SUBCHAPTER 02T – WASTE NOT DISCHARGED TO SURFACE WATERS

SECTION .0100 – GENERAL REQUIREMENTS

15A NCAC 02T .0101 PURPOSE

The rules in this Subchapter set forth the requirements and procedures for application and issuance of permits for the following systems which 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 2H .1000.

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

15A NCAC 02T .0102 SCOPE

The rules in this Subchapter apply to all persons proposing to construct, alter, extend, or operate any sewer system, treatment works, disposal system, contaminates soil treatment system, animal waste management system, stormwater management system or residual disposal/utilization system which does not discharge to surface waters of the state, including systems which discharge waste onto or below land surface. However, these Rules do not apply to sanitary sewage systems or solid waste management facilities which are permitted under the authority of the Commission for Health Services. The provisions for stormwater management systems can be found in 15A NCAC 02H .1000. The rules in this Section are general requirements that apply to all program rules (found in individual sections) in this Subchapter.

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

15A NCAC 02T .0103 DEFINITIONS

The terms used in this Subchapter shall be as defined in G.S. 143-212 and 143-213 except as provided in this Rule and in definitions provided in program specific rules in this Subchapter and as follows:

(1) "Agronomic rate" is defined as the amount of waste and other materials applied 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 as 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. All CFRs cited herein may be obtained at Government Institutes, Inc., 4 Research Place, Suite 200, Rockville, Md, 20850-1714 for a cost of thirty-six dollars ($36.00) each plus four dollars ($4.00) shipping and handling or at http://www.gpoaccess.gov/cfr/. Copies are also available for review at 512 North Salisbury Street, Raleigh, North Carolina 27604.
(6) "Commission" as defined in G.S. 143-212 or their delegate.
(7) "Compliance boundary" is as defined in 15A NCAC 02L .0102.
(8) "Deemed permitted" means that a facility is considered as having a needed permit and being 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" as defined in G.S. 143-212.
(10) "Director" means the Director of the Division or its delegate.

(11) "Division" means the Division of Water Quality in the Department. All rules cited in this Section under the authority of the Division may be obtained at 512 North Salisbury Street, Raleigh, North Carolina 27604 or at the Division's web page at www.ncwaterquality.org at no charge.

(12) "Effluent" means wastewater discharged following all treatment processes from a water pollution control facility or other point source whether treated or untreated.

(13) "Engineer" is an individual who is currently licensed by the North Carolina Board of Examiners For Engineers and Land Surveyors or authorized to practice under G.S. 89C as an engineer.

(14) "EPA" means the United States Environmental Protection Agency.

(15) "Ephemeral (stormwater) stream" means a stream as 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 under G.S. 143-215.1(b)(3), 143-215.1(b)(4) or 143-215.10C.

(18) "Groundwaters" means those waters in the saturated zone of the earth as 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/equipment washes, but not 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 to the satisfaction of the Division that the wastewater contains no industrial wastewater;
- (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" means a stream as defined in 15A NCAC 02B .0233.

(22) "NPDES" means National Pollutant Discharge Elimination System.

(23) "Perennial stream" means a stream as defined in 15A NCAC 02B .0233.

(24) "Perennial waterbody" means a waterbody as defined in 15A NCAC 02B .0233.

(25) "Pollutant" means waste as defined in G.S. 143-213.

(26) "Potable waters" means water as 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 contained 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 equipments.

(33) "Review boundary" is as 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/groundwater modeling.

(35) "Secretary" as defined in G.S. 143-212 or its delegate.

(36) "Setback" means the minimum separation in linear feet, measured on a horizontal plane, required between a treatment works, disposal system, or utilization system and physical features such as building, 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 not considered to be domestic waste.

(38) "Soil scientist" means an individual who is currently licensed or authorized to practice soil science under 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 as established in 15A NCAC 02B .0200.

(42) "Technical specialist" means an individual designated by the Soil and Water Conservation Commission, pursuant to rules adopted by that Commission, to certify animal waste management plans or specific parts of a certified animal waste management plan.

(43) "Toxicity test" means a test for toxicity conducted using the procedures contained in 40 CFR 261, Appendix II which is hereby incorporated by reference including any subsequent amendments and editions.

(44) "Treatment works or disposal system which does not discharge to surface waters" means any treatment works, facility, utilization system, or disposal system which is designed to:

(a) operate as closed system with no discharge to waters of the state, or

(b) dispose/utilize of wastes, including residuals, residues, contaminated soils and animal waste, to the surface of the land, or

(c) dispose of wastes through a subsurface disposal system pursuant to G.S. 143-215.1(b)(4).

(45) "Waste oil" means any used nonhazardous petroleum product other than crankcase oil. Crankcase oil mixed with other used nonhazardous petroleum products shall be considered as 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.

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

No person shall do any of the things or carry out any of the activities contained in G.S. 143-215.1(a) until or unless the person shall have applied for and received a permit from the Division (or if appropriate a local program approved by the Division pursuant to this Subchapter) and shall have complied with the conditions prescribed in the permit or is deemed permitted by rules in this Subchapter.

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

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 must be made on Division 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

must 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. 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 must be specifically requested in the application and, if approved pursuant to Paragraph (n) of this Rule, incorporated into the permit. The Division may accept certification from a licensed or certified professional (e.g. Professional Engineers, Licensed Soil Scientist, Licensed Geologist, Technical Specialist) that the design meets or exceeds minimum design criteria applicable to the project. Division acceptance of certifications by the applicant or by licensed or certified professionals preparing reports for the application shall not constitute approval of a variance to this Subchapter or applicable minimum design and performance criteria unless specifically requested in the application and approved in the permit.

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

(1) The number of executed copies shall include the number 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/rivers).

(6) Documentation that other directly related (i.e. needed to properly construct and operate the facilities permitted under this Subchapter) environmental permit or certification applications are being prepared, have been applied for, or have been obtained (e.g. 401 certifications, erosion and sedimentation control plans, stormwater management plans). The Division shall consider the application incomplete or issue the permit contingent on issuance of the dependent permits if issuance of other permits or certifications impact the system permitted under this Subchapter.

(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 rule(s) in this Subchapter.

(10) Documentation of the presence or absence of threatened or endangered aquatic species utilizing information provided by the Natural Heritage Program of the Department. This shall only apply to the area whose boundary is encompassed by and for the purpose of 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. The Natural Heritage Program can be contacted at http://www.ncnhp.org or write to Natural Heritage Program, 1601 Mail Service Center, Raleigh, NC 27699-1601.

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

(e) Application and annual Fees.

(1) Application Fee. For every application for a new or major modification of a permit under 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 under 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 must 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

which changes the annual fee shall result in the revised annual fee being billed effective with the next anniversary date.

(3) Failure to pay an annual fee within 30 days after being billed shall be cause for the Division to revoke the permit.

(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) In order to protect Publicly Owned Treatment Works, the Division shall incorporate pretreatment requirements under 15A NCAC 2H .0900 into the permit.

(h) Setbacks and required separation distances shall be provided as required by individual rules in this Subchapter. Setbacks to streams (perennial and intermittent), perennial waterbodies, and wetlands shall be determined using the methodology set forth in 15A NCAC 02B .0233(4)(a). Setbacks to wells are for those wells outside the compliance boundary. Where wells 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 may 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) The permittee shall keep permits active until the waste treatment systems authorized by the permit are properly closed or subsequently permitted under 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 specific rules in this Subchapter.

(l) Reporting shall be in accordance with 15A NCAC 02B .0506 except as otherwise provided by specific 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 specific rules in this Subchapter.

(n) The Director shall approve alternative Design Criteria in cases where the applicant can demonstrate that the alternative design criteria will provide the following:

(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.

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

15A NCAC 02T .0106 SUBMISSION OF PERMIT APPLICATIONS

(a) Permit applications, supporting information, and processing fee 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 directly to the local program director. Division permit processing fees are not 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 other authorized employees or any employee in a specific position (i.e. signing officials) shall be provided in letter format to the Division signed by an authorized person pursuant to Paragraph (b) of this Rule. The delegation may be for a specific permit application or more general 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.

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 is not complete with all required information and application fee, the application shall be returned to the applicant. The staff shall advise the applicant by mail:

(1) how the application or accompanying supporting information may be modified to make it acceptable or complete;

(2) that the 90 day processing period required in G.S. 143-215.1 and Rule .0108 of this Section begins upon receipt of corrected or complete application with required supporting information.

(c) Pursuant to G.S. 143-215.67(a), the staff of the Division shall determine for sewer system construction or sewer system extensions, 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.

(d) 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 must 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 acceptable or complete. The staff shall advise the applicant by mail:

(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;

(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 must 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.*

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 and with required information. All permits or renewals of permits and decisions denying permits or renewals shall be in writing.

(b) The Director may:

(1) issue a permit containing such conditions as are necessary to effectuate the purposes of Article 21, Chapter 143 of the General Statutes;

(2) issue a permit containing time schedules for achieving compliance with applicable effluent standards and limitations, surface water or groundwater standards and other legally applicable requirements;

(3) deny a permit application where necessary to effectuate:

(A) the purposes of Article 21, Chapter 143;

(B) the purposes of G.S. 143-215.67(a);

(C) rules on coastal waste treatment, disposal, found in Section 15A NCAC 02H .0400;

(D) rules on groundwater quality standards found in Subchapter 02L of this Chapter.

(4) hold public meetings when 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 any monitoring and reporting requirements, including groundwater, surface water or wetlands, waste, wastewater, sludge, soil, treatment process, lagoon/storage pond, and plant tissue, necessary to determine the source, quantity and quality of the waste and its effect upon the surface water, ground waters or wetlands. All reports must 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(s) for denial and any reasonable measures which 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 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.*

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.*

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

Any permit issued by the Division pursuant to this Subchapter is subject to revocation, or modification upon 60 days notice by the Director in whole or part for:

(1) violation of any terms or conditions of the permit;
(2) obtaining a permit by misrepresentation or failure to disclose fully 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 on which a system is located in which 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.

History Note: *Authority G.S. 143-215.1(b)(2.); 143-215.3(a)(1); Eff. September 1, 2006.*

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

(a) In accordance with the provisions of G.S. 143-215.1(b), (c) and (d), general permits may be developed by the Division and issued by the Director for categories of activities covered by this Subchapter. General permits may be written for categories of activities that involve the same or substantially similar operations, have similar treated waste characteristics, require the same limitations or operating conditions, and require the same or similar monitoring. After issuance of a general permit by the Director, persons operating facilities described by the general permit may request coverage under it, and the Director or his designee may grant appropriate certification. All individual operations which receive a "Certificate of Coverage" under a general permit are permitted under the specific 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 as specified in the general permit.

(b) Upon development of a draft general permit, the Director shall publicly notice under G.S. 143-215.4 (b)(1) and (2), at least 30 days prior to final action, an intent to issue the general permit. A one time publication of the notice in a newspaper having general circulation in the geographic areas affected by the proposed permit shall be required. 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 as allowing 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 under 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 an individual Certificate of Coverage, a Notice of Intent to be covered by the general permit must be given by the applicant to the Division using forms provided by the Division. Coverage under 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 are not met, an individual permit application and full application review procedure shall be required.
(e) General permits shall be effective for a term not to exceed five years at the end of which the Division may renew them. The Division shall satisfy public notice requirements specified in Paragraph (b) of this Rule prior to renewal of general permits. 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(s) 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 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 Commission 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, sludge or residuals to waters of the state;
(7) the system has been allowed to deteriorate or leak such that it poses an immediate threat to the environment.

(i) General permits or individual Certificate of Coverages may be modified, terminated, or revoked and reissued in accordance with the authority and requirements of rules of this Subchapter.

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

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;
(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.

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, .0903, .1003, .1103, .1203, .1303, .1403, and .1503) are 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 is met:

(1) Swimming pool and spa filter backwash and drainage, filter backwash from aesthetic fountains, 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 fire fighting 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 and 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.
(11) Purge water from groundwater monitoring wells.
(12) Composting facilities for dead animals, 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, operated under a roof; and the facilities are approved by the State Veterinarian pursuant to G.S. 106-403.
(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) all non-recyclable washwater is collected and discharged into a sanitary sewer or wastewater treatment facility upon approval of the facility's owner.
(15) Mine tailings where no chemicals are used in the mining process.
(16) Mine dewatering where 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.

(b) Nothing in this Rule shall be deemed to allow the violation of any assigned 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/NPDES permit is otherwise required.

(c) Any violation of this Rule or 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 should not be deemed permitted in accordance with the criteria established in this Rule.

(e) The Director may determine that a disposal system should 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),(d); Eff. September 1, 2006.*

15A NCAC 02T .0114 WASTEWATER DESIGN FLOW RATES

(a) This Rule shall be used to determine wastewater flow rates for all systems covered by this Subchapter unless alternate criteria are provided by a program specific rule and for flow used for the purposes of 15A NCAC 02H .0105. These are minimum design daily flow rates for normal use and occupancy situations. Higher flow rates may be required where usage and occupancy are atypical, including, those in Paragraph (e) of this Rule. Wastewater flow calculations must take hours of operation and anticipated maximum occupancies/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 reasonably be expected to 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, 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 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 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 (if recycling water see Rule .0235)	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 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) Conditions applicable to the use of the above design daily flow rates:

(1) For restaurants, convenience stores, service stations and public access restroom facilities, higher design daily flow rates shall be required based on higher expected usage where use is increased because of its proximity to highways, malls, beaches, or other similar high use areas.

(2) Residential property on barrier islands and similar communities located south or east of the Atlantic Intracoastal Waterway used as vacation rental as defined in G.S. 42A-4 shall use 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 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 as follows for all flow reduction request:

(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/pools, restaurants, schools, churches and businesses. For each non-residential connection, information as identified in Paragraph (c) of this Rule (e.g. 200 seat church, 40 seat restaurant, 35 person pool bathhouse).

