarbons (TPH), semivolatile and volatile organics, pH, and heavy metals. All methods and procedures shall be in accordance with 15A NCAC 02H .0800;
- (2) a determination of hazardous waste constituents using the Toxicity Characteristic Leaching Procedure (TCLP) described in 40 CFR 261.24. Any substance shall be considered a hazardous waste if the results of the TCLP analysis indicate concentrations of constituents greater than the federal regulatory level, unless documentation is provided showing that the contaminated soil is not a hazardous waste and is within the scope of this Section as provided in Rule .1501 of this

Section. A TCLP analysis shall be required for all applications for a permit to dispose of petroleum-contaminated soil in accordance with the following criteria:

- (A) If the source of the soil contamination is a virgin (unused) petroleum product from an underground storage tank regulated under Subtitle I of RCRA, the contaminated soil shall not be considered a hazardous waste and no TCLP analysis shall be required. In lieu of the TCLP analysis, certification of soil contamination from a virgin petroleum product shall be required.
  - (B) If an analysis of the virgin (unused) petroleum product is submitted showing concentrations less than the regulatory level associated with the constituents of the TCLP analysis (Table II.2 of the Federal Register, Volume 55, No. 61), the contaminated soil shall not be considered a hazardous waste and no TCLP analysis shall be required.
  - (C) For soils contaminated with used motor oil, the soils shall be considered hazardous unless proven otherwise by a TCLP analysis for volatile organics and metals (EPA Hazardous Waste Nos. D004-D011).
  - (D) For soils contaminated by waste oil, a TCLP analysis for all constituents in Table II.2 of the Federal Register, Volume 55, No. 61, with the exception of pesticides and herbicides, shall be required.
  - (E) For soils contaminated with petroleum products not regulated under Subtitle I of RCRA, excluding used motor and waste oils, the soils shall be considered hazardous waste until proven otherwise.
- (3) a site map showing location information of boundaries and physical features with a horizontal scale of one inch equals 100 feet or less and topographic contour intervals not exceeding 10 feet or 25 percent of total site relief, whichever is less, and including the following:  
[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not pursuant to the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying under G.S. 89C.]
- (A) all property boundaries and all structures within the treatment, storage, and land application areas;
  - (B) the location of all wells, springs, lakes, ponds, or other surface drainage features within 500 feet of the waste disposal site;
  - (C) setbacks as required by Rule .1506 of this Section; and
  - (D) all residences or places of public assembly under separate ownership within 400 feet of the waste disposal site;
- (4) for disposal sites encompassing more than one acre, confirmation that an erosion control plan has been submitted to the Division of Land Quality or its designee;
- (5) the volume of contaminated soil to be remediated; and
- (6) a landowner agreement to allow the use of the property for the purpose of remediating contaminated soil. The agreement is not required when the permit applicant is the sole landowner.
- (b) For soil remediation at minimum rates the following shall be submitted to the permitting agency by the applicant:
- (1) a calculation of the area required for land application, using the maximum application thickness of one inch;
  - (2) an indication of cover crops; and
  - (3) proof of written notification in the form of certified mail return receipts to each city and county government having jurisdiction over any part of the land over which disposal is to occur.
- (c) For soil remediation at conventional rates at dedicated or non-dedicated sites, the following shall be submitted to the permitting agency by the applicant:
- (1) a soils evaluation report of the disposal area to evaluate the soil to a depth of five feet. The report shall include:  
[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science pursuant to G.S. 89F.]
- (A) field descriptions of texture, color, and structure;
  - (B) depth and thickness of soil horizons;
  - (C) presence of any restrictive horizons;

