

Chapter 18 - SOIL EROSION AND SEDIMENTATION^[1]

Footnotes:

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Editor's note— An amendment adopted July 7, 2008, amended ch. 18 in its entirety to read as herein set out. Former ch. 18 consisted of §§ 18-1—18-4; 18-21—18-31; 18-51—18-53, 18-71, 18-91, and 18-92, pertained to similar subject matter and derived from an ordinance adopted Nov. 5, 1990; and an ordinance adopted Jan. 4, 1993.

Cross reference— Mining; other extractive industries, § 7-201 et seq.; farmland preservation, Ch. 8.5; floodway; floodway fringe, Ch. 9; flood damage prevention, § 9-201 et seq.; planning and development, Ch. 17; zoning, Ch. 21.

State Law reference— Sedimentation Pollution Control Act of 1973, G.S. 113A-50 et seq.

ARTICLE I. - IN GENERAL

Sec. 18-1. - Authority and purpose.

This chapter may be known and cited as the Soil Erosion and Sedimentation Control Ordinance for Rowan County, NC and may be commonly referred to as the "erosion control ordinance". This chapter is adopted pursuant to the authority granted in G.S. 113A Article 4 for the purposes of:

- (1) Regulating certain land-disturbing activities to control accelerated erosion and sedimentation in order to prevent the pollution of water and other damage to lakes, watercourses and other public and private property by sedimentation; and
- (2) Establishing procedures through which these purposes can be fulfilled.

(Amend. of 7-7-08)

Sec. 18-2. - Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Accelerated erosion means any increase over the rate of natural erosion as a result of land-disturbing activity.

Act means the North Carolina Sedimentation Pollution Control Act of 1973 and all rules and orders adopted pursuant to it.

Adequate erosion control measure, structure or device means one which controls the soil material within the land area under responsible control of the person conducting the land-disturbing activity.

Affiliate means a person that directly, or indirectly through one or more intermediaries, controls, is controlled by, or is under common control of another person.

Being conducted means a land-disturbing activity has been initiated and permanent stabilization of the site has not been completed.

Best management practice (BMP) means a structural device, measure, facility, or activity which helps to achieve soil erosion and stormwater management control objectives at a designated site as recognized in the most recent version of the North Carolina Division of Water Quality, Stormwater Best Management Practices Manual.

Board of adjustment means the Rowan County Zoning Board of Adjustment.

Board of commissioners means the Rowan County, North Carolina Board of Commissioners.

Borrow means fill material which is required for on-site construction and is obtained from other locations.

Buffer zone means the strip of land adjacent to a lake or natural watercourse.

Clearing means the removal of existing ground cover of a site prior to development that may include but not be limited to removal of structures, deforestation, etc.

Commission means the North Carolina State Sedimentation Control Commission.

Completion of construction or development means that no further land-disturbing activity is required on a phase of a project except that which is necessary for establishing a permanent ground cover.

Department means the North Carolina Department of Environment, and Natural Resources.

Development means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling grading, paving, excavation or drilling operations or storage of equipment or materials.

Director means the director of the division of land resources of the department of environment and natural resources.

Discharge point means that point at which runoff leaves a tract of land.

District means the Rowan County Soil and Water Conservation District created pursuant to G.S. Ch. 139.

Energy dissipator means a structure or a shaped channel section with mechanical armoring placed at the outlet of pipes or conduits to receive and break down the energy from high velocity flow.

Erosion means the wearing away of land surface by the action of wind, water, gravity or any combination thereof.

Financial responsible owner (FRO) means the person financially responsible for the land disturbing activity being conducted.

Ground cover means any natural vegetative growth or other material which renders the soil surface against accelerated erosion.

Ground level improvements means ground level loading areas, parking areas, patios and other similar ground level uses that will not occupy additional volume of the floodplain area during times of flooding.

High quality waters means those classified as such in 15A NCAC 2B.0101(e)(5), General Procedures, which is incorporated herein by reference to include further amendments pursuant to G.S. 150B-14(c).

High quality water (HQP) zones means areas that are within one (1) mile and drain to HQWs.

Impervious surface. Any material that significantly reduces and prevents natural infiltration of water into the soil. Impervious surfaces include but are not limited to roofs, patios, balconies, decks, streets, parking areas, driveways, sidewalks, and any concrete, stone, brick, asphalt, or compacted gravel surface. For purposes of this chapter, the effective impervious coverage of certain surfaces listed below are:

- (1) Asphalt, concrete, crush and run gravel, masonry, marl, wood, and other impermeable surfaces which prevent land area from infiltrating stormwater are one hundred (100) percent impervious.
- (2) Porous surfaces which permit direct infiltration of unconcentrated stormwater into ground areas so that the first one-half ($\frac{1}{2}$) inch of stormwater infiltrates into the ground are seventy (70) percent impervious.
- (3) Slatted wood decks that allow the drainage of water through the slats to an unpaved surface below are fifty (50) percent impervious.

- (4) Ungraveled natural footpaths, water surfaces of swimming pools, and drain fields are zero (0) percent impervious.

All other necessary determinations about impervious surfaces will be based on hydrological tests considering existing subgrade soils, slope, rainfall intensity and rainfall duration.

Lake or natural watercourse means any stream, river, brook, swamp, sound, bay, creek, run, branch, canal, waterway, estuary and any reservoir, lake or pond, natural or impounded, in which sediment may be moved or carried in suspension, and which could be damaged by accumulation of sediment.

Land-disturbing activity means any use of the land by any person in residential, industrial, educational, institutional or commercial development, highway and road construction and maintenance that results in a change in the natural cover or topography and that may cause or contribute to sedimentation.

Local government means any county, incorporated village, town or city, or any combination of counties, incorporated villages, towns and cities, acting through a joint program pursuant to the provisions of the Act.

Natural erosion means the wearing away of the earth's surface by water, wind or other natural agents under natural environmental conditions undisturbed by man.

Parent means an affiliate that directly, or indirectly through one or more intermediaries, controls another person.

Person means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, interstate body or other legal entity.

Person conducting land-disturbing activity means any person who may be held responsible for a violation unless expressly provided otherwise by this chapter, the Act or any order adopted pursuant to this chapter or the Act.

Person responsible for the violation, as used in this chapter and G.S. 113A-64, means:

- (1) The developer or other person who has or holds himself out as having financial or operational control over the land-disturbing activity; or
- (2) The landowner or person in possession or control of the land when he has directly or indirectly allowed the land-disturbing activity or has benefited from it or he has failed to comply with a duty imposed by any provision of this chapter, the Act or any order adopted pursuant to this chapter or the Act.