(C) Owner of the collection system.

(D) Age of the collection system.

(E) Analysis of inflow and infiltration within the collection system or receiving treatment plant, as applicable.

(F) Where 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) Where daily data from a wastewater treatment plant cannot be utilized or is not representative of the project area: at least 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.

(H) An estimated minimum design daily sewage flow rate shall be taken 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/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 (i.e., resort area).

(3) Flow increases shall be required if the calculations in Subparagraph (f)(1) of this Rule yield design flows higher than that specified in Paragraphs (b) or (c) of this Rule.

(4) The applicant/owner shall retain the letter of any approved adjusted daily design flow rate for the life of the facility and shall transfer such letter to any new system owner.

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

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 provide evidence with the permit application:

(1) To show 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) Where the applicant is not a Homeowner's or Property Owner's Association, an executed Operational Agreement must be submitted with the permit application. A copy of the Articles of Incorporation, Declarations and By-laws shall be submitted to the Division with the engineer's certification as required by 15A NCAC 02T .0116 and prior to operation of the permitted facilities.

(c) For permit applications where 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.

(d) An Operational Agreement is required prior to donation to a public utility or municipality unless the applicant is the respective municipality or public utility. The Operational Agreement shall become void upon transferring the permit to the public utility or municipality via a change of ownership request to the Division and permit issuance into the new owner name.

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

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 must 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, any minimum design criteria except as noted, and approved plans and specifications. The professional certification must be on official forms completely filled out, where applicable, and submitted to the Division. For facilities with phased construction or where there is a need to operate certain equipment under actual operating conditions prior to certification, additional certification may be needed 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) For sewer extensions involving developer donated projects where the developer is the original Permittee, a change of ownership request shall be submitted to the Division on Division forms upon certifying completion of the project.

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

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

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

(a) For facilities permitted under this Subchapter, the permittee must designate an Operator in Responsible Charge and a back-up operator as required by the Water Pollution Control System Operators Certification Commission as established in 15A NCAC 08F .0200 and 15A NCAC 08G .0200. Copies of this Rule are available from the Division, Archdale Building, 512 N. Salisbury Street, Raleigh, North Carolina 27604 at no charge.

(b) In order to insure the proper operation and maintenance of facilities permitted under this Section, the Operator in Responsible Charge, or a back-up operator when appropriate must operate and visit the facility as required by the Water Pollution Control System Operators Certification Commission as established in 15A NCAC 08F .0200 and 15A NCAC 08G .0200. Copies of this Rule are available from the Division, Archdale Building, 512 N. Salisbury Street, Raleigh, North Carolina 27604 at no charge.

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

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

In order to insure that treatment, utilization, or disposal systems do not exceed their hydraulic 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 wastewater treatment system's permitted hydraulic capacity (based on the average flow of the last calendar year), the permittee must submit an approvable engineering evaluation of their future wastewater treatment, utilization, and disposal needs. This evaluation must outline specific 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 must include the source(s) of funding for the improvements. If expansion is not proposed or is proposed for a later date, a detailed justification must be made to the satisfaction of the Director 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.

(2) Prior to exceeding 90 percent of the wastewater treatment, utilization, or disposal systems permitted hydraulic capacity, (based on the last calendar year), the permittee must obtain all permits needed for the expansion of the wastewater treatment, utilization, or disposal system and, if construction is needed, submit approvable final plans and specifications for expansion including a construction schedule. If expansion is not proposed or is proposed for a later date, a detailed justification must be made to the satisfaction of the Director 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 loading rates 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 it is demonstrated to the satisfaction of the Director that adequate progress is being made in developing the needed 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.

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 within this Rule for environmental permits and certifications issued under Article 21. Paragraph (b) of this Rule is a partial set of criteria for routine consideration under G.S. 143-215.1(b)(4)b.2. The Director may also consider other compliance information in determining compliance history.

(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 or parent 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 where all appeals have been abandoned or exhausted.

(2) The applicant or any affiliation has previously abandoned a wastewater treatment facility without properly closing the facility in accordance with the permit or this Subchapter.

(3) The applicant or any affiliation has not paid a civil penalty where all appeals have been abandoned or exhausted.

(4) The applicant or any affiliation is currently not compliant with any compliance schedule in a permit, settlement agreement or order.

(5) The applicant or any affiliation has not paid an annual fee in accordance with Rule .0105(e)(2).

(c) Any variance to this Rule shall be approved 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.

SECTION .0200 – WASTEWATER PUMP AND HAUL SYSTEMS

15A NCAC 02T .0201 SCOPE

This Section applies to all pump and haul activities of wastewater under the authority of the Division. This Section does 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 does 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.

15A NCAC 02T .0202 RESERVED FOR FUTURE CODIFICATION

15A NCAC 02T .0203 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) Washwater from single-beverage kiosks and similar operations not regulated under the authority of the Division of Environmental 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) specifically 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.

(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, location, and the receiving wastewater treatment facility. A letter from the facility accepting the wastewater (type and quantity) specifically 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.
   (E) The Division regional office concurs in writing that the activity meets the criteria in this Rule.

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

(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 .0204 PERMITTING

(a) Pump and haul permits are not acceptable long-term domestic wastewater treatment alternatives. Permits for domestic wastewater shall only be issued in cases of environmental emergencies, nuisance conditions (e.g. odors, vectors), health problems, or for unavoidable delays in construction of systems previously permitted under this Section.

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 specifically agreeing to accept wastewater (type and quantity) from the applicant for the proposed activity.
(c) Pump and haul facilities shall include at a minimum 24 hours storage 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.

SECTION .0300 - SEWER EXTENSIONS

15A NCAC 02T .0301 SCOPE

The rules in this Section set forth the requirements and procedures for application and issuance of permits for sewers as required by G.S. 143-215.1(a) and permitting delegation of local sewer programs allowable by G.S. 143-215.1(f). The rules in this Section 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 requirements for local delegated sewer extension permitting programs.

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

15A NCAC 02T .0302 DEFINITIONS

(a) The following definitions are used in this Section:

(1) "Alternative sewer system" means any sewer system (collection system) other than a gravity system or standard pump station and force main. These include pressure sewer systems, septic tank/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 a sewer design and associated construction documents conform to all applicable sewer related rules and design criteria, thereby forgoing an upfront technical review by the Division.

(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 common and typically a small diameter pressure pipe (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 are not considered a pressure sewer system.

(7) "Private sewer" means any part of a sewer system which 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 considered a public sewer.

(8) "Public sewer" means a sewer located in a dedicated public street, roadway, or dedicated public right-of-way or easement which 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 appliances appurtenant thereto, used for conducting wastewater to a point of ultimate treatment and disposal. A sewer system may also be referred to as a collection system.

(10) "Small diameter, variable grade gravity sewer system" means a system of wastewater collection utilizing an interceptor tank to remove solids and grease from the waste stream, thereby allowing smaller diameter pipes and shallower grades to be used. Flow is transferred to the central gravity system in the public right-of-way by gravity or effluent pumps. With venting and design, inflective grades (up-gradients) may also be accommodated.

(11) "Septic tank/effluent pump (STEP) system" means the same type of system as a "pressure sewer system" except that the individual grinder pump is replaced with a septic tank with 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 utilizing 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.

15A NCAC 02T .0303 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) A building sewer documented by the local building inspector to be in compliance with the North Carolina State Plumbing Code, which 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.

(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) New pump stations or sewage ejectors and force mains if all of the following criteria are met:

(A) the pump station serves a single building,

(B) the force main does not traverse other property or parallel a street right-of-way,

(C) the force main ties into a non-pressurized pipe/manhole/wetwell (i.e. is not part of an alternative sewer system),

(D) 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

(E) 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 in kind (i.e., size) 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 minimum 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/upgrades and maintaining permitted capacity to within five percent of the original permitted capacity for pump replacement.

(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 .0304 APPLICATION SUBMITTAL

(a) Application for permits pursuant to this Section shall be made on forms provided by the Division.

(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, agrees to be responsible for all individual pumps, tanks, service laterals and main lines as permitted. The line from a building to the septic or pump tank is excluded from this responsibility. This does not prohibit the Permittee from entering into a service agreement with another entity. However, the Permittee shall be responsible for correcting any environmental or public health problems with the system.

(d) For sewer extensions involving gravity sewers, pump stations and force mains or any combination thereof that do not require an Environmental Assessment pursuant to 15A NCAC 01C .0408 (except for low pressure sewers, vacuum sewers and STEP systems discharging to a sewer system), are not funded through the Division's Construction, Grants and Loans Section, and where plans, calculations and specifications and other supporting documents have been sealed by a professional engineer, application may be made according to the fast-track permitting process.

(e) Projects involving an Environmental Assessment per 15A NCAC 01C .0408 or are funded through the Division's Construction, Grants and Loans Section must be submitted for a full technical review on application forms provided by the Division. An application for sewers involving an Environmental Assessment shall not be considered complete until either a Finding of No Significant Impact or Record of Decision is issued.

(f) Where the plans were not prepared by a professional engineer, applications shall be submitted for full technical review on application forms specified by the Division.

(g) Low pressure sewer systems, vacuum sewer systems and other alternative sewer systems shall be submitted for a full technical review using the official application form for those systems.

(h) A letter of agreement from the owner or an official, meeting the criteria in Rule .0106 of this Subchapter, of the receiving collection system or treatment works accepting the wastewater is required, if the application is not submitted by the owner of the receiving collection system or treatment works. This letter shall be specific to the project whether or not capacity has been purchased through an intergovernmental agreement or contract. This letter shall also signify that the owner of the receiving collection system or treatment works has adequate capacity to transport and treat the proposed new wastewater. This shall not negate the need for downstream sewer capacity calculations.

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

15A NCAC 02T .0305 DESIGN CRITERIA

(a) Construction of sewers and sewer extensions are prohibited in the following areas unless the specified determinations are made:

(1) in a natural area designated on the State Registry of Natural Heritage Areas by a protection agreement between the owner and the Secretary, unless the Commission agrees that no prudent, feasible or technologically possible alternative exists; or,

(2) in a natural area dedicated as a North Carolina Nature Preserve by mutual agreement between the owner and State of North Carolina (Governor and Council of State), unless the Commission recommends and 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, 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.

(3) Specifications relative to the sewer system 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 and 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 operation(s).

(e) A minimum of 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 minimum separations shall be provided for the sewer system except as allowed by Paragraph (g) of this Rule:

Storm sewers and other utilities not listed below (vertical)	24 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, including any wells, WS-I waters or Class I or Class II impounded reservoirs used as a source of drinking water	100 feet
Waters classified WS (except WS-I or WS-V), B, SA, ORW, HQW, or SB from normal high water (or tide elevation) and wetlands	50 feet
Any other stream, lake, impoundment, 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) Alternatives where separations in Paragraph (f) of this Rule cannot be achieved. Nothing in this Paragraph shall supersede the allowable alternatives provided in the Commission for Health Services Public Water Supply Rules (15A NCAC 18C), Commission for Health Services 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 to 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 minimum separations cannot be maintained. All appurtenances shall be outside the 100 foot radius. The minimum separation shall however not be less than 25 feet from a private well or 50 ft 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 specified. 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.

(5) For all other separations, materials, testing methods and acceptability standards meeting water main standards (15A NCAC 18C) shall be specified.

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

(1) Pump Station Reliability:

(A) Pump stations, except when exempted by Subparagraph (j)(2) of this Rule, shall be designed with multiple pumps such that peak flow can be pumped with the largest pump out of service.

(B) A standby power source or pump is required at all pump stations except for those pump stations subject to Subparagraph (j)(2) of this Rule. Controls shall be provided to automatically activate the standby source and signal an alarm condition.

(C) As an alternative to Part (B) 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 utilized. It shall be demonstrated to the Division that the portable source is owned or contracted by the permittee and is 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, including travel timeframes, shall be provided in the case of a multiple station power outage.

(D) As an alternative to Part (B) for pump or vacuum stations connecting a single building to an alternative sewer system, wet well storage requirements shall be documented to provide 24-hours worth of wastewater storage or, exceed the greatest power outage over the last three years or the documented response time to replace a failed pump, whichever is greater. Documentation shall be required pursuant to the permit application.

(E) All pump stations designed for two pumps or more shall have a telemetry system to provide remote notification of a problem condition to include power failure and high water alarm.

(F) 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) Screened vents for all wet wells.

(4) The public shall be restricted 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) for public gravity sewers, a minimum eight inch diameter pipe and for private gravity sewers, a minimum six inch diameter pipe;

(2) the maximum separation between manholes shall be 425 feet unless written documentation is submitted with the application that the owner/authority has the capability to perform routine cleaning and maintenance on 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 statistical (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 be allowable for single-family residences. 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.

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 approval of local programs for permitting construction, modification, and operation of public and private sewer systems in their utility service areas (i.e., delegation) pursuant to G.S. 143-215.1(f). Permits issued by approved local programs serve in place of permits issued by the Division except for projects involving an Environmental Assessment, which shall continue to be permitted by the Division. The Division

may chose to cede permitting authority to the approved local program after review of Environmental Assessment projects or if other permits are required.

(b) Applications. Application for approval of a local program must provide adequate information to assure compliance with the requirements of G.S. 143-215.1(f) and the following requirements:

(1) Applications for local sewer system programs shall be submitted to the Director.

(2) The program application shall include three copies of the intended permit application forms, permit shell(s), minimum design criteria (specifications), sewer ordinances, flow chart of permitting, staffing, inspection and certification procedures, intended permit application fees, downstream capacity assurance methods and other relevant documents to be used in administering the local program. The applicant shall specify in a cover letter what permits the local authority desires to issue. The options are any of the following: gravity sewers, pump stations, force mains, and/or pressure sewers. The applicant shall also specify whether such permits will be issued to public (to be self owned) or private systems (not donated to delegated authority).

