Prepared by:
ARCADIS Geraghty & Miller of North Carolina, Inc.
2301 Rexwoods Drive
Suite 102
Raleigh
North Carolina 27607
Tel 919 782 5511
Fax 919 782 5905

Our Ref.:
NC030163.0000.00008

Date:
October 2001
Amended February 2003

# City of Goldsboro Stormwater Management Program For Nitrogen Control In the Neuse River Basin

**P R E P A R E D F O R**

Goldsboro, North Carolina

## Table of Contents

## Tables



## Figures

## Appendices

A. Ordinance to Implement Stormwater Management Regulations for New Development.

B. Flood Damage Prevention Ordinance.

C. Ordinance to Implement Regulations Regarding Illegal Stormwater Discharges Related to the City of Goldsboro's Stormwater Management Program.

D. Example Letter to Likely Sources of Illegal Discharges.

E. Implementation Schedule.

F. EPA Phase II Measurable Goals.

# 1. Introduction

### 1.1 Neuse River Basin Nutrient Sensitive Waters (NSW) Management Strategy

The goal of the Neuse River Basin Nutrient Sensitive Waters (NSW) Management Strategy (final adoption in August 1998) is to achieve a 30 percent nitrogen reduction from each controllable and quantifiable source of nitrogen in the basin. These sources are Wastewater Treatment, Urban Stormwater, and Agriculture and Nutrient Application. The NSW Strategy also includes a rule to protect riparian buffers (the Riparian Buffer Rule, 15A NCAC 2B .0233) to maintain their existing nitrogen removal capabilities.

The Neuse Stormwater Rule (15A NCAC 2B .0235) only applies to the largest and fastest-growing local governments in the Neuse River Basin (there are 15); Goldsboro is one of the affected governments. The rule establishes a broad set of objectives for reducing nitrogen runoff from urban areas and sets up a process for the Division of Water Quality (DWQ) to work with the affected local governments to develop a model stormwater program for meeting the objectives. The timeframe for implementation of the rule is as follows:

| | |
|---|---|
| September 9, 2000: | Deadline for submittal of local Stormwater Management Program (including ordinances) to the Environmental Management Commission (EMC). |
| March 9, 2001: | Deadline for local governments to begin implementing local Stormwater Management Programs. |

Each stormwater management program must include the following general elements: New Development Review/Approval, Illegal Discharges, Retrofit Locations, and Public Education. Following implementation of the local Stormwater Management Programs, local governments are required to make annual progress reports to EMC by October 30 of each year that include nitrogen loading reduction estimates.

This document details the City of Goldsboro's Stormwater Management Program for Nitrogen Control in the Neuse River Basin. It closely follows the guidance provided in the *Neuse River Basin: Model Stormwater Program for Nitrogen Control* dated August 30, 1999. The implementation dates listed above differ from those listed in the model plan. The EMC committee decision to approve the model local government stormwater program occurred on September 9, 1999; the Stormwater Rule allows 12 months from EMC approval before the subject local governments must submit their local stormwater management program plans to the Commission for review and approval, and 18 months before the programs must be implemented.

### 1.2 Goldsboro's Stormwater Management Program

#### 1.2.1 Program Goals

The City of Goldsboro is taking a proactive approach to the management and control of stormwater in both the City proper and in its Extraterritorial Jurisdictions (ETJs). Rather than simply meet the requirements for nitrogen control as dictated by the Neuse NSW Strategy, Goldsboro is structuring their Stormwater Management Program to also address the concerns and expected requirements of EPA's Phase II Stormwater Rule. The City has also prepared their program to be no less stringent

than the program for Wayne County, which is also subject to the Neuse Stormwater Rule. Teaming possibilities with Wayne County will continually be explored, particularly in the areas of public education and outreach, and public participation/involvement. In this way, Goldsboro and its constituents will garner the benefits of an integrated stormwater management program that requires the least expenditure of financial and personnel resources and avoids duplication of effort.

Another goal of this program is to provide uniform guidelines and requirements for development and growth in both the City of Goldsboro and throughout Wayne County. Although the process may differ in each jurisdiction, the program elements and requirements of both Stormwater Management Programs will be consistent. Fee schedules and penalties will be no less rigorous than those required by Wayne County. Other incorporated areas will be considered in this process. This will serve not only to avoid inappropriate and unbalanced development as a result of program implementation, but will provide standardized requirements for unincorporated areas which undergo annexation.

#### 1.2.2 Organization of this Stormwater Management Program

This document reflects the basic organization of the *Neuse River Basin: Model Stormwater Program for Nitrogen Control*, and incorporates some additional components from EPA's Phase II Stormwater Rule. Section 2.0 presents Goldsboro's Program Plan for New Development. Section 3.0 discusses their Program Plan for Illegal Discharges. Section 4.0 explains the methodology for Identifying Retrofit Locations. Public Education and Public Involvement are discussed in Section 5.0. Section 6.0 discusses the Phase II requirements for Pollution Prevention/Good Housekeeping. Section 7.0 details the annual Evaluation and Reporting requirements.

#### 1.2.3 Responsibilities

The implementation of this Stormwater Management Program for Nitrogen Control will be the responsibility of the City Manager. Oversight will be provided by an internal Steering Committee, comprised of representatives from the following departments: Manager's Office, General Services, Planning, Community Affairs, Engineering, Finance, and Recreation and Parks. This Steering Committee, in conjunction with the City Manager, assigned responsibilities for program implementation, considered staffing and budgetary requirements, identified obstacles to implementation, and developed strategies to remove obstacles and/or provide incentives for program participation. Meetings will be held on a quarterly basis to review the implementation of the program and to address any new issues which may arise.

## 2. Program Plan for New Development

### 2.1 Controlling Nitrogen Through the New Development Review/Approval Process

Section 32.088 of Goldsboro's Code of Ordinances states that no new or redevelopment project may proceed before all permits are secured, which requires that the site plan be submitted to and approved by the Planning and Engineering Departments of the city. It will be during this established development review process that the City will review the Neuse Stormwater Rule components of any project falling under the "New Development" definition. Appendix A contains "An Ordinance to

Implement Stormwater Management Regulations for New Development" to establish the authority to require compliance with the Program Plan for New Development within the City proper and its ETJ, as detailed in this section. The developer or builder will be required to comply with these provisions for any new development which falls under either of the following definitions:

- Any activity that disturbs greater than one acre of land in order to establish, expand, or modify a single family or duplex residential development or a recreational facility. [Land disturbance is defined as grubbing, stump removal, and/or grading.]

- Any activity that disturbs greater than one-half an acre of land in order to establish, expand, or modify a multifamily residential development or a commercial, industrial, or institutional facility.

To fund this additional new development review process, the City Council may set a fee structure for the cost of reviewing all Building Permit applications for compliance with the ordinance.
All such projects will be required to meet the goal of a 30 percent nitrogen reduction by implementation of planning considerations and best management practices (BMPs). Agriculture, mining, or forest activities, and property owners with vested rights are not subject to the requirements of new development and will receive a waiver. Vested rights must be demonstrated by the property owner as of the effective date of this Stormwater Management Program (as adopted by the City Council) and may be based on at least one of the following:

- substantial expenditures of resources as determined by the Engineering Department (time, labor, money) based on a good faith reliance upon having received a valid local government approval to proceed with the project, or

- having an outstanding valid building permit in compliance with G.S. 153A-344.1 or G.S. 160A-385.1, or

- having an approved site specific or phased development plan in compliance with G.S. 153A-344.1 or G.S. 160A-385.1.

Projects that require a state permit, such as landfills, NPDES wastewater discharges, land application of residuals and road construction activities shall be considered to have vested rights if a state permit was issued prior to the effective data of this Local Stormwater Management Program.
Currently, Recreation and Parks projects for the City do not require permits. To ensure that all such projects comply with the provisions of the Neuse Stormwater Rule, and eventually EPA's Phase II Rule, all park projects will be required to undergo an internal review by the Planning and Engineering Departments.
New development will be limited to 3.6 pounds per acre per year (lbs/ac/yr) nitrogen loading. Property owners will have the option to partially offset projected nitrogen loads by funding wetland or riparian area restoration through the NC Wetlands Restoration Program (WRP). As established by Rule 15A NCAC 2B .0240, the rate shall be $11/lb/yr, at an amount sufficient to fund 30 years of nitrogen reduction. The result is a one-time offset payment of $330/lb/ac which must be paid prior to approval of the development plan. However, no new residential development will be permitted to exceed a total nitrogen loading rate of 6.0 lbs/ac/yr, and no new nonresidential development will be permitted to exceed 10.0 lbs/ac/yr.

The nitrogen export standard of 3.6 lbs/ac/yr was estimated by the EMC to be 70 percent of the average nitrogen load contributed by the nonurban areas in the Neuse River basin (as defined using 1995 LANDSAT data). It is understood that the EMC may periodically update the performance standard based on the availability of new scientific information.

### 2.1.1 Calculating Nitrogen Export from New Development

The nitrogen export from each new development will be calculated. Annual reports must contain the computed baseline and net change in nitrogen export from new development that year. Goldsboro will utilize the methodologies as they are detailed below. The Inspection Department will supply the necessary worksheets for the developer or builder to perform these calculations at new development sites as part of their building permit submission (to ensure that the 30 percent reduction has been attained or that appropriate and sufficient BMPs have been planned and/or offset fees paid). The calculations will be verified by the Engineering Department then, and again prior to issuance of the Certificate of Occupancy (to ensure that the site was developed as planned, and that any required BMPs have been constructed properly).

1. ***Method 1*** for residential developments where lots are shown but the actual footprint of buildings are not shown on site plans. The impervious surface resulting from building footprints is estimated based on typical impervious area associated with a given lot size. Figure 2.1 contains the worksheet for this calculation.

2. ***Method 2*** for residential, commercial, and industrial developments when the entire footprint of the roads, parking lots, buildings, and any other built-upon area is shown on the site plans. Figure 2.2 contains the worksheet for this calculation.

3. ***For nonresidential subdivisions where the impervious surfaces are not shown on the plans at the time of submittal***, the developer or builder will specify areas of impervious surface, undisturbed open space, and managed open space in their Building Permit application, assuming the maximum impervious surfaces and minimum open space for the project design. The City has established the Building Permit as a legal, enforceable mechanism to hold the developer or builder accountable for their estimations of each land use type. The developer or builder will then use Method 2 (Figure 2.2) for their calculation.

4. ***For redevelopment projects***, Method 2 must be used to estimate the nitrogen loading from the site before and after the redevelopment project takes place. As long as the redevelopment project does not increase the nitrogen loading from the site, the developer shall be exempt from the program requirements for nitrogen control on new development.

**Figure 2.1 Worksheet for Method 1: Quantifying Total Nitrogen Export from Residential Developments when Building and Driveway Footprints are Not Shown**

Step 1: Determine area for each type of land use and enter in Column (2).
Step 2: Total the areas for each type of land use and enter at the bottom of Column (2).
Step 3: Determine the TN export coefficient associated with right-of-way using Graph 1.
Step 4: Determine the TN export coefficient associated with lots using Graph 2.
Step 5: Multiply the areas in Column (2) by the TN export coefficients in Column (3) and enter in Column (4).
Step 6: Total the TN exports for each type of land use and enter at the bottom of Column (4).
Step 7: Determine the export coefficient for site by dividing the total TN export from uses at the bottom of Column (4) by the total area at the bottom of Column (2).

| (1) Type of Land Cover | (2) Area (acres) | (3) TN export coeff. (lbs/ac/yr) | (4) TN export from use (lbs/yr) |
|---|---|---|---|
| **Permanently protected undisturbed open space** (forest, unmown meadow) | | 0.6 | |
| **Permanently protected managed open space** (grass, landscaping, etc.) | | 1.2 | |
| **Right-of-way** (read TN export from Graph 1) | | | |
| **Lots** (read TN export from Graph 2) | | | |
| **TOTAL** | | | |

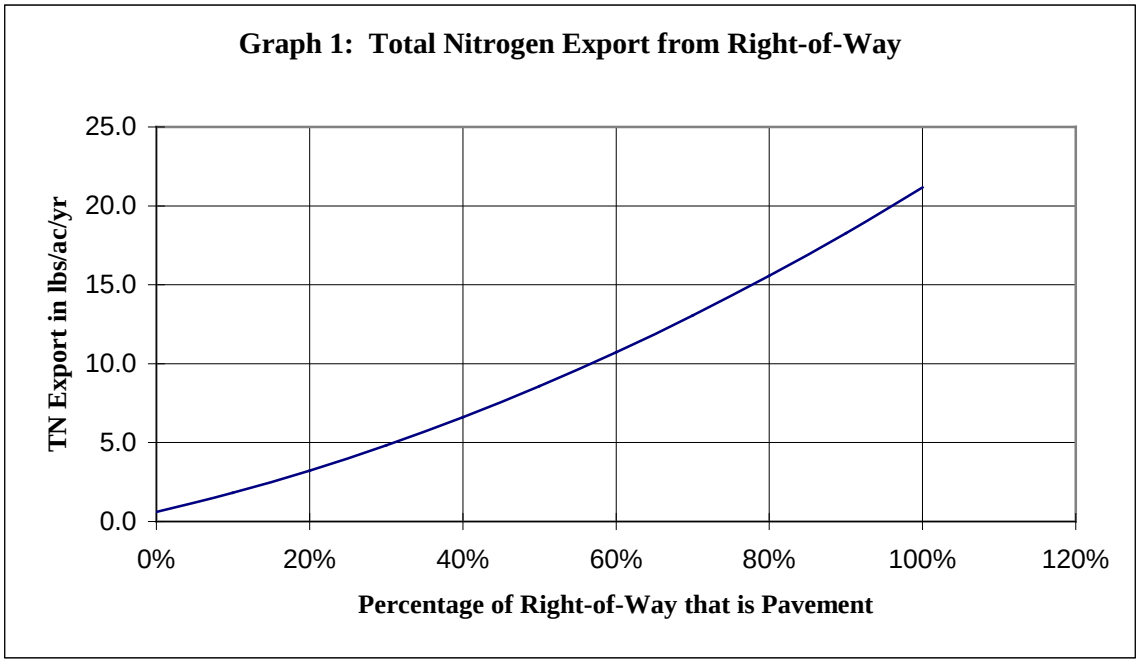


**Figure 2.1 (cont'd). Worksheet for Method 1: Quantifying Total Nitrogen Export from Residential Developments when Building and Driveway Footprints are Not Shown**

**Graph 2: Total Nitrogen Export from Lots**

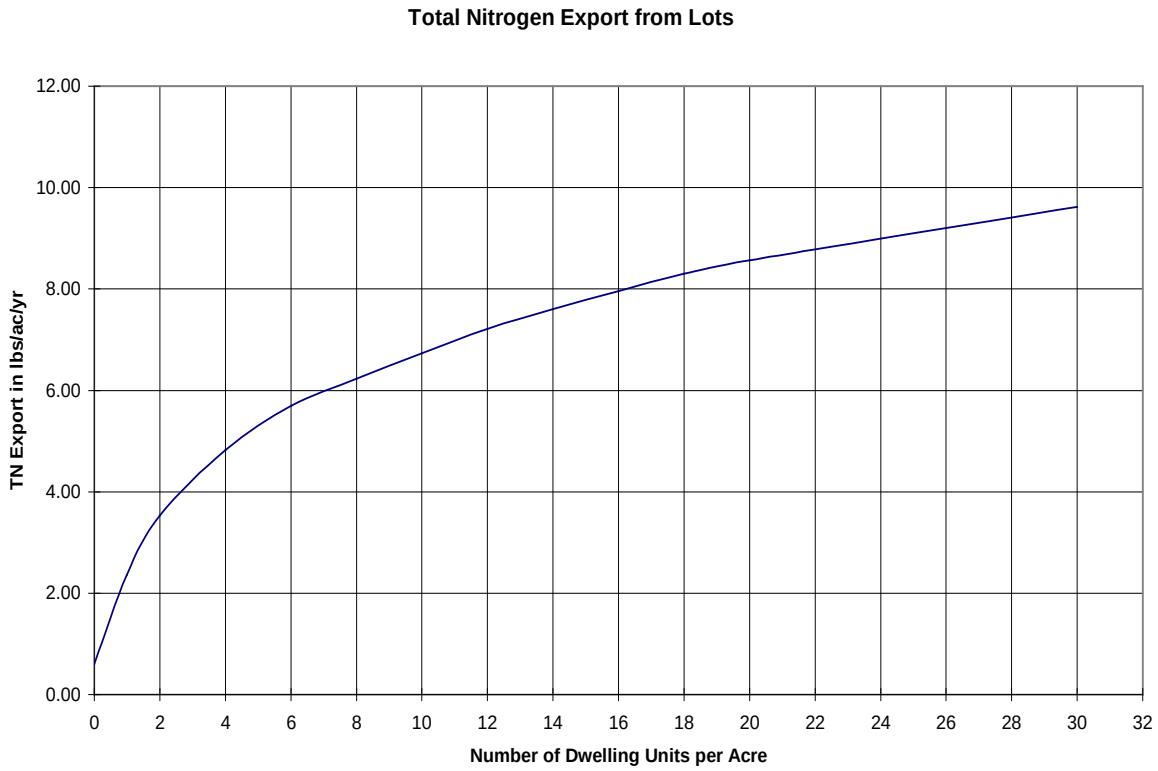


**Figure 2.2 Worksheet for Method 2: Quantifying Total Nitrogen Export from Residential/Industrial/Commercial Developments when Footprints of all Impervious Surfaces are Shown**

Step 1: Determine area for each type of land use and enter in Column (2).
Step 2: Total the areas for each type of land use and enter at the bottom of Column (2).
Step 3: Multiply the areas in Column (2) by the TN export coefficients in Column (3) and enter in Column (4).
Step 4: Total the TN exports for each type of land use and enter at the bottom of Column (4).
Step 5: Determine the export coefficient for site by dividing the total TN export from uses at the bottom of Column (4) by the total area at the bottom of Column (2).

| (1) Type of Land Cover | (2) Area (acres) | (3) TN export coeff. (lbs/ac/yr) | (4) TN export from use (lbs/yr) |
|---|---|---|---|
| **Permanently protected undisturbed open space** (forest, unmown meadow) | | 0.6 | |
| **Permanently protected managed open space** (grass, landscaping, etc.) | | 1.2 | |
| **Impervious surfaces** (roads, parking lots, driveways, roofs, paved storage areas, etc.) | | 21.2 | |
| **TOTAL** | | --- | |

The rule requires that all new developments achieve a nitrogen export of less than or equal to 3.6 pounds per acre per year. If the development contributes greater than 3.6 lbs/ac/yr of nitrogen, then the options shown in Table 2.2a are available based on whether the development is residential or nonresidential.