Phase of grading means one (1) of two (2) types of grading, rough or fine.

Plan means erosion and sedimentation control plan.

Post-development conditions means predevelopment conditions together with the land use, drainage and impervious conditions that would exist on the site if all proposed development plans for the site are fully completed.

Predevelopment conditions means the land use, drainage, and impervious surface conditions existing on the site at the time plans are submitted for approval, including any previously approved development plans for the site which has not expired, and projects which have an outstanding valid building permit or an established vested right in compliance with all applicable General Statutes, and/or Rowan County Ordinances.

Rowan County means the staff members of the Rowan County Planning and Development Department or any agents, officials or other qualified personnel of the County who are authorized to enforce the provisions of this chapter.

Sediment means solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity or ice from its site of origin.

Sedimentation means the process by which sediment resulting from accelerated erosion has been or is being transported off the site of the land-disturbing activity or into a lake or natural watercourse.

Sewershed means a drainage area in which sources of sewerage flow by either gravity or pumping to reach a common collection point.

Siltation means sediment resulting from accelerated erosion which is settleable or removable by properly designed, constructed and maintained control measures; and which has been transported from its point of origin within the site of a land-disturbing activity; and which has been deposited, or is in suspension in water.

Storm drainage facilities means the system of inlets, conduits, channels, ditches and appurtenances which serve to collect and convey stormwater through and from a given drainage area.

Stormwater runoff means the surface flow of water resulting from precipitation in any form and occurring immediately after rainfall or melting.

Subsidiary means an affiliate that is directly or indirectly, through one or more intermediaries, controlled by another person.

Ten-year storm means the stormwater runoff resulting from precipitation of an intensity expected to be equaled or exceeded, on the average, once in ten (10) years, and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.

Top-of-bank. For the purposes of the sewershed district(s), the point on a stream's cross-section defined by the bankfull elevation or the highest point in elevation immediately adjacent to the stream channel, whichever is greater.

Town Creek District. The Town Creek District is the Town Creek Watershed, including all lands which carry precipitation in the form of stormwater, via natural or manmade conveyances, down-slope to Town Creek and its tributary streams. The Town Creek District boundaries are as defined in Exhibit 1.

Note— Exhibit 1 can be located at the end of this chapter 18.

Tract means all contiguous land and bodies of water being disturbed or to be disturbed as a unit, regardless of ownership.

Twenty-five-year storm means the stormwater runoff from precipitation of an intensity expected to be equaled or exceeded on the average once in twenty-five (25) years, and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.

Two-year storm means the stormwater runoff resulting from a rainfall of an intensity expected to be equaled or exceeded, on the average, once in two (2) years, and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.

Uncovered means the removal of ground cover from, on or above the soil surface.

Undertaken means the initiating of any activity, or phase of activity, which results or will result in a change in the ground cover or topography of a tract of land.

Velocity means the average velocity of flow through the cross section of the main channel at the peak flow of the storm of interest. The cross section of the main channel shall be that area defined by the geometry of the channel plus the area of flow below the flood height defined by vertical lines at the main channel banks. Overload flows are not to be included for the purpose of computing velocity of flow.

Waste means the surplus materials resulting from on-site land-disturbing activities and disposed of at other locations.

Water-dependent structure. A structure, excluding habitable structures used for water access including, but not limited to, docks, marinas, and boat ramps.

Working days means days exclusive of Saturday and Sunday during which weather conditions or soil conditions permit land-disturbing activity to be undertaken.

(Amend. of 7-7-08)

Sec. 18-3. - Scope and exclusions.

- (a) *Geographical scope of regulated land-disturbing activity.* This chapter shall apply to land-disturbing activities within the territorial jurisdiction of Rowan County and as allowed by agreement between local governments, the extent of annexation or other appropriate legal instrument or law.
- (b) *Exclusions from regulated land-disturbing activity.* Notwithstanding the general applicability of this ordinance to all land-disturbing activity, this chapter shall not apply to the following types of land-disturbing activity:
 - (1) Those activities undertaken on agricultural land for the production of plants and animals useful to man, including but not limited to:
 - (i) Forage and sod crops, grain and feed crops, tobacco, cotton, and peanuts;
 - (ii) Dairy animals and dairy products;
 - (iii) Poultry and poultry products; livestock, including beef cattle, sheep, swine, horses, ponies, mules or goats;
 - (iv) Bees and apiary products;
 - (v) Fur-producing animals.
 - (2) Those activities undertaken on forestland for the production and harvesting of timber and timber products and which are conducted in accordance with best management practices set out in Forest Practice Guidelines Related to Water Quality as adopted by the Department. If land-disturbing activity undertaken on forestland for the production and harvesting of timber and timber products is not conducted in accordance with Forest Practice Guidelines Related to Water Quality, the provisions of this subsection (2) shall apply to such activity and any related land-disturbing activity on the tract;
 - (3) Activity for which a permit is required under the Mining Act of 1971, Article 7 of Chapter 74 of the North Carolina General Statutes;
 - (4) Land-disturbing activity over which the state has exclusive regulatory jurisdiction as provided in G.S. 113A-56(a).
 - (5) For the duration of an emergency, activities essential to protect human life.

(Amend. of 7-7-08)

Sec. 18-4—18-20. - Reserved.

ARTICLE II. - GENERAL REGULATIONS

Sec. 18-21. - Requirements.

- (a) *Plans required.* No person shall initiate any land-disturbing activity subject to this chapter without first obtaining a plan approval therefore from Rowan County.
- (b) *Protection of property.* Persons conducting land-disturbing activity shall take all reasonable measures to protect all public and private property from damage caused by such activity.

- (c) *More restrictive rules shall apply.* Whenever conflicts exist between federal, state or local laws, ordinances or rules, the more restrictive provision shall apply.
- (d) *Plan approval; exceptions.* Notwithstanding the general requirement to obtain a plan approval prior to undertaking land-disturbing activity, a plan approval shall not be required for land-disturbing activity that does not exceed forty-three thousand, five hundred, sixty (43,560) square feet in surface area. In determining the area, lands under one or diverse ownership being developed as unit will be aggregated.

(Amend. of 7-7-08)

Sec. 18-22. - Basic control objectives.