(3) Certification that the local authorities for processing permit applications, setting permit requirements, enforcement, and penalties are compatible with those for permits issued by the Division.

(4) If the treatment and disposal system receiving the waste is under the jurisdiction of another local unit of government, then the program application must contain a written statement from that local unit of government that the proposed program complies with all its requirements and that the applicant has entered into a satisfactory contract which assures continued compliance.

(5) Any future amendments to the requirements of this Section shall be incorporated into the local sewer system program within 60 days of the effective date of the amendments.

(6) A Professional Engineer shall be on the staff of the local sewer system program or 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 local sewer system program shall be inspected for compliance with the requirements of the local program at least once during construction.

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

(d) Conditions of Local Program Approval (Delegation). Once approved by the Commission, the delegated authority shall adhere to the following:

(1) Adequacy of Receiving Facilities. Local sewer system programs shall not issue a permit for a sewer project which would increase the flow or change the characteristics of waste to a treatment works or sewer system unless the 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 is adequate to receive 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 which are issued within a specified period of time. In no case shall the local sewer system program 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. In no case shall the delegated authority 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 on a quarterly basis on Division forms. The report shall also provide a listing and summary of all enforcement actions taken or pending during the quarter. The quarters begin on January 1, April 1, July 1 and October 1. The report shall be submitted within 30 days after the end of each quarter.

(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 on an annual basis along with a summary of any other program changes. Program changes to note include staffing, 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 requested documentation. The Division may request changes to local program documents if the Commission adopts more stringent standards.

(4) Modification of a Local Program. Modifications to local programs, including the expansion of permitting authority shall not be required to be approved by the Commission, but 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 delegated program for compliance with this Rule and G.S. 143-215.1(f) at any time with a scheduled appointment with the delegated authority.

(g) The Division shall maintain a list of all local units of government with approved local sewer system programs and make copies of the list available to the public upon request and payment of any 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.

SECTION .0400 – SYSTEM-WIDE COLLECTION SYSTEM PERMITTING

15A NCAC 02T .0401 SCOPE

The rules of this Section apply to system-wide collection systems pursuant to G.S. 143-215.9B, where the Director may issue 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.

15A NCAC 02T .0402 DEFINITIONS

The following definitions are used in this Section:

(1) "Collection system" means a public or private sewer system, consisting of sewer lines, force mains, pump stations or any combination thereof that conveys wastewater to a designated wastewater treatment facility or separately-owned sewer system. For purposes of permitting, the collection system is considered to be any existing or newly installed 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 high priority in a Division issued permit where 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.

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 are deemed permitted pursuant to Rule .0113 of this Subchapter provided the system meets the criteria in Rule .0113 of this Subchapter and all specific criteria required in this Rule:

(1) The sewer system is 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 sewer system has been developed and is actively maintained.

(3) An operation and maintenance plan including pump station inspection frequency, preventative maintenance schedule, spare parts inventory and overflow response has been developed and implemented.

(4) Pump stations that are not connected to a telemetry system (i.e., remote alarm system) are inspected by the permittee or its representative every day (i.e., 365 days per year). Pump stations that are connected to a telemetry system are inspected at least once per week.

(5) High-priority sewers are inspected by the permittee or its representative at least once every six-months and inspections are documented.

(6) A general observation by the permittee or its representative of the entire sewer system is conducted at least once per year.

(7) Overflows and bypasses are reported to the appropriate Division regional office in accordance with 15A NCAC 02B .0506(a), and public notice is provided as required by G.S. 143-215.1C.

(8) A Grease Control Program is in place as follows:

(A) For publicly owned collection systems, the Grease Control Program shall include at least 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, 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 sewer systems.

(B) For privately owned collection systems, the Grease Control Program shall include at least 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 are maintained in the full easement width for personnel and equipment accessibility.

(10) Documentation shall be kept for Subparagraphs (a)(1) through (a)(9) of this Rule for a minimum of three years with 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 where 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 should 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.

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

If a public entity owns multiple but separate collection systems (i.e., tributary to separate plants) and any one is subject to an individual permit, all collection systems shall be covered under one permit. This shall not be applicable to public utilities authorized to operate by the North Carolina Utilities Commission who 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.

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. All applications must be submitted in duplicate, completed on official forms, and fully executed.

(b) Collection systems subject to an individual permit shall comply with the standards in Rule .0403 of this Section until such time as their individual permit is issued.

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

SECTION .0500 – WASTEWATER IRRIGATION SYSTEMS

15A NCAC 02T .0501 SCOPE

The rules in this Section apply to all surface irrigation of wastewater systems not otherwise specifically governed by other rules of this Subchapter. Surface irrigation of wastewater includes 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.

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 apply to all new and expanding facilities, as applicable.

(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:

[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.]

(1) 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:
   - (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 horizon(s); and
   - (G) presence or absence and depth of evidence of any seasonal high water table (SHWT).

   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.

(4) A representative soils analysis (i.e., 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.

(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:

[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 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.

(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:

[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 10 feet or 25 percent of total site relief and showing all facility-related structures and fences within the treatment, storage and disposal areas, and soil mapping units shown on all disposal sites;

(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 .0506 of this Section; and

(4) site property boundaries within 500 feet of all waste treatment, storage, and disposal site(s).

(e) A hydrogeologic description prepared by a Licensed Geologist, Licensed Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C respectively of the subsurface to a depth of 20 feet or bedrock, whichever is less, 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. A greater depth of investigation is required if the respective depth is used in predictive calculations. 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 and transmissivity of the affected aquifer(s);

(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;

(8) a discussion of the groundwater flow regime of the site prior to operation of the proposed facility and 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 SHWT is within six feet of the surface, a mounding analysis to predict the level of the SHWT after wastewater application.

(f) Property Ownership Documentation shall be provided to the Division by the applicant 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.

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

(h) A complete chemical analysis of the typical wastewater to be discharged shall be provided to the Division by the applicant for industrial waste, including Total Organic Carbon, 5-day Biochemical Oxygen Demand (BOD_5), Chemical Oxygen Demand (COD), Nitrate Nitrogen (NO_3-N), Ammonia Nitrogen (NH_3-N), Total Kjeldahl Nitrogen (TKN), pH, Chloride, Total Phosphorus, Phenol, Total Volatile Organic Compounds, Fecal Coliform, Calcium, Sodium, Magnesium, Sodium Adsorption Ratio (SAR), Total Trihalomethanes, Toxicity Test Parameters and 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 of this Section shall be provided to the Division by the applicant. A written commitment is not required at the time of application; however, it must be provided to the Division prior to operation of the permitted system.

(k) A water balance shall be provided to the Division by the applicant that determines required effluent storage based upon the most limiting factor of the hydraulic loading based on either the most restrictive horizon or groundwater mounding analysis; or nutrient management based on either agronomic rates for the specified cover crop or crop management.

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

15A NCAC 02T .0505 DESIGN CRITERIA

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

(b) Minimum degree of treatment for new and expanding systems are as follows:

(1) For new municipal, domestic and commercial facilities, the minimum degree of treatment shall meet a monthly average of five-day Biochemical Oxygen Demand (BOD_5) ≤ 30 mg/L; Total Suspended Solids (TSS) ≤ 30 mg/L; Ammonia (NH_3) ≤ 15 mg/L; and Fecal Coliforms ≤ 200 colonies/100 ml.

(2) For expanding municipal, domestic, and commercial facilities except systems subject to Subparagraphs (b)(3) or (b)(4) of this Rule, facilities shall meet the limitation provided in Subparagraph (b)(1) of this Rule.

(3) For expanding municipal facilities, except those permitted as new under Subparagraph (b)(1) of this Rule, with lagoon treatment systems, the minimum degree of treatment shall meet a monthly average of five-day Biochemical Oxygen Demand (BOD_5) ≤ 60 mg/L; Total Suspended Solids (TSS) ≤ 90 mg/L; Fecal Coliforms ≤ 200 colonies/100 ml. No expanding facilities shall be permitted under this provision for any project whose application is received by the Division after December 31, 2011.

(4) For expanding municipal facilities whose application is received by the Division after December 31, 2011, except those permitted as new under Subparagraph (b)(1) of this Rule, with lagoon treatment systems, the minimum degree of treatment shall meet a monthly average of five-day Biochemical Oxygen Demand (BOD_5) ≤ 30 mg/L; Total Suspended Solids (TSS) ≤ 90 mg/L; Fecal Coliforms ≤ 200 colonies/100 ml.

(5) Treatment for other operations shall be based on producing the quality effluent used in documenting protection of surface water or groundwater standards.

(c) All wastes shall be applied at agronomic rates unless predictive calculations are provided that document State groundwater standards will be protected.

(d) All treatment/storage lagoons/ponds 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 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 1×10^{-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 which are less than four feet above bedrock shall have a liner with a hydraulic conductivity no greater than 1×10^{-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 the applicant through predictive calculations or modeling methods 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) Flow equalization of at least 25 percent of the facilities permitted hydraulic capacity must be provided for all seasonal or resort facilities and all other facilities with fluctuations in influent flow which may adversely affect the performance of the system.
(j) By-pass and overflow lines shall be prohibited.
(k) Multiple pumps shall be provided if pumps are used.
(l) Power reliability shall be provided consisting of:

- (1) automatically activated standby power supply onsite, 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 which 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 due to prolonged detention.

(m) A water-tight seal on all treatment/storage units or minimum of two feet protection from 100-year flood shall be provided.
(n) Irrigation system design shall not exceed the recommended precipitation rates in the soils report prepared pursuant to Rule .0504 of this Section.
(o) A minimum of 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 wetted irrigation area and treatment facilities.
(r) Influent pump stations shall meet the sewer minimum design criteria as provided in Section .0300 of this Subchapter.
(s) Septic tanks shall adhere to the standards established in 15A NCAC 18A .1900.
(t) The irrigation system shall be provided with a flow meter to allow accurate determination of the volume of treated wastewater applied to each field.

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

15A NCAC 02T .0506 SETBACKS
(a) The setbacks for Irrigation sites shall be as follows:

	Spray (feet)	Drip (feet)
Any habitable residence or place of public assembly under separate ownership or not to be maintained as part of the project site	400	100
Any habitable residence or place of public assembly owned by the permittee to be maintained as part of the project site	200	15
Any private or public water supply source	100	100

Surface waters (streams – intermittent and perennial, perennial waterbodies, and wetlands)	100	100
Groundwater lowering ditches (where the bottom of the ditch intersects the SHWT)	100	100
Surface water diversions (ephemeral streams, waterways, ditches)	25	25
Any well with exception of monitoring wells	100	100
Any property line	150	50
Top of slope of embankments or cuts of two feet or more in vertical height	15	15
Any water line from a disposal system	10	10
Subsurface groundwater lowering drainage systems	100	100
Any swimming pool	100	100
Public right of way	50	50
Nitrification field	20	20
Any building foundation or basement	15	15

(b) The setbacks for Treatment and 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 exception of monitoring wells	100
Any property line	50

(c) Achieving the reclaimed water effluent standards contained in 15A NCAC 02T .0906 shall permit the system to use the setbacks located in 15A NCAC 02T .0900 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.

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

15A NCAC 02T .0507 OPERATION AND MAINTENANCE PLAN

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 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 .0508 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;
(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 permit for residuals utilization, a written commitment to the Permittee of a Department approved residuals disposal/utilization program accepting the residuals which 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 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 .0600 – SINGLE-FAMILY RESIDENCE WASTEWATER IRRIGATION SYSTEMS

15A NCAC 02T .0601 SCOPE

The rules in this Section apply to all surface irrigation of wastewater systems specifically designed for one building single-family residences. Surface irrigation systems serving single-family residences are considered 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.

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 apply to all new and expanding facilities, as applicable.

(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:

[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.]

(1) Field description of 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) thickness of the horizon;
   - (B) texture;
   - (C) color and other diagnostic features;
   - (D) structure;
   - (E) internal drainage;
   - (F) depth, thickness, and type of restrictive horizon(s); and
   - (G) 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 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.

(4) A representative soils analysis (i.e., 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.

(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:

[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 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.

(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:

[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, and soil mapping units shown on all disposal sites;
(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 .0606 of this Subchapter; and
(4) site property boundaries within 500 feet of all waste treatment, storage, and disposal site(s).

(e) 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) 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 notarized 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.

15A NCAC 02T .0605 DESIGN CRITERIA

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

(b) Minimum degree of treatment prior to storage shall meet a monthly average of five-day Biochemical Oxygen Demand (BOD_5) ≤ 30 mg/L; Total Suspended Solids (TSS) ≤ 30 mg/L; Ammonia (NH_3) ≤ 15 mg/L; and 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/storage units or minimum of two feet protection from 100-year flood 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 (minimum 2-strand wire) and treatment units shall be secured with locks on all tankage and control panels.
(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 disinfection shall be provided.
(m) A minimum of five days of storage based on average daily flow between the pump off float and inlet invert pipe shall be provided.
(n) Pump/dosing tanks shall have audible and visual alarms external to any structure.
(o) Rain / moisture sensor shall be provided to prevent irrigation during precipitation events or wet conditions that would cause runoff.
(p) A minimum of 18 inches of vertical separation between the apparent seasonal high water table and the ground surface shall be provided.
(q) A minimum of 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.

15A NCAC 02T .0606 SETBACKS
(a) The setbacks for Irrigation sites shall be as follows:

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

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

SECTION .0700 – HIGH RATE INFILTRATION SYSTEMS

15A NCAC 02T .0701 SCOPE
This Section applies to all high-rate infiltration facilities. High-rate infiltration facilities 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.