**Table 2.2a: Nitrogen Export Reduction Options**

| Residential | Commercial / Industrial |
|---|---|
| If the computed export is less than 6.0 lbs/ac/yr, then the owner may either:<br>1. Install BMPs to remove enough nitrogen to bring the development down to 3.6 lbs/ac/yr.<br>2. Pay a one-time offset payment of $330/lb to bring the nitrogen down to the 3.6 lbs/ac/yr.<br>3. Do a combination of BMPs and offset payment to achieve a 3.6 lbs/ac/yr export. | If the computed export is less than 10.0 lbs/ac/yr, then the owner may either:<br>1. Install BMPs to remove enough nitrogen to bring the development down to 3.6 lbs/ac/yr.<br>2. Pay a one-time offset payment of $330/lb to bring the nitrogen down to the 3.6 lbs/ac/yr.<br>3. Do a combination of BMPs and offset payment to achieve a 3.6 lbs/ac/yr export. |
| If the computed export is greater than 6.0 lbs/ac/yr, then the owner must use on-site BMPs to bring the development's export down to 6.0 lbs/ac/yr. Then, the owner may use one of the three options above to achieve the reduction between 6.0 and 3.6 lbs/ac/yr. | If the computed export is greater than 10.0 lbs/ac/yr, then the owner must use on-site BMPs to bring the development's export down to 10.0 lbs/ac/yr. Then, the owner may use one of the three options above to achieve the reduction between 10.0 and 3.6 lbs/ac/yr. |

Peak Runoff Worksheet
For Small Drainage Areas in Mid-Neuse Basin

| **Pre-Development** | | | | |
|---|---|---|---|---|
| | Undisturbed | Managed | Impervious | Total |
| Area | $A_U$ = | $A_M$ = | $A_I$ = | $A_T$ = |
| C (weighted average) | 0.2 | 0.3 | 0.9 | |
| *Equation 1* | $C_w = (0.2 * A_U + 0.3 * A_M + 0.9 * A_I) / A_T$ | | | $C_w$ = |
| Time of Concentration | | | | |
| Height of most remote point above outlet | | | | H = |
| Length (maximum) of stormwater travel | | | | L = |
| *Equation 2* | $T_{OC} = [ ( L^3 / H )^{0.385} ] \div 128$ | | | $T_{OC}$ = |
| Intensity | | | | |
| *Equation 3* | $I = 112 /(20+T_{OC})$ | | | |
| | | | | I = |
| Quantity of Flow | | | | |
| *Equation 4* | $Q_{PRE} = A_T * C_W * I$ | | | |
| | | | | $Q_{PRE}$ = |

| **Post-Development** | | | | |
|---|---|---|---|---|
| | Undisturbed | Managed | Impervious | Total |
| Area | $A_U$ = | $A_M$ = | $A_I$ = | $A_T$ = |
| C (weighted average) | 0.2 | 0.3 | 0.9 | |
| *Equation 1* | $C_w = (0.2 * A_U + 0.3 * A_M + 0.9 * A_I) / A_T$ | | | $C_w$ = |
| Time of Concentration | | | | |
| Height of most remote point above outlet | | | | H = |
| Length (maximum) of stormwater travel | | | | L = |
| *Equation 2* | $T_{OC} = [ ( L^3 / H )^{0.385} ] \div 128$ | | | $T_{OC}$ = |
| Intensity | | | | |
| *Equation 3* | $I = 112 /(20+T_{OC})$ | | | I = |
| Quantity of Flow | | | | |
| *Equation 4* | $Q_{Post} = A_T * C_W * I$ | | | |
| | | | | $Q_{Post}$ = |

Notes:

May use Figure 8.03a (Nomograph) from NC Erosion and Sediment Control Planning and Design Manual

Use equation or nomograph for

natural basins with well defined channels,

overland flow on bare earth,

and mowed grass roadside channels.

For overland flow, grassed surfaces, multiply $T_{OC}$ by 2

For overland flow, concrete or asphalt surfaces, multiply $T_{OC}$ by 0.4

For concrete channels, multiply $T_{OC}$ by 0.2

Prepared by _____ Date _____

Project _____

### 2.1.2 Methodology for Calculating Peak Runoff Volumes

The Neuse Stormwater Rule states that there can be no net increase in peak flow leaving a new development site from the predevelopment conditions for the 1-year, 24-hour storm. The Inspection Department will provide the developer or builder with a worksheet (Figure 2.3) that employs The Rational Method to determine the peak flow from both the pre-development (performed prior to issuance of the Building Permit) and post-development (performed prior to issuance of the Certificate of Occupancy) conditions. The Rational Method is the most common method for computing the peak rate of runoff from small drainage basins (up to 150 acres). If peak runoff needs to be calculated from a larger drainage area (more than 150 acres), the Peak Discharge Method as described in the USDA Soil Conservation Service's Technical Release Number 55 (TR-55) will be employed. This methodology will be used for computing pre- and post-development conditions. (Note: The Putnam Method, while allowed by the Model Plan, was developed specifically for the Piedmont region of North Carolina, and will not be used for calculations in Goldsboro, which lies in the Coastal Plain.)

The equation for calculating peak runoff under the Rational Method is:

$$Q_p = Aci$$

where

$Q_p$ = peak runoff, cfs
A = drainage area, acres
c = runoff coefficient, dimensionless
i = rainfall intensity, inches/hour

F-3

The acreage for each land use type will already be known from calculating the nitrogen export as described in Section 2.1.1. The runoff coefficients for a variety of surface types can be gotten from a table, such as the one developed by the American Society of Civil Engineers (ASCE) & Water Environmental Federation (in *Design and Construction of Urban Stormwater Management Systems, 1972*). However, as stated by John E. Gribbin in *Hydraulics and Hydrology for Stormwater Management* (1997), typical design values for runoff coefficients are 0.90 for impervious surfaces, 0.30 for permanently protected managed open space (such as lawns), and 0.20 for permanently protected undisturbed open space (such as woods and brush).

In keeping with the spirit of the rule, and to maintain consistency with the approach taken to calculate total nitrogen export (where total nitrogen export coefficients are set), Goldsboro will adopt these typical design values for the runoff coefficient. This will result in a more consistent, objective, and straightforward calculation of peak runoff that does not need to take into account the effects of soils, rainfall intensity and duration, slope, and impervious surface. A worksheet has been prepared for the Rational Method peak runoff calculation (Figure 2.3) which is patterned after the method outlined in the NC Erosion and Sedimentation Control Planning and Design Manual.

The peak runoff calculation will be performed by the developer or builder for their Building Permit submission. Prior to issuance of a Building Permit, the post-development peak flow must be calculated to be equal to or less than the pre-development peak flow (which may require the implementation of one or more BMPs), unless one of the two following conditions are met:

- The increase in peak flow between the pre- and post-development conditions does not exceed ten percent.

- The proposed new development meets all of the following criteria: overall impervious surface is less than 15 percent, and the remaining pervious portions of the site are utilized to the maximum extent practical to convey and control the stormwater runoff (as determined by the City Engineering Department).

Upon completion of the development project, and prior to approval of a Certificate of Occupancy, the post-development peak flow will again be calculated to ensure compliance with the regulations detailed above. Section 32.089 of the City Ordinances establishes the administrative procedure for ensuring this step by stating, "No Certificate of Occupancy shall be issued by the Building Inspector until the Planning Department and the Engineering Department of the city have certified that site improvements have been completed in accordance with the plan previously submitted and approved."

Because of the existence of local flooding problems, peak flow calculations may indicate the need for stormwater detention in areas that would actually increase flooding problems as a result of their implementation. For sites that are in (or drain to) these flood-prone areas, exemptions may be granted on a case-by-case basis. Chapter 151 of the City Code of Ordinances details Flood Damage Prevention and addresses this problem, and is included in Appendix B. Section 151.04 (E) states that this ordinance is designed to "Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands."

#### 2.1.3 Goldsboro's Choice for Protection of Riparian Buffers in New Developments

The Neuse Stormwater Rule requires local governments to ensure that riparian areas are protected on new developments in accordance with the Riparian Buffer Rule (15A NCAC 2B .0233). The rule requires protecting and maintaining the 50-foot riparian buffers on all sides of intermittent and perennial streams, ponds, lakes, and estuaries in the Neuse River Basin. These waters must be shown on the most recent version of either a Natural Resources Conservation Service (NRCS) Soil Survey county map or a 1:24,000 scale (7.5 minute quadrangle) topographic map prepared by the US Geological Survey (USGS).

The City of Goldsboro will refrain from issuing local approvals for any new development activity that is proposed to take place within the first 50 feet adjacent to an affected water body, unless:

a. the person requesting the approval does not propose to impact the riparian buffer of a surface water indicated on the NRCS or USGS maps listed above, or
b. the property owner has received approval by DWQ. DWQ approval could be:

    - an on-site determination from DWQ that surface waters are not present,

    - an Authorization Certificate for a use designated as Allowable,

    - an Authorization Certificate and approval on a mitigation plan for a use designated as Allowable with Mitigation, or

- a variance.

As part of this Stormwater Management Program, Goldsboro will record riparian areas to be protected on new or modified plats.

### 2.2 Best Management Practices (BMPs)

#### 2.2.1 Choosing BMPs

Site planning practices that reduce nitrogen loadings from new development (including reducing impervious surfaces and protecting open spaces) will be encouraged; however, BMPs may still be required. Property owners will be instructed to consider the ability of the BMP(s) to reduce their nitrogen loading within acceptable limits, as well as the issues of aesthetics, long-term maintenance, safety, and reliability of the BMP design.

In conjunction with the Public Education component of this plan (Section 5.0), information sources will be made available to property owners and developers explaining the benefit to them of incorporating site planning practices into their new development plans from the onset (reducing road widths, reducing minimum parking requirements, minimizing use of curb and gutter, allowing cluster or open-space developments, allowing traditional neighborhood developments, and others). If they do not choose to incorporate these practices, or if BMPs are still required, information sources may be provided on the various BMPs available for nitrogen reduction, their individual effectiveness and cost, as well as data on which methods work best for the area's soil type(s). If more than one BMP is installed in series on a development, then the removal rate shall be determined through serial rather than additive calculations. As research and development in this field progresses, information sources on new BMP techniques or improvements in established BMP techniques may also be disseminated as part of the Public Education Action Plan.

The BMPs which may currently be utilized for reducing nitrogen from new developments are listed below. The estimated total nitrogen removal rate for each BMP is included in parenthesis.

- Wet detention ponds (25%)
- Constructed wetlands (40%)
- Open channel practices (30%)
- Riparian buffers (30%)
- Bioretention (25%)
- Vegetated filter strips with level spreader (20%)
- Sand filters (35%)
- Proprietary BMPs (varies)

If a builder or developer includes one or more BMPs as part of the site design, they will be required to provide an engineering certification of the design at the time they submit their Building Permit application. Prior to issuance of a Certificate of Occupancy, the builder or developer will be required to submit an engineering certification that the BMP was constructed as designed and is operating properly.

#### 2.2.2 Long-Term Maintenance Plan for BMPs

The Inspection Department will conduct annual inspections of all BMPs as part of their inspection program. An annual inspection fee will be charged to fund this additional inspection program (as adopted by the City Council). A current list of all BMPs, their location, and status will be maintained by the Engineering Department to assist in the inspection process. BMPs will be required to be on the same lot as the new development, unless waived because of potential flooding problems, or unless an off-site location for the BMP has been approved by the City's Planning and Engineering Departments.

The City of Goldsboro took the following approach for the long-term maintenance of BMPs:

> The City will notify the owner upon finding that maintenance is needed on a BMP. If the owner does not complete the maintenance in a timely manner (180 days), then the City will contract out the maintenance and recover costs in the manner it determines most appropriate.

The Stormwater Management Ordinance (Appendix A) details the allowable BMPs as well as the maintenance of BMPs. The maintenance section refers to Section 96 of the Code of Ordinances, which contains the following subchapters: Improperly Operating BMPs are Prohibited, Responsibility for Maintenance; Compliance with Provisions; and Inspections and Annual Inspection Fee.

### 2.3 Local Ordinance Review of Land-Use Planning and Design Techniques

The Model Plan addresses the use of land-use planning provisions to reduce impervious surfaces with design techniques and thereby reducing the need for BMPs and associated maintenance concerns. Jurisdictions are required to show they reviewed local ordinances with regard to the following planning techniques (and the general advantages and disadvantages of incorporating these approaches at the local level) and show that they have provided adequate flexibility for developers to utilize planning measures to reduce impervious surfaces. This review is intended to look for opportunities where these measures could be allowed, or obstacles to their use could be removed.

- Reducing road widths
- Reducing minimum parking requirements
- Minimizing curb and gutter use
- Cluster or open-space developments
- Traditional neighborhood developments

- Mixed-use developments

This review is underway by the Planning and Engineering Departments. It is anticipated that Goldsboro will insert verbiage into the City Ordinances as well as in the Technical Design and Details Manual which encourages, and allows for, variances in the items listed above. Variations in those planning and design techniques will be considered on a case-by-case basis provided that the measures would decrease impervious surface area, while still fulfilling the basic needs of the Planning and Engineering Departments.

#### 2.4 Jurisdiction-Wide and Inter-local Approaches

Jurisdiction-wide and inter-local approaches may be incorporated into the City's Stormwater Management Program if appropriate information shows how they will achieve the nitrogen loading reduction requirements applicable to new development. Some ideas include:

- Creating regional stormwater management facilities (such as ponds). Would require on-site controls to locally protect against water quality degradation and flooding, and Neuse buffer requirements may impact the feasibility of some approaches.

- "Land Banking" within the same watershed where development is occurring. Land should have significant water quality value and secured in a permanent conservation easement or equivalent legal mechanism prohibiting both farming and unapproved logging practices, tracked on GIS, and recorded on the plat or deed.

Prior to incorporating such approaches into the City's Stormwater Management Program, it will demonstrate and quantify the associated nitrogen removals to DWQ and the EMC.

#### 2.5 EPA's Phase II Stormwater Requirements

EPA's Phase II Stormwater Rule contains two minimum control measures which fall within this Program Plan for New Development: Construction Site Runoff Control and Post-Construction Runoff Control. Because of the way the Neuse Stormwater Rule is structured – limiting nitrogen export, freezing peak runoff volumes, establishing protection for riparian buffers in new development, and requiring the installation and maintenance of BMPs where necessary – the majority of the Phase II requirements for development controls are addressed through this Program Plan. However, modifications have been incorporated into this SWMP to comply with the Phase II program in the future.