An erosion and sedimentation control plan may be disapproved if the plan fails to address the following control objectives:

- (1) *Identify critical areas.* On-site areas which are subject to severe erosion, and off-site areas which are especially vulnerable to damage from erosion and/or sedimentation, are to be identified and receive special attention.
- (2) *Limit time of exposure.* All land-disturbing activity is to be planned and conducted to limit exposure to the shortest feasible time.
- (3) *Limit exposed areas.* All land-disturbing activity is to be planned and conducted to minimize the size of the area to be exposed at any one (1) time.
- (4) *Control surface water.* Surface water runoff originating upgrate of exposed areas should be controlled to reduce erosion and sediment loss during the period of exposure.
- (5) *Control sedimentation.* All land-disturbing activity is to be planned and conducted so as to prevent off-site sedimentation damage.
- (6) *Manage stormwater runoff.* When the increase in the velocity of stormwater runoff resulting from a land-disturbing activity is sufficient to cause accelerated erosion of the receiving watercourse, a plan is to include measures to control the velocity to the point of discharge so as to minimize accelerated erosion of the site and increased sedimentation of the stream.

(Amend. of 7-7-08)

Sec. 18-23. - Mandatory standards for land-disturbing activity.

No land-disturbing activity subject to the control of this chapter shall be undertaken except in accordance with the following mandatory standards:

- (1) *Buffer zone.*
 - a. *Standard buffer.* No land-disturbing activity during periods of construction or improvement to land shall be permitted in proximity to a lake or natural watercourse unless a 30-foot buffer zone is provided along the margin of the watercourse.
 - b. *Projects on, over or under water.* This subsection shall not apply to a land-disturbing activity in connection with the construction of facilities to be located on, over or under a lake or natural watercourse.
 - c. *Buffer measurement.* Unless otherwise provided, the width of a buffer zone is measured horizontally from the top of stream bank to the nearest edge of the disturbed area, containing natural or artificial means of confining visible siltation.
- (2) *Graded slopes and fills.* The angle for graded slopes and fills shall be no greater than the angle which can be retained by vegetative cover or other adequate erosion control devices or

structures. In any event, slopes left exposed will, within twenty-one (21) calendar days of completion of any phase of grading, be planted or otherwise be provided with temporary or permanent ground cover, devices or structures sufficient to restrain erosion. The angle for graded slopes and fills must be demonstrated to be stable. Stable is the condition where the soil remains in its original configuration, with or without mechanical constraints.

- (3) *Fill material.* Unless a permit from the department's division of waste management to operate a landfill is on file for the official site, acceptable fill material shall be free of organic or other degradable materials, masonry, concrete and brick in sizes exceeding twelve (12) inches, and other materials which would cause the site to be regulated as a landfill by the State of North Carolina.
- (4) *Ground cover.* Whenever land-disturbing activity that will disturb more than one (1) acre is undertaken on a tract, or associated tracts, the person conducting the land-disturbing activity shall install such sedimentation and erosion control devices and practices as are sufficient to retain the sediment generated by the land-disturbing activity within the boundaries of the tract(s) during construction upon and development of such tract(s), and shall plant or otherwise provide permanent ground cover sufficient to restrain erosion after completion of construction or development. Except as provided in subsection 18-24(b)(5) of this chapter, provisions for a ground cover sufficient to restrain erosion must be accomplished within fifteen (15) working days or ninety (90) calendar days following completion of any phase of construction or development, whichever period is shorter.
- (5) *Prior plan approval.* No person shall initiate any land-disturbing activity that will disturb more than one (1) acre on a tract unless, thirty (30) or more days prior to initiating the activity, a plan for the activity is filed with and approved by Rowan County. Rowan County shall forward to the director of the Division of Water Quality a copy of each plan for a land-disturbing activity that involves the utilization of ditches for the purpose of de-watering or lowering the water table of the tract.
- (6) The land-disturbing activity shall be conducted in accordance with the approved erosion and sedimentation control plan.

(Amend. of 7-7-08)

Sec. 18-24. - Design and performance standards.

- (a) Except as provided in subsection (b)(2) of this section, erosion and sedimentation control measures, structures and devices shall be planned, designed and constructed to provide protection from the calculated maximum peak rate of runoff from the ten-year storm. Runoff rates shall be calculated using the procedures in the U.S.D.A. Soil Conservation Service's "National Engineering Field Manual for Conservation Practices," or the North Carolina Erosion and Sediment Control Planning and Design Manual or other acceptable calculation procedures.
- (b) *HQW zones.* In high quality water (HQW) zones, the following design standards shall apply:
 - (1) *Limit on uncovered area.* Uncovered areas in HQW zones shall be limited at any time to a maximum total area, within the boundaries of the tract, of twenty (20) acres. Only the portion of the land-disturbing activity within a HQW zone shall be governed by this section. Larger areas may be uncovered within the boundaries of the tract with the written approval of the director.
 - (2) *Maximum peak rate of runoff protection.* Erosion and sedimentation control measures, structures and devices within HQW zones shall be so planned, designed and constructed to provide protection from the runoff of the 25-year storm which produces the maximum peak rate of runoff as calculated according to procedures in the U.S.D.A. Soil Conservation Service's "National Engineering Field Manual for Conservation Practices" or according to procedures adopted by any other agency of this state or the United States or any generally recognized organization or association.

- (3) *Settling efficiency.* Sediment basins within HQW zones shall be designed and constructed such that the basin will have a settling efficiency of at least seventy (70) percent for the forty-micron (0.04 millimeter) size soil particle transported into the basin by the runoff of that two-year storm which produces the maximum peak rate of runoff as calculated according to procedures in the U.S.D.A. Soil Conservation Service's "National Engineering Field Manual for Conservation Practices" or according to procedures adopted by any other agency of this state or the United States or any generally recognized organization or association.
 - (4) *Grade.* Newly constructed open channels in HQW zones shall be designed and constructed with side slopes no steeper than two (2) horizontal to one (1) vertical if a vegetative cover is used for stabilization unless soil conditions permit a steeper slope or where the slopes are stabilized by using mechanical devices, structural devices or other acceptable ditch liners. In any event, the angle for side slopes shall be sufficient to restrain accelerated erosion.
 - (5) *Ground cover.* Ground cover sufficient to restrain erosion must be provided for any portion of a land-disturbing activity in a HQW zone within fifteen (15) working days or thirty (30) calendar days following completion of any phase of construction or development, whichever period is shorter.
- (c) *Sewershed areas.* Rowan County recognizes that development which converts pervious surfaces to impervious surfaces can create higher peak discharge rates for runoff, more frequent and severe flooding both upstream and downstream of the discharge site, deposition of sediment (aggregation) and erosion of stream bank and bed materials (degradation) when appropriate measures to control these effects are not utilized. In areas of the county's jurisdiction where development potential is increased by the extension of a public sewer utility, the expectation is that the aforementioned effects will be exacerbated. As such, the standards of this section are intended to supplement the basic control objectives contained in section 18-22 of this chapter and are designed to minimize the secondary and cumulative impacts associated with sedimentation, soil erosion and stormwater resulting from development and shall be uniformly applied in these areas of utility extension as it becomes available.