15A NCAC 02T .0702 DEFINITIONS
As used in this Section, "High-rate infiltration" shall mean:
(1) In coastal areas as defined in Section 15A NCAC 02H .0400, an application rate that exceeds 1.75 inches of wastewater effluent per week (0.156 gallons per day per square foot of land).
(2) In non-coastal areas, an application rate that exceeds 1.50 gallons of wastewater effluent per day per square foot of land (16.8 inches per week).

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

15A NCAC 02T .0703 RESERVED FOR FUTURE CODIFICATION

15A NCAC 02T .0704 APPLICATION SUBMITTAL
(a) The requirements in this Rule apply to all new and expanding facilities, as applicable.
(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:
[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.]
(1) Field description of 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) thickness of the horizon;
(B) texture;
(C) color and other diagnostic features;
(D) structure;
(E) internal drainage;
(F) depth, thickness, and type of restrictive horizon(s); and
(G) presence or absence and depth of evidence of any seasonal high water table (SHWT).
Applicants shall 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 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.

(4) A representative soils analysis (i.e., 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.

(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:

[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 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/infiltration design.

(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:

[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 10 feet or 25 percent of total site relief and showing all facility-related structures and fences within the treatment, storage and disposal areas, and soil mapping units shown on all disposal sites;

(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 .0706 of this Section; and

(4) site property boundaries within 500 feet of all waste treatment, storage, and disposal site(s).

(e) A hydrogeologic description prepared by a Licensed Geologist, Licensed Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C respectively of the subsurface to a depth of 20 feet or bedrock, whichever is less, shall be provided to the Division for systems treating industrial waste and any system with a design flow of over 25,000 gallons per day. A greater depth of investigation is required if the respective depth is used in predictive calculations. 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 and transmissivity of the affected aquifer(s);
(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;
(8) a discussion of the groundwater flow regime of the site prior to operation of the proposed facility and 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 SHWT after wastewater application.

(f) 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).

(g) Public utilities shall submit a Certificate of Public Conveyance and Necessity or a letter from the NC Utilities Commission stating that a franchise application has been received.
(h) A complete chemical analysis of the typical wastewater to be discharged shall be provided to the Division for industrial waste, including Total Organic Carbon, 5-day Biochemical Oxygen Demand (BOD_5), Chemical Oxygen Demand (COD), Nitrate Nitrogen (NO_3-N), Ammonia Nitrogen (NH_3-N), Total Kjeldahl Nitrogen (TKN), pH, Chloride, Total Phosphorus, Phenol, Total Volatile Organic Compounds, Fecal Coliform, Calcium, Sodium, Magnesium, Sodium Adsorption Ratio (SAR), Total Trihalomethanes, Toxicity Test Parameters and 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 of this Section is to be provided to the Division. A written commitment is not required at the time of application; however, it must be provided prior to operation of the permitted system.
(k) A water balance shall be provided to the Division that determines required effluent storage based upon the most limiting factor of the hydraulic loading based on either the most restrictive horizon or groundwater mounding analysis; or nutrient management based on either agronomic rates for a specified cover crop or crop management requirements.

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

15A NCAC 02T .0705 DESIGN CRITERIA

(a) The requirements in this Rule apply to all new and expanding facilities, as applicable.
(b) Degree of treatment shall be based on a monthly average 5-day Biochemical Oxygen Demand (BOD5) ≤ 10 mg/L; Total Suspended Solids (TSS) ≤ 15 mg/L; Ammonia Nitrogen (NH^3-N) ≤ 4 mg/L; Fecal Coliforms ≤ 14 per 100 mL; and Nitrate Nitrogen (NO^3-N) ≤ 10 mg/L for domestic and commercial operations. Treatment for other operations shall be

based on producing the quality effluent used in documenting protection of surface water or groundwater standards. More stringent effluent limits may be applied in accordance with calculations submitted by the applicant to document protection of surface water or groundwater standards.
(c) All treatment/storage lagoons/ponds 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 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 1×10^{-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 which are less than four feet above bedrock shall have a liner with a hydraulic conductivity no greater than 1×10^{-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 to the Division by predictive calculations or modeling methods 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) Flow equalization of at least 25 percent of the facilities permitted hydraulic capacity must be provided for all seasonal or resort facilities and all other facilities with fluctuations in influent flow which may adversely affect the performance of the system.
(i) By-pass and overflow lines shall be prohibited.
(j) Multiple pumps shall be provided if pumps are used.
(k) Power reliability shall be provided consisting of:
- (1) automatically activated standby power supply onsite, 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 which 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 due to prolonged detention.

(l) A water-tight seal on all treatment/storage units or minimum of two feet protection from 100-year flood shall be provided.
(m) Irrigation system design shall not exceed the recommended precipitation rates in the soils report prepared pursuant to Rule .0704 of this Section.
(n) A minimum of 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 wetted disposal area and treatment facilities.
(q) Influent pump stations shall meet the sewer minimum design criteria as provided in Section .0300 of this Subchapter.
(r) Septic tanks shall adhere to 15A NCAC 18A .1900.

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

15A NCAC 02T .0706 SETBACKS
(a) The setbacks for Infiltration 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	400
Any habitable residence or place of public assembly owned by the permittee to be maintained as part of the project site	200

Any private or public water supply source	100
Surface waters (streams – intermittent and perennial, perennial waterbodies, and wetlands)	200
Groundwater lowering ditches (where the bottom of the ditch intersects the SHWT)	200
Subsurface groundwater lowering drainage systems	200
Surface water diversions (ephemeral streams, waterways, ditches)	50
Any well with exception of monitoring wells	100
Any property line	200
Top of slope of embankments or cuts of two feet or more in vertical height	100
Any water line from a disposal system	10
Any swimming pool	100
Public right of way	50
Nitrification field	20
Any building foundation or basement	15
Impounded public water supplies	500
Public shallow groundwater supply (less than 50 feet deep)	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 a Total Nitrogen of 7 mg/l and Total Phosphorus of 3 mg/l effluent limit.
(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 a Total Nitrogen of 4 mg/l and Total Phosphorus of 2 mg/l effluent limit. This setback provision does 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.

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

15A NCAC 02T .0707 OPERATION AND MAINTENANCE PLAN

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 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 .0708 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 permit for residuals utilization, a written commitment to the Permittee of a Department approved residuals disposal/utilization program accepting the residuals which 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 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 .0800 – OTHER NON-DISCHARGE WASTEWATER SYSTEMS

15A NCAC 02T .0801 SCOPE
This Section applies to systems not specifically regulated by other rules in this Subchapter in which the waste 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.

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 under 15A NCAC 02T .0504 except those that are not applicable to authorization to construct type permits (e.g., soils report, hydrogeological investigations, or receiver site management plan).

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

15A NCAC 02T .0805 DESIGN CRITERIA
Design requirements shall be the same as systems permitted under 15A NCAC 02T .0505 except those that are not applicable to authorization to construct type permits (e.g. degree of treatment and irrigation system design requirements) 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.

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 for infiltration units.

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

SECTION .0900 – RECLAIMED WATER SYSTEMS

15A NCAC 02T .0901 SCOPE
The rules in this Section apply to reclaimed water systems; the utilization of tertiary treated wastewater effluent, meeting the standards in Rule .0906 of this Section, used in a beneficial manner and for the purpose of conservation of the states water resources by reducing the use of a water resource (potable water, surface water, groundwater). The disposal of treated wastewater effluent that does not serve in place of the use of a water resource shall be covered by Section .0500 of this Subchapter. Requirements for closed–loop recycle systems are provided in Section .1000 of this Subchapter.

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

15A NCAC 02T .0902 DEFINITIONS

As used in this Section:

"Conjunctive system" means a system where the reclaimed water option is not necessary to meet the wastewater disposal needs of the facility and where other wastewater utilization or disposal methods (e.g., NPDES permit) are available to the facility at all times.

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

15A NCAC 02T .0903 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) Overflow from elevated reclaimed water storage facilities where no viable alternative exists and all possible measures are taken to reduce the risk of overflow.

(2) Any de minimus runoff from reclaimed water used during fire fighting or extinguishing, dust control, soil compaction for construction purposes, street sweeping, overspray on yard inlets, overspray on golf cart paths, or vehicle washing provided the use is approved in a permit issued by the Division.

(3) Rehabilitation, repair, or replacement of reclaimed water lines in kind (i.e., size) with the same horizontal and vertical alignment.

(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 .0904 APPLICATION SUBMITTAL – CONJUNCTIVE SYSTEMS

(a) The requirements in this Rule apply to all new and expanding conjunctive facilities, as applicable.

(b) A soil evaluation of the utilization site where the reclaimed water is applied to the land surface or otherwise used in a ground absorption manner shall be provided to the Division by the applicant. Recommendations shall include loading rates of liquids, solids, and other constituents. For systems that utilize reclaimed water through irrigation, the evaluation shall also include recommended maximum irrigation precipitation rates. If required by G.S. 89F, a soil scientist shall prepare this evaluation.

[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) 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 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.

(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 for treatment and storage facilities and where the reclaimed water is applied to the land surface or otherwise used in a ground absorption manner showing 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 showing all facility-related structures and fences within the treatment, storage, and utilization areas;
(2) for land application sites and other ground absorption uses, the site map shall include topography; and
(3) to the extent needed to determine compliance with setbacks, 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 on all waste treatment, storage, and utilization site(s) and any other feature included in the Rule .0912.

(e) Property Ownership Documentation shall be provided to the Division consisting of:
(1) legal documentation of ownership (e.g., 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. The lease agreements shall adhere to the requirements of 15A NCAC 02L .0107. Where a lease is not required, a compliance boundary for the site shall not be established.

(f) 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.

(g) A complete chemical analysis of the typical reclaimed water to be utilized shall be provided to the Division for industrial waste. The analysis may include Total Organic Carbon, 5-day Biochemical Oxygen Demand (BOD_5), Chemical Oxygen Demand (COD), Nitrate Nitrogen (NO_3-N), Ammonia Nitrogen (NH_3-N), Total Kjeldahl Nitrogen (TKN), pH, Chloride, Total Phosphorus, Phenol, Total Volatile Organic Compounds, Fecal Coliform, Calcium, Sodium, Magnesium, Sodium Adsorption Ratio (SAR), Total Trihalomethanes, Toxicity Test Parameters and Total Dissolved Solids.

(h) 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.

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

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

(a) The requirements in this Rule apply to all new and expanding non-conjunctive facilities, as applicable.

(b) Soils Report. A soil evaluation of the disposal site shall be provided to the Division. 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: [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.]

(1) Field description of 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) thickness of the horizon;
(B) texture;
(C) color and other diagnostic features;
(D) structure;
(E) internal drainage;
(F) depth, thickness, and type of restrictive horizon(s); and
(G) presence or absence and depth of evidence of any seasonal high water table (SHWT).
Applicants shall 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 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.
(4) A representative soils analysis (i.e., 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.

(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:

[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 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.

(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 where the reclaimed water is applied to the land surface or otherwise used in a ground absorption manner 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 10 feet or 25 percent of total site relief and showing all facility-related structures and fences within the treatment, storage and utilization areas, soil mapping units shown on all utilization sites;
(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 utilization site(s) and delineation of the review and compliance boundaries;
(3) setbacks as required by Rule .0912 of this Section; and
(4) site property boundaries within 500 feet of all waste treatment, storage, and utilization site(s).

(e) A hydrogeologic description prepared by a Licensed Geologist, License Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C respectively of the subsurface to a depth of 20 feet or bedrock, whichever is less, shall be provided to the Division for systems treating industrial waste and any system with a design flow of over 25,000 gallons per day. A greater depth of investigation is required if the respective depth is used in predictive calculations. 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 based on research of available literature for the area;
(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 and transmissivity of the affected aquifer(s);
(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;
(8) a discussion of the groundwater flow regime of the site prior to operation of the proposed facility and 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 SHWT is within 6 feet of the surface, a mounding analysis to predict the level of the SHWT after wastewater application.

(f) 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. Where a lease is not required, a compliance boundary for the site will shall not be established by the Division.

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

(h) A complete chemical analysis of the typical reclaimed water to be utilized shall be provided to the Division for industrial waste. The analysis may include Total Organic Carbon, 5-day Biochemical Oxygen Demand (BOD_5), Chemical Oxygen Demand (COD), Nitrate Nitrogen (NO_3-N), Ammonia Nitrogen (NH_3-N), Total Kjeldahl Nitrogen (TKN), pH, Chloride, Total Phosphorus, Phenol, Total Volatile Organic Compounds, Fecal Coliform, Calcium, Sodium, Magnesium, Sodium Adsorption Ratio (SAR), Total Trihalomethanes, Toxicity Test Parameters and 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.

(j) A residuals management plan as required by Rule .0914 of this Section shall be provided to the Division. A written commitment is not required at the time of application; however, it must be provided prior to operation of the permitted system.

(k) A water balance shall be provided to the Division that determines required storage based upon the most limiting factor of the hydraulic loading based on either the most restrictive horizon or groundwater mounding analysis; or nutrient management based on either agronomic rates for a specified cover crop or crop management requirements.

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

15A NCAC 02T .0906 RECLAIMED WATER EFFLUENT STANDARDS

(a) The reclaimed water treatment process shall be documented to produce a tertiary quality effluent (filtered or equivalent) prior to storage, distribution, or irrigation that meets the parameter limits listed below:

(1) monthly average BOD_5 of less than or equal to 10 mg/l and a daily maximum BOD_5 of less than or equal to 15 mg/l;
(2) monthly average TSS of less than or equal to 5 mg/l and a daily maximum TSS of less than or equal to 10 mg/l;

(3) monthly average NH_3 of less than or equal to 4 mg/l and a daily maximum NH_3 of less than or equal to 6 mg/l;
(4) monthly geometric mean fecal coliform level of less than or equal to 14/100 ml and a daily maximum fecal coliform of less than or equal to 25/100 ml; and
(5) maximum turbidity of 10 NTUs.

(b) Reclaimed water produced by industrial facilities shall not be required to meet the above criteria if the reclaimed water is used in the industry's process and the area of use has no public access.