##### 2.5.1 Construction Site Runoff Control

The Construction Site Runoff Control Minimum Control Measure requires a regulatory mechanism to control polluted runoff from construction sites; a site plan review process to control erosion and sediment and other waste at the site; an inspection and enforcement program of control measures to deter infractions; and a procedure for the receipt and consideration of public enquires, concerns, and information submitted regarding local construction activities. The State Sedimentation Control Act (Title 15A, Chapter 4) and the State's NPDES general stormwater permit for construction activities substantially address all of these issues.

2.5.2 Post-Construction Runoff Control

The Post-Construction Site Runoff Control Minimum Control Measure requires the development and implementation of strategies which include a combination of structural and/or nonstructural BMPs; an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls; and a method to ensure adequate long-term operation and maintenance controls. These provisions are included in this Stormwater Management Program.

# 3. Program Plan for Illegal Discharges

### 3.1 Establishing Legal Authority to Control Illegal Discharges

The Neuse Stormwater Rule requires that selected local governments establish a program to prevent, identify, and remove illegal discharges. Under Title XV, Land Usage, the Goldsboro City Council has adopted a new chapter (Chapter 156) for their Code of Ordinances entitled "An Ordinance to Implement Regulations Regarding Illegal Stormwater Discharges Related to the City of Goldsboro's Stormwater Management Program" to establish this authority within the City proper and its ETJ. This ordinance is included as Appendix C of this Stormwater Management Program and shows that Goldsboro will be able to:

- Control the contribution of pollutants to the stormwater collection system associated with industrial activity.
- Prohibit illegal discharges to the stormwater collection system.
- Prohibit discharge of spills and disposal of materials other than stormwater to the stormwater collection system.
- Determine compliance and noncompliance.
- Require compliance and undertake enforcement measures in cases of noncompliance.

Tables 3.1 and 3.2, respectively, identify some discharges that are and are not allowed to the stormwater collection system.

### 3.2 Collecting Jurisdiction-Wide Information

The City will collect geographic information at three increasing levels of detail:

- First, most cursory level of information shall be collected for the entire jurisdiction.
- Second level is a more detailed screening for high priority areas within the jurisdiction.

**Table 3.1 Discharges that May be Allowable to the Stormwater Collection System**

| | | |
|---|---|---|
| Waterline Flushing | Landscape Irrigation | Diverted Stream Flows |
| Uncontaminated Rising Ground Water | Uncontaminated Ground Water Infiltration to Stormwater Collection System | Uncontaminated Pumped Ground Water |
| Discharges from Potable Water Sources | Foundation Drains | Uncontaminated Air Conditioning Condensation |
| Irrigation Water | Springs | Water from Crawl Space Pumps |
| Footing Drains | Lawn Watering | Non-commercial Car Washing |
| Flows from Riparian Habitats and Wetlands | NPDES Permitted Discharges | Street Wash Water |
| Fire Fighting Emergency Activities | Wash Water from the Cleaning of Buildings | Dechlorinated Backwash and Draining Associated with Swimming Pools |

**Table 3.2 Types of Discharges that are not Allowed to the Stormwater Collection System**

| | | |
|---|---|---|
| Dumping of Oil, Anti-freeze, Paint, Cleaning Fluids | Commercial Car Wash | Industrial Discharges |
| Contaminated Foundation Drains | Cooling Water Unless No Chemicals Added and Has NPDES Permit | Washwaters from Commercial/ Industrial Activities |
| Sanitary Sewer Discharges | Septic Tank Discharges | Washing Machine Discharges |
| Chlorinated Backwash and Draining Associated with Swimming Pools | | |

- Third level is a very detailed investigation that shall be done upon the discovery of an illegal discharge.

The purpose of collecting jurisdiction-wide information (which must be completed by the second annual report in October 2002) is to assist with identifying potential illegal discharge sources and characterizing illegal discharges after they are discovered. The Engineering Department will be responsible for collecting and mapping the jurisdiction-wide information which will be compiled at a scale no greater than 1:24,000 to show the following:

- Location of sanitary sewers in areas of the major stormwater collection systems and the location of areas that are not served by sanitary sewers.

- Waters that appear on the NRCS Soil Survey Maps and the USGS 1:24,000 scale topographic maps.

- Land uses. Categories, at a minimum, should include undeveloped, residential, commercial, agriculture, industrial, institutional, publicly owned open space, and others.

- Currently operating and known closed municipal landfills and other treatment, storage, and disposal facilities, including for hazardous materials.

- Major stormwater structural controls, to include major stormwater outfalls and identification of their receiving waters (as required by Phase II).

- Known NPDES permitted discharges to the stormwater collection system (this list can be obtained from DWQ).

Written descriptions will be provided for map components as follows:

- A summary table of municipal waste facilities that includes the names of the facilities, the status (open/closed), the types, and addresses.

- A summary table of the NPDES permitted dischargers that includes the name of the permit holder, the address of the facility and permit number.

- A summary table of the major structural stormwater control structures that shows the type of structure, area served, party responsible for maintaining, and age of structure.

- A summary table of publicly owned open space that identifies size, location, and primary function of each open area.

#### 3.3 Mapping and Field Screening in High Priority Areas

As part of the October 2002 annual report, the Engineering Department will identify a high priority area for more detailed mapping and field screening (at least 20 percent of the jurisdiction area). Each subsequent year, another high priority area of at least 20 percent size will be chosen. In this way, Goldsboro will complete their high priority area mapping by 2007, which will meet expected EPA Phase II requirements.
"High Priority" means the areas where it is most likely to locate illegal discharges (e.g., older development). The basis of the annual selection of each high priority area will be explained in the annual report.

The **first part of the screening process** for the selected area is mapping of the stormwater system, which should include:

- Locations of the outfalls of any pipes from nonindustrial areas that are greater than or equal to 36 inches.

- Locations of the outfalls of any pipes from industrial areas that are greater than or equal to 12 inches.

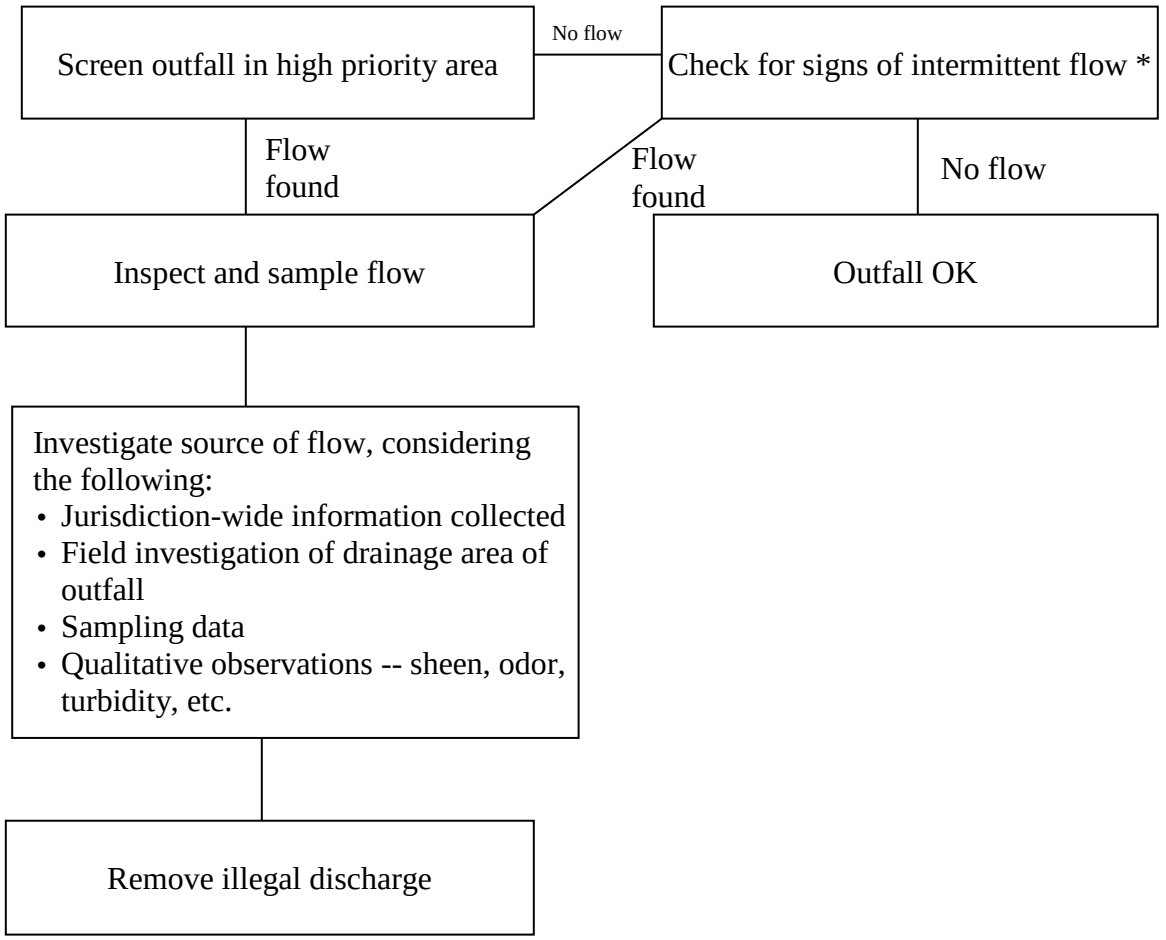
- Locations of drainage ditches that drain more than 50 acres of nonindustrial land.

- Locations of drainage ditches that drain more than 2 acres of industrial land.

- An accompanying summary table listing the outfalls that meet the above criteria that includes outfall ID numbers, location, primary and supplemental classification of receiving water, and use-support of receiving water.

The **second part of the screening process** is conducting a dry weather field screening of all outfalls that meet the criteria to detect illegal discharges. The General Services Department will be responsible for overseeing the dry weather field screening which will not be conducted during or within 72 hours following a rain event of 0.1 inches or greater. In residential areas, field screening will be scheduled either before 9:00 am or after 5:00 pm (if possible), hours when citizens are most likely to be home and illegal discharges are more likely to be evident. A field screening process, such as that illustrated in Figure 3.1, will be followed.

**Figure 3.1 Field Screening Process**




* Checking for intermittent flow includes rechecking outfall at a later date as well as visual observations for evidence of intermittent flow.

Note: Analytical monitoring is required only if an obvious source of the dry weather flow cannot be determined through an investigation of the upstream stormwater collection system.

If field screening shows that an outfall is dry, then the outfall should be checked for intermittent flow at a later date. If the field screening shows that an outfall has a dry weather flow, then a screening report for the outfall will be completed. The field screening report will contain information similar to that detailed in Table 3.3 (general information, field site description, visual observations, and any required sampling analyses). Analytical monitoring is required only if an obvious source of the dry weather flow cannot be determined through an investigation of the upstream stormwater collection system. Screening reports will be kept for five years.

Outfalls with flow will be screened again within 24 hours for the parameters included in the field screening report. Any tests for ammonia and nitrate/nitrite that are purchased will be sensitive for 0.1 to 10 mg/L.

**Table 3.3 Field Screening Report Information**

| | | |
|---|---|---|
| General Information | Sheet Number<br>Outfall ID Number<br>Date<br>Time<br>Date, Time and Quantity of Last Rainfall Event | |
| Field Site Description | Location<br>Type of Outfall<br>Dominant Watershed Land Use(s) | |
| Visual Observations | Photograph<br>Odor<br>Color<br>Clarity<br>Floatables | Deposits/Stains<br>Vegetation Condition<br>Structural Condition<br>Biological<br>Flow Estimation |
| Sampling Analysis * | Temperature<br>pH<br>Nitrogen-Ammonia | Nitrogen-Nitrate/Nitrite<br>Fluoride or Chlorine |

F-5

* Analytical monitoring is required only if an obvious source of the dry weather flow cannot be determined through an investigation of the upstream stormwater collection system.

#### 3.4 Identifying and Removing Illegal Discharges

After the field screening is complete, the General Services Department will take measures to identify and remove illegal discharges. The jurisdiction-wide information compiled as the first step in this process will be consulted for information on land uses, infrastructure, industries, potential sources, and types of pollution that exist in the drainage area of the outfall.
After potential sources have been identified, the General Services Department will be responsible for planning a systematic field investigation to minimize the amount of resources required to identify the source. Several field methods may be used for identifying illegal discharges, with the simplest approach recommended, if that will suffice. From simplest to more complex, the recommended approaches are:

- Site investigation.

- Additional chemical analysis (recommend testing for fecal coliform if the ammonia concentration is found to exceed 1.0 mg.L).

- Flow monitoring (multiple site visits recommended rather than a depth indicator).
- Dye testing (fluorescent dye is recommended).
- Smoke testing.
- Television inspection.

Documentation of the results of the office and field investigations will be kept on file for five years with the screening report.

After the source of an illegal discharge is identified, enforcement action will be taken to have the source removed or redirected to the sanitary sewer. Appendix C**,** which contains the adopted ordinance to establish authority to control illegal discharges, also contains the authority to order a source removed (or redirected) and penalties for noncompliance. Records of compliance actions will be kept for five years with the screening report.
In addition to keeping all screening reports on file, the Engineering Department will maintain a map of:

- Points of identified illegal discharges.
- Watershed boundaries of the outfalls where illegal discharges have been identified.
- An accompanying table that summarizes the illegal discharges that have been identified that includes location, a description of pollutant(s) identified, and removal status.

City personnel will be trained in how to conduct a thorough field screening, how to review the field screening results in conjunction with the jurisdiction-wide information collected previously, and how to plan an effective field investigation to identify the source of an illegal discharge. The training of City personnel to undertake the process of investigating and identifying illegal discharges will be multi-phased. Training materials (pamphlets, flyers, and/or booklets) will be disseminated to all involved personnel as part of Goldsboro's Public Education Action Plan (Section 5.0). It is anticipated that most (if not all) of these materials can be obtained from agencies such as DWQ and the US Environmental Protection Agency (EPA). In addition, the written training materials may be accompanied by seminars and hands-on field training. The General Services Department will be responsible for coordinating personnel training and for scheduling all illegal discharge activities.

#### 3.5 Preventing Discharges and Establishing a Hotline

The Planning and Finance Departments will contact persons who are responsible for establishments that are likely sources of illegal discharges (e.g., auto sales, rental, and repair businesses, lawn care companies, cleaners, and certain types of contractors). A letter (see sample letter in Appendix D) will be mailed to all such businesses that can be identified. The mailing list will be compiled from sources such as the Chamber of Commerce listings, the local Yellow Pages, and business tax rolls, and will be mailed before the first annual report is due in October 2001.

By October 2001, the Community Affairs Department will establish an illegal discharge hotline as a cost-effective way to identify illegal discharges. There will be a recording advising citizens what to do if they call during nonbusiness hours, or in the case where an illegal discharge is perceived to be an emergency. The Inspection Department will investigate all potential illegal discharges identified through the hotline. Part of the Public Education Action Plan (discussed in Section 5.0) will be to educate citizens about what types of discharges should not go to the stormwater collection system and make them aware of the hotline.

Table 3.4 is a summary table showing the phased implementation schedule for illegal discharges.

**Table 3.4 Phased Implementation Schedule for Illegal Discharge Activities**

| Year | Implementation Requirements | Annual Report requirements |
|---|---|---|
| By March 9, 2001 | • Establish legal authority to address illegal discharges. | • Submit report identifying established legal authority to meet requirements. |
| By October 2002 | • Collect jurisdiction-wide information.<br>• Select high priority area for additional screening.<br>• Initiate illegal discharge hotline. | • Report on completion of jurisdiction –wide information collection.<br>• Submit map of high priority areas and reason for selection.<br>• Report on initiation of illegal discharge hotline. |
| Each subsequent year after 2002 | • Complete mapping and field screening for high priority area.<br>• Select next high priority area.<br>• Identify and remove illegal discharges as encountered.<br>• Continue operating illegal discharge hotline. | • Submit map of stormwater collection system in high priority area upon request by DWQ.<br>• Document illegal discharges found and resulting action.<br>• Report on hotline usage and actions taken.<br>• Submit map of next high priority area and reason for selection. |

### 3.6 EPA's Phase II Stormwater Requirements

The Program Plan for Illegal Discharges outlined above for the Neuse Stormwater Rule, in conjunction with the Public Education Action Plan detailed in Section 5.0, addresses the expected requirements of EPA's Phase II Stormwater, Illicit Discharge Detection and Elimination Minimum Control Measure. Adjustments have been made to this Stormwater Management Program to comply

with the requirements of EPA's Phase II Stormwater rule based upon NCDENR's instructions for the Phase II Stormwater Permit. The Phase II Program includes the following:

- ***A storm sewer system map, showing the location of all outfalls and the names and location of all waters of the US that receive discharges from those outfalls.*** During the collection of jurisdiction –wide information, all waters will be mapped that appear on NRCS Soil Survey Map and USGS 1:24,000 scale topographic map. Outfalls will be mapped during the mapping and field screening of each high-priority area; however, the outfall mapping schedule for this program (Neuse Stormwater Rule) must be accelerated to meet the expected Phase II requirements.

