

MEMORANDUM

To: Anyone seeking building permits from Wake County

From: Rick Rowe, Director of Environmental Services, Wake County

Subject: Implementation of Neuse River Basin Model Stormwater Plan for Nitrogen Control

Date: May 22, 2001

On September 9, 1999 the State Environmental Management Commission adopted the Neuse River Basin Model Stormwater Plan for Nitrogen Control. The keystone requirement for this program is reducing the amount of nitrogen in the Neuse River by 30%.

Wake County is required to develop a stormwater program, including ordinances, to implement state requirements in the plan. Wake County has submitted its ordinances and other materials to the Environmental Management Commission for their approval, and has received preliminary approval from Division of Water Quality staff. The Wake County Board of Commissioners adopted this ordinance and stormwater design manual on May 21, 2001, effective July 2, 2001.

Although the County is only required to prepare a stormwater program for the Neuse River Basin, the program will be implemented countywide to include the Cape Fear River Basin. This approach will better protect the water quality in both of these river basins and this action will place Wake County in a good position once the state imposes similar regulations in the Cape Fear Basin. In addition, as a requirement for an Interbasin transfer permit for allocating water from Jordan Lake, the North Carolina Environmental Management Commission will likely require that Wake County apply riparian buffer requirements to new development in the Cape Fear river basin. Those buffer requirements are included in the ordinance.

The State requires that the County's Plan include four elements:

- New Development Review/Approval
- Public Education
- Illegal Discharges
- Retrofit Locations

This memorandum addresses the first element.

What are the State's Neuse River Stormwater Requirements for New Developments?

The State's Neuse Stormwater Rule requires new development located within the County's planning and zoning jurisdiction within the Neuse River Basin to comply with the 30% nitrogen reduction goal by:

- Limiting the nitrogen load contributed by new development to 3.6 pounds per acre per year.
 - Property owners shall have the opportunity to partially offset projected nitrogen loads exceeding 3.6 lbs. per acre per year by funding wetland or riparian area restoration through the North Carolina Wetland Restoration Program OR
 - Property owners may also provide onsite stormwater control devices to reduce nitrogen export to the 3.6 lbs. per acre per year standard.
- Controlling the peak flow of runoff from the site so that after development, it is not greater than the pre-development conditions for the 1-year, 24-hour storm.
 - Subdivisions or individual lots with an impervious surface coverage of 15% or less are exempt from this requirement.
- Maintaining riparian buffers along streams.
- The County must review plans to assure compliance with the Neuse River Riparian Buffer Rules and the Stormwater Ordinance.

What Impact will the Ordinance have on New Development Proposals?

As noted above, the ordinance applies to properties within Wake County's entire jurisdiction, including the Cape Fear River basin.

- Residential subdivisions and commercial lots accepted for subdivision approval after July 2, 2001 will need to
 - Provide stormwater management devices to reduce nitrogen export in stormwater runoff to 3.6 lbs per acre per year OR
 - Make a payment to the North Carolina Wetland Restoration Program for any nitrogen export which exceeds 3.6 pounds, up to 6 pounds for residential and 10 pounds for non-residential development.
(Subdivisions in R-30, R-40, R-40W, R-80 and R-80W zoning categories meet this requirement without having to provide stormwater control devices.)
- Impervious surface coverage for all residential or commercial lots accepted for subdivision approval after July 2, 2001 will be limited to 15% impervious surface or stormwater management devices will be required to ensure there is no increase in stormwater runoff volumes after development during the 1-year, 24-hour storm.
- Impervious surface coverage for all residential lots that were accepted for subdivision approval before July 2, 2001 will continue to be limited to 30%

- impervious surface, or in the case of water-supply watershed zoning districts, the maximum allowed by the lot's zoning.
- Impervious surface coverage for all existing commercial lots will be limited to 30% impervious surface or the maximum allowed by zoning without stormwater management devices. Otherwise, stormwater management devices will be required.
 - A preliminary site plan prepared by a Professional Land Surveyor, Landscape Architect, Professional Engineer, the landowner or his authorized agent will be needed to obtain a permit.
 - A final (as-built) site plan prepared by a Professional Land Surveyor will also be required prior to issuance of a certificate of occupancy to ensure that the requirements above have been met.