These standards are in effect for the following sewershed:

Town Creek District

- (1) *Existing development.* Existing development is not subject to the requirements of this section; existing development shall be considered to be any impervious surfaces created prior to, or for which a vested right has been established, as of July 7, 2008. However, redevelopment and expansions of any development shall be subject to the requirements of this section.
- (2) *Impervious surface calculations.* Impervious surface coverage of the existing development is not required to be included when applying the impervious surface coverage limits of this section. The land area to which this section's impervious surface coverage limits are applied is the total area of the parcel, minus the area of impervious surfaces existing or vested as of July 7, 2008.
- (3) *General requirements.* All development shall, to the maximum extent practicable, minimize impervious or partially pervious surface coverage, direct stormwater away from surface waters, incorporate Best Management Practices (BMPs) as recognized by the NC Division of Water Quality, Stormwater Best Management Practices Manual, transport stormwater runoff from development by vegetated conveyances, minimize the use of curb and gutter in favor of grassed swales, and preserve all vegetated conveyances and floodplain areas as common areas.

Prior to development of any tract of land over one acre in size, the applicant or financially responsible party for the proposed project shall conduct surveys for any tributary streams, using identification protocols established by the most recent version of the North Carolina Division of Water Quality, Identification Methods for the Origins of Intermittent and

Perennial Streams, and for any jurisdictional wetland features, following the most recent version of the "Corps of Engineers wetland delineation manual," Technical Report Y-87-1, with regional updates from the US Army Corps of Engineers, South Atlantic Wilmington Office available at: <http://www.saw.usace.army.mil/WETLANDS>. The required stream and wetland surveys, or a statement that none are present, shall be submitted along with the Erosion and Sedimentation Control Plan.

- (4) *Floodplain preservation.* No new development shall, after the effective date of this chapter, encroach into floodplains designated in the Town Creek district that are on the most recent FEMA Flood Insurance Rate Maps (FIRMs).

Because of anticipated development along the I-85 corridor and correlated increases in base-flood discharge and elevation within the Town Creek Watershed, for the purpose of the Town Creek district the FEMA floodplain shall be expanded, where no floodplain has previously been established, to include all lands within 50 feet of the Town Creek main stream, and within 30 feet of all tributary streams. The distances specified shall apply to all sides of any jurisdictional stream (as identified in subsection (c)(3) above), measured landward from the top-of-bank.

An additional 25-foot setback shall be preserved from the landward edge of protected floodplain areas, and diffuse flow shall be maintained across forested floodplain areas both during and after land-disturbing activities impacting one or more acres' activities.

- (a) Single-family residential lots may incorporate ground level improvements within the required setback. No additional fill or structures will be allowed within the setback.
 - (b) Commercial, industrial, and multi-family developments are allowed to encroach into the 25-foot setback when additional BMPs are employed to capture and treat stormwater expected from the two-year/24-hour storm.
 - (c) Where required, the utilization of BMPs shall be subject to approval of the Rowan County Planning Department. Rowan County recognizes that stormwater treatment and control is an evolving science, and will entertain site-specific proposals for use and implementation of BMPs. For purposes of this section, water-dependent structures, gravity-dependent public utilities, and other nonhabitable structures are exempt from the requirements of this section.
- (5) *Stormwater runoff controls.* Following the adoption of the sewershed standards, the peak stormwater runoff leaving any site for the two-year/24-hour storm shall be no greater for post-development conditions than predevelopment conditions. The same methodologies used to calculate stormwater runoff must be used for both predevelopment and post-development conditions as provided in the N.C. DENR, North Carolina Sediment Control Commission's most recent version of the North Carolina Erosion and Sediment Control Planning and Design Manual.
- (a) For any land-disturbing activity, the peak stormwater runoff leaving the site at each discharge point for the two-year/24-hour storm shall be no greater during construction than for predevelopment conditions. However, this regulation shall not be applicable when the development site conforms to all of the following:
 - 1. The disturbed acreage, including all planned phases, is less than twenty (20) acres, based on parcel mapping existing on July 7, 2008;
 - 2. The two-year peak discharge for the disturbed condition is less than ten (10) percent of the peak discharge from the contributing watershed as measured at the nearest receiving watercourse.
 - (b) The stormwater runoff control requirements of this section shall not apply if one (1) or more of the following is true:

1. The increase in peak stormwater runoff between predevelopment and post-development conditions for the two-year storm is ten (10) percent or less at each point of discharge.
2. The maximum impervious surface coverage of the lot, including any existing impervious surfaces, is no more than ten (10) percent and the remaining pervious portions of the lot are utilized to convey and control the stormwater runoff of the lot to the maximum extent practical.
3. Compliance with the runoff limitations in subsection (1) above would result in greater adverse downstream impact, such as local flooding, as determined by Rowan County-approved engineering studies.

Projects exempted by subsection 2. shall protect all affected lands and receiving watercourses from accelerated erosion.

- (6) Notwithstanding subsections (1) and (2), Rowan County reserves the right to require stormwater runoff control measures for projects without any such measures, and Rowan County reserves the right to require additional stormwater runoff control measures for projects which are complying with subsection (1) if stormwater runoff from the site will cause adverse effects on other properties including, without limitation to, public streets, and utility easements.

(Amend. of 7-7-08)

Sec. 18-25. - Stormwater outlet protection.

- (a) *Intent.* Stream banks and channels downstream from any land-disturbing activity shall be protected from increased degradation by accelerated erosion caused by increased velocity of runoff from the land-disturbing activity.
- (b) *Performance standard.* Persons shall conduct land-disturbing activity so that the post-construction velocity of the ten-year storm runoff in the receiving watercourse to the discharge point does not exceed the greater of:
 - (1) The velocity established by the maximum permissible velocities table set out in subsection (e) of this section; or
 - (2) The velocity of the ten-year storm runoff in the receiving watercourse prior to development.

If conditions (1) or (2) of this subsection cannot be met, then the receiving watercourse to and including the discharge point shall be designed and constructed to withstand the expected velocity anywhere the velocity exceeds the "prior to development" velocity by ten (10) percent.