- ***That an ordinance, or other regulatory mechanism, establish a prohibition on non-storm water discharges into the municipal separate storm sewer systems (MS4), and appropriate enforcement procedures and actions.*** The ordinances established in response to the Neuse Stormwater Rule will fulfill this requirement.

- ***A plan to detect and address non-storm water discharges, including illegal dumping, into the MS4s.*** The ordinances established in response to the Neuse Stormwater Rule will fulfill this requirement.

- ***The education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste***. The Public Education Action Plan (detailed in Section 5.0) lays the groundwork for a comprehensive stormwater education program for the City of Goldsboro. The required Phase II elements are already a part of this program. Additional elements have been added to the Action Plan for the Neuse Stormwater Rule now that the State has issued the Phase II Permit.

- ***The determination of appropriate best management practices and measurable goals for this minimum control measure.*** The Phase II Stormwater rules recommend four steps for their plan: (1) locate problem areas, (2) find the source, (3) remove/correct illicit connections, and (4) document actions taken. This Program Plan for Illegal Discharges addresses all of the Phase II components, and required only minimal changes to comply with Phase II Stormwater requirements.

## 4. Retrofit Locations

### 4.1 Annual Retrofit Actions

Goldsboro will establish a program to identify places within existing developed areas that are suitable for retrofits. Based on their current census figures, Goldsboro will identify a minimum of three retrofit locations each year. Possible sites for retrofits will be selected by the Planning and Engineering Departments. The Engineering Department will then conduct a feasibility study of each site before compiling a final list of acceptable sites. This list will be submitted to the Stakeholders Committee to set the priority for each site, and then to the Steering Committee for approval of the final selections (see Section 5.0 for more information on the Stakeholders and Steering Committees). The retrofit information tables, which must be included in the annual report, will be prepared by the Engineering Department during each feasibility study.

Retrofit opportunities will be considered acceptable if all of the following conditions have been investigated:

- The retrofit, if implemented, clearly has the potential to reduce nitrogen loading to the receiving water.
- The watershed is clearly contributing nitrogen loading above background levels.
- The landowner where the retrofit is proposed is willing to have the retrofit installed on his property (often the most difficult aspect of implementing a retrofit).
- There is adequate space and access for the retrofit.
- It is technically practical to install a retrofit at that location.

Sites may be carried over to meet minimum requirements for up to two subsequent years provided that BMPs/retrofits have not been implemented and the site continues to meet the criteria above on an annual basis.

#### 4.2 Data Collection and Notification

Each retrofit opportunity that is identified will be accompanied by information to describe the location of the retrofit, the type of retrofit being proposed, the property owner, as well as basic information about the watershed and the receiving water. Table 4.1 (Table 4b from the Model Plan) or one very similar to it will be completed for each retrofit opportunity and be submitted on October 30 of each year, beginning in 2001, as part of the annual report.

**Table 4.1 Retrofit Opportunity Table**

| | |
|---|---|
| Location description, including directions from a major highway | |
| Type and description of retrofit opportunity | |
| Current property owner | |
| Is the property owner willing to cooperate? | |
| Land area available for retrofit (sq. ft.) | |
| Accessibility to retrofit site | |
| Drainage area size (acres) | |
| Land use in drainage area (percent of each type of land use) | |
| Average slope in drainage area (%) | |

| | |
|---|---|
| Environmentally sensitive areas in drainage area (steep slopes, wetlands, riparian buffers, endangered/ threatened species habitat) | |
| Approximate annual nitrogen loading from drainage area (lbs/acre/year) * | |
| Potential nitrogen reduction (lbs/ac/yr) | |
| Estimated cost of retrofit | |
| Receiving water | |
| DWQ classification of receiving water | |
| Use support rating for receiving water | |
| Other important information | |

* Suggested methodology: Use Figure 2.2 from Section 2.0 (Method 2) to compute nitrogen export from the drainage area based on the amount of impervious surface, landscaped area and forested area in the watershed.

DWQ will be responsible for posting the retrofit opportunities on its Web Page and also for notifying a minimum of 11 organizations of the opportunities for retrofitting within existing developed areas.

#### 4.3 Mapping Identified Retrofit Locations

Goldsboro will prepare maps which show the locations of the retrofit opportunities (the mapping may be accomplished by using computers or with existing hard copy maps). The scale of the map will be large enough to adequately identify the following required parameters:

- Drainage area to retrofit opportunity site.
- Land uses within the drainage area.
- Location of retrofit opportunity.
- Property boundaries in the vicinity of the retrofit opportunity.
- Significant hydrography (as depicted on USGS topographic maps and NRCS Soil Survey maps).
- Roads.
- Environmentally sensitive areas (steep slopes, wetlands, riparian buffers, endangered/threatened species habitat – where available).
- Publicly owned parks, recreation areas, and other open lands.

## 5. Public Education and Public Involvement

### 5.1 Public Education Action Plan

The Neuse Stormwater Rule requires that Goldsboro develop a locally administered environmental education program (a Public Education Action Plan) to address nitrogen loading issues. This Action Plan will outline the proposed education activities for the upcoming year, and will identify target audiences and anticipated costs of the program. Goldsboro will submit their annual Action Plan to DWQ for approval prior to October 1 of each year, starting October 1, 2001.
The Action Plan will consist of activities from each of the two categories listed in Table 5.1. Innovative activities not included in this table may be considered on a case-by-case basis. All activities must be designed to raise awareness and educate the audience about water quality, nonpoint source pollution, and the effects of everyday activities on water quality and nutrient loading. At least one of these activities will be directed at educating the citizens about what types of discharges should not go to the stormwater collection system and to making them aware of the illegal discharge hotline. In addition to the Category 1 and 2 activities, this Action Plan will include two technical workshops in the first year and a toll free hotline for reporting illegal discharges.

**Table 5.1 Public Education Action Plan Category 1 and 2 Activities**

| Category 1 | Category 2 |
|---|---|
| Demonstration Sites (for BMPs) | Fact Sheets |
| "Adopt-a-Program" | Environmental Freebies |
| Quarterly local newspaper articles | Fertilizer Tags |
| Storm drain marking | Flyers |
| Recognition Program (recognize environment friendly participants) | Postmarks |
| Web page | Utility bill inserts |
| Local Cable TV program | Close-out Packages (new homeowners) |
| Toll free hotline for reporting environmental problems | Speak to civic organizations quarterly |
| Environmental field day | |
| Technical Workshop (only applicable after 1st year) | |
| Environmental Contest | |

As discussed in Section 2.2.1, information sources will be provided to property owners and developers explaining the benefit to them of incorporating site planning practices into their new development plans from the onset. Information sources may also be provided on the various BMPs available for nitrogen reduction as well as information on new BMP techniques or improvements in established BMP techniques.

For the training of City personnel to identify and remove illegal discharges (Section 3.4), training materials such as pamphlets, flyers, and/or booklets will be disseminated to all involved personnel

by the General Services Department. It is anticipated that most (if not all) of these materials can be obtained from agencies such as DWQ and the US EPA. In addition, the written training materials may be accompanied by seminars and hands-on field training.

#### 5.1.1 Planned Activities

Goldsboro (with a population of less than 60,000) will include two Category 1 activities and two Category 2 activities in their annual Action Plan. The combination of activities selected by the City will be chosen so as to provide a general awareness of nitrogen loading issues and address a diverse audience.

The ultimate goal of the Public Education Program is to utilize major media advertising (television, radio, and newspaper) to reach a broad audience (but may be cost prohibitive). Should Goldsboro use effective major media advertising, either independently or through a cooperative effort, then Goldsboro will be exempt from the minimum Category 1 and 2 requirements.

As part of Goldsboro's integrative approach to managing their Stormwater Management Program, two separate advisory committees were formed to aid in the development of the City's Stormwater Plan: The Steering Committee, an internal management group; and a Stakeholder's Committee, a select community group. Both committee's were convened on July 12 and August 17, 2000 to provide direct input into this Program Plan.
The Steering Committee is composed of representatives from the City Manager's office, and the General Services, Recreation and Parks, Planning, Engineering, Community Affairs, and Finance Departments. The Charge to the Steering Committee included the need to assign responsibilities for program elements, consider manpower and budgetary needs, obstacles to implementation, and steps that could be taken to remove obstacles and/or provide incentives for program participation. It is anticipated that the Steering Committee will continue to meet on a quarterly basis to review the implementation of the program and to address any new issues which may arise.

For the Stakeholder's Committee, individuals from the following concerns were invited to participate, along with representatives from the City Manager's office: the Chamber of Commerce, Seymour Johnson Air Force Base, Industry, Commercial Development, Wayne Community College, the Economic Development Corp., the Neuse River Foundation, a large and small developer, an engineer, and a concerned property owner (and flood victim). Although compliance with the Neuse River Rule (and eventually EPA's Phase II Rule) is mandatory, the City wanted to establish a means for active involvement and input by affected citizenry. It was explained to the Stakeholder's that only by voicing their concerns about program implementation, and by sharing their ideas for public education/participation and specific program incentives, could the program be tailored to best serve the citizens of Goldsboro.

It is anticipated that this group, or one structured very similar to it, will continue to meet on a quarterly basis to discuss any problems and concerns they encounter during program implementation. This group is an excellent starting place for later community involvement in carrying out the program, and will help provide support for enforcement and funding initiatives.

In addition, Goldsboro already has several entities in place which are useful in disseminating information to the public and for garnering their involvement. Community Affairs will utilize these groups as avenues for public education and outreach, and public participation/involvement.

- The Commission of Community Affairs was established to "inform the general public of existing local, state and federal policies, regulations and programs and how these particular policies, regulations and programs directly affect the lives of area residents." In addition, their purpose is to create a forum which permits open discussion and invites the free expression of public opinion, as well as to achieve and sustain an effective degree of citizen involvement.

- The Planning Commission was established to serve as an advisory board to make recommendations to the City Council on any matter presented to them by the Director of Planning and Community Development, by any local governing board, or by any Board member.

- The Advisory Committee on Community Development consists of ten citizens and residents of the City, with special efforts made to include a majority of members who are low- and moderate-income persons, members of minority groups, residents of area where significant amounts of activity are proposed or on-going, the elderly, the handicapped, the business community, and civic groups who are concerned about community development. At least two members from each community development area must be included. This committee, or one structured like it, could be used to play an active role in educating the general public on stormwater related issues.

- The Youth Council offers an organization through which the youth of the community may benefit both themselves and their community. Stormwater concerns would be an excellent opportunity to initiate programs and projects that are of benefit to the youth and to the City of Goldsboro.

#### 5.1.2 Technical Workshops

During the first year of program implementation, General Services will take responsibility for conducting two technical workshops. One shall be designed to educate local government officials and staff, and the other for the development community (including engineers, developers, architects, contractors, surveyors, planners, and realtors). In subsequent years, workshops are considered an option under Category 2 activities, and will be considered for inclusion in the annual Education Action Plan.

### 5.2 Incorporating Existing Resources and Programs

Community teaming is encouraged in the Stormwater Rule, and Goldsboro will make every effort to research and incorporate existing resources and stormwater education programs. Although Goldsboro's unique Action Plan will fulfill all public education requirements from the onset, the City recognizes that utilizing existing resources will not only result in a more consistent education effort for communities of all sizes, but will make the most efficient use of available resources and will reduce duplication of efforts.

Teaming possibilities with Wayne County will continually be explored, particularly in regards to the following Public Education activities:

- ***Major Media Advertising***: If the City and County could implement effective major media advertising (radio, television, newspaper), they will become exempt from minimum Category 1 and 2 activities.

- ***Category 1 and 2 activities***: If effective major media advertising is not employed, it may prove easiest and most cost efficient to conduct planned activities together.
- ***Workshops***: The two technical workshops that must be conducted during the first year (one to educate local government officials and staff, and the other for the development community) could be sponsored jointly, thereby reducing costs and duplication of efforts.

#### 5.3 EPA's Phase II Stormwater Requirements

As detailed earlier in this section, Goldsboro already has several entities in place which are useful in disseminating information to the public and for garnering their involvement. These groups may become an integral part of Goldsboro's Phase II Stormwater Management Program which requires public education and outreach, and public participation/involvement. For Phase II, educational materials and strategies will be tailored to activities relevant to local situations and issues, while reaching a variety of audiences and communities including ethnic, minority, and low-income communities; academia and educational institutions; neighborhood and community groups; children; outdoor recreation groups; and business and industry. Goldsboro's Public Education Action Plan for the Neuse Stormwater Rule will serve as an excellent foundation for the City's Phase II efforts, and will be expanded and/or tailored on an annual basis.

## 6. Pollution Prevention/Good Housekeeping

Another component of the Phase II Rule is the Pollution Prevention/Good Housekeeping Minimum Control Measure. The General Services Department has responsibility for the development and implementation of a maintenance program with the ultimate goal of preventing and reducing pollutant runoff from municipal operations into the storm sewer system. In addition, the program will include employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations. If such components are not already an integral part of Goldsboro's Action Plan by the time this Minimum Control Measure is required by the Phase II Rule, these particular education and training initiatives will be incorporated into the SWMP by reference to the Public Education Action Plan.

## 7. Evaluation and Reporting

Annual Neuse River Basin Stormwater Management Program reports must be submitted to DWQ by October 30 of each year beginning in 2001. An implementation schedule for all of the major Neuse Stormwater Rule components is included in Appendix E. All reports must contain the following information:

### A. New Development Review/Approval

The following information will be submitted as part of the annual reporting requirement:

- Acres of new development and impervious surface based on plan approvals.

- Acres of new development and impervious surface based on Certificates of Occupancy.
- Summary of BMPs implemented and use of offset fees.
- Computed baseline and net change in nitrogen export from new development that year (see Table 7.1 for specific reporting requirements).
- Summary of maintenance activities conducted on BMPs.
- Summary of any BMP failures and how they were handled.
- Summary of results from jurisdictional review of planning issues.

**Table 7.1 Specific Annual Nitrogen Loading Reporting Requirements***

| |
|---|
| **1. The predevelopment nitrogen load from all land developed during the past year.** This can be determined by:<br>• Taking total acres of cropland developed multiplied by 13.6 lbs/ac/yr, and adding<br>• Total acres of pasture developed multiplied by 4.4 lbs/ac/yr for pasture, and adding<br>• Total acres of forested land developed multiplied by 1.7 lbs/ac/yr, and adding<br>• Total acres of residential land redeveloped multiplied by 7.5 lbs/ac/yr, and adding<br>• Total acres of commercial and industrial lands redeveloped multiplied by 13.0 lbs/ac/yr. |
| **2. The post development nitrogen load from all land developed during the past year without structural BMPs**. |
| **3. The post development nitrogen load from all land developed during the past year with structural BMPs.** Unfortunately, it will be very difficult to document the improvements in nitrogen loading due to the implementation of nonstructural BMPs. However, jurisdictions are more than welcome to attempt this if they wish. |
| **4. Pounds of nitrogen bought by developers making offset payments to the Wetland Restoration Program**. |
| **5. The net change in nitrogen loading for the year.** This would be (Item 3 - Item 1) - Item 4. A positive number would denote an increase; a negative number would denote a decrease. |
| **6. The reductions in nitrogen loading due to structural BMPs and Wetland Restoration Program payments.** This would be (Item 2 - Item 3) + Item 4. This should be a positive number that represents the pounds of nitrogen removed that year as a result of implementing the Neuse Stormwater Rule. |

* This list of items that should be accounted for was agreed upon by the Neuse Stormwater Team during their June 1, 2000 meeting.

**B. Illegal Discharges**

The annual reporting requirements for illegal discharges are detailed in Table 7.2.

**Table 7.2 Annual Illegal Discharge Reporting Requirements**

| Year | Annual Report requirements |
|---|---|
| By March 9, 2001 | • Submit report identifying established legal authority to meet requirements. |
| By October 2002 | • Report on completion of jurisdiction–wide information collection.<br>• Submit map of high priority areas and reason for selection.<br>• Report on initiation of illegal discharge hotline. |
| Each subsequent year after 2002 | • Submit map of stormwater collection system in high priority area upon request by DWQ.<br>• Document illegal discharges found and resulting action.<br>• Report on hotline usage and actions taken.<br>• Submit map of next high priority area and reason for selection. |

**C. Retrofit Locations**

- Data on each retrofit opportunity (Table 4.1 or equivalent),
- Maps of potential retrofit sites as specified in Section 4.3, and
- The status of any retrofit efforts that have been undertaken within the jurisdiction.