On pages 4-6, we provide a copy of the notice that is being distributed to interested individuals. Page 7 lists the requirements for the preliminary site plan and the as-built site plan, page 8 is an illustration of a typical site plan and page 9 provides the definition of impervious surfaces from the Wake County ordinance.

**NOTICE TO BUILDERS, CONTRACTORS AND
INDIVIDUAL HOMEOWNERS:
EFFECTIVE JULY 2, 2001**

Stormwater runoff from rooftops, roads, parking areas and other surfaces that prevent the natural infiltration of water into the ground (impervious surfaces), add nitrogen to our streams and rivers, causing the quality of water to degrade. This is a major problem in both the Neuse River and Cape Fear River, and all of Wake County's stormwater drains into these rivers. One way to address this problem is to control the runoff from new development, either by limiting the amount of impervious surfaces or by requiring stormwater detention devices with new development. In order to address this problem and to comply with State requirements for the Neuse River basin, Wake County will make the following requirements for all new developments in its jurisdiction effective July 2, 2001.

- On existing lots or any lots accepted for subdivision approval prior to July 2, 2001, the impervious surface limits in the attached Table 1 apply.
- On lots accepted for subdivision approval after July 2, 2001, the impervious surface limits in Table 2 apply. Impervious surface coverage for all new residential or commercial lots will be limited to **15% impervious surface** or stormwater management devices will be required to ensure there is no increase in stormwater runoff volumes after development during the 1-year, 24-hour storm. Residential and Commercial uses are limited to a nitrogen export of 3.6 pounds per acre per year where stormwater management controls are not implemented.
- **In order for Wake County to initiate the permit process, property owners must accurately determine the amount of impervious surfaces proposed on your property. We need accurate information in the form of a preliminary site plan. A Professional Land Surveyor, Landscape Architect, Professional Engineer, the landowner or his authorized agent, can prepare this plan.**
- **To ensure that the requirements have been met, a final (as-built) site plan prepared by a Professional Land Surveyor will also be required prior to issuance of a certificate of occupancy.**
- **It is the property owner's responsibility to make sure that any expansion (e.g.: addition or accessory structure) does not impact the existing septic field or repair area. The property owner/builder is responsible for contacting the Water, Wastewater, and Development Services Division to ensure there is no impact to septic areas. For information, please call (919) 856-7400.**

**If you have questions about the rules, please feel free to contact Wake
County Environmental Services,
Erosion, Flood and Stormwater Services Division Staff
Mike Coughlin @ 856-6193, Maria Cox @ 856-7558, & Ken Cromartie @ 856-6194.**

Table 1 IMPERVIOUS SURFACE LIMITATIONS FOR EXISTING LOTS AND LOTS ACCEPTED FOR SUBDIVISION APPROVAL PRIOR TO JULY 2, 2001

Zoning District	Residential	Commercial
	(Impervious Surface)	(Impervious Surface)
R-80W	30%, see note 1, below	6% (max)
R-80	30%	30%
R-40W	30%, see note 1, below	12% see note 1, below 24% see note 1, below
R-40 and R-30	30%	30%
R-20, R-15, R-10 and R-5	30%	30%
WSII and WCAO	12%* see note 1, below	12%* see note 1, below
WMAO	24%* see note 1, below	24%* see note 1, below
WPAO	24% (with curb and gutter)* 30% (no curb and gutter)*	24% (with curb and gutter) * 30% (no curb and gutter)*
WPAO-2	30%*	30%*
RCO	Underlying Zoning Controls	Underlying Zoning Controls
Highway District	30% without Stormwater Management 100% with Stormwater Management	30% without Stormwater Management 100% with Stormwater Management
EDD	50% without Stormwater Management- 100% with Stormwater Management	50% without Stormwater Management 100% with Stormwater Management
Airport District, O&I, PD, MH, GB, HC, I-1 and I-2	No Maximum	No Maximum