- (c) *Acceptable management measures.* Measures applied alone or in combination to satisfy the intent of this section are acceptable if there are no objectionable secondary consequences. Rowan County recognizes that the management of stormwater runoff to minimize or control downstream channel and bank erosion is a developing technology. Innovative techniques and ideas will be considered and may be used when shown to have the potential to produce successful results. Some alternatives, while not exhaustive, are to:
 - (1) Avoid increases in surface runoff volume and velocity by including measures to promote infiltration to compensate for increased runoff from areas rendered impervious;
 - (2) Avoid increases in stormwater discharge velocities by using vegetated or roughened swales and waterways in place of closed drains and high velocity paved sections;
 - (3) Provide energy dissipators at outlets of storm drainage facilities to reduce flow velocities to the point of discharge. These may range from simple riprapped sections to complex structures;

- (4) Protect watercourses subject to accelerated erosion by improving cross sections and/or providing erosion-resistant lining;
- (5) Upgrade or replace the receiving device structure, or watercourse such that it will receive and conduct the flow to a point where it is no longer subject to degradation from the increased rate of flow or increased velocity.
- (d) *Exceptions.* This rule shall not apply where it can be demonstrated to Rowan County that stormwater discharge velocities will not create an erosion problem in the receiving watercourse.
- (e) *Maximum permissible velocities table.* The following is a table for maximum permissible velocity for stormwater discharges in feet per second (F.P.S.) and meters per second (M.P.S.):

Material	F.P.S.	M.P.S.
Fine sand (noncolloidal)	2.5	.8
Sandy loam (noncolloidal)	2.5	.8
Silt loam (noncolloidal)	3.0	.9
Ordinary firm loam	3.5	1.1
Fine gravel	5.0	1.5
Stiff clay (very colloidal)	5.0	1.5
Graded, loam to cobbles (noncolloidal)	5.0	1.5
Graded, silt to cobbles (colloidal)	5.5	1.7
Alluvial silts (noncolloidal)	3.5	1.1
Alluvial silts (colloidal)	5.0	1.5
Coarse gravel (noncolloidal)	6.0	1.8
Cobbles and shingles	5.5	1.7
Shales and hard pans	6.0	1.8

Source: Adapted from recommendations by Special Committee on Irrigation Research, American Society of Civil Engineers, 1926, for channels with straight alignment. For sinuous channels multiply allowable

velocity by 0.95 for slightly sinuous, by 0.9 for moderately sinuous channels, and by 0.8 for highly sinuous channels.

(Amend. of 7-7-08)

Sec. 18-26. - Borrow and waste areas.

When the person conducting the land-disturbing activity is also the person conducting the borrow or waste disposal activity, areas from which borrow is obtained and which are not regulated by the provisions of the Mining Act of 1971, and waste areas for surplus materials other than landfills regulated by the department's division of solid waste management, shall be considered as part of the land-disturbing activity where the borrow material is being used or from which the waste material originated. When the person conducting the land-disturbing activity is not the person obtaining the borrow and/or disposing of the waste, these areas shall be considered a separate land-disturbing activity.

(Amend. of 7-7-08)

Sec. 18-27. - Access and haul roads.

Temporary access and haul roads, other than public roads, constructed or used in connection with any land-disturbing activity shall be considered a part of such activity.

(Amend. of 7-7-08)

Sec. 18-28. - Operations in lakes or natural watercourses.

Land-disturbing activity in connection with construction in, on, over or under a lake or natural watercourse shall be planned and conducted in such a manner as to minimize the extent and duration of disruption of the stream channel. Where the relocation or crossing of a stream is an essential part of the proposed activity, the relocation or crossing activity shall be planned and executed so as to minimize unnecessary changes in the stream flow characteristics. All stream relocation or crossing activities must be conducted in accordance with NCDENR, Division of Water Quality and UASACOE Standards.

(Amend. of 7-7-08)

Sec. 18-29. - Responsibility for maintenance.

During the development of a site, the person conducting the land-disturbing activity shall install and maintain all temporary and permanent erosion and sedimentation control measures as required by the approved plan or any provision of this chapter, the Act or any order adopted pursuant to this chapter or the Act. After site development, the landowner or person in possession or control of the land shall install and/or maintain all necessary permanent erosion and sediment control measures, except those measures installed within a road or street right-of-way or easement accepted for maintenance by a government agency.

(Amend. of 7-7-08)

Sec. 18-30. - Additional measures.

Whenever Rowan County determines that significant erosion and sedimentation is occurring as a result of land-disturbing activity, despite application and maintenance of protective practices, the person conducting the land-disturbing activity will be required to and shall take additional protective action.

(Amend. of 7-7-08)

Sec. 18-31. - Existing uncovered areas.

- (a) All uncovered areas existing on the effective date of the ordinance from which this chapter derives, which resulted from land-disturbing activity, exceed one (1) acre, are subject to continued accelerated erosion, and are causing off-site damage from sedimentation, shall be provided with a ground cover or other protective measures, structures or devices sufficient to restrain accelerated erosion and control off-site sedimentation.
- (b) Rowan County shall serve upon the landowner or other person in possession or control of the land a written notice to comply with the Act, this chapter, a rule or order adopted or issued pursuant to the Act by the Commission or by Rowan County. The notice to comply shall be sent by registered or certified mail, return receipt requested, or other means provided in G.S. 1A-1, Rule 4. The notice will set forth the measures needed to comply and will state the time within which such measures must be completed. In determining the measures required and the time allowed for compliance, the authority serving notice shall take into consideration the economic feasibility, technology and quantity of work required and shall set reasonable and attainable time limits for compliance.
- (c) Rowan County reserves the right to require preparation and approval of an erosion and sedimentation control plan in any instance where extensive control measures are required.
- (d) This rule shall not require ground cover on cleared land forming the future basin of a planned reservoir.

(Amend. of 7-7-08)

Sec. 18-32—18-50. - Reserved.

ARTICLE III. - PERMIT; PLANS; INSPECTIONS

Sec. 18-51. - Fees.

- (a) Rowan County has established a fee schedule for the review and processing of sedimentation and erosion control plans. In establishing the fee schedule, the County has considered the administrative and personnel costs incurred for reviewing plans and for related compliance activities.

(Amend. of 7-7-08)

Sec. 18-52. - Erosion and sedimentation control plans.