**D. Public Education**

The report must summarize the next years Action Plan and evaluate the implementation of the previous years Action Plan (if applicable). The report should include goals, activities completed, realized education program costs, explanation of experienced shortfalls, and a plan as to how the locality will address shortfalls.

## 8. EPA Phase II Measurable Goals

The City of Goldsboro has designed their Stormwater Management Program to:

- Reduce the discharge of pollutants to the “maximum extent practicable”
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

Implementation of the MEP standard requires the development and implementation of BMPs and the achievement of measurable goals to satisfy each of the six minimum control measures. Under the Phase II Rule, the City of Goldsboro’s Stormwater Management Program has six elements that, when implemented in concert, is expected to result in significant reductions of pollutants discharge into receiving water bodies.
The six MS4 program elements, termed “minimum control measures,” are outlined in Appendix F. Each is followed by a preliminary schedule of measurable goals, which is required for each minimum control measure, and is intended to gauge permit compliance and program effectiveness. The measurable goals, as well as the BMPs, reflect the needs and characteristics of the operator and the area served by its small MS4. Furthermore, they were chosen using an integrated approach that fully addresses the requirements and intent of the minimum control measure.

# CHAPTER 155: STORMWATER MANAGEMENT FOR NEW DEVELOPMENT

Section

# *GENERAL PROVISIONS*

### 8.1.1 § 155.01 STATUTORY AUTHORIZATION.

The Legislature of the State of North Carolina has, in Chapter (T15A), Article (02B), Section (.0235), entitled *Neuse River Basin - Nutrient Sensitive Waters Management Strategy; Basinwide Stormwater Requirements,* designated specific local governments for new of development stormwater management requirements as part of the Neuse River Nutrient Sensitive Waters stormwater management strategy. Therefore, the City Council does ordain as follows in this chapter.

(Ord. 2000-95, passed 11-20-00)

## NUTRIENT REDUCTION PEAK RUNOFF CONTROL, AND PROTECTING RIPARIAN BUFFERS

### 8.1.2 § 155.02 NUTRIENT REDUCTION REQUIREMENTS.

(A) *Definition of new development/land disturbance.* For purposes of this chapter, ***DEVELOPMENT OR LAND DISTURBANCE*** shall be defined to include the following:

(1) Any activity that disturbs greater than one acre of land in order to establish, expand or modify a single-family or duplex residential development or a recreational facility,

(2) Any activity that disturbs greater than one-half acre of land in order to establish, expand or modify a multi-family residential development or a commercial, industrial or institutional facility,

(3) Any grubbing, stump removal and/or grading activity,

(B) *Exemptions.* Agriculture, mining or forestry activities are not subject to the new development requirements of this chapter.

(C) *Vested rights.*

(1) Property owners that can demonstrate that they have vested rights as of the effective date of this chapter will not be subject to the requirements for new development. Vested rights may be based on at least one of the following:

(a) Substantial expenditures of resources as determined by the Engineering Department (time, labor, and money) based on a good faith reliance upon having received a valid local government approval to proceed with the project, or

(b) Having an outstanding valid building permit in compliance with G.S. § 153A-344.1 or G.S. § 160A-385.1, or

(c) Having an approved site specific or phased development plan in compliance with G.S. § 153A-344.1 or G.S. § 160A-385.1.

(2) Projects that require state permits, such as landfills, NPDES wastewater discharges, land application of residuals and road construction activities shall be considered to have vested rights if a state permit was issued prior to the effective date of this chapter.

(D) *Calculation of nitrogen export.* The nitrogen export from each development must be calculated. This export will be calculated in pounds per acre per year (lb/ac/yr). The following methodologies will be used for calculating nitrogen export from new development (refer to the *City of Goldsboro Stormwater Management Program for Nitrogen Control in The Neuse River Basin* for calculating nitrogen export loading):

(1) Method 1 is intended for residential developments where lots are shown, but the actual footprints of buildings are not shown on the plans.

(2) Method 2 is for residential, commercial, and industrial developments when the entire footprint of the roads, parking lots, buildings, and any other built-upon area is shown on the site plans.

(3) For nonresidential subdivisions where the impervious surfaces are not shown on the plans at the time of submittal, the developer or builder will specify areas of impervious surface, undisturbed open space, and managed open space in their building permit application, assuming the maximum impervious surfaces and minimum open space for the project design. The developer or builder will then use Method 2 for their calculation.

(4) For redevelopment projects, a modified procedure as described by the NC Division of Water Quality (DWQ) will be used to determine the total change in nitrogen loading.

(E) *Nitrogen export standards.*

(1) All new development will be limited to a nitrogen export of 3.6 pounds per acre per year (lbs/ac/yr). Property owners will have the option to partially offset projected nitrogen loads by funding wetland or riparian area restoration through the NC Wetlands Restoration Program. As established by Rule 15A NCAC 2B .0240, the rate shall be $11/lb/yr, at an amount sufficient to fund 30 years of nitrogen reduction. The result is a one-time offset payment of $330/lb/ac, which must be paid prior to approval of the development plan. However, no new residential development will be permitted to exceed a total nitrogen loading rate of 6.0 lbs/ac/yr, and no new nonresidential development will be permitted to exceed 10.0 lbs/ac/yr.

(2) If the development contributes greater than 3.6 pounds per acre per year of nitrogen, then the table below summarizes the options available, depending upon whether the development is residential or nonresidential. Any changes to the nitrogen export standards approved by the Environmental Management Commission will be adopted by reference.

***Nitrogen Export Reduction Options***

| ***Residential*** | Commercial/Industrial |
|---|---|
| If the computed export is less than 6.0<br><br>lbs/ac/yr then the owner may either: | If the computed export is less than 10.0<br><br>Lbs/ac/yr, then the owner may either: |
| 1.Install BMPs to remove enough nitrogen to bring the development down to 3.6 lbs/ac/yr. | 1.Install BMPs to remove enough nitrogen to bring the development down to 3.6 lbs/ac/yr. |
| 2.Pay a one-time offset payment of $330/lb to bring the nitrogen down to the 3.6 lbs/ac/yr. | 2.Pay a one-time offset payment of $330/lb to bring the nitrogen down to the 3.6 lbs/ac/yr. |
| 3.Do a combination of BMPs and offset payment to achieve a 3.6 lbs/ac/yr export. | 3.Do a combination of BMPs and offset payment to achieve a 3.6 lbs/ac/yr export. |
| If the computed export is greater than 6.0<br><br>lbs/ac/yr, the owner must use on-site<br><br>BMPs to bring the development's export<br><br>down to 6.0 lbs/ac/yr. Then, the owner<br><br>may use one of the three options above to<br><br>achieve the reduction between 6.0 and 3.6 lbs/ac/yr. | If the computed export is greater than 10.0 lbs/ac/yr, the owner must use on-site BMPs to bring the development's export down to 10.0 lbs/ac/yr. Then, the owner may use one of the three options above to achieve the reduction between 10.0 and 3.6 lbs/ac/yr. |

(3) If an offset payment is being made to the Wetlands Restoration Program, the owner must provide the city with evidence that DWQ has received payment prior to the city's issuance of a building permit.

(Ord. 2000-95, passed 11-20-00)

### 8.1.3 § 155.03 PEAK RUNOFF CONTROL.

(A) There shall be no net increase in peak stormwater runoff flow leaving a new development site from the pre-development conditions for the 1-year, 24-hour storm as determined by calculating the pre- and post-development runoff in accordance with the *City of Goldsboro Stormwater Management Program for Nitrogen Control in The Neuse River Basin.*

(B) The Rational Method is the most common method for computing the peak rate of runoff from small drainage basins (up to 150 acres) and will be used to determine the peak flow from both

the pre-development (performed prior to issuance of the building permit) and post-development (performed prior to issuance of the certificate of occupancy) conditions. If peak runoff needs to be calculated for a larger drainage area (more than 150 acres), the peak discharge method as described in the USDA Soil Conservation Service's Technical Release Number 55 (TR-55) will be employed for computing the pre- and post-development conditions.

(Ord. 2000-95, passed 11-20-00)

### 8.1.4 § 155.04 PROTECTING RIPARIAN BUFFERS.

(A) *Establishment of buffer.* Riparian areas must be protected on new developments in accordance with the Riparian Buffer Rule (15A NCAC 2B .0233). The rule requires for protecting and maintaining the 50-foot riparian buffers on all sides of intermittent and perennial streams, ponds, lakes, and estuaries in the Neuse River Basin. These waters must be shown on the most recent version of either a Natural Resources Conservation Service (NRCS) soil survey county map or a 1:24,000 scale (7.5 minute quadrangle) topographic map prepared by the U.S. Geological Survey (USGS). The city will refrain from issuing local approvals for any new development activity that is proposed to take place within the first 50 feet adjacent to an affected water body, unless:

(1) The person requesting the approval does not proposed to impact the riparian buffer of a surface water indicated on the NRCS or USGS maps listed above, or

(2) The property owner had received approval by DWQ. DWQ approval could be:

(a) An on-site determination from DWQ that surface waters are not present;

(b) An authorization certificate for a use designated as allowable;

(c) An authorization certificate and approval on a mitigation plan for a use designated as allowable with mitigation; or

(d) A variance.

(B) *Description of buffers on development plans.* Riparian areas to be protected will be recorded on new or modified plats. If the plat shows an encroachment into a riparian buffer, the appropriate DWQ approval must accompany the preliminary and fiend plat submissions.

(Ord. 2000-95, passed 11-20-00)

## *BEST MANAGEMENT PRACTICES*

### 8.1.5 § 155.10 ALLOWABLE BEST MANAGEMENT PRACTICES.

(A) The following best management practices may be utilized for nitrogen reduction:

Wet detention ponds

Constructed wetlands

Open channel practices

Riparian buffers

Bioretention

Vegetated filter strips with level spreader

Sand filters

Proprietary BMPs

(B) The total nitrogen (TN) BMP removal rates to be used in calculating nitrogen reductions are provided in the table below. Any state-approved modifications or additions to the list of BMPs available for nitrogen reduction and/or determinations of TN removal rates are adopted by reference.

| ***BMP Types, TN Removal Rates and Design Standards*** | | |
|---|---|---|
| ***BMP Types*** | TN Removal Rate Based on Current Literature Studies | Design Standards |
| Wet detention ponds | 25% | NC and MD Design Manuals |
| Constructed wetlands | 40% | NC and MD Design Manuals |
| Open channel practices | 30% | NC and MD Design Manuals |
| Riparian buffers | 30% | Neuse Riparian Buffer Rule<br><br>(15A NCAC 2B .0233) |
| Bioretention | 25% | NC and MD Design Manuals |
| Vegetated filter strips with level spreader | 20% | NC and MD Design Manuals and other literature information |
| Sand filters | 35% | NC and MD Design Manuals |
| Proprietary BMPs | Varies | Per manufacturer subject to DWQ approval |

(C) If more than one BMP is installed in series on a development, then the removal rate shall be determined through serial rather than additive calculations. For example, if a wet detention pond discharges through a riparian buffer, then the removal rate shall be estimated to be 47.5%. The pond removes 25% of the nitrogen and discharges 75% into the buffer. The buffer then removes 30% of

the nitrogen discharged from the pond, which is 22.5%. The sum of 25 and 22.5 is 47.5. The removal rate is not 25% plus 30%.

(Ord. 2000-95, passed 11-20-00)

8.1.6

8.1.7 § 155.11 MAINTENANCE OF BEST MANAGEMENT PRACTICES.

All best management practices that are implemented to achieve nitrogen reduction and flow attenuation will require a maintenance plan. For the purposes of this chapter refer to:

(A) Section 96.40, Improperly Operating BMPs (Stormwater Control Facilities) are Prohibited; Responsibility for Maintenance.

(B) Section 96.41, Compliance with Provisions.

(C) Section 96.42, Inspections and Annual Inspection Fee.

(Ord. 2000-95, passed 11-20-00)

## *BUILDING PERMIT, REVIEW FEES, AND ENFORCEMENT*

8.1.8 § 155.20 BUILDING PERMIT AND BUILDING PERMIT REVIEW FEES.

(A) As of the effective date of the adoption of this chapter, any builder applying for a building permit must submit his calculations for nitrogen loading and peak runoff with both the preliminary and final plats. Application for a building permit constitutes a certification by the developer or builder that all provisions of this chapter have been fully met and that the calculations for nitrogen loading and peak runoff, as shown on the preliminary and final plats, are correct. Any BMP requiring engineering design will have the engineer's seal and signature affixed to the design drawing, and the engineer's seal will attest that the design for the BMP was completed in accordance with good engineering practices.

(B) The City Council may set a fee structure for the cost of reviewing all building permit applications for compliance with this chapter, and the fee schedule will be as shown in the *City of Goldsboro Stormwater Management Program for Nitrogen Control in the Neuse River Basin.*

(Ord. 2000-95, passed 11-20-00)

### 8.1.9 § 155.21 CRIMINAL PENALTIES.

Any person who is found in violation of any provision of this chapter, rule, regulation or order duly adopted or issued pursuant to this chapter shall be guilty of a misdemeanor, punishable by a fine not to exceed $500. Each violation shall be a separate offense.

(Ord. 2000-95, passed 11-20-00)

### 8.1.10

### 8.1.11 § 155.22 ORDER TO CORRECT VIOLATION.

Upon a determination that such a violation exists, the Director of Inspections or his designee shall notify, in writing, the owner of the premises and shall order the prompt correction thereof. The owner will be allowed 180 days from the receipt of such written notice to comply with the provisions of this chapter.

(Ord. 2000-95, passed 11-20-00)

### 8.1.12 § 155.23 FAILURE TO CORRECT VIOLATION; CORRECTION BY CITY.

If any person, having been ordered to correct a known violation of this chapter, fails, neglects, or refuses to correct the condition(s) within 180 days from receipt of the order, the Director of Inspections shall cause the condition to be remedied by having employees of the city or other designated persons go upon the premises and perform the necessary corrections under the supervision of an officer or employee designated by the City Manager.

(Ord. 2000-95, passed 11-20-00)

### 8.1.13 § 155.24 COSTS OF CORRECTION.

The actual cost incurred by the city to bring the development into compliance with the provisions of this chapter shall be charged to the owner of the development. They will be mailed a statement of charges with instructions that such charges are due and payable within 30 days from the receipt thereof.

(Ord. 2000-95, passed 11-20-00)

### 8.1.14 § 155.25 FAILURE TO PAY CHARGES; LIEN CREATED.

In the event charges for the correction of the violation are not paid within 30 days after the receipt of a statement of charges as provided in § 155.24 above, such charges shall become a lien upon the land or premises where the violation existed, and shall be collected as unpaid ad valorem taxes, as provided in G.S. §160A-193. In the event the person or persons found in violation of this chapter have divested themselves of the land or premises where the violation existed, the city may pursue the responsible person or persons for payment of the charges through other legal means.

(Ord. 2000-95, passed 11-20-00)

### 8.1.15 § 155.26 PROCEDURE DEEMED ADDITIONAL TO OTHER REMEDIES.

The procedure set forth in this subchapter shall be in addition to any other remedies that may now or hereafter exist under law for the correction of such violations as outlined in this chapter, and this subchapter shall not prevent the city from proceeding in a criminal action against any person, firm, or corporation violating the provisions of this subchapter as provided in G.S. § 14-4.

(Ord. 2000-95, passed 11-20-00)

# CHAPTER 151: FLOOD DAMAGE PREVENTION

Section

## *GENERAL PROVISIONS*

### § 151.01 SHORT TITLE.

This chapter shall be known as the “Flood Damage Prevention Ordinance,” and the maps herein referred to are identified by the titles (FIRM) “Flood Insurance Rate Map” and (FHBM) “Flood Hazard Boundary Map”.

(Ord. 1991-50, passed 8-5-91)

### § 151.02 STATUTORY AUTHORIZATION.

The Legislature of the State of North Carolina has in G.S. §§ 143-215.51 et seq., 160A- 381 et seq., 160A-411 et seq., and 160A-456 et seq., delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City Council does ordain as follows in this chapter.

(Ord. 1991-50, passed 8-5-91)

## § 151.03 FINDINGS OF FACT.

(A) The flood hazard areas of the city are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

(B) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, floodproofed, or otherwise unprotected from flood damages.

(Ord. 1991-50, passed 8-5-91)

## § 151.04 STATEMENT OF PURPOSE.

It is the purpose of this chapter to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

(A) Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;

(B) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

(C) Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;

(D) Control filling, grading, dredging, and other development which may increase erosion or flood damage; and

(E) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

(Ord. 1991-50, passed 8-5-91)

## § 151.05 OBJECTIVES.

The objectives of this chapter are to:

(A) Protect human life and health;

(B) Minimize expenditure of public money for costly flood control projects;

(C) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

(D) Minimize prolonged business interruptions;

(E) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in floodplains;

(F) Help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas; and

(G) Insure that potential home buyers are notified that property is in a flood area.