- (D) depth to seasonal high water table;
  - (E) soil pH and cation exchange capacity; and
  - (F) estimates of liming and fertilization requirements;
  - (2) the calculation of the size of the disposal area and thickness of application;
  - (3) a description of the proposed cover crop;
  - (4) a site maintenance plan;
  - (5) for dedicated sites only, proposed groundwater quality monitoring well network; and
  - (6) proof of written notification in the form of certified mail return receipts to each city and county government having jurisdiction over any part of the land over which disposal is to occur.
- (d) For containment and treatment the following shall be submitted to the permitting agency by the applicant:
- (1) a soils evaluation report of the disposal area to evaluate the soil to a depth of five feet. The report shall include:  
[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science pursuant to G.S. 89F.]
    - (A) field descriptions of texture, color, and structure;
    - (B) depth and thickness of soil horizons;
    - (C) presence of any restrictive horizons; and
    - (D) depth to seasonal high water table;
  - (2) the plans and specifications of the soil containment vessel and any associated leachate collection system, including the operating thickness of the soil to be contained and treated; and
  - (3) a description of the chemical or biological additives used in treating the contaminated soil.
- (e) For containment and utilization at brick, asphalt, or other production facilities, a site management plan consisting of a complete description of all operational procedures related to the handling of soils at the proposed facility, shall be submitted to the permitting agency by the applicant, including:
- (1) a description of the staging area or areas designated for initial placement of the contaminated soils;
  - (2) the method of placing the soils in the containment area or areas;
  - (3) the average time the soils will remain in the containment area or areas;
  - (4) the method of incorporation of the soils into the production facility's product materials; and
  - (5) the method of containment and disposal of any leachate or runoff resulting from the containment and storage of contaminated soils.
- (f) For soil remediation using mobile or portable self-contained facilities, the following shall be submitted to the permitting agency by the applicant:
- (1) a description of the treatment system, including procedures for controlling any vapors or liquid or solid by-products of the treatment process;
  - (2) the method by which any by-product will be disposed;
  - (3) the predicted average concentration of contaminants in the untreated soil;
  - (4) the sampling procedures and analytical methods by which the concentrations and types of contaminants in the treated soil will be determined;
  - (5) the method of disposal of the treated soil; and
  - (6) for applications proposing to stage soils, a description of the method proposed to prevent contact of contaminated soil with the environment.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. January 1, 2018.

#### **15A NCAC 02T .1505 DESIGN CRITERIA**

(a) Land Application of Soils Containing Petroleum Products at Minimum Rates. Petroleum-contaminated soils shall be incorporated into the native soils of the receiver site immediately upon application. Subsequent application of petroleum-contaminated soils onto the same receiver site shall not occur for at least 18 months from the date of the most recent application of petroleum-contaminated soils and shall cause the receiver site to be reclassified as a "dedicated site" unless the permittee or applicant can demonstrate, through soil sampling and contaminant analytical procedures pursuant to 15A NCAC 02H .0800, that the petroleum contaminant level in the upper eight inches of the receiver site soils is below either the soil-to-groundwater contaminant concentrations or the residential maximum



soil contaminant concentrations established by the Department pursuant to 15A NCAC 02L .0411, whichever is lower.

(b) Land Application of Soil Containing Petroleum Products at Conventional Rates. Land application of soils containing petroleum products at an application thickness greater than one inch shall require fertilization, liming, and aeration of the mixture of native and petroleum-contaminated soils. Application thickness shall be based upon the nature of the receiver site soils, depth to the seasonal high water table, the intended cover crop, and the source of contamination. Operation of the land application program shall not result in contravention of groundwater or surface water standards. Subsequent application of petroleum-contaminated soils onto the same receiver site shall not occur for at least 18 months from the date of the most recent application of petroleum-contaminated soils and shall cause the receiver site to be reclassified as a "dedicated site" unless the permittee or applicant can demonstrate, through soil sampling and contaminant analytical procedures pursuant to 15A NCAC 02H .0800, that the petroleum contaminant level in the upper eight inches of the receiver site soils is below either the soil-to-groundwater contaminant concentrations or the residential maximum soil contaminant concentrations established by the Department pursuant to 15A NCAC 02L .0411, whichever is lower.