- (a) *Plan submission.* An erosion and sedimentation control plan shall be prepared for all land-disturbing activities subject to this chapter whenever the proposed activity will disturb more than one (1) acre on a tract. Two (2) copies of the plan shall be filed with Rowan County, and a copy shall be simultaneously submitted to the Rowan Soil and Water Conservation District, at least thirty (30) days prior to commencement of the proposed activity. A copy of the plan shall be kept on file at the job site.
- (b) *Required revisions.* After approving the plan, if Rowan County, either upon review of such plan or on inspection of the job site, determines that a significant risk of accelerated erosion or off-site sedimentation exists, Rowan County shall require a revised plan. Pending the preparation of the revised plan, work shall cease or shall continue under conditions outlined by the appropriate authority. If, following commencement of a land-disturbing activity pursuant to an approved plan, Rowan County determines that the plan is inadequate to meet the requirements of this chapter, Rowan County may require such revisions as are necessary to comply with this chapter.

- (c) *Retention of consultant.* Rowan County may elect to retain a consultant or professional services to review an erosion control plan and provide a determination(s) or recommendation(s) as to whether the plan complies with the standards of this chapter and applicable state and federal rules and regulations. Rowan County shall require any consultant(s) to disclose any potential conflicts of interest and to hold confidential any proprietary information supplied by the applicant.
- (d) *Financial responsibility and ownership.* Erosion and sedimentation control plans may be disapproved unless accompanied by an authorized statement of financial responsibility and ownership. This statement shall be signed by the person financially responsible for the land-disturbing activity or his attorney in fact. The statement shall include the mailing and street addresses of the principal place of business of:
 - (1) The person financially responsible;
 - (2) The owner of the land; and
 - (3) Any registered agents.

If the person financially responsible is not a resident of North Carolina, a North Carolina agent must be designated in the statement for the purpose of receiving notice of compliance or noncompliance with the plan, the Act, this chapter or rules or orders adopted or issued pursuant to this chapter. If the applicant is not the owner of the land to be disturbed, the erosion and sedimentation control plan must include the owner's written consent for the applicant to submit an erosion and sedimentation control plan and to conduct the anticipated land-disturbing activity.

- (e) *Soil and water conservation district comments.* The district shall review the plan and submit any comments and recommendations to Rowan County within twenty (20) days after the district received the plan, or within any shorter period of time as may be agreed upon by the district and Rowan County. Failure of the district to submit its comments and recommendations within twenty (20) days or within any agreed-upon shorter period of time shall not delay final action on the plan.
- (f) *Timeline for decisions on plans.* Rowan County will review each complete plan submitted to it and within thirty (30) days of receipt thereof will notify the person submitting the plan that it has been approved, approved with modifications, approved with performance reservations or disapproved. Failure to approve, approve with modifications or disapprove a complete erosion and sedimentation control plan within thirty (30) days of receipt shall be deemed approval. Rowan County will review each revised plan submitted to them and within fifteen (15) days of receipt thereof will notify the person submitting the plan that it has been approved, approved with modifications, approved with performance reservations, or disapproved. Failure to approve, approve with modifications, or disapprove a revised plan within fifteen (15) days of receipt shall be deemed approval.
- (g) *Environmental Policy Act document.* Any plan submitted for a land-disturbing activity for which an environmental document is required by the North Carolina Environmental Policy Act (G.S. 113A-1 et seq.) shall be deemed incomplete until a complete environmental document is available for review. Rowan County shall promptly notify the person submitting the plan that the 30-day time limit for review of the plan pursuant to this chapter shall not begin until a complete environmental document is available for review.
- (h) *Content.* The plan required by this section shall contain architectural and engineering drawings, maps, assumptions, calculations and narrative statements as needed to adequately describe the proposed development of the tract and the measures planned to comply with the requirements of this chapter. Plan content may vary to meet the needs of specific site requirements. Detailed guidelines for plan preparation may be obtained from the Rowan County Planning Department on request.
- (i) *Approval.* Rowan County shall only approve a plan upon determining that it complies with all applicable state and local regulations for erosion and sedimentation control. Approval assumes the applicant's compliance with the federal and state water quality laws, regulations and rules. Rowan County shall condition approval of plans upon the applicant's compliance with federal and state water quality laws, regulations and rules.

- (j) *Resubmittal required.* If following the approval of an erosion and sedimentation control plan, land-disturbing activity does not commence for a period of one (1) year from approval date, a resubmittal of plan and fees will be required.
- (k) *Disapproval for content.* Rowan County shall disapprove a plan or draft plan based on its content. Disapproval of a plan must specifically state in writing the reasons for disapproval.
- (l) *Other disapprovals.* Rowan County may disapprove a plan or draft plans if implementation of the plan would result in a violation of the rules adopted by the Environmental Management Commission to protect riparian buffers along surface waters. An erosion control plan may be disapproved upon a finding that an applicant, or any parent, subsidiary, or other affiliate of the applicant:
 - (1) Is conducting or has conducted land-disturbing activity without an approved plan or has received notice of violation of a plan previously approved by the commission or a local government pursuant to the Act and has not complied with the notice within the time specified in the notice;
 - (2) Has failed to pay a civil penalty assessed pursuant to the Act or a local ordinance adopted pursuant to the Act by the time the payment is due;
 - (3) Has been convicted of a misdemeanor pursuant to G.S. 113A-64(b) or any criminal provision of a local ordinance adopted pursuant to the Act;
 - (4) Has failed to substantially comply with state rules or local ordinances and regulations adopted pursuant to the Act; or
 - (5) Has failed to obtain the necessary zoning or subdivision approvals from the county, NCDOT or municipality having jurisdiction.

For purposes of this subsection, an applicant's record may be considered for only the two (2) years prior to the application date.

In the event that a plan is disapproved pursuant to this subsection, the Rowan County Planning Department shall notify the director of such disapproval within ten (10) days. The Rowan County Planning Department shall advise the applicant and the director in writing as to the specific reasons that the plan was disapproved.