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

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

(a) The requirements in this Rule apply to all new and expanding conjunctive facilities, as applicable.
(b) Continuous on-line monitoring and recording for turbidity or particle count and flow shall be provided prior to storage, distribution or irrigation.
(c) Effluent from the treatment facility shall not be discharged to the storage, distribution or irrigation system if either the turbidity exceeds 10 NTU or if the permitted fecal coliform levels cannot be met. The facility must have the ability to utilize alternate wastewater management options when the effluent quality is not sufficient.
(d) An automatically activated standby power source or other means to prevent improperly treated wastewater from entering the storage, distribution or irrigation system shall be provided.
(e) There shall be a certified operator of a grade equivalent or greater than the facility classification on call 24 hours/day.
(f) No storage facilities are required as long as it can be demonstrated that other permitted means of disposal are available if the reclaimed water cannot be completely utilized.
(g) Irrigation system design shall not exceed the recommended precipitation rates in the soils report prepared pursuant to Rule .0904 of this Section.

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

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

(a) The requirements in this Rule apply to all new and expanding non-conjunctive facilities, as applicable.
(b) Aerated flow equalization facilities shall be provided with a capacity based upon either a representative diurnal hydrograph or at least 25 percent of the daily system design flow.
(c) Dual facilities shall be provided for all essential treatment units.
(d) Continuous on-line monitoring and recording for turbidity or particle count and flow shall be provided prior to storage, distribution, or irrigation.
(e) Effluent from the treatment facility shall be discharged to a five-day side-stream detention pond if either the turbidity exceeds 10 NTU or if the permitted fecal coliform levels cannot be met. The facility must have the ability to return the effluent in the five-day side-stream detention pond back to the head of the treatment facility.
(f) There must be no public access to the wastewater treatment facility or the five-day side-stream detention pond. The five day side-stream detention pond shall have either a liner of natural material at least one foot in thickness and having a hydraulic conductivity of no greater than 1×10^{-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 required of the natural material liner. Liner requirements of the five day side-stream detention pond or separation distances between the bottom of the five day side-stream detention pond and the groundwater table may be reduced if it can be demonstrated by predictive calculations or modeling methods acceptable to the Director, that construction and use of the five day side-stream detention pond will not result in contravention of assigned groundwater standards at the compliance boundary.
(g) The storage basin shall have either a liner of natural material at least one foot in thickness and having a hydraulic conductivity of no greater than 1×10^{-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 required of the natural material liner. Liner requirements of the storage basin or separation distances between the bottom of storage basin and the groundwater table may be reduced if it can be demonstrated by predictive calculations or modeling methods

acceptable to the Director, that construction and use of the storage basin will not result in contravention of assigned groundwater standards at the compliance boundary.
(h) Automatically activated standby power supply onsite, capable of powering all essential treatment units under design conditions shall be provided.
(i) There shall be a certified operator of a grade equivalent or greater than the facility classification on call 24 hours/day.
(j) By-pass and overflow lines shall be prohibited.
(k) Multiple pumps shall be provided if pumps are used.
(l) A water-tight seal on all treatment/storage units or minimum of two feet protection from 100-year flood shall be provided.
(m) Irrigation system design shall not exceed the recommended precipitation rates in the soils report prepared pursuant to Rule .0905 of this Section.
(n) A minimum of 30 days of residual 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) Influent pump stations shall meet the sewer minimum design criteria as provided in Section .0300 of this Subchapter.

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

15A NCAC 02T .0909 DESIGN CRITERIA FOR DISTRIBUTION LINES
(a) The requirements in this Rule apply to all new distribution lines.
(b) All reclaimed water valves, storage facilities and outlets shall be tagged or labeled to warn the public or employees that the water is not intended for drinking.
(c) All reclaimed water piping, valves, outlets and other appurtenances shall be color-coded, taped, or otherwise marked to identify the source of the water as being reclaimed water as follows:

(1) All reclaimed water piping and appurtenances shall be either colored purple (Pantone 522) and embossed or integrally stamped or marked "CAUTION: RECLAIMED WATER - DO NOT DRINK" or be installed with a purple (Pantone 522) identification tape or polyethylene vinyl wrap. The warning shall be stamped on opposite sides of the pipe and repeated every 3 feet or less.
(2) Identification tape shall be at least 3 inches wide and have white or black lettering on purple (Pantone 522) field stating "CAUTION: RECLAIMED WATER - DO NOT DRINK". Identification tape shall be installed on top of reclaimed water pipelines, fastened at least every 10 feet to each pipe length and run continuously the entire length of the pipe.
(3) Existing underground distribution systems retrofitted for the purpose of utilizing reclaimed water shall be taped or otherwise identified as in Subparagraphs (1) or (2) of this Paragraph. This identification need not extend the entire length of the distribution system but shall be incorporated within 10 feet of crossing any potable water supply line or sanitary sewer line.

(d) All reclaimed water valves and outlets shall be of a type, or secured in a manner, that permits operation by authorized personnel only.
(e) Hose bibs shall be located in locked, below grade vaults that shall be labeled as being of nonpotable quality. As an alternative to the use of locked vaults with standard hose bib services, hose bibs which can only be operated by a tool may be placed above ground and labeled as nonpotable water.
(f) Cross-Connection Control

(1) There shall be no direct cross-connections between the reclaimed water and potable water systems.
(2) Where both reclaimed water and potable water are supplied to a reclaimed water use area, a reduced pressure principle backflow prevention device or an approved air gap separation pursuant to 15A NCAC 18C shall be installed at the potable water service connection to the use area. The installation of the reduced pressure principal backflow prevention device shall allow proper testing.
(3) Where potable water is used to supplement a reclaimed water system, there shall be an air gap separation, approved and regularly inspected by the potable water supplier, between the potable water and reclaimed water systems.

(g) Irrigation system piping shall be considered part of the distribution system for the purposes of this Rule.
(h) Reclaimed water distribution lines shall be located 10 feet horizontally from and 18 inches below any water line where practicable. Where these separation distances can not be met, the piping and integrity testing procedures shall meet water main standards in accordance with 15A NCAC 18C.

(i) Reclaimed water distribution lines shall not be less than 100 feet from a well unless the piping and integrity testing procedures meet water main standards in accordance with 15A NCAC 18C, but no case shall they be less than 25 feet from a private well or 50 feet from a public well.
(j) Reclaimed water distribution lines shall meet the separation distances to sewer lines in accordance with Rule .0305 of this Subchapter.

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

15A NCAC 02T .0910 RECLAIMED WATER UTILIZATION

(a) Reclaimed water for land application to areas intended to be accessible to the public such as residential lawns, golf courses, cemeteries, parks, school grounds, industrial or commercial site grounds, landscape areas, highway medians, roadways and other similar areas shall meet the following criteria:

(1) Notification shall be provided by the permittee or its representative to inform the public of the use of reclaimed water (Non Potable Water) and that the reclaimed water is not intended for drinking.
(2) The generator of the reclaimed water shall develop and maintain a program of record keeping for distribution of reclaimed water.
(3) The generator of the reclaimed water shall develop and maintain a program of education and approval for all use of reclaimed wastewater on property not owned by the generator.
(4) The generator of the reclaimed water shall develop and maintain a program of routine review and inspection of all use of reclaimed water not on property owned by the generator.
(5) The compliance boundary and the review boundary for groundwater shall be established at the irrigation area boundaries. No deed restrictions or easements shall be required to be filed on adjacent properties. Land application of effluents must be on property controlled by the generator unless a contractual agreement is provided in accordance with 15A NCAC 02L .0107 except in cases where a compliance boundary is not established.

(b) Reclaimed water used for purposes such as industrial process water or cooling water, aesthetic purposes such as decorative ponds or fountains, fire fighting or extinguishing, dust control, soil compaction for construction purposes, street sweeping (not street washing), and individual vehicle washing for personal purposes shall meet the criteria below:

(1) Notification shall be provided by the permittee or its representative to inform the public or employees of the use of reclaimed water (Non Potable Water) and that the reclaimed water is not intended for drinking.
(2) Use of reclaimed water in decorative ponds or fountains shall require regular inspection by the Permittee to ensure permanent signs/notification and to ensure no discharge occurs from the fountains/ponds.
(3) Use of reclaimed water for vehicle washing shall be conducted in a manner to ensure minimal surface runoff and the Permittee shall provide educational information to the users of reclaimed water for vehicle washing.
(4) The generator of the reclaimed water shall develop and maintain a program of education and approval for all reclaimed water users.
(5) The generator of the reclaimed water shall develop and maintain a program of record keeping for distribution of reclaimed water.
(6) The generator of the reclaimed water shall develop and maintain a program of routine review and inspection of reclaimed water users.

(c) Reclaimed water used for urinal and toilet flushing or fire protection in sprinkler systems located in commercial or industrial facilities shall be approved by the Director if the applicant can demonstrate to the Division that public health and the environment will be protected.
(d) Reclaimed water shall not be used for irrigation of direct food chain crops.
(e) Reclaimed water shall not be used for swimming pools, hot-tubs, spas or similar uses.
(f) Reclaimed water shall not be used for direct reuse as a raw potable water supply.

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

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

(a) Tank trucks and other equipment used to distribute reclaimed water shall be identified with advisory signs.
(b) Tank trucks used to transport reclaimed water shall not be used to transport potable water that is used for drinking or other potable purposes.
(c) Tank trucks used to transport reclaimed water shall not be filled through on-board piping or removable hoses that may subsequently be used to fill tanks with water from a potable water supply.
(d) The generator of the reclaimed water shall develop and maintain a program of education and approval for all reclaimed water users.
(e) The generator of the reclaimed water shall develop and maintain a program of record keeping for bulk distribution of reclaimed water.
(f) The generator of the reclaimed water shall develop and maintain a program of routine review and inspection of reclaimed water users.

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

15A NCAC 02T .0912 SETBACKS
(a) 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.
(b) The setbacks for Irrigation and utilization areas shall be as follows:

	feet
Surface waters (streams – intermittent and perennial, perennial waterbodies, and wetlands) not classified SA	25
Surface waters (streams – intermittent and perennial, perennial waterbodies, and wetlands) classified SA	100
Any well with exception to monitoring wells	100

(c) No setback between the application area and property lines shall be required.

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

15A NCAC 02T .0913 OPERATION AND MAINTENANCE PLAN
An Operation and Maintenance Plan shall be maintained by the permittee for all reclaimed water 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) provide a map of all distribution lines and record drawings of all irrigation systems under the permittee's control;
(3) describe anticipated maintenance of the system;
(4) include provisions for safety measures including restriction of access to the site and equipment, as appropriate; and
(5) 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 .0914 RESIDUALS MANAGEMENT PLAN
A Residuals Management Plan shall be maintained for all reclaimed water 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;
(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 permit for residuals utilization, a written commitment to the Permittee of a Division approved residuals disposal/utilization program accepting the residuals which demonstrates that the 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 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.

15A NCAC 02T .0915 LOCAL PROGRAM APPROVAL

(a) Municipalities, counties, local boards or commissions, water and sewer authorities, or groups of municipalities and counties may apply to the Division for approval of programs for permitting construction, modification, and operation of reclaimed water distribution lines and permitting users under their authority. Construction of and modifications to treatment works, including pump stations for reclaimed water distribution, require Division approval. Permits issued by approved local programs serve in place of permits issued by the Division.

(b) Applications. Applications for approval of local programs must provide adequate information to assure compliance with the requirements of this Subchapter and the following:

(1) The program application shall include two copies of the permit application forms, intended permits including types of uses, minimum design criteria (specifications), flow chart of permitting, inspection and certification procedures, and other relevant documents to be used in administering the local program.

(2) Certification that the local authority has procedures in place for processing permit applications, setting permit requirements, enforcement, and penalties that are compatible with those for permits issued by the Division.

(3) Any future amendments to the requirements of this Subchapter shall be incorporated into the local program within 60 days of the effective date of the amendments.

(4) A North Carolina registered Professional Engineer shall be on the staff of the local program or retained as a consultant to review unusual situations or designs and to answer questions that arise in the review of proposed projects. The local program shall also provide staff or retain a consultant to review all other non-engineering related program areas.

(5) Each project permitted by the local program shall be inspected for compliance with the requirements of the local program at least once during construction.

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

(d) All permitting actions, bypasses from distribution lines, enforcement actions, and monitoring of the distribution system shall be summarized and submitted to the Division on a quarterly basis on forms provided by the Division. The report shall also provide a listing and summary of all enforcement actions taken or pending during the quarter. The quarters begin on January 1, April 1, July 1 and October 1. The report shall be submitted within 30 days after the end of each quarter.

(e) A copy of all program documents such as specifications, permit applications, permit shells and shell certification forms shall be submitted to the Division on an annual basis along with a summary of any other program changes. Program changes to note include staffing, processing fees, and ordinance revisions.

(f) Modification of a Local Program. After a local program has been approved by the Commission, any modification of the program procedures or requirements specified in this Rule must be approved by the Director to assure that the procedures and requirements remain at least as stringent as the state-wide requirements in this Subchapter.

(g) 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).

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

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 cover by Section .1300 of this Subchapter;

(2) the recycling of wastewater from groundwater remediation systems through an Injection Well or Infiltration Gallery specifically covered by Section .1600 of this Subchapter; and

(3) the reuse of wastewater through treatment and distribution as reclaimed water specifically covered by Section .0900 of this Subchapter.

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

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_5), Chemical Oxygen Demand (COD), Nitrate Nitrogen (NO_3-N), Ammonia Nitrogen (NH_3-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 1×10^{-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 1×10^{-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 applies to the treatment, storage, transportation, use, and disposal of residuals. Not regulated under this Section is 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;
(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; and
(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 (i.e., dry weight basis).