Note 1-

- R-80W and R-40W nonresidential development in the Little River water-supply watershed is limited to 6% and 12% respectively, without exception.
- Development in the Swift Creek water-supply watershed is subject to the requirements of the Swift Creek Land Management Plan.
- R-40W development in other water supply watersheds may be increased to 24%, provided stormwater management is provided.

Asterisks (*) denote that underlying zoning may be more restrictive.

- All Residential and Commercial properties require a preliminary site plan prepared by a Professional Land Surveyor, Landscape Architect, Professional Engineer, the landowner or his authorized agent in order to initiate the permit process effective July 2, 2001.
- An as-built plan prepared by at Professional Land Surveyor is required before a Certificate of Occupancy may be issued.

**Table 2 IMPERVIOUS SURFACE LIMITATIONS FOR LOTS CREATED AFTER
JULY 2, 2001**

Zoning District	Residential (Impervious Surface)	Commercial (Impervious Surface)
R-80W	15% without Stormwater Management. Also see note 1	6%
R-80	15% without Stormwater Management	15% without Stormwater Management *
R-40W	15% without Stormwater Management Also see note 1	12% or 15% with Stormwater Management. Also see note 1
R-40 and R-30	15% without Stormwater Management	15% without Stormwater Management *
R-20, R-15, R-10 and R-5	15% without Stormwater Management *	15% without Stormwater Management *
WSII and WCAO	12% Also see note 1, below	12% Also see note 1, below
WMAO	15% without Stormwater Management Also see note 1	15% without Stormwater Management Also see note 1
WPAO	15% without Stormwater Management	15% without Stormwater Management *
WPAO-2	15% without Stormwater Management	15% without Stormwater Management *
RCO	15% without Stormwater Management	15% without Stormwater Management *
Highway District	15% without Stormwater Management	15% without Stormwater Management *
EDD	15% without Stormwater Management	15% without Stormwater Management *
Airport District, O&I, PD, MH, GB, HC, I-1 and I-2	15% without Stormwater Management	15% without Stormwater Management *

Note 1-

- R-80W and R-40W nonresidential development in the Little River water-supply watershed is limited to 6% and 12% respectively, without exception.
- Development in the Swift Creek water-supply watershed is subject to the requirements of the Swift Creek Land Management Plan.
- R-40W development in other water supply watersheds may be increased to 24%, provided stormwater management is provided.
- Asterisks (*) denote nitrogen export check required and is limited to 3.6 lbs./ac./yr. without Best Management Practices or payments made to the N.C. Wetland Restoration Program.
- Building permits for all Residential and Commercial properties require a preliminary site plan prepared by a Professional Land Surveyor, Landscape Architect, Professional Engineer, the landowner or his authorized agent in order to initiate the permit process.
- An as-built certification by a Professional Land Surveyor is also required prior to issuance of a certificate of occupancy.

PRELIMINARY AND AS-BUILT SITE PLAN REQUIREMENTS

A preliminary site plan is required prior to the issuance of permits. A final (as-built) site plan is required prior to the issuance of a Certificate of Occupancy. A site plan includes the entire lot, drawn to scale, showing:

- Lot lines with dimensions and road frontage delineated; existing or proposed driveways (**for non-residential uses** - list vertical clearance), parking spaces and walkways with width and surface material described;
- All existing and proposed buildings or other structures with overall dimensions given and their setback(s) from nearest property lines clearly delineated.
- All surface waters; FEMA 100 year flood fringe and floodway lines (or approximate 100 year flood line in unnumbered A Zones); flood hazard soils areas (adjust flood hazard soils to Wake County topography or field surveyed low points as appropriate); wetlands; reserved open spaces; the location, dimensions and arrangements of all drainageway, watershed, riparian, and other buffers and their associated required setbacks; the location of any existing or proposed easements (widths listed).
- Existing or proposed well, septic tank and drain field location(s) -or- sewer and water easements and proposed connection location(s).
- A title block indicating parcel identification number (PIN), north arrow and scale of the site plan, bar scale, and
 - For preliminary plans, indicate that it is a preliminary plan, name of **Professional Land Surveyor, Landscape Architect, Professional Engineer the landowner or his authorized agent, signature, and for licensed professionals, seal of the person** who prepared the plan, date map prepared (and any revision dates).
 - For as-built final plans, indicate that it is an as-built plan, name of **Professional Land Surveyor who prepared the plan, his signature and seal**, date map prepared (and any revision dates).
- If parcel is less than 5 acres in size 1" = 30', 40', 50', 60' or 100' is acceptable. Parcels greater than 5 acres may use 1" = 200'.
- All existing and proposed impervious surfaces shall be clearly delineated and listed in sq. ft. and as a percentage in relation to the total net lot size listed.
- Location, type and relevant dimensions and capacities of stormwater management structures and other devices (if stormwater management is required) – plus associated easements (show dimensions).
- **For non-residential uses:** In addition to the above requirements, show all existing or proposed hazardous material areas and tanks whether underground or aboveground. List capacity and contents and clearly identify setback(s) from nearest property line. Also show all existing or proposed underground fire service mains with associated fire protection, to include: valves, fire department connections and hydrants.

CALCULATIONS

TOTAL LOT SIZE/ 109,771 SF
 EXISTING IMPERVIOUS 7229 SF OR 6.5% OF TOTAL AREA
 PROPOSED IMPERVIOUS/ 450 SF
 TOTAL IMPERVIOUS 7679 SF OR 7% OF TOTAL AREA