(c) Disposal of Soils Containing Petroleum Products at Dedicated Land Application Sites. Subsequent applications of petroleum-contaminated soils at dedicated sites shall not recur until such time as it can be demonstrated that additional applications of contaminated soils will not result in the contravention of any groundwater or surface water standards.

(d) Containment, Treatment and Containment, and Use of Contaminated Soil.

- (1) A containment structure designed to bioremediate or volatilize contaminated soil shall be constructed of either a synthetic liner of at least 30 mils thickness or of a one-foot-thick liner of natural material compacted to at least 95 percent standard proctor dry density and with a permeability of less than  $1 \times 10^{-7}$  cm/sec.
- (2) The bottom of the containment structure shall be at least three feet above the seasonal high water table or bedrock.
- (3) A leachate collection system shall be installed in order to prevent runoff from the contaminated soils within the containment structure, or a cover shall be provided to avoid accumulation of stormwater within the containment structure.
- (4) The containment structure shall be compatible with the chemical and physical properties of the contaminants involved.

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. January 1, 2018.*

#### **15A NCAC 02T .1506 SETBACKS**

Remediation systems shall adhere to the following setbacks, unless greater setbacks are required to comply with minimum horizontal distance requirements set by the Division pursuant to 15A NCAC 02L .0107:

|  | Feet |
|--|------|
| Any habitable residence or place of public assembly under separate ownership or not to be maintained as part of the project site | 100  |
| Any well with the exception of a Division-approved groundwater monitoring well   | 100  |
| Surface waters (such as intermittent and perennial streams, perennial waterbodies, and wetlands)                                 | 100  |
| Surface water diversions (such as ephemeral streams, waterways, and ditches)   | 25   |
| Groundwater lowering ditches (where the bottom of the ditch intersects the seasonal high water table)                            | 25   |
| Subsurface groundwater-lowering drainage systems   | 25   |
| Any building foundation except treatment facilities  | 15   |
| Any basement   | 15   |
| Any property line  | 50   |
| Any water line   | 10   |
| Any swimming pool  | 100  |
| Rock outcrops  | 25   |
| Public right-of-way  | 50   |

*History Note: Authority G.S. 143-215.1; 143-215.3(a);  
Eff. September 1, 2006;  
Readopted Eff. January 1, 2018.*

#### **15A NCAC 02T .1507 CLOSURE REQUIREMENTS**

(a) A permit shall be held, and renewed if necessary, until such time that the soil remediation facility has satisfied all conditions for closure and the permitting agency has notified the permit holder that the facility has satisfied conditions necessary for closure and rescinded the permit. The permittee shall notify the permitting agency 30 days prior to the initiation of closure activities. This Rule does not apply to facilities that are deemed permitted pursuant to Rule .1503 of this Section.

(b) A facility may be considered for closure if all of the following conditions have been satisfied:

- (1) All outstanding enforcement actions levied by the permitting agency have been resolved.
- (2) Requirements for all other on-site permitted activities have been met.
- (3) For all land application sites, the applicant shall provide to the permitting agency:
  - (A) a demonstration that no contaminant constituents in the groundwater exceed groundwater standards for dedicated and conventional rate land application sites;
  - (B) a demonstration that all contaminated soil has been remediated to below either the soil-to-groundwater contaminant concentrations or the residential maximum soil contaminant concentrations established by the Department pursuant to 15A NCAC 02L .0411, whichever is lower. The demonstration shall be based upon representative samples from the permitted site; and
  - (C) if a groundwater drainage system or surface waters are present on the site or within the compliance boundary, a demonstration that surface water does not contain contaminants at concentrations in excess of those established in Subchapter 15A NCAC 02B.
- (4) For facilities utilizing containment and treatment or portable self-contained treatment systems:
  - (A) The applicant shall demonstrate to the permitting agency that all treated soil has been remediated to below either the soil-to-groundwater contaminant concentrations or the residential maximum soil contaminant concentrations established by the Department pursuant to 15A NCAC 02L .0411, whichever is lower, based upon analysis of representative soil samples or is disposed of under Subparagraph (b)(4)(B) of this Rule.
  - (B) All remaining soil that contains contaminants at levels that exceed either the soil-to-groundwater contaminant concentrations or the residential maximum soil contaminant concentrations established by the Department pursuant to 15A NCAC 02L .0411, whichever is lower, shall be disposed of at another permitted facility and the permitting agency shall be notified prior to transport.
  - (C) The applicant shall demonstrate to the permitting agency that the facility has been decontaminated based upon analysis of samples.
- (5) For storage facilities, a demonstration that the storage facility has been decontaminated to below either the soil-to-groundwater contaminant concentrations or the residential maximum soil contaminant concentrations established by the Department pursuant to 15A NCAC 02L .0411, whichever is lower, shall be submitted by the permittee to the Division. The demonstration shall be based upon analysis of pollutants identified in the contaminated soil as provided in Rule .1504(a)(1) of this Section.