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

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 change of occurring in any given year (i.e., a flood with a magnitude equaled once in 100 years).
(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 utilizes biological processes that shall include 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) "Cover" shall mean soil or other material used to cover residuals placed in a surface disposal unit.

(10) "Cumulative pollutant loading rate" shall mean the maximum amount of a pollutant that can be applied to a unit area of land.

(11) "Dedicated program" shall mean a program involving the application of bulk residuals in which any of the permitted land meets the definition of a dedicated land application site.

(12) "Dedicated land application site" shall mean land:

- (a) to which bulk residuals are applied at greater than agronomic rates,
- (b) to which bulk residuals are applied through fixed irrigation facilities or irrigation facilities fed through a fixed supply system, or
- (c) where the primary use of the land is for the disposal of bulk residuals, and agricultural crop production is of secondary importance.

(13) "Density of microorganisms" shall mean the number of microorganisms per unit mass of total solids (i.e., dry weight basis) in the residuals.

(14) "Dry weight basis" shall mean the weight calculated after the residuals have been dried at 105 degrees Celsius until they reach a constant mass.

(15) "Feed crop" shall mean a crop produced for consumption by animals.

(16) "Fiber crop" shall mean a crop grown for fiber production. This shall include flax and cotton.

(17) "Food crop" shall mean a crop produced for consumption by humans. This shall include fruits, vegetables, and tobacco.

(18) "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.

(19) "Incorporation" shall mean the mixing of residuals with top soil to a minimum depth of four inches by methods such as discing, plowing, and rototilling.

(20) "Injection" shall mean the subsurface application of liquid residuals to a depth of four to 12 inches.

(21) "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.

(22) "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.

(23) "Monthly average" shall mean the arithmetic mean of all measurements taken during the month.

(24) "Pathogens" shall mean disease-causing organisms including disease-causing bacteria, protozoa, viruses, and viable helminth ova.

(25) "Place residuals" shall mean to dispose of residuals in a surface disposal unit.

(26) "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.

(27) "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.

(28) "Public contact site" shall mean land with a high potential for contact by the public as defined in 40 CFR 503.11(l). This shall include public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

(29) "Runoff" shall mean rainwater, leachate, or other liquid that drains overland and runs off of the land surface.

(30) "Screenings" shall mean rags or other relatively large materials generated during preliminary treatment of wastewater in a wastewater treatment facility.

(31) "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.

(32) "Specific oxygen uptake rate (SOUR)" shall mean the mass of oxygen consumed per unit time per unit mass of total solids (i.e., dry weight basis) in the residuals.

(33) "Surface disposal unit" shall mean the land on which only residuals are placed for final disposal, not including land on which residuals is either treated or stored. This shall include monofills, lagoons, and trenches.

(34) "Surface disposal unit boundary" shall mean the outermost perimeter of a surface disposal unit.

(35) "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.

(36) "Water treatment residuals" shall mean residuals that have been generated during the treatment of potable or process water.

(37) "Unstabilized residuals" shall mean residuals that have not been treated in either an aerobic or an anaerobic treatment process.

(38) "Unstable area" shall mean land subject to natural or human-induced forces that may damage the structural components of a surface disposal unit. This shall include land on which the soils are subject to mass movement.

(39) "Vector attraction" shall mean the characteristic of residuals that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

(40) "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.

15A NCAC 02T .1103 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) 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 approved to receive the residuals as long as the requirements of this Section are met.

(3) Land application sites onto which residuals that are sold or given away in a bag or other container, are applied provided the following criteria is 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)(1) 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 or bag or other container label as required in Rule .1109(a) of this Section.

(4) Land application sites onto which bulk biological residuals are applied, provided that the residuals and activities meeting 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,

(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)(1) and Rule .1109(b) of this Section.

(5) Land application sites onto which residuals generated from the treatment of potable or fresh water or that are generated from the treatment of non-biological industrial wastewater with no domestic or municipal wastewater contributions are applied, provided that 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)(1) and Rule .1109 of this Section.

(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 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 .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:
[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.]

(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 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 treatment and storage facilities and delineation of the review and compliance boundaries;

(C) setbacks as required by Rule .1108 of this Section; and

(D) site property boundaries within 500 feet of all treatment and storage facilities.

(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:
[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.]

(A) engineering plans for the 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;

(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.

(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) A complete analysis of the residuals shall be provided to the Division by the applicant. The analysis may include all pollutants identified in Rule .1105 of this Section, nutrients and micronutrients, hazardous waste characterization tests, and proof of compliance with Rule .1106 and Rule .1107 of this Section if applicable.

(3) A sampling/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) Buffer 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 all wells, streams (ephemeral, intermittent, and perennial), springs, lakes, ponds, and other surface drainage features within 500 feet of the land application area and delineation of the review and compliance boundaries;

(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:
[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.]

(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(s); and presence or absence and depth of evidence of any seasonal high water table (SHWT).

(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.

(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:
[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.]

(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 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 the land application site and delineation of the review and compliance boundaries;

(C) setbacks as required by Rule .1108 of this Section; and

(D) property boundaries within 500 feet of the land application site.

(2) Engineering design documents (for land applications sites onto which bulk residuals are applied through fixed irrigation facilities or irrigation facilities fed through a fixed supply system only). 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.]

(A) engineering plans for the 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;

(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.

(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:

[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.]

(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(s); and presence or absence and depth of evidence of any seasonal high water table (SHWT). 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 (i.e., for land application sites onto which bulk residuals are applied through fixed irrigation facilities or irrigation facilities fed through a fixed supply system only). 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 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.

(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.

(4) A hydrogeologic description prepared by a Licensed Geologist, License Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C respectively of the subsurface to a depth of 20 feet or bedrock, whichever is less, shall be provided to the Division by the applicant. A greater depth of investigation is required if the respective depth is used in predictive calculations. 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.]

(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 lithology underlying the land application site;

(D) depth to bedrock and occurrence of any rock outcrops;

(E) the hydraulic conductivity and transmissivity of the affected aquifer(s);

(F) 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 land application site prior to operation of the proposed site and 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 SHWT is within six feet of the surface, a mounding analysis to predict the level of the SHWT after residuals land application.

(5) For land application sites onto which bulk residuals are applied through fixed irrigation facilities or irrigation facilities fed through a fixed supply system only, a water balance shall be provided to the Division by the applicant that determines required residuals storage based upon the most limiting factor of the hydraulic loading based on either the most restrictive horizon or groundwater mounding analysis; or nutrient management based on either agronomic rates for the specified cover crop or crop management requirements.

(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 (i.e., contract, deed or article of incorporation);

(B) written notarized intent to purchase agreement signed by both parties, accompanied by a plat or survey map; or

(C) 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.

(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:

[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.]

(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 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 the surface disposal unit and delineation of the review and compliance boundaries;

(C) setbacks as required by Rule .1108 of this Section; and

(D) site property boundaries within 500 feet of the surface disposal unit.

(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:

[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.]

(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 critical to the understanding of 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.

(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:

[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.]

(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(s); and presence or absence and depth of evidence of any seasonal high water table (SHWT). Applicants may be required to dig pits when necessary for proper evaluation of the soils at the site.

(B) A 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.

(4) A hydrogeologic description prepared by a Licensed Geologist, License Soil Scientist, or Professional Engineer if required by Chapters 89E, 89F, or 89C respectively of the subsurface to a depth of 20 feet or bedrock, whichever is less, shall be provided to the Division by the applicant. A greater depth of investigation is required if the respective depth is used in predictive calculations. 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 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.]

(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 lithology underlying the site;

(D) depth to bedrock and occurrence of any rock outcrops;

(E) the hydraulic conductivity and transmissivity of the affected aquifer(s);

(F) 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 operation of the proposed unit and post operation of the proposed unit focusing on the relationship of the unit to groundwater receptors, groundwater discharge features, and groundwater flow media.

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

(A) legal documentation of ownership (i.e., contract, deed or article of incorporation);

(B) written notarized intent to purchase agreement signed by both parties, accompanied by a plat or survey map; or

(C) 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.

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

15A NCAC 02T .1105 POLLUTANT LIMITS

(a) Bulk residuals or residuals that are sold or given away in a bag or other container shall not be applied to the land if the concentration of any pollutant in the residuals exceeds the ceiling concentration for that pollutant as stipulated in the following (i.e., on a dry weight basis):

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

(b) Bulk residuals shall not be applied to the land if the land application causes the exceedance of the cumulative pollutant loading rate for any pollutant as stipulated in the following (i.e., on a dry weight basis):

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

(1) A person shall determine compliance with the cumulative pollutant loading rates using one of the following methods:
   (A) by calculating the existing cumulative level of pollutants using actual analytical data from all historical land application events of residuals not otherwise exempted by this Paragraph or
   (B) for land on which land application events of residuals has not occurred or for which the data required in Rule .1105(b) is incomplete, by determining background concentrations through representative soil sampling.

(2) When applied to the land, bulk residuals shall be exempt from complying with this Paragraph as long as they meet all of the following criteria:
   (A) the monthly average concentrations stipulated in Rule .1105(c) of this Section.
   (B) the pathogen reduction requirements stipulated in Rule .1106(b) of this Section, and
   (C) the vector attraction reduction requirements stipulated in Rule .1107 of this Section.

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

Pollutant	Monthly Average Concentration (milligrams per kilogram)
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420

Selenium	100
Zinc	2,800

(d) Bulk 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 (i.e., on a dry weight basis):

Distance from Surface Disposal Unit Boundary to Closest Property Line (meters)	Ceiling Concentration (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 and greater	62	450	420

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

15A NCAC 02T .1106 PATHOGEN REDUCTION REQUIREMENTS

(a) The following pathogen requirements shall be met when biological residuals are applied to the land or placed in a surface disposal unit:

(1) The Class A pathogen requirements shall be met when bulk biological residuals are 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.

(2) 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 reduction method in Rule .1107(b)(2) of this Section is met.

(3) Programs involving the land application of biological residuals generated by wastewater treatment facilities treating industrial wastewater only that are operational at the time of this Rule's effective date shall comply with the requirements stipulated in this Rule no later than five years from the effective date of this Rule unless the Permittee is adhering to an established schedule in an individual permit, settlement agreement, special order pursuant to G.S. 143-215.2, or other similar document that establishes a later deadline.

(b) For biological residuals to be classified as Class A with respect to pathogens, the following shall be met:

(1) The requirements in this Paragraph are met either prior to meeting or at the same time as vector attraction reduction requirements in Rule .1107 of this Section are met, unless the vector attraction reduction methods stipulated in Rule .1107(a)(6), Rule .1107(a)(7), and Rule .1107(a)(8) of this Section are met.

(2) The biological residuals are monitored 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 application to the land for the density of fecal coliform or Salmonella sp. bacteria to demonstrate the following:

(A) the density of fecal coliform is less than 1,000 Most Probable Number per gram of total solids (i.e., dry weight basis), or

(B) the density of Salmonella sp. bacteria is less than three Most Probable Number per four grams of total solids (i.e., dry weight basis).

(3) The biological residuals meet one of the following alternatives:

(A) Time/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 (percent)	Temperature (t) (degrees Celsius)	Time	Equation to Determine Minimum Holding Time (D) (days)
≥ 7	≥ 50	≥ 20 minutes	131,700,000

			$10^{0.1400t}$
≥ 7	≥ 50	≥ 15 seconds[1]	$\frac{131,700,000}{10^{0.1400t}}$
< 7	≥ 50	≥ 15 seconds <30 minutes	$\frac{131,700,000}{10^{0.1400t}}$
<7	≥ 50	≥ 30 minutes	$\frac{50,070,000}{10^{0.1400t}}$

1 – 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 remains 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/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 (i.e., dry weight basis) or the density of viable helminth ova shall be less than one per four grams of total solids (i.e., 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 to be 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 to the satisfaction of the Division. After this demonstration, the biological residuals shall be considered to be Class A as long as the operating parameters for the pathogen reduction treatment are met and documented to the satisfaction of the Division.

(D) No Prior Testing for Enteric Viruses/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 (i.e., 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 (i.e., dry weight basis) at the time that the biological residuals are used or disposed or is prepared for sale or giving away in a bag or other contained for application to the land.

(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 are not sufficient to meet this process.

(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 exceeds 80 degrees Celsius or the wet bulb temperature of the gas in contact with the biological residuals as they leave the dryer exceeds 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 is only available 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 is only available 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 (i.e., 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 (i.e., approximately 20 degrees Celsius).

(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.

(c) For biological residuals to be classified as Class B with respect to pathogens one of the following shall be met:

(1) Fecal Coliform Density Demonstration. Seven samples of the biological residuals are collected at the time the residuals are used or disposed, and the geometric mean of the density of fecal coliform in the samples collected is less than either 2,000,000 Most Probable Number per gram of total solids (i.e., dry weight) or 2,000,000 Colony Forming Units per gram of total solids (i.e., dry weight basis).

(2) Process to Significantly Reduce Pathogens. The biological residuals processed in a process to significantly reduce pathogens. The processes to significantly reduce pathogens are as follows:

(A) Aerobic Digestion. Biological residuals are 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 are between 40 days at 20 degrees Celsius and 60 days at 15 degrees Celsius.

(B) Air Drying. Biological residuals are dried on sand beds or on paved or unpaved basins for a minimum of three months. During two of the three months, the ambient average daily temperature is above zero degrees Celsius.

(C) Anaerobic Digestion. Biological residuals are 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 are 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 is raised to 40 degrees Celsius or higher and remains at 40 degrees Celsius or higher for five days. For four hours during the five days, the temperature in the compost pile exceeds 55 degrees Celsius. Natural decay of the biological residuals under uncontrolled conditions is not sufficient to meet this process

(E) Lime Stabilization. Sufficient lime is added to the biological residuals to raise the pH to 12 after two hours of contact.