(Ord. 1991-50, passed 8-5-91)

## § 151.06 DEFINITIONS.

For the purpose of this chapter the following definitions shall apply unless the context clearly indicates or requires a different meaning.

***APPEAL.*** A request from a review of the Local Administrator's interpretation of any provision of this chapter.

***ADDITION (TO AN EXISTING BUILDING).*** Any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.

***AREA OF SPECIAL FLOOD HAZARD.*** The land in the floodplain within a community subject to a 1% or greater chance of being equalled or exceeded in any given year.

***BASE FLOOD.*** The flood having a 1% chance of being equalled or exceeded in any given year.

***BASEMENT.*** That lowest level or story which has its floor subgrade on all sides.

***BREAKAWAY WALL.*** A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system. A

***BREAKAWAY WALL*** shall have a design-safe loading resistance of not less than ten and no more than 20 pounds per square foot. A wall with loading resistance of more than 20 pounds per square foot requires a professional engineer or architect's certificate.

***BUILDING.*** Any structure built for support, shelter or enclosure for any occupancy or storage.

***DEVELOPMENT.*** Any man-made 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.

***ELEVATED BUILDING.*** A nonbasement building built, in the case of a building in Zones A1-A30, AE, A, A99, AO, AH, B, C or X to have the top of the elevated floor, or in the case of a building in Zones V1-V30, VE or V to have the bottom of the lowest horizontal structural member of the elevated floor above the ground by means of pilings, columns (posts and piers), shear walls parallel to the flow of water and, adequately anchored so as not to impair the structural integrity of the building during a flood up to the magnitude of the base flood. In the case of Zones A1-A30, AE, A, A99, AO, AH, B, C and X, ***ELEVATED BUILDING*** also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters. In the case of Zones V1-V30, VE, or V, ***ELEVATED BUILDING*** also includes a building otherwise meeting the definition of ***ELEVATED BUILDING***, even though the area below is enclosed by means of breakaway walls if the breakaway walls meet the standards of § 151.36(E).

***EXISTING MANUFACTURED HOME PARK*** or ***MANUFACTURED HOME SUBDIVISION.*** A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of this chapter.

***EXPANSION TO AN EXISTING MANUFACTURED HOME PARK*** or ***SUBDIVISION.*** The preparation of the additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete slabs).

***FLOOD*** or ***FLOODING.*** A general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) The overflow of inland or tidal waters; and

(2) The unusual and rapid accumulation of runoff of surface waters from any source.

***FLOOD HAZARD BOUNDARY MAP (FHBM).*** An official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been defined as Zone A.

***FLOOD INSURANCE RATE MAP (FIRM).*** An official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

***FLOOD INSURANCE STUDY.*** The official report provided by the Federal Emergency Management Agency. The report contains flood profiles, as well as the Flood Boundary Floodway Map and the water surface elevation of the base flood.

***FLOODWAY.*** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

***FLOOR.*** The top surface of an enclosed area in a building (including basement), such as, top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term ***FLOOR*** does not include the floor of a garage used solely for parking vehicles.

***FUNCTIONALLY DEPENDENT FACILITY.*** A facility which cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales or service facilities.

***HIGHEST ADJACENT GRADE.*** The highest natural elevation of the ground surface, prior to construction, next to the proposed walls of the structure.

***HISTORIC STRUCTURE.*** Any structure that is:

(1) Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;

(2) Certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

(3) Individually listed on a state inventory of historic places; or

(4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified by an approved state program as determined by the Secretary of Interior, or directly by the Secretary of Interior in states without approved program.

***LEVEE.*** A man-made structure, usually an earthen embankment, deigned and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding.

***LOWEST FLOOR.*** The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or

storage in an area other than a basement area is not considered a building's lowest floor provided that such an enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this chapter.

***MANUFACTURED HOME.*** A structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term ***MANUFACTURED HOME*** does not include a recreational vehicle.

***MANUFACTURED HOME PARK*** or ***SUBDIVISION.*** A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

***MEAN SEA LEVEL.*** The average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the floodplain. For purposes of this chapter, the term is synonymous with National Geodetic Vertical Datum (NGVD).

***NATIONAL GEODETIC VERTICAL DATUM (NGVD.)*** As corrected in 1929, is a vertical control used as a reference for establishing varying elevations within the floodplain.

***NEW CONSTRUCTION.*** Structures for which the start of construction commenced on or after the effective date of this chapter and includes any subsequent improvements to such structures.

***NEW MANUFACTURED HOME PARK*** or ***SUBDIVISION.*** A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete slabs) is completed on or after the effective date of this chapter.

***NONCONFORMING BUILDING*** or ***USE.*** Any legally existing building or use which fails to comply with the provisions of this chapter.

***RECREATIONAL VEHICLE.*** A vehicle which is:

(1) Built on a single chassis;

(2) 400 square feet or less when measured at the largest horizontal projection;

(3) Designed to be self-propelled or permanently towable by a light duty truck; and

(4) Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel or seasonal use.

***REMEDY A VIOLATION.*** To bring the structure or other development into compliance with state or local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of this chapter

or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development.

***START OF CONSTRUCTION (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (P.L. 97-348.))*** Includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

***STRUCTURE.*** For floodplain management purposes, a walled and roofed building, a manufactured home, including a gas or liquid storage tank, or other man-made facilities or infrastructures that are principally above ground.

***SUBSTANTIAL DAMAGE.*** Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred. See definition of ***SUBSTANTIAL IMPROVEMENT.***

***SUBSTANTIAL IMPROVEMENT.*** Any repair, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before the start of construction of the improvement. The term ***SUBSTANTIAL IMPROVEMENT*** includes structures which have incurred “substantial damage”, regardless of the actual repair work performed. The term does not, however, include either: any project of improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which arc the minimum necessary to, assure safe living conditions; or, any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

***SUBSTANTIALLY IMPROVED EXISTING MANUFACTURED HOME PARK*** or ***SUB-DIVISION.*** Where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50% of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

***VARIANCE.*** A grant of relief to a person from the requirements of this chapter which permits construction in a manner otherwise prohibited by this chapter where specific enforcement would result in unnecessary hardship.

***VIOLATION.*** The failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in §§ 151.26, 151.35 through 151.38 and 151.50 through 151.61 is presumed to be in violation until such time as that documentation is provided.

(Ord. 1991-50, passed 8-5-91)

## § 151.07 APPLICATION OF PROVISIONS.

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the city.

(Ord. 1991-50, passed 8-5-91)

## § 151.08 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD.

The areas of special flood hazard identified by the Federal Emergency Management Agency in its Flood Insurance Study for the city, dated December 1, 1981, with accompanying maps and other supporting data, and any revision thereto are adopted by reference and declared to be a part of this chapter.

(Ord. 1991-50, passed 8-5-91)

## § 151.09 COMPLIANCE WITH PROVISIONS.

No structure or land shall hereafter be located, extended, converted or structurally altered without, full compliance with the terms of this chapter and other applicable regulations.

(Ord. 1991-50, passed 8-5-91) Penalty, see § 151.99

## § 151.10 ABROGATION AND GREATER RESTRICTIONS.

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(Ord. 1991-50, passed 8-5-91)

## § 151.11 INTERPRETATION.

In the interpretation and application of this chapter all provisions shall be: considered as minimum requirements; liberally construed in favor of the governing body; and, deemed neither to limit nor repeal any other powers granted under state statutes.

(Ord. 1991-50, passed 8-5-91)

### § 151.12 WARNING AND DISCLAIMER OF LIABILITY.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the city or by any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

(Ord. 1991-50, passed 8-5-91)

## *PERMIT AND CERTIFICATION REQUIREMENTS*

### § 151.25 BUILDING PERMIT REQUIRED.

A building permit shall be required in conformance with the provisions of this chapter prior to the commencement of any development or building activities.

(Ord. 1991-50, passed 8-5-91) Penalty, see § 151.99

### § 151.26 REQUIREMENTS FOR BUILDING PERMIT AND CERTIFICATION.

Application for a building permit shall be made to the Director of Inspections on forms furnished by the Inspector prior to any development or building activities. The building permit may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question; existing or proposed structures; and the location of fill materials, storage areas, and drainage facilities. Specifically, the following information is required:

(A) Where base flood elevation data is provided in accordance with § 151.51(J), the application for a building permit within the Zone A on the Flood Insurance Rate Map shall show:

(1) The elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures; and

(2) If the structure has been floodproofed in accordance with § 151.36(B), the elevation (in relation to mean sea level) to which the structure was floodproofed.

(B) Where the base flood elevation data is not provided, the application for a building permit must show construction of the lowest floor at least two feet above the highest adjacent grade.

(C) Where any watercourse will be altered or relocated as a result of proposed development, the application for a building permit shall include a description of the extent of watercourse alteration or relocation; an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourses and the effects to properties located both upstream and downstream; and, a map showing the location of the proposed watercourse alteration or relocation.

(D) When a structure is floodproofed, the applicant shall provide a certificate from a registered professional engineer or architect that the nonresidential floodproofed structure meets the floodproofing criteria in § 151.36(B).

(E) A floor elevation or floodproofing certification is required after the lowest floor is completed. Within 21 calendar days of establishment of the lowest floor elevation, or floodproofing by whatever construction means, whichever is applicable, it shall be the duty of the permit holder to submit to the Local Administrator a certification of the elevation of the lowest floor, or floodproofed elevation, whichever is applicable, as built, in relation to mean sea level. The certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized for a particular building, the certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work done within the 21 day calendar period and prior to submission of the certification shall be at the permit holder's risk. The Local Administrator shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby shall be cause to issue a stop-work order for the project.

(Ord. 1991-50, passed 8-5-91)

## *FLOOD HAZARD REDUCTION*

### § 151.35 GENERAL STANDARDS.

In all areas of special flood hazard the following provisions are required:

(A) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure;

(B) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;

(C) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damages;

(D) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

(E) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

(F) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;

(G) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding; and

(H) Any alteration, repair, reconstruction or improvements to a structure which is in compliance with the provisions of this chapter, shall meet the requirements of new construction as contained in this chapter.

(I) Nonconforming buildings or uses may not be enlarged, replaced, or rebuilt unless such enlargement or reconstruction is accomplished in conformance with the provisions of this chapter. Provided, however, nothing in this chapter shall prevent the repair, reconstruction or replacement of a building or structure existing on the effective date of this chapter and located totally or partially within the floodway zone, provided that the bulk of the building or structure below base flood elevation in the floodway zone is not increased and provided that such repair, reconstruction or replacement meets all of the other requirements of this chapter.

(Ord. 1991-50, passed 8-5-91) Penalty, see § 151.99

## § 151.36 SPECIFIC STANDARDS.

In all areas of special flood hazard where base flood elevation data has been provided, as set forth in §§151.08 or §151.51(J), the following provisions are required:

(A) *Residential construction.* New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated no lower than two feet above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided.

(B) *Nonresidential construction.* New construction or substantial improvement of any commercial, industrial, or nonresidential structure (including manufactured homes) shall have the

lowest floor, including basement, elevated no lower than two feet above the level of the base flood elevation. Structures located in A-zones may be floodproofed in lieu of elevation, provided that all areas of the structure below the required elevation are watertight, with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this division are satisfied. Such certification shall be provided to the official as set forth in §151.26(E).

(C) *Manufactured homes.*

(1) Manufactured homes that are placed or substantially improved on sites outside a manufactured home park or subdivision; in a new manufactured home park or subdivision; in an expansion to an existing manufactured home park or subdivision; or, in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated no lower than two feet above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(2) Manufactured homes that are to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the provisions of this division (C) must be elevated so that the lowest floor of the manufactured home is elevated no lower than two feet above the base flood elevation, and be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement.

(3) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. For the purpose of this requirement, manufactured homes must be anchored to resist flotation, collapse, or lateral movement in accordance with the *Regulations for Mobile Homes and Modular Housing* adopted by the Commissioner of Insurance pursuant to G.S. §143-143.15. Additionally, when the elevation would be met by an elevation of the chassis at least 36 inches or less above the grade at the site, the chassis shall be supported by reinforced piers or other foundation elements of at least equivalent strength. When the elevation of the chassis is above 36 inches in height an engineering certification is required.

(4) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Assistant Public Utilities Director and the local Emergency Management Coordinator.

(D) *Recreational vehicles.* A recreational vehicle is ready for highway use if it is on wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions. Recreation vehicles placed on sites shall either:

(1) Be on site for fewer than 180 consecutive days;

(2) Be fully licensed and ready for highway use; or

(3) Meet the requirements of §§151.26, 151.35 and division (C) of this section.

(E) *Elevated buildings.* New construction or substantial improvements of elevated buildings that include fully enclosed areas that are usable solely for the parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to preclude finished living space and be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.

(1) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:

(a) Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;

(b) The bottom of all openings shall be no higher than one foot above grade; and

(c) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.

(2) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).

(3) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except to enclose storage areas.

(F) *Temporary structures.* Prior to the issuance of a building permit, for a temporary structure, the following requirements must be met:

(1) All applicants must submit to the Assistant Public Utilities Director a plan for the removal of such structure(s) in the event of a hurricane or flash flood notification. The plan must include the following information:

(a) The name, address and phone number of the individual responsible for the removal of the temporary structure;

(b) The time frame prior to the event at which a structure will be removed;

(c) A copy of the contract or other suitable instrument with a trucking company to insure the availability of removal equipment when needed; and

(d) Designation, accompanied by documentation, of a location outside the floodplain to which the temporary structure will be moved.

(2) The above information shall be submitted in writing to the Assistant Public Utilities Director for review and written approval.

(G) *Accessory structure.* When accessory structures (sheds, detached garages, and the like) with a value of $3,000 or less, are to be placed in the floodplain the following criteria shall be met:

(1) Accessory structures shall not be used for human habitation;

(2) Accessory structures shall be designed to have low flood damage potential;

(3) Accessory structures shall be firmly anchored in accordance with §151.35(A); and

(4) Service facilities such as electrical and heating equipment shall be elevated in accordance with §151.35(D).

(H) *Floodways.* Located within areas of special flood hazard established in §151.08, are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of flood waters which carry debris and potential projectiles and has erosion potential. The following provisions shall apply within such areas:

(1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood. Such certification and technical data shall be prepared by a registered professional engineer and presented to the Assistant Public Utilities Director.

(2) If division (H)(1) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this subchapter.

(3) No manufactured homes shall be permitted. Existing manufactured homes shall be permitted to remain unless the manufactured home sustains substantial damage, in which case the manufactured home shall not be repaired or replaced. An existing manufactured home shall not be replaced under any circumstances.

(Ord. 1991-50, passed 8-5-91; Am. Ord. 1995-61, passed 9-11-95; Am. Ord. 2000-65, passed 8-21-00)

Penalty, see § 151.99

## § 151.37 STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS AND/OR FLOODWAYS.

Located within the areas of special flood hazard established in § 151.08, are small streams where no base flood data has been provided or where no floodways have been identified. The following provisions apply within such areas:

(A) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of the stream bank equal to five times the width of

the stream at the top of the bank or 20 feet each side from top of bank, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(B) If division (A) of this section is satisfied and base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard ordinance provisions of this subchapter and shall be elevated or floodproofed in accordance with elevations established in accordance with § 151.51(J). When base flood elevation data is not available from a federal, state or other source, the lowest floor, including basement, shall be elevated at least two feet above the highest adjacent grade.

(Ord. 1991-50, passed 8-5-91) Penalty, see § 151.99

### § 151.38 STANDARDS FOR SUBDIVISION PROPOSALS.

(A) All subdivision proposals shall be consistent with the need to minimize flood damage;

(B) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;

(C) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards; and

(D) Base flood elevation data shall be provided for subdivision proposals and other proposed development which is greater than the lesser of 50 lots of five acres.

(Ord. 1991-50, passed 8-5-91) Penalty, see § 151.99

## *ADMINISTRATION AND ENFORCEMENT*

### § 151.50 DESIGNATION OF LOCAL ADMINISTRATOR.

The Assistant Public Utilities Director is hereby appointed to administer and implement the provisions of this chapter.

(Ord. 1991-50, passed 8-5-91)

### § 151.51 DUTIES AND RESPONSIBILITIES OF ASSISTANT PUBLIC UTILITIES DIRECTOR.

Duties of the Assistant Public Utilities Director shall include, but not be limited to:

(A) Review all building permits to assure that the requirements of this chapter have been satisfied;

(B) Advise permittee that additional federal or state permits may be required, and if specific federal or state permits are known, require the copies of such permits be provided and maintained on file with the building permit.