(c) A facility that satisfies the conditions for closure may petition the permitting agency for approval of closure and shall provide the following information:

- (1) identification of the original permit number authorizing the construction and operation of the soil remediation facility;
- (2) the reason for closure of facility;
- (3) the name and title of the facility contact;
- (4) tabulated and graphed sample analyses for the last four groundwater sampling events prior to facility shutdown, showing the concentrations of the parameters of concern and, if groundwater monitoring is required at a land application site, groundwater analytical results for sample collection to satisfy Part (b)(3)(A) of this Rule;
- (5) laboratory analytical results for soil samples collected from the treated soil that have been analyzed by methods approved in accordance with Rule .1504(a)(1) of this Section;

- (6) if a groundwater drainage network, such as ditches, or surface waters are present on the site or within the compliance boundary, analytical results for surface water samples collected upstream of the facility, within the facility, and at a downstream location at the edge of the property to document that surface waters do not exceed the surface water quality standards and criteria established in Subchapter 15A NCAC 02B;
  - (7) decontamination procedures for all treatment or containment structures;
  - (8) a sedimentation and erosion control plan, prepared in accordance with the Division of Energy, Mineral, and Land Resources requirements pursuant to Subchapter 15A NCAC 04B, if a plan to restore the site to pre-soil treatment conditions is proposed that will disturb an area of land equal to or greater than one acre;
  - (9) a map of the facility that shows the size, orientation, and location of the facility relative to existing monitor wells, roads, structures, and other site features; and
  - (10) certification that the closure has been accomplished and that the information submitted is complete, factual, and accurate.
- (d) The permitting agency shall issue a notice approving the closure of a facility and stating that the permit for the facility has been rescinded if the permitting agency has determined that the facility has met all applicable requirements set forth in this Rule.

*History Note:* Authority G.S. 143-215.1; 143-215.3(a);  
 Eff. September 1, 2006;  
 Amended Eff. August 1, 2012 (see S.L. 2012-143, s.1.(f));  
 Readopted Eff. January 1, 2018.

## **SECTION .1600 – GROUNDWATER REMEDIATION SYSTEMS**

### **15A NCAC 02T .1601 SCOPE**

The rules in this Section shall apply to all persons proposing to construct, modify, expand, or operate a groundwater treatment system that extracts and treats contaminated groundwater and reintroduces the treated groundwater. These systems shall include closed-loop groundwater remediation systems as defined in G.S. 143-215.1A. This Section shall not apply to in-situ groundwater remediation wells, as defined by 15A NCAC 02C .0225(a), unless such a system includes the withdrawal, treatment, and reintroduction of the treated groundwater.