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

15A NCAC 02T .1107 VECTOR ATTRACTION REDUCTION REQUIREMENTS

(a) Biological residuals shall not be applied to the land unless the requirements of one of the vector attraction reduction alternatives have been met. Programs involving the land application of biological residuals generated by wastewater treatment facilities treating industrial wastewater only that are operational at the time of this Rule's effective date shall comply with the requirements stipulated in this Rule no later than five years from the effective date of this Rule unless the Permittee is adhering to an established schedule in an individual permit, settlement agreement, special order pursuant to G.S. 143-215.2, or other similar document that establishes a later deadline. The vector attraction reduction alternatives shall be as follows:

(1) 38-Percent Volatile Solids Reduction. The mass of the volatile solids in the biological residuals shall be reduced by a minimum of 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 (i.e., 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. Mixing of the biological residuals with other materials shall not be used to meet this alternative.

(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. Mixing of the biological residuals with other materials shall not be used to meet this alternative.

(9) Injection.

(A) Biological residuals shall be injected below the surface of the land in accordance with 40 CFR 503.33(b)(9)(ii).

(B) If Class A with respect to pathogens, the biological residuals shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

(10) Incorporation.

(A) If Class B with respect to pathogens, the biological residuals shall be incorporated into the soil within six hours after application to the land.

(B) If Class A with respect to pathogens, the biological residuals shall be applied to the land 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.

(2) Daily Cover. Biological residuals shall be covered with soil or other material at the end of each operating day.

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

15A NCAC 02T .1108 SETBACKS

(a) For residuals treatment and storage facilities, the following minimum setbacks (i.e., in feet) shall be adhered to:

Habitable residences or places of public assembly under separate ownership or not to be maintained as part of the project site	100
Private or public water supply sources	100
Surface waters (streams – intermittent and perennial, lakes, perennial waterbodies, and wetlands)	50
Wells with exception to monitoring wells	100
Property lines	50

(b) For land onto which bulk residuals are applied or stockpiled, the following minimum setbacks (i.e., in feet) shall be adhered to:

(1) If the bulk residuals meet the requirements of Rules .1105(c), .1106(b), and .1107 of this Section:

	Liquid Residuals	Cake Residuals

Private or public water supply sources	100	100
Surface waters (streams - intermittent and perennial, perennial waterbodies, and wetlands)	100	25
Surface water diversions (ephemeral streams, waterways, ditches)	25	0
Groundwater lowering ditches (where the bottom of the ditch intersects the SHWT)	25	0
Wells with exception to monitoring wells	100	100
Bedrock outcrops	25	0

(2) If the bulk residuals do not meet the requirements of Rules .1105(c), .1106(b), and .1107 of this Section:

	Surface Application by Vehicle	Surface Application by Irrigation	Injection/ Incorporation
Habitable residences or places of public assembly under separate ownership or not to be maintained as part of the project site	400	400	200
Habitable residences or places of public assembly owned by the permittee, the owner of the land, or the lessee/operator of the land to be maintained as part of the project site	0	200	0
Property lines	50	150	50
Public rights of way	50	50	50
Private or public water supply sources	100	100	100
Surface waters (streams - intermittent and perennial, perennial waterbodies, and wetlands)	100	100	50
Surface water diversions (ephemeral streams, waterways, ditches)	25	100	25
Groundwater lowering ditches (where the bottom of the ditch intersects the SHWT)	25	100	25
Subsurface groundwater lowering drainage systems	0	100	0
Wells with exception to 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
Building foundations or basements	0	15	0
Water lines	0	10	0
Swimming pools	100	100	100
Nitrification fields	0	20	0

(c) For the construction and operation of surface disposal units, the following minimum setbacks (i.e., in feet) shall be adhered to:

Habitable residences or places of public assembly under separate ownership or not to be maintained as part of the project site	400
Property lines	50
Public rights of way	50
Private or public water supply sources	100
Surface waters (streams - intermittent and perennial, perennial waterbodies, and wetlands)	100
Surface water diversions (ephemeral streams, waterways, ditches)	25
Groundwater lowering ditches(where the bottom of the ditch intersects the SHWT)	100
Subsurface groundwater lowering drainage systems	100
Wells with exception to monitoring wells	100
Water lines	10
Swimming pools	100

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

15A NCAC 02T .1109 OPERATION AND MANAGEMENT PRACTICES

(a) For 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 residuals. The label/information sheet shall contain the following information:

(1) the name and address of the person who prepared the residuals and

(2) a statement that land application of the residuals shall be prohibited except with the instructions on the label/sheet.

(3) that residuals shall be applied at agronomic rates and recommended rates for intended uses.

(b) For land onto which bulk residuals are applied, the following shall apply:

(1) Bulk residuals shall not be applied to the land 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 cannot be met;

(B) if the application causes prolonged nuisance conditions;

(C) if the land fails to assimilate the bulk 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 bulk residuals are injected or incorporated within a 24-hour period following the residuals land application event;

(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 bulk liquid residuals are surface applied, and if the slope of the land is greater than 18 percent when bulk liquid residuals are injected or incorporated;

(H) if the land does not have an established vegetative cover crop unless the bulk residuals are incorporated within a 24-hour period following the residuals land application event or injected;

(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) 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.

(2) For land onto which bulk residuals that do not meet the requirements of Rule .1106(b) of this Section are applied, the following public access restrictions shall be adhered to:

(A) public access to public contact sites shall be restricted for one calendar year after any residuals land application event;

(B) public access to land that is not a public contact site shall be restricted for 30 days after any residuals land application event; 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 residuals land application event.

(3) For land onto which bulk residuals that do not meet the requirements of Rule .1106(b) of this Section are applied, the following harvesting and grazing restrictions shall be adhered to:

(A) animals shall not be allowed to graze on land for 30 calendar days after any residuals land application event;

(B) food crops, feed crops, and fiber crops shall not be harvested for 30 calendar days after any residuals land application event;

(C) food crops with harvested parts that touch the residuals/soil mixture and are totally above the land surface shall not be harvested for 14 months after any residuals land application event;

(D) food crops with harvested parts below the surface of the land shall not be harvested for 20 months after any residuals land application event when 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 surface of the land shall not be harvested for 38 months after any residuals land application event when 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 residuals land application event.

(c) For surface disposal units, the following conditions shall be met:

(1) For new and expanding surface disposal units, the following conditions shall be met.

(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 an 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. If cake residuals are to be placed in the unit, a leachate collection system shall be required. If liquid residuals are to be placed in the unit, a decanting system and freeboard marker shall be required.

(2) The following conditions 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 prolonged 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 (i.e., as applicable) 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 a minimum of 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.

15A NCAC 02T .1110 OPERATION AND MAINTENANCE PLAN

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

(1) describe the operation of the program and any 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 any issued permit; and
(6) for surface disposal units, detail procedures for post-closure care management.

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

15A NCAC 02T .1111 MONITORING AND REPORTING

(a) Representative samples of residuals that are prepared for application to the land or placed in a surface disposal unit shall be collected and analyzed.
(b) The analytical methods listed in 40 CFR 503.8(b) as stated on January 1, 1996 shall be incorporated into this Section by reference.
(c) Residuals applied to the land or placed in a surface disposal unit shall be monitored for pollutants as listed in Rule .1105(a) and Rule .1105(d) of this Section as well as Rule .1106 and Rule .1107 as applicable at the frequency as stipulated in the following:

Metric Tons per 365 day period (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 a minimum of five years.

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

SECTION .1200 – COAL COMBUSTION PRODUCTS MANAGEMENT

15A NCAC 02T .1201 SCOPE

(a) This Section applies to the treatment, storage, transportation, use, and disposal of coal combustion products (CCPs) that are defined as wastewater treatment residuals. Not regulated under this Section is the treatment, storage, transportation, use, or disposal of:

(1) CCPs that are not generated from a wastewater treatment facility; and
(2) CCPs that are transported out of state for treatment, storage, use, or disposal.

(b) CCPs may be distributed for the following uses including:

(1) Fuel for combustion in boilers, furnaces, etc. for energy recovery.

(2) Material for manufacturing of 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.
(10) Bedding for pipes, railroad beds, and underground storage tanks.
(11) Structural fill.

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

15A NCAC 02T .1202 DEFINITIONS

As used in this Section:

(1) "Coal combustion products" or "CCPs" shall mean fly ash, bottom ash, boiler slag, flue gas emission control products, mill rejects, and cenospheres resulting from the combustion solely of coal, oil, or natural gas; the combustion of any mixtures of coal, oil, or natural gas; or the combustion of any mixture of coal and up to a 50 percent mixture of other fuels as provided for in 58 FR 42466.
(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 the 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) "Structural fill" shall mean an engineered fill constructed using CCPs that is properly placed in accordance with this Section and compacted. This shall include fill used for embankments, greenscapes, foundations, construction foundations, and for bases/sub-bases under a structure or a footprint of a paved road, parking lot, sidewalk, walkway, or similar structure.
(9) "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.

15A NCAC 02T .1203 PERMITTING BY REGULATION

(a) The following activities are deemed permitted in accordance with Rule .0113 of this Subchapter provided the activity does not result in any violations of water quality standards (i.e., ground or surface), 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 specified criteria required for the specific activity is 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, provided that the CCPs do not exceed the leachate concentrations of concern 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, provided that 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 provided that the CCPs do not exceed the leachate concentrations of concern in Rule .1206(a) of this Section.

(7) Use of CCPs as a raw product for the stabilization of residuals.

(8) Land application sites onto which CCPs are land applied, provided that the following criteria are met:

(A) the CCPs meet the pollutant limits in Rule .1205 of this Section, and

(B) the land application activities meet all applicable conditions of Rule .1108(b)(1) and Rule.1109(b)(1) of this Subchapter.

(9) Use of CCPs as a base or subbase under a structure or footprint of a paved road, parking lot, sidewalk, or similar structure as long as the total depth of CCPs does not exceed one foot.

(b) Unless otherwise specified in Rule .1203(a) of this Section, 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.

15A NCAC 02T .1204 APPLICATION REQUIREMENTS

(a) The requirements in this Rule 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.

(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/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 new and expanding structural fill sites or sites where CCPs are used for bedding if the bedding is applied at a depth greater than two feet underneath the structure:

(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 CCPs use site's features 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.]

(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 site-related structures and fences within the site;

(B) 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 the CCPs use boundry and delineation of the review and compliance boundaries;

(C) setbacks as required by Rule .1206 of this Section; and

(D) site property boundaries within 500 feet of the CCPs use boundary.

(2) Information shall be provided to the Division that describes and explains site-specific engineering or institutional controls proposed to prevent adverse impacts to public health and the environment.

(3) Property Ownership Documentation of the site where the CCPs are to be used shall be provided to the Division. This documentation shall consist of:

(A) legal documentation of ownership (i.e., contract, deed or article of incorporation);

(B) written notarized intent to purchase agreement signed by both parties, accompanied by a plat or survey map; or

(C) easements specifically indicating the intended use of the property, as well as a plat or survey map. Easements shall adhere to the requirements of 15A NCAC 02L .0107.

(e) The submittal process for information listed in Paragraph (c) of this Rule shall not be required if a permit from the Division has been issued that specifically addresses the use of CCPs from the source of CCPs, at new and expanding structural fill sites or sites where CCPs are used for bedding.

(f) A compliance boundary shall be established for all structural fill sites not subject to Rule .1203 of this Section and the permittee shall comply with the provisions of 15A NCAC 02L .0107.

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

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 stipulated in the following:

Pollutant	Leachate Concentration of Concern (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 as stipulated in the following (i.e., on a dry weight basis):

Pollutant	Ceiling Concentration (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 as stipulated in the following (i.e., on a dry weight basis):

Pollutant	Monthly Average Concentration (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 provided that 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 shall demonstrate to the Division the ability to meet the applicable surface water quality or groundwater quality standards at the compliance boundary at the site of use is demonstrated.

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

15A NCAC 02T .1206 SETBACKS

For areas for the storage of CCPs and sites where CCPs are used for structural fill and bedding, where the bedding is applied at a depth greater than two feet underneath the structure, the following minimum setbacks (i.e., in feet) shall be adhered to:

Private or public water supply sources	100
Surface waters (streams - intermittent and perennial, lakes, perennial waterbodies, and wetlands)	50
Wells with exception to 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 a measured as a vertical distance.

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

15A NCAC 02T .1207 OPERATION AND MANAGEMENT PRACTICES

(a) For CCP to be 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 stipulated 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 shall be 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.

15A NCAC 02T .1208 OPERATION AND MAINTENANCE PLAN

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

(1) describe the operation of the program and any 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; and

(5) describe the sampling and analysis protocol used to ensure that the program complies with this Section and any issued permits.

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

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) source, volume and type of CCPs distributed for use or used;

(2) date of CCPs distributed for use or used; and

(3) 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 1st of each calendar year.

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

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

SECTION .1300 – ANIMAL WASTE MANAGEMENT SYSTEMS

15A NCAC 02T .1301 SCOPE

The rules in this Section apply to all persons proposing to construct, modify, expand, or operate an animal waste management system. These Rules do 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.

15A NCAC 02T .1302 DEFINITIONS

The definitions used for the purpose of this Section shall be as defined in G.S. 143-215.10B and as follows:

(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) "Expanded animal waste management system" means animal waste treatment and storage facilities which require an increase over the existing animal waste design treatment and storage capacity due to an increase in steady state live weight at the feedlot.

(3) "New animal waste management system" means animal waste management systems which are constructed and operated at a site where no feedlot existed previously or where a system serving a feedlot has been abandoned or unused for a period of four years or more and is then put back into service.

(4) "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;

Eff. September 1, 2006.

15A NCAC 02T .1303 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) 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 waste is land applied to land owned by the waste generator or under the waste generators authority, agronomic rates must be met.