(C) Notify adjacent communities and the State Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.

(D) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.

(E) Prevent encroachments within floodways unless the certification and flood hazard reduction provisions of §§ 151.35 through 151.38 are met.

(F) Obtain actual elevation (in relation to mean sea level) of the lowest floor, (including basement) of all new or substantially improved structures, in accordance with § 151.26(E).

(G) Obtain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed, in accordance with § 151.26(E).

(H) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with § 151.36(B).

(I) Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this subchapter.

(J) When base flood elevation data or floodway data has not been provided in accordance with § 151.08, obtain, review, and reasonably utilize any base flood elevation data and floodway data developed available from a federal, state or other source, including data developed pursuant to § 151.38(D), in order to administer the provisions of this chapter.

(K) Make on-site inspections of projects in accordance with this subchapter.

(L) Serve notices of violations, issue stop-work orders, revoke permits and take corrective actions in accordance with this subchapter.

(M) Maintain all records pertaining to the administration of this chapter and make these records available for public inspection.

(N) *Annexation.* Provide the State Carolina Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program with two copies of the maps delineating new corporate limits within six months from date of annexation or change in corporate boundaries.

(Ord. 1991-50, passed 8-5-91)

## § 151.52 INSPECTIONS OF WORK IN PROGRESS.

As the work pursuant to a permit progresses, the Assistant Public Utilities Director and members of the Inspections Department shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the Assistant Public Utilities Director and members of the Inspections Department have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction at any reasonable hour for the purposes of inspection or other enforcement action.

(Ord. 1991-50, passed 8-5-91)

## § 151.53 STOP-WORK ORDERS.

Whenever a building or part thereof is being constructed, reconstructed, altered or repaired in violation of this chapter, the Assistant Public Utilities Director and/or the Director of Inspections may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work order shall state the specific work to be stopped, the specific reasons for the stoppage, and the conditions under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.

(Ord. 1991-50, passed 8-5-91)

## § 151.54 REVOCATION OF PERMITS.

The Assistant Public Utilities Director and/or the Director of Inspections may revoke and require the return of the building permit by notifying the permit holder in writing stating the reason for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, or specifications; for refusal or failure to comply with the requirements of state or local laws; or for false statements or misrepresentations made in securing the permit. Any permit mistakenly issued in violation of an applicable state or local law may also be revoked.

(Ord. 1991-50, passed 8-5-91)

## § 151.55 PERIODIC INSPECTIONS.

The Assistant Public Utilities Director and the members of the Inspections Department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the Department at any reasonable hour for the purposes of inspection or other enforcement action.

(Ord. 1991-50, passed 8-5-91)

## § 151.56 VIOLATIONS TO BE CORRECTED.

When the Assistant Public Utilities Director finds violations of applicable state and local laws, it shall be his duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law in the property he owns.

(Ord. 1991-50, passed 8-5-91)

## § 151.57 ACTIONS IN EVENT OF FAILURE TO TAKE CORRECTIVE ACTION.

If the owner of a building or property shall fail to take prompt corrective action, the Assistant Public Utilities Director shall give him written notice, by certified or registered mail to his last known address or by personal service:

(A) That the building or property is in violation of this chapter;

(B) That a hearing will be held before the Local Administrator at a designated place and time, not later than ten days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and

(C) That following the hearing, the Assistant Public Utilities Director may issue such order to alter, vacate or demolish the building; or to remove fill as appears appropriate.

(Ord. 1991-50, passed 8-5-91)

## § 151.58 ORDER TO TAKE CORRECTIVE ACTION.

If, upon a hearing held pursuant to the notice prescribed above, the Assistant Public Utilities Director shall find that the building or development is in violation of this chapter, he shall make an order in writing to the owner, requiring the owner to remedy the violation within such period, not less than 60 days, the Assistant Public Utilities Director may prescribe; provided that where the Assistant Public Utilities Director finds that there is imminent danger to life or other property, he may order the corrective action be taken in such lesser period as may be feasible.

(Ord. 1991-50, passed 8-5-91)

## § 151.59 APPEAL.

Any owner who has received an order to take corrective action may appeal from the order to the local elected governing body by giving notice of appeal in writing to the Assistant Public Utilities Director and the City Clerk within ten days following issuance of the final order. In the absence of an appeal, the order of the Assistant Public Utilities Director shall be final. The local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

(Ord. 1991-50, passed 8-5-91)

## § 151.60 FAILURE TO COMPLY WITH ORDER.

If the owner of a building or property fails to comply with an order to take corrective action from which no appeal has been taken, or fails to comply with an order of the governing body following an appeal, he shall be guilty of a misdemeanor and shall be punished in the discretion of the court.

(Ord. 1991-50, passed 8-5-91)

## § 151.61 VARIANCE PROCEDURES.

(A) The Board of Adjustment as established by the City Council shall hear and decide requests for variances from the requirements of this chapter.

(B) Any person aggrieved by the decision of the Board of Adjustment or any taxpayer may appeal such decision to the Court, as provided in G.S. 7A.

(C) Variances may be issued for the repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

(D) In passing upon such applications, the Board of Adjustment shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this chapter, and:

(1) The danger that materials may be swept onto other lands to the injury of others;

(2) The danger to life and property due to flooding or erosion damage;

(3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

(4) The importance of the services provided by the proposed facility to the community;

(5) The necessity to the facility of a waterfront location, where applicable;

(6) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

(7) The compatibility of the proposed use with existing and anticipated development;

(8) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

(9) The safety of access to the property in times of flood for ordinary and emergency vehicles;

(10) The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and

(11) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

(E) Upon consideration of the factors listed above and the purposes of this chapter, the Board of Adjustment may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter.

(F) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(G) Conditions for variances:

(1) Variances may not be issued when the variance will make the structure in violation of other federal, state or local laws, regulations or ordinances.

(2) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(3) Variances shall only be issued upon a showing of good and sufficient cause; a determination that failure to grant the variance would result in exceptional hardship; and, a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(4) Any applicant to whom a variance is granted shaLl be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and a written statement that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. Such notification shall be maintained with a record of all variance actions.

(5) The Assistant Public Utilities Director shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

(Ord. 1991-50, passed 8-5-91)

## § 151.99 PENALTY.

Violation of the provisions of this chapter or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this chapter or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than $50 or imprisoned for not more than 30 days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the city from taking such other lawful action as is necessary to prevent or remedy any violation.

(Ord. 1991-50, passed 8-5-91)

# CHAPTER 156: ILLEGAL DISCHARGE CONTROL

Section

## *GENERAL PROVISIONS*

### § 156.01 SHORT TITLE.

This chapter shall be known as the “Illegal Discharge Control Ordinance,” but may also be referred to as the “Illicit Discharge Ordinance.”

(Ord. 2001, passed 2-19-01)

### § 156.02 STATUTORY AUTHORIZATION.

The Legislature of the state has, in Ch. T15A, Art. 02B, §.0235, entitled *Neuse River Basin - Nutrient Sensitive Waters Management Strategy: Basinwide Stormwater Requirement* [hereafter referred to as the Neuse Stormwater Rule], designated specific local governments for stormwater management requirements as part of the Neuse River Nutrient Waters stormwater management strategy. Therefore, the City Council does ordain as follows in this chapter.

(Ord. 2001, passed 2-19-01)

### § 156.03 FINDINGS OF FACT.

(A) Water quality has been an issue in the Neuse River Basin for over a century. Despite a number of initiatives between 1950 and 1995, the Neuse River Basin has continued to have water quality problems. Although environmental conditions in the Neuse River are driven by complex interactions between rainfall, flows, temperatures, biological factors, and chemistry, the long history of problems with nutrient pollution and algal blooms provides evidence that immediate control measures are necessary.

(B) In August 1998, the final comprehensive Neuse River Nutrient Sensitive Waters Strategy was adopted. The goal of the strategy is to achieve a 30% nitrogen reduction from each controllable and quantifiable source of nitrogen in the basin. The city was one of the 15 largest and fastest-growing local governments in the Neuse River basin which was required to comply with the Neuse Stormwater Rule. This rule contains four program elements, one of which pertains to illegal discharges.

(C) Illegal discharges are substances deposited in storm sewers (which lead directly to streams) that really should be handled as wastewater discharges. Depending on the source, illegal discharges may contain nitrogen. Local governments that must comply with the Neuse Stormwater Rule, including the city, must identify and remove illegal discharges.

(Ord. 2001, passed 2-19-01)

## § 156.04 STATEMENT OF PURPOSE.

(A) This purpose of this chapter is to:

(1) Protect the public health, safety and welfare by controlling the discharge of pollutants into the stormwater conveyance system.

(2) Promote activities directed toward the maintenance and improvement of surface and ground water quality.

(3) Satisfy the requirements imposed upon the city under its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System ($MS^4$) discharge permit issued by the state; and

(4) Establish administration and enforcement procedures through which these purposes can be fulfilled.

(B) The provisions of this chapter are supplemental to regulations administered by federal and state governments.

(Ord. 2001, passed 2-19-01)

## § 156.05 OBJECTIVES.

The objectives of this chapter are to:

(A) Regulate the discharge of substances which may contaminate or cause pollution of stormwater, stormwater conveyances, or waters of the state;

(B) Regulate connections to the stormwater conveyance system;

(C) Provide for the proper handling of spills; and

(D) Provide for the enforcement of same

(Ord. 2001, passed 2-19-01)

## § 156.06 DEFINITIONS.

For the purposes of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

***ILLICIT CONNECTION.*** Any connection which allows the unlawful discharge of non-stormwater to the stormwater conveyance system or waters of the state in violation of this chapter.

***ILLICIT DISCHARGE.*** Any unlawful disposal, placement, emptying, dumping, spillage, leakage, pumping, pouring, emission, or other discharge of any substance other than stormwater into a stormwater conveyance, the waters of the state, or upon the land in such proximity to the same, such that the substance is likely to reach a stormwater conveyance or the waters of the state.

***MUNICIPAL SEPARATE STORM SEWER SYSTEM ($MS^4$).*** A stormwater conveyance or unified stormwater conveyance system (including without limitation: roads with drainage systems, municipal streets, catch basins, stormwater detention facilities, curbs, gutters, ditches, natural and man-made channels, or storm drains), that:

(1) Is located within the jurisdictional limits of the city; and

(2) Is owned or operated by the state, county, the city, or other public body; and

(3) Discharges to waters of the state, excluding publicly owned treatment works, and lawful connections thereto, which in turn discharge into the waters of the state.

***NATURAL POLLUTANT DISCHARGE ELIMINATION SYSTEM.*** A permitting system established pursuant to §402 of the Clean Water Act et seq.

***Federal law reference****: National Pollutant Discharge Elimination System Permits, 33 USC §1342*

***POLLUTANT.*** Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

***POLLUTION.*** Man-made or man-induced alteration of the chemical, physical, biological, thermal, and/or radiological integrity of water.

***STORMWATER.*** Any flow resulting from, and occurring during or following, any form of natural precipitation.

***STORMWATER CONVEYANCE OR STORMWATER CONVEYANCE SYSTEM.*** Any feature, natural or man-made, that collects and transports stormwater, including but not limited to roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made and natural

channels, pipes, culverts, and storm drains, and any other natural or man-made feature or structure designed or used for collecting or conveying stormwater.

***WATERS OF THE STATE.*** Surface waters within or flowing through the boundaries of the state including the following: any intermittent or perennial stream, river, creek, brook, swamp, lake, sound, tidal estuary, bay, reservoir, wetland, or any other surface water or any portion thereof that is mapped as solid or dashed blue lines on United States Department of the Interior Geological Survey 7.5 minute series topographic maps. Treatment systems, consisting of man-made bodies of water, which were not originally created in waters of the state and which are not the result of impoundment of waters of the state, are not waters of the state.

(Ord. 2001, passed 2-19-01)

## § 156.07 APPLICATION OF PROVISIONS.

This chapter shall apply within the territorial jurisdiction of the city, with the following exclusions:

(A) Federal, state, and local governments, including their agencies, unless intergovernmental agreements have been established giving the city enforcement authority.

(Ord. 2001, passed 2-19-01)

## § 156.08 BASIS FOR ESTABLISHING THIS LEGAL AUTHORITY.

The *Neuse River Basin: Model Stormwater Program for Nitrogen Control*, dated August 30, 1999, requires that local governments establish the legal authority to control illegal discharges. By March 2001, each local government is required to show that is has established the legal authority to do the following:

(A) Control the contribution of pollutants to the stormwater collection system associated with industrial activity.

(B) Prohibit illegal discharges to the stormwater collection system.

(C) Prohibit discharge of spills and disposal of materials other than stormwater to the stormwater collection system.

(D) Determine compliance and non-compliance.

(E) Require compliance and undertake enforcement measures in cases of non-compliance.

(Ord. 2001, passed 2-19-01)

## § 156.09 ABROGATION AND GREATER RESTRICTION.

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(Ord. 2001, passed 2-19-01)

## § 156.10 INTERPRETATION.

In the interpretation and application of this chapter all provisions shall be considered as minimum requirements; liberally construed in favor of the governing body; and, deemed neither to limit not repeal any other powers granted under state statutes.

(Ord. 2001, passed 2-19-01)

# *NON-STORMWATER DISCHARGE CONTROLS*

## § 156.25 ILLICIT DISCHARGES.

No person shall cause or allow the discharge, emission, disposal, pouring, or pumping directly or indirectly to any stormwater conveyance, the waters of the state, or upon the land in such proximity to the same (such that the substance is likely to reach a stormwater conveyance or the waters of the state), any fluid, solid, gas, or other substance, other than stormwater; provided that non-stormwater discharges associated with the following activities are allowed provided that they do not significantly impact water quality:

(A) Filter backwash and draining associated with swimming pools;

(B) Filter backwash and draining associated with raw water intake screening and filtering devices;

(C) Condensate from residential or commercial air conditioning;

(D) Residential vehicle washing;

(E) Flushing and hydrostatic testing water associated with utility distribution systems;

(F) Discharges associated with emergency removal and treatment activities, for hazardous materials, authorized by the federal, state, or local government on-scene coordinator;

(G) Uncontaminated ground water [including the collection or pumping of springs, wells, or rising ground water and ground water generated by well construction or other construction activities];

(H) Collected infiltrated stormwater from foundation or footing drains;

(I) Collected ground water and infiltrated stormwater from basement or crawl space pumps;

(J) Irrigation water;

(K) Street wash water;

(L) Flows from fire fighting;

(M) Discharges from the pumping or draining of natural watercourses or waterbodies;

(N) Flushing and cleaning of cleaning of the exteriors of buildings, including gutters, provided that the discharge does not pose an environmental or health threat; and

(O) Other non-stormwater discharges for which a valid NPDES discharge permit has been approved and issued by DENR and provided that any such discharges to the municipal separate storm sewer system shall be authorized by the city.

Prohibited substances include but are not limited to: oil, anti-freeze, chemicals, animal and human waste, paints, garbage, litter, and other pollutants.

(Ord. 2001, passed 2-19-01)

## § 156.26 ILLICIT CONNECTIONS.

(A) Connections to a stormwater conveyance or stormwater conveyance system which allow the discharge of non-stormwater, other than the exclusions described in §156.25, are unlawful. Prohibited connections include, but are not limited to: floor drains, waste water discharge from washing machines or sanitary sewers, wash water discharge from commercial vehicle washing or steam cleaning, and waste water discharge from septic systems.

(B) Where such connections exist in violation of §§156.25 and 156.26, that were made prior to the adoption of this provision or any other ordinance prohibiting such connections, the property owner or the person using the connection is allowed one year to remove the connection following application of this regulation; provided that, this grace period shall not apply to connections which may result in the discharge of hazardous materials or other discharges which pose an immediate threat to health and safety, or are likely to result in immediate injury and harm to real or personal property, natural resources, wildlife, or habitat.

(C) (1) Where it is determined that the connection:

(a) May result in the discharge of hazardous materials or may pose an immediate threat to the health and safety, or is likely to result in immediate injury and harm to real or personal property, natural resources, wildlife, or habitat, or

(b) Was made in violation of any applicable regulation or ordinance,

(2) The City Manager or his designee shall designate the time within which the connection shall be removed. In setting the time limit for compliance, the city shall take into consideration:

(a) The quantity and complexity of the work,

(b) The consequences of delay,

(c) The potential harm to the environment, to the public health, and to public and private property, and

(d) The cost of remedying the damage.

(D) In regard to removing illicit connections, the responsible party must consider that permits are required by the Inspections Department for connections to or modification of storm sewers located in city owned rights-of-way. The costs of such permits will be borne by the responsible party.