*History Note:* Authority G.S. 143-214.2(b); 143-215.1; 143-215.1A;  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

### **15A NCAC 02T .1602 DEFINITIONS**

The terms used for the purpose of this Section shall be defined as follows:

- (1) "Closed-loop groundwater remediation system" is defined in G.S. 143-215.1A.
- (2) "Contaminant" is defined in 15A NCAC 02L .0102.
- (3) "Infiltration gallery" means a subsurface ground absorption system expressly designed for the introduction of wastewater into the subsurface environment.
- (4) "Injection well" is defined in 15A NCAC 02C .0204.
- (5) "Oversight agency" means the state or local agency with jurisdiction over the contamination incident.
- (6) "Receptor" is defined in 15A NCAC 02L .0102.
- (7) "Water table" is defined in 15A NCAC 02L .0102.

*History Note:* Authority G.S. 143-214.2(b); 143-215.1; 143-215.1A;  
 Eff. September 1, 2006;  
 Readopted Eff. September 1, 2018.

### **15A NCAC 02T .1603 RESERVED FOR FUTURE CODIFICATION**

### **15A NCAC 02T .1604 APPLICATION SUBMITTAL**

(a) Site Description and Incident Information shall be provided by the applicant to the Division including the following:

- (1) The applicant shall identify the site by name, address, permit number, and incident number assigned by the oversight agency, if applicable.
- (2) The applicant shall briefly describe the site, noting pertinent site information including:
  - (A) contaminants of concern;
  - (B) sources and dates of the contaminant release;
  - (C) remedial actions to date;
  - (D) current land use; and
  - (E) potential receptors.

(b) Soils Evaluation. For systems with proposed discharge within seven feet of land surface and above the seasonal high water table, a soil evaluation of the disposal site shall be provided to the Division by the applicant. If required by G.S. 89F, a soil scientist shall submit this evaluation. This evaluation shall be presented in a report that includes the following components:

- (1) Field description of soil profile. Based on examinations of excavation pits or auger borings, the following parameters shall be described by individual diagnostic horizons to a depth of seven feet below land surface or to bedrock:
  - (A) thickness of the horizon;
  - (B) texture;
  - (C) color and other diagnostic features;
  - (D) structure;
  - (E) internal drainage;
  - (F) depth, thickness, and type of restrictive horizons;
  - (G) pH;
  - (H) cation exchange capacity; and
  - (I) presence or absence and depth of evidence of any seasonal high water table.Applicants shall dig pits if necessary to evaluate of the soils at the site.
- (2) Recommendations concerning annual and instantaneous loading rates of liquids, solids, other wastewater constituents, and amendments. Annual hydraulic loading rates shall be based on in-situ measurement of saturated hydraulic conductivity in the most restrictive horizon.

[Note: The North Carolina Board for Licensing of Soil Scientists has determined, via letter dated December 1, 2005, that preparation of soils reports pursuant to this Paragraph constitutes practicing soil science under G.S. 89F.]

(c) Hydrogeologic Evaluation. A hydrogeologic evaluation prepared by a Licensed Geologist, License Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C respectively of the disposal site shall be provided to the Division by the applicant. This evaluation shall be conducted to a depth that includes the depth of existing contamination and the total depth of the injection wells or infiltration galleries. This evaluation shall be based on borings for which the numbers, locations, and depths are sufficient to define the components of the hydrogeologic evaluation. In addition to borings, other techniques may be used to investigate the subsurface conditions at the site. These techniques may include geophysical well logs, surface geophysical surveys, and tracer studies. This evaluation shall be presented in a report that includes the following components:

[Note: The North Carolina Board for Licensing of Geologists, via letter dated April 6, 2006, North Carolina Board for Licensing of Soil Scientists, via letter dated December 1, 2005, and North Carolina Board of Examiners for Engineers and Surveyors, via letter dated December 1, 2005, have determined that preparation of hydrogeologic description documents pursuant to this Paragraph constitutes practicing geology under G.S. 89E, soil science under G.S. 89F, or engineering under G.S. 89C.]