- (m) *Notice of activity initiation.* No person may initiate a land-disturbing activity before notifying the agency that issued the plan approval of the date that land-disturbing activity will begin.
- (n) *Preconstruction conference.* When deemed necessary by the approving authority, a preconstruction conference may be required.
- (o) *Display of plan approval.* A plan approval issued under this article shall be prominently displayed until all construction is complete, all permanent sedimentation and erosion control measures are installed and the site has been stabilized. A copy of the approved plan shall be kept on file at the job site.
- (p) *Amendment to a plan.* Applications for amendment of an erosion and sedimentation control plan in written and/or graphic form may be made at any time under the same conditions as the original application. Until such time as the amendment is approved by Rowan County, the land-disturbing activity shall not proceed except in accordance with the erosion and sedimentation control plan as originally approved.
- (q) *Failure to file a plan.* Any person engaged in land-disturbing activity who fails to file a plan in accordance with this chapter or who conducts a land-disturbing activity except in accordance with provisions of an approved plan shall be deemed in violation of this chapter.
- (r) The landowner, the financially responsible party, or the landowner's or the financially responsible party's agent shall perform an inspection of the area covered by the plan after each phase of the plan has been completed and after establishment of temporary ground cover in accordance with G.S. 113A-57(2). The person who performs the inspection shall maintain and make available a record of the inspection at the site of the land-disturbing activity. The record shall set out any

significant deviation from the approved erosion control plan, identify any measures that may be required to correct the deviation, and document the completion of those measures. The record shall be maintained until permanent ground cover has been established as required by the approved erosion and sedimentation control plan. The inspections required by this subsection shall be in addition to inspections required by G.S. 113A-61.1.

(Amend. of 7-7-08)

State Law reference— Similar provisions, G.S. 113A-61.

Sec. 18-53. - Inspections and investigations.

- (a) *Inspection.* Agents, officials or other qualified persons authorized by Rowan County will periodically inspect the sites of land-disturbing activity to ensure compliance with the Act, this chapter or rules or orders adopted or issued pursuant to this chapter and to determine whether the activity is being conducted in accordance with an approved plan and whether the measures required in the plan are effective in controlling erosion and sedimentation resulting from land-disturbing activity. Notice of the right to inspect shall be included in the certificate of approval of each plan.
- (b) *Notice of violation.* If Rowan County determines that a person engaged in land-disturbing activity has failed to comply with the Act, this chapter or rules or orders adopted or issued pursuant to this chapter, a notice of violation shall be served upon that person. The notice may be served by any means authorized under G.S. 1A-1, Rule 4. The notice shall specify a date by which the person must comply with the Act, or this chapter, or rules or orders adopted pursuant to this chapter, and inform the person of the actions that need to be taken to comply with the Act, this chapter, or rules or orders adopted pursuant to this chapter. Any person who fails to comply within the time specified is subject to additional civil and criminal penalties for a continuing violation as provided in G.S. 113A-64 and this chapter.
- (c) *Investigation.* Rowan County shall have the power to conduct such investigation as it may reasonably deem necessary to carry out its duties as prescribed in this chapter and, for this purpose to enter at reasonable times upon any property, public or private, for the purpose of investigating and inspecting the sites of any land-disturbing activity.
- (d) *Willful resistance, delay or obstruction.* No person shall willfully resist, delay or obstruct an authorized representative, employee or agent of Rowan County while that person is inspecting or attempting to inspect a land-disturbing activity under this section.
- (e) *Statements and reports.* Rowan County shall also have the power to require written statements, or filing of reports under oath, with respect to pertinent questions relating to land-disturbing activity.

(Amend. of 7-7-08)

Sec. 18-54—18-70. - Reserved.

ARTICLE IV. - PLAN APPEALS

Sec. 18-71. - Procedure.

- (a) Except as provided in subsection (b) of this section, the appeal of a disapproval or approval with modifications of a plan shall be governed by the following provisions:
 - (1) The disapproval or modification of any proposed erosion and sedimentation control plan by Rowan County shall entitle the person submitting the plan to a public hearing if such person submits written demand for a hearing within fifteen (15) days after receipt of written notice of disapproval or modifications.

- (2) Hearings held pursuant to this section shall be conducted by the Rowan County Board of Adjustment within thirty (30) days after the date of the appeal or request for a hearing.
- (3) The board of adjustment shall make recommendations to Rowan County Board of Commissioners within ten (10) days after the date of the hearing on any plan.
- (4) The board of commissioners will render its final decision on any plan within sixty (60) days of receipt of the recommendations from the board of adjustment.
- (5) If Rowan County upholds the disapproval or modification of a proposed erosion and sedimentation control plan following the hearing, the person submitting the plan shall then be entitled to appeal Rowan County's decision to the North Carolina Sedimentation Control Commission as provided in G.S. 113A-61(c) and 15A NCAC 4B.0018(d).
- (6) In the event that a plan is disapproved pursuant to subsection 18-52(k) of this chapter, the applicant may appeal Rowan County's disapproval of the plan directly to the Commissions.

(Amend. of 7-7-08)

State Law reference— Similar provisions, G.S. 113A-61(c).

Sec. 18-72—18-90. - Reserved.

ARTICLE V. - VIOLATIONS AND PENALTIES

Sec. 18-91. - Penalties.

(a) *Civil penalties.*

- (1) *Civil Penalty for a violation.* Any person who violates any of the provisions of this chapter or rule or order adopted or issued pursuant to this chapter, or who initiates or continues a land-disturbing activity for which an erosion and sedimentation control plan is required except in accordance with the terms, conditions and provisions of an approved plan, is subject to a maximum civil penalty assessment of five thousand dollars (\$5,000.00) per violation. A civil penalty may be assessed from the date of the violation. Each day of a continuing violation shall constitute a separate violation.
- (2) *Civil penalty assessment factors.* Personnel of the Rowan County Planning and Development Department shall determine the amount of the civil penalty based on the following factors:
 - (a) The degree and extent of harm caused by the violation,
 - (b) The cost of rectifying the damage,
 - (c) The amount of money the violator saved by noncompliance,
 - (d) Whether the violation was committed willfully; and
 - (e) The prior record of the violator in complying or failing to comply with this chapter.
- (3) *Notice of civil penalty assessment.* Rowan County shall provide written notice of the civil penalty amount and basis for assessment to the person assessed. The notice shall be served by any means authorized under G.S. 1A-1, Rule 4 and shall direct the violator to either pay the assessment or contest the assessment, within thirty (30) days after receipt of the notice, by written petition for a hearing submitted to Rowan County within said 30-day period.
- (4) *Assessment hearing.* The board of adjustment shall conduct a hearing on a civil penalty within forty-five (45) days after written demand for the hearing. The board of adjustment shall make its recommendations to the board of commissioners within thirty (30) days after the date of the hearing.