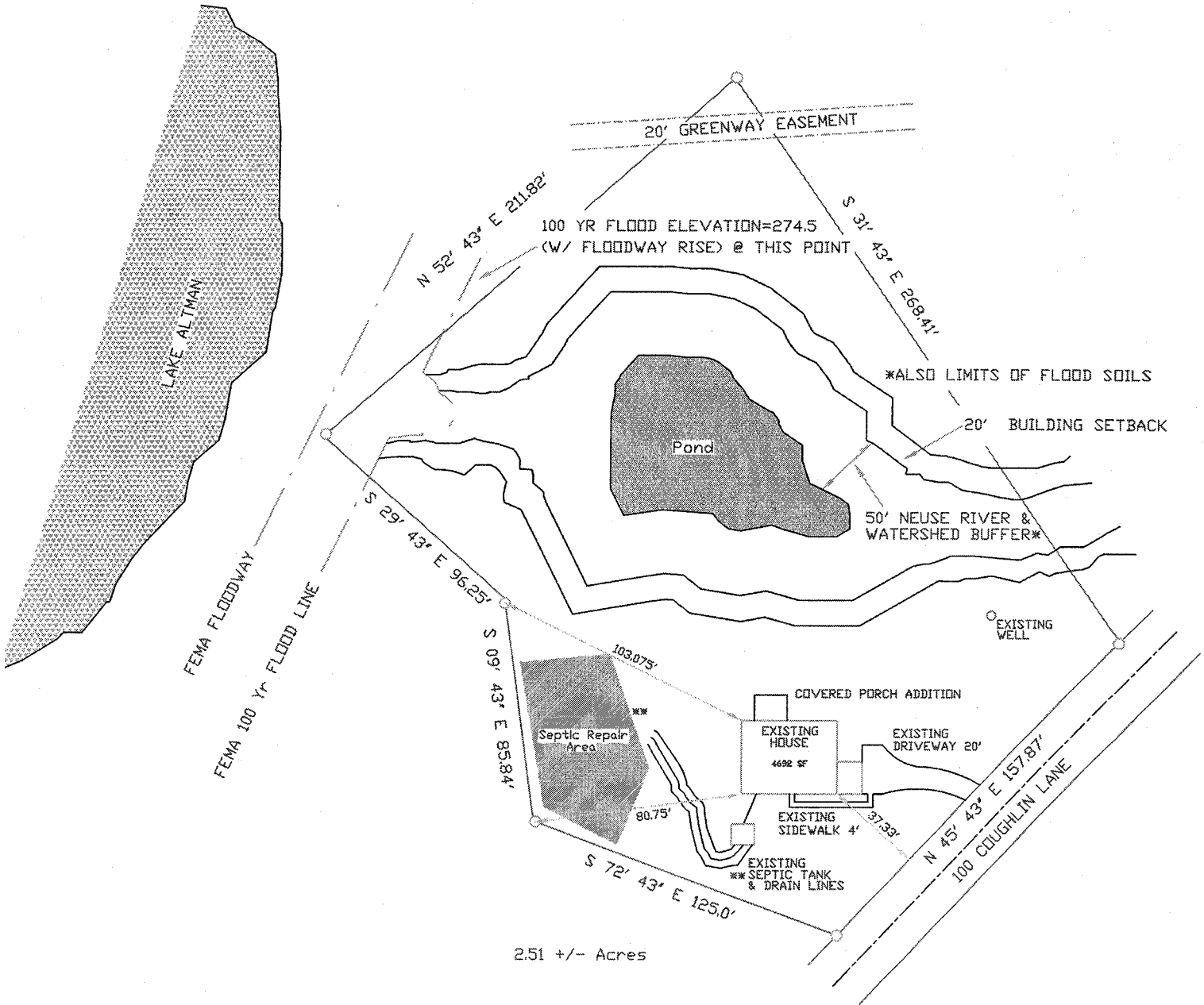
**SHOW WHERE LOCATION ESTABLISHED PRIOR TO APPLICATION

PRELIMINARY SITE PLAN
 COVERED PORCH ADDITION-SMITH RESIDENCE
 100 COUGHLIN LANE, RALEIGH, NC 27604

PIN # 1752.04.68.3311
 DATE: MAY 10, 2001
 REVISIONS: 5/12/01 (FLOOD ELEVATIONS)

SCALE 1"=60'

Joe Surveyor
 101 Transit Lane
 Raleigh, NC 23456



*****DRAWING FOR ILLUSTRATIVE PURPOSES ONLY*****

IMPERVIOUS SURFACE

Impervious surface is defined in the rules as any material that significantly reduces and prevents natural infiltration of water into the soil. Impervious surfaces include but are not limited to roof, patios, balconies, decks, streets, parking areas, driveways, sidewalks, and any concrete stone, brick, asphalt, or compacted gravel surface. The effective impervious coverage of certain surfaces listed below is:

- (1) Asphalt, concrete, crush and run gravel, masonry, marl, wood, and other impermeable surfaces that prevent land area from infiltrating stormwater are one hundred (100) per cent impervious.
- (2) Porous surfaces which permit direct infiltration of un-concentrated storm-water into ground areas which are prepared in accordance with plans approved by the Department of Environmental Services; Erosion, Flood and Stormwater Division so that the first one-half (1/2) inch of stormwater infiltrates into the ground will be assigned an impervious surface percentage, depending on:
 - Compaction;
 - Condition of sub-grade;
 - Extent of land disturbance;
 - Extent of porous openings;
 - Protection from siltation and clogging;
 - Slope of the ground area
 - Volume of stormwater stored.
- (3) Slatted wood decks that allow the drainage of water through the slats to an unpaved surface below, un-graveled natural footpaths, water surfaces of swimming pools, ponds, lakes, detention basins and drain fields are zero (0) per cent impervious.

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

S:Neuse Rules\General notice on rules