- (1) a description of the regional and local geology and hydrogeology;
- (2) a description, based on field observations of the site, of the site topographic setting, streams, springs and other groundwater discharge features, drainage features, existing and abandoned wells, rock outcrops, and other features that may affect the movement of the contaminant plume and treated wastewater;
- (3) changes in lithology underlying the site;
- (4) depth to bedrock and occurrence of any rock outcrops;
- (5) the hydraulic conductivity, transmissivity, and storativity including specific yield if an aquifer is unconfined of the affected aquifers;
- (6) depth to the seasonal high water table;

- (7) a discussion of the relationship between the affected aquifers of the site to local and regional geologic and hydrogeologic features; and
- (8) a discussion of the groundwater flow regime of the site focusing on the relationship of the plume and remediation system to groundwater receptors, groundwater discharge features, and groundwater flow media.

(d) Demonstration of Hydraulic Control. Computer modeling or predictive calculations based on site-specific conditions shall be provided to the Division by the applicant to demonstrate that operation of the system will not cause or contribute to:

- (1) the migration of contaminants into previously uncontaminated areas, and
- (2) a violation of the groundwater standards at the compliance boundary.

(e) Maps and Cross-Sections. If required by G.S. 89C, a professional land surveyor shall provide location information on boundaries and physical features not under the purview of other licensed professions. Site plans or maps shall be provided to the Division by the applicant depicting the location, orientation and relationship of facility components including:

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that locating boundaries and physical features, not under the purview of other licensed professions, on maps pursuant to this Paragraph constitutes practicing surveying under G.S. 89C.]

- (1) a scaled map of the site, with site-specific topographic contour intervals and showing all facility-related structures and fences within the treatment, storage, and disposal areas;
- (2) locations of all test auger borings or inspection pits;
- (3) the location of all wells, including usage and construction details if available; designated wellhead protection areas; ephemeral, intermittent, and perennial streams; springs; lakes; ponds; other surface drainage features; and other site activities or features that may involve possible exposure to contamination within 500 feet of all waste treatment, storage, and disposal sites;
- (4) setbacks as required by Rule .1606 of this Section;
- (5) delineation of the property boundaries, review boundaries, and compliance boundaries;
- (6) the horizontal and vertical extent of the contaminant plume for each of the contaminants of concern, including isoconcentration lines and plume cross-sections;
- (7) cross-sections depicting soil and rock layers and features to a depth including the depth of existing contamination and the total depth of the injection wells or infiltration galleries; and
- (8) hydrologic features such as potentiometric surface / water table contours and the direction of groundwater flow.

(f) Engineering design documents. If required by G.S. 89C, a professional engineer shall prepare these documents. The following documents shall be provided to the Division by the applicant:

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]

- (1) engineering plans for the entire system, including treatment, storage, application, and disposal facilities and equipment except those previously permitted unless they are directly tied into the new units or are critical to the understanding of the complete process;
- (2) specifications describing materials to be used, methods of construction, and means for ensuring quality and integrity of the finished product; and
- (3) plans that include construction details of recovery, injection, and monitoring wells and infiltration galleries.

(g) Operating and Monitoring Plans. An operation and monitoring plan shall be provided to the Division by the applicant. These documents shall be specific to the site and include:

- (1) The operating plan shall include:
  - (A) the operating schedule including any periodic shut-down times;
  - (B) required maintenance activities for all structural and mechanical elements;
  - (C) all consumable and waste materials with their intended source and disposal locations;
  - (D) restrictions on access to the site and equipment; and
  - (E) compliance with Rule .1605(b) of this Section.
- (2) The monitoring plan shall include:
  - (A) the monitoring wells that will be sampled,
  - (B) the constituents for which those samples will be analyzed, and
  - (C) the schedule for sampling.

*History Note: Authority G.S. 143-214.2(b); 143-215.1; 143-215.1A;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1605 DESIGN CRITERIA**

(a) The infiltration galleries or injection wells shall be designed such that the infiltration galleries or injection wells will not cause or contribute to any of the following:

- (1) the migration of contaminants into previously uncontaminated areas;
- (2) a violation of the groundwater standards at the compliance boundary if discharge is within the compliance boundary of the disposal facility; or
- (3) a violation of the groundwater standards at the point of the discharge if discharge is not within the compliance boundary of the disposal facility.