(Ord. 2001, passed 2-19-01)

### § 156.27 SPILLS.

(A) Spills or leaks of polluting substances discharged to, or having the potential to be indirectly transported to the stormwater conveyance system, shall be contained, controlled, collected, and removed promptly. All affected areas shall be restored to their preexisting condition.

(B) Persons associated with the spill or leak shall immediately notify the City Fire Chief or his designess of all spills or leaks of polluting substances. Notification shall not relieve any person of any expenses related to the clean-up, restoration, loss, damage, or any other liability which may be incurred as a result of the spill or leak, nor shall such notification relieve any person from other liability which may be imposed by state or other law.

(Ord. 2001, passed 2-19-01)

## *ADMINISTRATION AND ENFORCEMENT*

### § 156.50 INSPECTIONS.

(A) The Building Inspector (or other authorized agent of the city) has full power and authority to enter upon a premise for the purpose of investigating an illegal discharge. Should the owner or occupant of any property refuse to permit such reasonable access, the Chief Building Inspector or his designee may obtain an administrative search warrant pursuant to G.S. §15-27.2 or its successor.

(B) No person shall obstruct, hamper or interfere with any such representative while carrying out his official duties.

(Ord. 2001, passed 2-19-01)

## § 156.51 CIVIL PENALTIES.

(A) *Illicit discharges.* Any person who allows or assists in a violation of this chapter shall be subject to civil penalties as follows:

(1) For the first time offenders, if the discharge consists of domestic or household products in quantities considered ordinary for household purposes, the person shall be assessed a civil penalty not to exceed $100 per violation or per day for any continuing violation. If the discharge contains non-domestic substances, including but not limited to process waste water, or if the person cannot provide clear and convincing evidence of the volume and nature of the substance discharged, the person shall be assessed a civil penalty not to exceed $1,000 per violation or per day for any continuing violation.

(2) For repeat offenders, the amount of the penalty shall be double the amount assessed for the previous penalty, not to exceed $10,000 per violation or per day for any continuing violation.

(B) *Illicit connections.* Any person found with an illicit connection in violation of this chapter and any other person who assists in the establishment of an illicit connection in violation of this chapter, shall be subject to civil penalties as follows:

(1) First time offenders shall be subject to a civil penalty not to exceed $500 per day of continuing violation.

(2) Repeat violators shall be subject to a civil penalty not to exceed $1,000 per day of continuing violation.

(C) *Other violations.* Any person found in violation of other provisions of this chapter, not specifically enumerated elsewhere, shall be subject to a civil penalty not to exceed $100 per violation or per day for any continuing violation.

(D) *Payment/collection procedures.* Penalties shall be assessed by the City Manager or his designee. No penalty shall be assessed until the person alleged to be in violation is served written notice of the violation by registered mail, certified mail-return receipt requested, or personal service (such as express mail service or courier). Refusal to accept the notice shall not relieve the violator of the obligation to pay the penalty. The City Manager or his designee shall make written demand for payment upon the person in violation. If the payment is not received or equitable settlement reached

within 30 days after demand for payments is made, the matter shall be referred to the City Attorney for institution of a civil action in the name of the city, in the appropriate division of the general court of justice in the county for recovering the penalty.

(Ord. 2001, passed 2-19-01)

## § 156.52 INJUNCTIVE RELIEF.

(A) The city may petition the General Court of Justice in the county seeking injunctive relief, or other relief as deemed appropriate, to require compliance with this chapter. Cost of such action shall be assessed against the individual who is failing to comply with this chapter.

(B) The institution of an action for injunctive relief under §156.52 shall not relieve any party to such proceeding from any further civil or criminal penalty prescribed for violations of this code.

(Ord. 2001, passed 2-19-01)

## § 156.53 CRIMINAL PENALTIES.

Any person who knowingly or willfully violates any provision of this chapter, rule, regulation, order duly adopted or issued pursuant to this chapter shall be guilty of a misdemeanor, punishable by a fine not to exceed $500. Each violation shall be a separate offense.

(Ord. 2001, passed 2-19-01)

**APPENDIX D**
Example Letter to Likely Sources of Illegal

Re: The City of Goldsboro's "Illegal Discharge Control Ordinance"

Dear Business Owner or Operator,

The City of Goldsboro has adopted an "Illegal Discharge Control Ordinance" on March 1, 2001 to satisfy requirements of the State and protect the water quality of local streams and the Neuse River. This ordinance prohibits illicit connections and/or discharges to the City's storm drain system (streets, catch basins, curbs, gutters, ditches, man-made and natural channels, pipes, culverts, etc.). You are receiving this letter because you are involved in a business that is a likely source of illicit discharges.

Illicit discharges include any discharge other than stormwater to the storm drain system, except for the activities listed below (*provided they do not significantly impact water quality*).

(1) Filter backwash and draining associated with swimming pools;

(2) Filter backwash and draining associated with raw water intake screening and filtering devices;

(3) Condensate from residential or commercial air conditioning;

(4) Residential vehicle washing;

(5) Flushing and hydrostatic testing water associated with utility distribution systems;

(6) Discharges associated with emergency removal and treatment activities, for hazardous materials, authorized by the federal, State, or local government on-scene coordinator;

(7) Uncontaminated ground water [including the collection or pumping of springs, wells, or rising ground water and ground water generated by well construction or other construction activities];

(8) Collected infiltrated stormwater from foundation or footing drains;

(9) Collected ground water and infiltrated stormwater from basement or crawl space pumps;

(10) Irrigation water;

(11) Street wash water;

(12) Flows from fire fighting;

(13) Discharges from the pumping or draining of natural watercourses or waterbodies;

(14) Flushing and cleaning of stormwater conveyances with unmodified potable water;

(15) Wash water from the cleaning of the exterior of buildings, including gutters, provided that the discharge does not pose an environmental or health threat; and

(16) Other non-stormwater discharges for which a valid NPDES discharge permit has been approved and issued by DENR and provided that any such discharges to the municipal separate storm sewer system shall be authorized by the City.

Substances prohibited from introduction into the storm drain system include, but are not limited to: oil, anti-freeze, chemicals, animal and human waste, paints, garbage, litter, and other pollutants.

An illicit connection is any connection which allows the unlawful discharge of non-stormwater to the stormwater conveyance or waters of the State, as specified above. Illicit connections are prohibited, and must be corrected by: cutting off and sealing the connection, reconnecting to the sanitary sewer (may require a permit) or other treatment facility with a permit, or applying for and receiving a discharge permit under the NPDES.

A copy of the ordinance can be obtained by calling the City of Goldsboro's General Services Department (734-8674).

Thank you for your assistance,

Richard M. Slozak
City Manager

# Goldsboro's Stormwater Management Program
# Implementation Schedule

| Action | Responsible Party | Accomplish by Date |
|---|---|---|
| **Review of Planning Ordinances:** | | |
| Review local ordinances for restrictive land-use planning and design requirements. | Planning Department | Completed |
| Revise/Prepare local ordinances to allow innovative land-use planning and design techniques | Planning Department | 2003 |
| Adopt local ordinances revisions to allow innovative land-use planning and design techniques | City Council | 2003 |
| **BMP Inspections:** | | |
| Develop and Maintain a Database of all BMPs, their location, and status. | Engineering Department | ASAP |
| Receive Training on how to do BMP inspections | Engineering Department | ASAP (March 2003) |
| Conduct inspections of all BMPs. | Engineering Department | Annually for each BMP |
| **Prepare New or Modified Ordinances:** | | |
| Develop a Stormwater Permit for Development and Redevelopment Activities | Engineering Department | March 2005* (June 2003) |
| Prepare Ordinance for a locally issued Stormwater Permit for Low Density and High Density Development and Redevelopment Projects | Engineering Department | March 2005* (October 2003) |
| Prepare Ordinance enforcing Deed Restrictions and Protective Covenants placed on Development and Redevelopment Projects by the Stormwater Permit | Engineering Department | March 2005* (October 2003) |
| *All Ordinances must be approved by NCDENR, approved by the City Council, and in place by this date | | |
| **Prepare the Phase II Stormwater Permit** | | |
| Reformat and Update existing Stormwater Management Program | Engineering Department | February 2003 |
| Prepare and Submit Phase II Stormwater Permit Application | Engineering Department | March 2003 |

| Action | Responsible Party | Accomplish by Date |
|---|---|---|
| **No Exposure Certification:** | | |
| Prepare and submit to NCDENR the No Exposure Certification for the Water Reclamation Facility | Public Utilities Department | March 2003 |
| **Industrial Activity Stormwater (SW) Permit** | | |
| Prepare and Submit Notice of Intent (NOI) to Discharge SW for the Maintenance Facility | General Services Department | March 2003 |
| Develop Stormwater Pollution Prevention Plan (SWPPP) for the Maintenance Facility | General Services Department | March 2004 (within 1st year of permit) |
| Prepare and Submit NOI to Discharge SW for the Biosolids Facility | Public Utilities Department | March 2003 |
| Develop SWPPP for the Biosolids Facility | Public Utilities Department | March 2004 (within 1st year of permit) |
| **Mapping:** | | |
| Collect, map, and prepare written descriptions of jurisdiction-wide information. | Engineering Department | October 2002 (ASAP-Feb 2003)) |
| Identify high priority areas and chose first area (20%) for mapping and field screening. | General Services (GS) Department | October 2002 (ASAP-Feb 2003) |
| Conduct dry weather field screening of ***first*** high priority area. | GS Department | October 2003 |
| Prepare detailed mapping of ***first*** high priority area. | GS Department | October 2003 |
| Conduct dry weather field screening of ***second*** high priority area. | GS Department | October 2004 |
| Prepare detailed mapping of ***second*** high priority area. | GS Department | October 2004 |
| Conduct dry weather field screening of ***third*** high priority area. | GS Department | October 2005 |
| Prepare detailed mapping of ***third*** high priority area. | GS Department | October 2005 |
| Conduct dry weather field screening of ***fourth*** high priority area. | GS Department | October 2006 |
| Prepare detailed mapping of ***fourth*** high priority area. | GS Department | October 2006 |
| | GS Department | October 2007 |
| | GS Department | October 2007 |

| Action | Responsible Party | Accomplish by Date |
|---|---|---|
| Conduct dry weather field screening of ***fifth*** high priority area.<br>Prepare detailed mapping of ***fifth*** high priority area. | | |
| **Illegal discharges:** | | |
| Contact persons who are responsible for establishments that are likely sources of illegal discharges (letter). | GS Department | March 2003 |
| Identify investigators for illegal discharges | GS Department | March 2003 |
| Provide Multi-phased training for city personnel on investigating and identifying illegal discharges. Training material, plus seminars and hands-on field training. | GS Department | March 2003 |
| Prepare map and table for the identification of illegal discharges. | GS Department | March 2003 |
| Establish an illegal discharge hotline. | Assistant to City Manager | March 2003 |
| Plan and conduct systematic field investigation to identify illegal discharge sources (first area). | GS Department | October 2003 and annually thereafter |
| **Public Education Action Plan:** | | |
| Implement Public Education Action Plan. Use major media advertising or Category 1 and 2 activities.<br><br>Prepare Annual Update and submit with Annual Report | Assistant to City Manager<br><br>Assistant to City Manager | Complete Annually<br><br>October 2002 and annually thereafter |
| **Educate City of Goldsboro Officials:** | | |
| Brief City Officials on Stormwater Program and Phase II Permitting Impacts | Engineering Department | February 2003 |

# EPA Phase II Measurable Goals

Table 7.1 BMP's and Measurable Goals for Public Education and Outreach

| | BMP | Measurable Goals | YR 1 | YR 2 | YR 3 | YR 4 | YR 5 | Responsible Position/Party |
|---|---|---|---|---|---|---|---|---|
| 1 | Information Flyer | 95% of households will be sent information annually as part of the Annual Drinking Water Quality Report | X | X | X | X | X | Public Utilities Director |
| 2 | Web Site | Information on the Stormwater Management Program will be established on the City's Web Site and reviewed annually | | X | X | X | X | Assistant to City Manager |
| 3 | Radio Spots | Information on citizen actions to reduce pollution and report illicit discharges will be aired | | 2 | 4 | 4 | 4 | Assistant to City Manager |

Table 7.2 BMP's and Measurable Goals for Public Participation/Involvement

| | BMP | Measurable Goals | YR 1 | YR 2 | YR 3 | YR 4 | YR 5 | Responsible Position/Party |
|---|---|---|---|---|---|---|---|---|
| 1 | Storm Drain Stenciling | 20% of storm drains will be stenciled annually through school groups, community groups, or other volunteer groups solicited by the city | X | X | X | X | X | Assistant to City Manager |
| 2 | Stream Adoption | One stream will policed on an annual basis by Adopt-a-Stream volunteers | | X | X | X | X | Assistant to City Manager |

Table 7.3 BMP's and Measurable Goals for Illicit Discharge Detection and Elimination

| | BMP | Measurable Goals | YR 1 | YR 2 | YR 3 | YR 4 | YR 5 | Responsible Position/Party |
|---|---|---|---|---|---|---|---|---|
| 1 | Mapping of Storm Drain Outfalls | 50 % of MS4 outfalls will be mapped each year for the first two years of the permit | X | X | | | | General Services Director |
| 2 | Mapping of Storm Drain System | 20% of MS4 will be mapped annually | X | X | X | X | X | General Services Director |
| 3 | Potential Polluter Information | 95% or greater of retail, commercial, industrial, and institutional entities will be sent a letter every two years outlining their responsibilities for detecting and eliminating illicit connections and illegal discharges | X | | X | | X | Assistant to City Manager |
| 4 | Potential Polluter Education | Restaurant owners/operators and maintenance/wash facility operators will attend one class on pollution prevention during the permitted period | | X | | | | Assistant to City Manager |
| 5 | Potential Polluter Education | Institutional and industrial personnel will attend one class on pollution prevention during the permitted period | | | X | | | Assistant to City Manager |
| 6 | Illegal Discharge Hotline | The City will establish and utilize a Hotline for the reporting of illegal discharges. | | X | X | X | X | Assistant to City Manager |

Table 7.4 BMP's and Measurable Goals for Construction Site Runoff Control

| | BMP | Measurable Goals | YR 1 | YR 2 | YR 3 | YR 4 | YR 5 | Responsible Position/Party |
|---|---|---|---|---|---|---|---|---|
| 1 | Developer Education | Technical workshops for Developers (see item 5 in Table 7.5) will include information on their responsibilities under the State Erosion and Sediment Control Program | X | X | X | X | X | Engineering Department Director |

Table 7.5 BMP's and Measurable Goals for Post-Construction Runoff Control

| | BMP | Measurable Goals | YR 1 | YR 2 | YR 3 | YR 4 | YR 5 | Responsible Position/Party |
|---|---|---|---|---|---|---|---|---|
| 1 | Site Plan Reviews | Development Plans will be reviewed for compliance with the SWMP | X | X | X | X | X | Engineering Department Director |
| 2 | Local Permit for Construction under the SWMP | The City will implement a program requiring Developers to obtain a Permit to Construction under the SWMP. The Local Permit will be developed during the first year of the NPDES Permit period, and then used in subsequent years. | | X | X | X | X | Engineering Department Director |
| 3 | BMP Inspections | Stormwater BMPs will inspected annually | | X | X | X | X | Engineering Department Director |
| 4 | Retrofit Site Selection | Three (3) sites suitable for retrofit will be identified annually by the City. If funds are available from the State or Federal Government, the City will implement the retrofits. | X | X | X | X | X | Engineering Department Director |
| 5 | BMP Maintenance | 90% of BMPs that are found to be poorly maintained will be brought into compliance within 180 days or less | | | X | X | X | Engineering Department Director |
| 6 | BMP Education | Technical workshops will be held by the City annually for Developers and their Engineering Staff/Contractor | X | X | X | X | X | Engineering Department Director |

Table 7.6 BMP's and Measurable Goals for Pollution Prevention/Good Housekeeping

| | BMP | Measurable Goals | YR 1 | YR 2 | YR 3 | YR 4 | YR 5 | Responsible Position/Party |
|---|---|---|---|---|---|---|---|---|
| 1 | Street Sweeping | 50% of streets will be swept annually | X | X | X | X | X | General Services Director |
| 2 | Vehicle Washing | 95% of City vehicles will be cleaned on wash racks which treat or recycle wash water | X | X | X | X | X | General Services Director |
| 3 | Illicit Connection Inspection | 50% of City-owned facilities will inspected for illicit connections by 2005, all City-owned facilities inspected by 2007. When found, illicit connections will be managed so that illegal discharges do not occur | | | X | | X | General Services Director |
| 4 | Illicit Connection Elimination | Illicit connections identified by inspection or other means will eliminated as City Budgets allow | | | | X | X | General Services Director |