- (5) *Final decision.* The board of commissioners shall render its final decision concerning the civil penalty within sixty (60) days of receiving the official record from the board of adjustment.
- (6) *Appeal of final decision.* An appeal of the final decision rendered by the board of commissioners shall be to the superior court of the county where the violation occurred, or the location of the violator's residence or principal place of business.
- (7) *Collection.* If payment is not received within thirty (30) days after it is due, Rowan County may institute a civil action to recover the amount of the assessment. The civil action may be brought in the superior court of the county where the violation occurred, or the violator's residence or principal place of business is located. Such civil actions must be filed within three (3) years of the date the assessment was due. An assessment that is not contested is due when the violator is served with a notice of assessment. An assessment that is contested is due at the conclusion of the administrative and judicial review of the assessment.
- (8) *Credit of civil penalties.* Civil penalties collected pursuant to this chapter shall be credited to the civil penalty and forfeiture fund.
- (b) *Criminal penalties.* Any person who knowingly or willfully violates any provision of this chapter, or rule or order adopted or issued pursuant to this ordinance, or who knowingly or willfully initiates or continues a land-disturbing activity for which an erosion and sedimentation control plan is required except in accordance with the terms, conditions and provisions of an approved plan shall be guilty of a Class 2 misdemeanor punishable by a fine not to exceed five thousand dollars (\$5,000.00) as provided in G.S. § 113A-64.

(Amend. of 7-7-08)

State Law reference— Similar provisions, G.S. 113A-64.

Sec. 18-92. - Injunctive relief.

- (a) *Violation of local program.* Whenever Rowan County has reasonable cause to believe that any person is violating or threatening to violate any ordinance or any rule or order adopted or issued by Rowan County or any term, condition or provision of any approved erosion control plan, it may, either before or after the institution of any other action or proceeding authorized by this chapter, institute a civil action in the name of Rowan County for injunctive relief to restrain the violation or threatened violation. The action shall be brought in the superior court of the county in which the violation is occurring or is threatened.
- (b) *Abatement of violation.* Upon determination by a court that an alleged violation is occurring or is threatened, it shall enter such orders or judgments as are necessary to abate the violation, to ensure that restoration is performed, or to prevent the threatened violation. The institution of an action for injunctive relief under this section shall not relieve any party to such proceedings from any civil or criminal penalty prescribed for violations of this chapter.

(Amend. of 7-7-08)

Sec. 18-93. - Restoration of areas affected by failure to comply.

Rowan County may require a person who engaged in a land-disturbing activity and failed to retain sediment generated by the activity, as required by G.S. 113A-57(3), to restore the waters and land affected by the failure so as to minimize the detrimental effects of the resulting pollution by sedimentation. This authority is in addition to any other civil or criminal penalty or injunctive relief authorized under this chapter.

(Amend. of 7-7-08)

Sec. 18-94. - Severability.

If any section or sections of this chapter is/are held to be invalid or unenforceable, all other sections shall nevertheless continue in full force and effect.

(Amend. of 7-7-08)

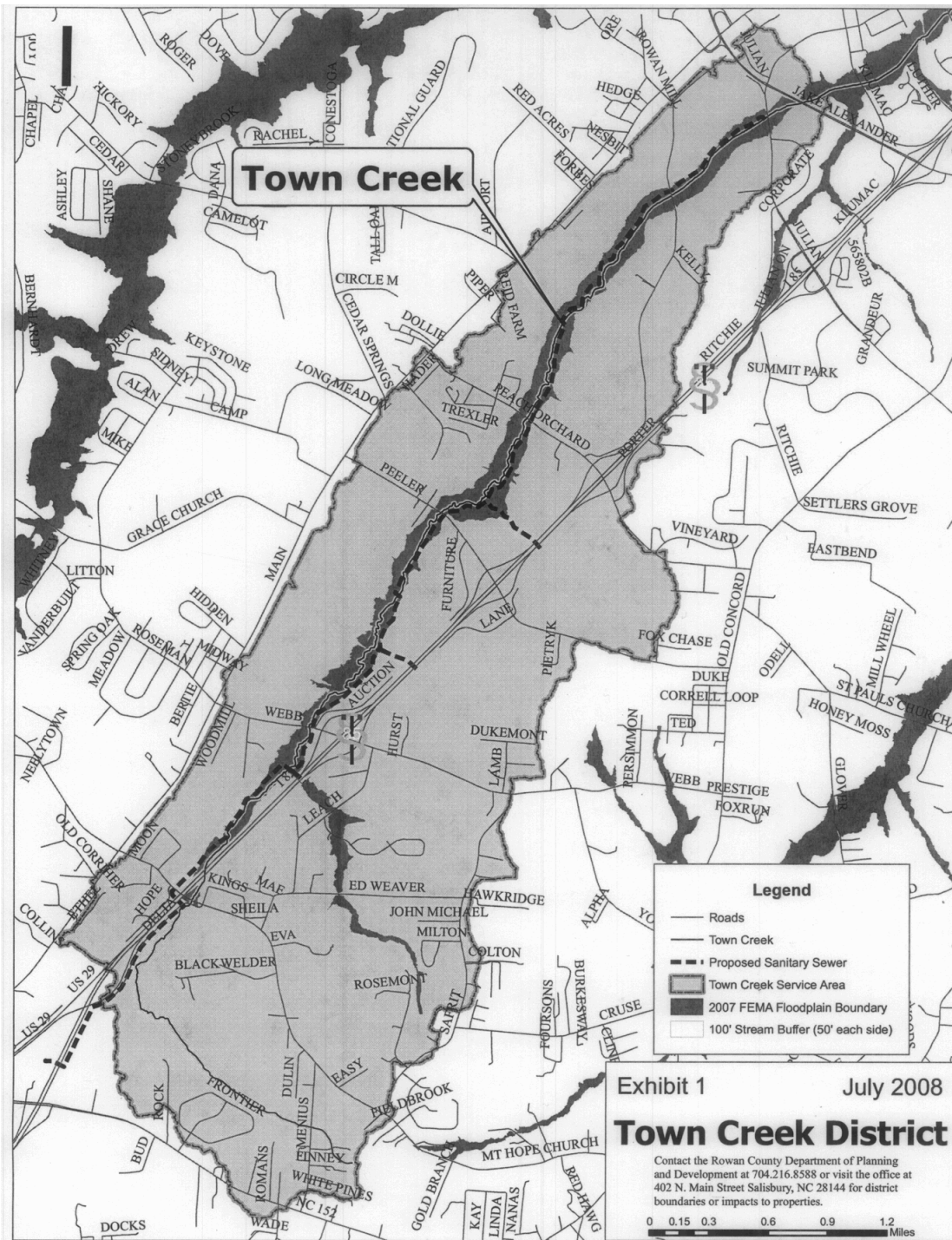
Sec. 18-95. - Effective date.

This chapter becomes effective on July 7, 2008.

(Amend. of 7-7-08)



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(Amend. of 7-7-08)