(b) There shall be provisions in the operating plan to ensure the quality of the treated effluent and hydraulic control of the system at all times when any portion of the system ceases to function, such as standby power capability, complete system-off status, or duplicity of system components.

(c) The infiltration galleries and injection wells shall be designed to include elevation protection of two feet above the 100-year flood elevation.

(d) Flow equalization of 25 percent of the facility's permitted hydraulic capacity shall be provided for facilities with fluctuations in influent flow that may adversely affect the performance of the system.

*History Note: Authority G.S. 143-214.2(b); 143-215.1; 143-215.1A;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1606 SETBACKS**

The location of the infiltration galleries or injection wells shall meet the setback requirements specified below unless it can be demonstrated that these requirements cannot be met and that operation of the infiltration galleries or injection wells at the proposed locations will not result in the migration of contaminants into previously uncontaminated areas and a contravention of groundwater standards beyond the compliance boundary. The following setbacks, in feet, shall be applicable to these systems:

|  |     |
|--|-----|
| wells with the exception of an approved groundwater monitoring well                    | 100 |
| surface waters such as intermittent and perennial, perennial waterbodies, and wetlands | 100 |
| property under separate ownership  | 50  |
| structures – above-ground, such as buildings, or retention walls                       | 10  |
| structures – subsurface, such as utilities, basements, or swimming pools               | 15  |
| water lines  | 10  |
| rock outcrops  | 50  |
| top of slope of embankments or cuts of two feet or more in vertical height             | 15  |
| groundwater lowering ditches where the bottom of the ditch intersects the SHWT         | 100 |
| surface water diversions such as ephemeral streams, waterways, and ditches             | 25  |
| subsurface groundwater lowering drainage systems                                       | 100 |

*History Note: Authority G.S. 143-214.2(b); 143-215.1; 143-215.1A;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1607 MONITORING AND REPORTING REQUIREMENTS**

(a) A system monitoring plan shall be established to assess the impact of the discharge on groundwater quality. The monitoring plan shall:

- (1) be based on reaction rates, discharge rates, likelihood of secondary impacts, and site-specific hydrogeologic information;
- (2) track the performance of the permitted remediation system and verify that the intended remediation processes are occurring; and
- (3) include water level and flow meter measurements to ensure the system is operating properly.

- (b) All sampling results shall be reported by the permittee to the Division on a frequency determined by the reaction rates, discharge rates, likelihood of secondary impacts, and site-specific hydrogeologic information.
- (c) A report of the summarized results of related groundwater, influent, and effluent monitoring shall be submitted by the permittee to the Division annually.

*History Note: Authority G.S. 143-214.2(b); 143-215.1; 143-215.1A;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*

**15A NCAC 02T .1608 REQUIREMENTS FOR CLOSURE**

- (a) 30 days prior to initiation of closure of a groundwater remediation system, the permittee shall submit the following documentation to the Division:
  - (1) the reasons for closure;
  - (2) a letter from the oversight agency authorizing closure of the system; and
  - (3) a description of the proposed closure procedure.
- (b) The following closure procedures shall be followed:
  - (1) injection well closure procedures as specified in 15A NCAC 02C .0214; and
  - (2) infiltration galleries shall be closed such that the infiltration gallery will be rendered permanently unusable for the disposal or infiltration of fluids and will not serve as a source or channel of contamination.
- (c) Within 30 days following upon completion of the closure of a groundwater remediation system, the permittee shall submit the following documentation to the Division:
  - (1) a description of the completed closure procedure;
  - (2) the dates of all actions taken relative to the procedure; and
  - (3) a written certification that the closure has been accomplished and that the information submitted is complete, factual, and accurate.

*History Note: Authority G.S. 143-214.2(b); 143-215.1; 143-215.1A;  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*