(2) Poultry operations which 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 which 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) litter is stockpiled not closer than 100 feet from a perennial stream or perennial waterbody;

(D) litter is not stockpiled uncovered for greater than 15 days; and

(E) if a manure hauler is used, records must be maintained of the dates the litter was removed, the estimated amount of litter removed, and name, address and phone number of the manure hauler.

(3) Land application sites under separate ownership from the waste generator, receiving animal waste from animal waste management systems which are deemed permitted, when all the following conditions are met:

(A) the waste is applied at no greater than agronomic rates; and

(B) a vegetative buffer (separation) of at least 25 feet is maintained from a perennial stream or perennial waterbody.

(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.

15A NCAC 02T .1304 STATE PERMITTING REQUIREMENTS

(a) This rule applies 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 under Rule .1305.

(b) An animal waste management plan shall be submitted as follows:

(1) The animal waste management practices or combination of practices which are selected to comprise a plan for a specific facility must meet NRCS standards, or the standard of practices adopted by the Soil and Water Conservation Commission pursuant to 15A NCAC 06F .0104, or standards for any combination of practices which 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 are not incorporated as part of this rule.

(2) As required by G.S. 143-215.10C, plans must be approved by any technical specialist and the certificate 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. The technical specialist must approve that the best management practices that comprise the plan meet the applicable minimum standards and specifications.

(3) The land application and siting setbacks must meet the applicable conditions established in G.S. 106-803 and NRCS Standards at the time of construction.

(4) 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 where an established vegetative cover will not be maintained because of the concentration of animals, with the exception of stock trails and stream crossings.

(5) The waste shall not be applied at greater than agronomic rates.

(6) For animal waste management facilities desiring to increase their animal population beyond that currently 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) For each change of ownership of the system, the new owner must notify the Division in writing within 60 days of transfer of ownership.

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

15A NCAC 02T .1305 NPDES PERMITTING REQUIREMENTS

(a) This Rule applies to animal waste management systems subject to regulation under 40 CFR § 122.23 and G.S. 143-215.10C.

(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 which are selected to comprise a plan for a specific facility must meet NRCS standards, or the standard of practices adopted by the Soil and Water Conservation Commission pursuant to 15A NCAC 06F .0104, or standards for any combination of practices which 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) As required by G.S. 143-215.10C, plans must be approved by any technical specialist and the certificate 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. The technical specialist must approve that the best management practices that comprise the plan meet the applicable minimum standards and specifications.

(3) The land application and siting setbacks must meet the applicable conditions established in G.S. 106-803, NRCS Standards and 40 CFR Part 412 at the time of construction.

(4) 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 where an established vegetative cover will not be maintained because of the concentration of animals, with the exception of stock trails and stream crossings.

(5) The waste shall not be applied at greater than agronomic rates.

(6) For animal waste management facilities desiring to increase their animal population beyond that currently 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 which are selected to comprise a plan for a specific facility must meet NRCS standards, or the standard of practices adopted by the Soil and Water Conservation Commission, or standards for any combination of practices which 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 must 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.

(4) The waste shall not be applied at greater than agronomic rates.

(5) For animal waste management facilities desiring to increase their animal population beyond that currently 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.

(d) For each change of ownership of the system, the new owner must 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.

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

15A NCAC 02T .1306 CLOSURE REQUIREMENTS

Any containment basin, such as a lagoon or a waste storage structure, permitted under this Section shall continue to be subject to the conditions and requirements of the facility's permit until closed to NRCS standards and the permit is rescinded by the Division. Closure shall include pre-notification to the Division and submittal of closure form supplied by the Division or forms approved by the Division as providing the same information as required by the Division's forms within 15 days of completion of closure.

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

SECTION .1400 – MANURE HAULER OPERATIONS

15A NCAC 02T .1401 SCOPE

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

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

15A NCAC 02T .1402 DEFINITIONS

As used in this Section:

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

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

15A NCAC 02T .1403 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) Manure Hauler 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 setback of at least 25 feet is maintained from a perennial stream or perennial waterbody during land application.

(2) Manure Hauler 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 setback 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 by one year from the effective date of this Rule. Manure Hauler that begin operation following the effective date of this Rule must register with the Division prior to accepting or purchasing manure.
- (F) the Manure Hauler submits an annual report, as specified in 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.

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) Date, location, and amount of all animal waste received; and
(3) Date, 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 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.

SECTION .1500 – SOIL REMEDIATION

15A NCAC 02T .1501 SCOPE

The rules in this Section 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 do not apply to:

(1) hazardous waste as defined in 40 CFR 260.10 as adopted by reference in 15A NCAC 13A .0102(b), 40 CFR 261.3 as adopted by reference in 15A NCAC 13A .0106(a), and North Carolina General Statute 130A–290; or
(2) soil contaminated with hazardous waste or hazardous waste constituents as defined in 40 CFR 260.10 as adopted by reference in 15A NCAC 13A .0102(b) and 40 CFR 261.3 as adopted by reference in 15A NCAC 13A .0106(a) from Hazardous Waste Management Units or Solid Waste Management Units as defined in 40 CFR 260.10 as adopted by reference in 15A NCAC 13A .0102(b).

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

15A NCAC 02T .1502 DEFINITIONS

The following definitions apply to this Section:

(1) "Contaminated soil" means soil containing petroleum products or other soil that has been affected by non-petroleum substances as a result of a release or discharge, but does not include hazardous waste.
(2) "Dedicated site" means a site used for the repetitive treatment of soils.
(3) "Permitting agency" means the Division of Waste Management, UST Section, for contaminated soils originating from underground storage tanks (USTs) and for dedicated sites. For other soil, the permitting agency means the Division of Water Quality. When 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 sufficient quantities as to be detectable by compatible laboratory analytical procedures pursuant to 15A NCAC 02H .0800.
(5) "Petroleum product" means all petroleum products 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 thickness not to exceed six inches.

(7) "Soil remediation at minimum rates" means the treatment of contaminated soils by land application methods, at an evenly distributed application thickness not to exceed an average of one inch.

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

15A NCAC 02T .1503 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) Storage sites for petroleum contaminated soils that are utilized for less than 45 days, storage is on 10 mil or thicker plastic, provisions are made for containing potential leachate and runoff, setbacks required in Rule .1506 of this Section are maintained, and approval of the activity has been received from the appropriate Regional Supervisor or his designee that the site meets the criteria of this Rule.

(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 minimum rate, setbacks required in Rule .1506 of this Section are maintained, and approval of the activity has been received from the appropriate Regional Supervisor or his designee that the site meets the criteria of this Rule.

(3) Land application sites for the disposal of drill cuttings if applied on the site where the drilling occurs and setbacks required in Rule .1506 of this Section are maintained. Soils contaminated with non-petroleum substances must be determined by chemical analysis to be non-hazardous wastes.

(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 .1504 APPLICATION SUBMITTAL

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

(1) A complete 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 indicates concentrations of constituents greater than the federal regulatory level, unless documentation is provided stating that the contaminated soil is not a hazardous waste (i.e. within the scope of this Section as provided in Rule .1501 of this Section). A TCLP analysis shall be required for all permit applications 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 is 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 source of 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 until 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) Site map. 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. A scaled map of the site 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 under 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) any residences or place of public assembly under separate ownership within 400 feet of the waste disposal site.

(4) Confirmation that an erosion control plan has been submitted to the Division of Land Quality or its designee, for disposal sites encompassing more than one acre.

(5) The volume of contaminated soil to be remediated.

(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 crop(s), 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 (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. If required by G.S. 89F, a soil scientist shall prepare this evaluation. 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 under 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) Proposed groundwater quality monitor well network (dedicated sites only).

(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. If required by G.S. 89F, a soil scientist shall prepare this evaluation. 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 under 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.

(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(s) designated for initial receipts of the contaminated soils,
(2) the method of emplacement of the soils in the containment area(s),
(3) the average residence time of the soils in the containment area(s),
(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 to include procedures for controlling any vapors, liquid or solid by-products of the treatment process,
(2) the method by which any by-products will be disposed,
(3) the predicted average concentration of contaminants in the untreated soil,
(4) the sampling procedures and analytical methods by which the concentration(s) and type(s) 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.

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. Liming, fertilization, and aeration of the soils mixture shall be optional. 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 analytical detection levels.

(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 native soils and petroleum contaminated soils mixture. 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 analytical detection levels.

(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 and Treatment and Containment and Utilization 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 x 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 must be installed in order to prevent runoff from the contaminated soils within the containment structure, or a cover 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.

15A NCAC 02T .1506 SETBACKS

Remediation systems shall adhere to the following setbacks and greater where necessary to comply with minimum horizontal distance requirements set by the Division pursuant to Subchapter 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 (streams – intermittent and perennial, perennial waterbodies, and wetlands)	100
Surface water diversions (ephemeral streams, waterways, ditches)	25
Groundwater lowering ditches (where the bottom of the ditch intersects the SHWT)	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.

15A NCAC 02T .1507 CLOSURE REQUIREMENTS

(a) A permit must 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 must notify the permitting agency 30 days prior to the initiation of closure activities. This Rule does not apply to deemed permitted facilities as described in Rule .1503 of this Section.

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

(1) Any and all outstanding enforcement actions levied by the permitting agency have been resolved.

(2) Requirements for all other related on-site permitted activities have been met.

(3) For all land application sites the applicant shall provide to the permitting agency:

(A) Demonstration that no contaminant constituents in the groundwater exceed groundwater standards for dedicated and conventional rate land application sites.

(B) Demonstration that all remaining contaminated soil has been remediated to below detection levels. The demonstration shall be based upon representative samples from the permitted site.

(C) If a groundwater drainage system or surface waters are present on the site or within the compliance boundary, a demonstration that surface water has not been impacted by 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) Demonstration by the applicant to the permitting agency that all treated soil has been remediated to below detection levels 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 the method detection levels must be disposed of at another permitted facility and the permitting agency must be notified prior to transport.

(C) Demonstration by the applicant 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 detection levels 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 closure status approval and shall provide the following information:

(1) identification of the original permit authorizing the construction and operation of the soil remediation facility;

(2) the reason(s) for closure of facility;

(3) the name and title of the contact;

(4) sample analyses (tabulated and graphed) 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 Rule .1507(b)(3)(A);

(5) laboratory analytical results for soil samples collected from the treated soil, which have been analyzed by methods approved in accordance with Rule .1504(a)(1) of this Section;

(6) if a groundwater drainage network (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 if applicable, and at a downstream location at the edge of the property to document that surface waters have not been impacted;

(7) decontamination procedures for any treatment or containment structure;

(8) a sedimentation and erosion control plan, prepared in accordance with the Division of 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, which 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) Once the permitting agency has determined that all conditions required for site closure have been satisfied, the permitting agency shall issue a notice stating that the permit for the facility has been rescinded and "closure status" has been granted.

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

SECTION .1600 –GROUNDWATER REMEDIATION SYSTEMS

15A NCAC 02T .1601 SCOPE

The rules in this Section 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 include closed-loop groundwater remediation systems as defined in G.S. 143-215.1A. Such systems typically use infiltration galleries or injection wells. This Section does not apply to in-situ groundwater remediation wells, as defined by 15A NCAC 02C .0209(e)(3)(C), 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.

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 as defined in G.S. 143-215.1A.
(2) "Contaminant" is as 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 as defined in 15A NCAC 02C .0204.
(5) "Oversight agency" means the state or local agency with jurisdiction over the contamination incident.
(6) "Receptor" is as defined in 15A NCAC 02L .0102.
(7) "Water table" is as 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.

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 must identify the site by name, address, permit number, and incident number assigned by the oversight agency (if applicable).
(2) The applicant must briefly describe the site, noting pertinent site information including:
    (A) contaminant(s) of concern,
    (B) source(s) and date(s) 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:

[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.]

(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 horizon(s);
    (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 when necessary for evaluation 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.

(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 well(s) or infiltration gallery(ies). 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 (specific yield if unconfined aquifer) of the affected aquifer(s);
(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, streams (ephemeral, intermittent, and perennial), springs, lakes, ponds, other surface drainage features, and any other site activities or features that may involve possible exposure to contamination within 500 feet of all waste treatment, storage, and disposal site(s);
(4) setbacks as required by Rule .1606 of this Section;
(5) delineation of the property boundary(ies), review boundary(ies), and compliance boundary(ies);
(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-section(s) depicting soil and rock layers and features to a depth including the depth of existing contamination and the total depth of the injection well(s) or infiltration gallery(ies); 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 well(s) that will be sampled,
  (B) the constituent(s) 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.

15A NCAC 02T .1605 DESIGN CRITERIA

(a) The infiltration gallery(ies) or injection well(s) must be designed such that the infiltration gallery(ies) or injection well(s) shall not cause or contribute to:

(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); and
(3) a violation of the groundwater standards at the point of 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 (e.g. standby power capability, complete system-off status, or duplicity of system components).

(c) Design shall include a minimum elevation protection of two feet above the 100-year flood elevation.

(d) Flow equalization of at least 25 percent of the facility's permitted hydraulic capacity must be provided for facilities with fluctuations in influent flow which 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.

15A NCAC 02T .1606 SETBACKS

The location of the infiltration gallery or injection well(s) must meet the setback requirements specified below unless it can be demonstrated that these requirements cannot be met, and that operation of the infiltration gallery(ies) or injection well(s) at the proposed location(s) 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) are applicable to these systems:

any well with the exception of an approved groundwater monitoring well	100
surface waters streams – intermittent and perennial, perennial waterbodies, and wetlands)	100
any property under separate ownership	50
structures – above-ground (e.g. buildings, retention walls)	10
structures – subsurface (e.g. utilities, basements, swimming pools)	15
any water line	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 (ephemeral streams, waterways, 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.

15A NCAC 02T .1607 MONITORING AND REPORTING REQUIREMENTS

(a) A monitoring system 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.

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 reason(s) 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.