

ARTICLE 5. WATERSHED PROTECTION OVERLAY DISTRICTS

Section 5-1: General

Pursuant to requirements of NCGS 143-214.5, three (3) Watershed Protection Overlay Districts, as described in Article 4, Part 1, Section 4-1(L) of this Ordinance, have been established for lands within the watersheds of existing drinking water rivers. These districts overlay other zoning districts established in this Ordinance and delineated on the Town of Lillington Official Zoning Map. Wherever standards of the underlying zoning district differ from the watershed overlay standards, the more restrictive provisions shall apply.

Section 5-2: Applicability of Watershed Development Standards

Only new development activities requiring an erosion/sedimentation control plan under State Code (NCAC, Chapter 4) or local government program and/or resulting in the disturbance of one (1) acre or more of land area are required to comply with the watershed protection requirements as specified in this Article.

Section 5-3: Land Use Regulations

All uses and activities allowed in the underlying zoning districts are permitted with the following exceptions:

DISTRICT	LAND USE REGULATIONS
U-CAPE FEAR-CA	New sites for land application of sludge/residuals or petroleum contaminated soils are not permitted .
	New landfills are not permitted .
	Agricultural activities are permitted and are subject to the provisions of the Food Security Act of 1985 and the Food, Agriculture, Conservation, and Trade Act of 1990, and the rules and regulations of the Soil and Water Conservation Commission.
	Silviculture activities are permitted and subject to the provisions of the Forest Practices Guidelines Related to Water Quality (15 NCAC 11.0101-.0209).
U-CAPE FEAR-PA L-CAPE FEAR-PA	New sites for land application of sludge/residuals or petroleum contaminated soils are permitted .
	New non-discharging landfills are permitted .
	New discharging landfills are permitted .
	Agricultural activities are permitted and are subject to the provisions of the Food Security Act of 1985 and the Food, Agriculture, Conservation, and Trade Act of 1990.
Silviculture activities are permitted and are subject to the provisions of the Forest Practices Guideline Related to Water Quality (15 NCAC 11.0101-.0209).	

Section 5-4: Density and Built-Upon Area Requirements Under the Low and High Density Options

Minimum and maximum residential and nonresidential density and built-upon area limits shall be as indicated in the table below, or as required by the underlying zoning district, whichever is less.

DISTRICT	MAXIMUM DENSITY/BUILT-UPON AREA
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U-CAPE FEAR-CA	Single-Family Development	<i>Low Intensity Option</i>
		20,000 square foot (.45 acre) minimum lot size, AND 30' stream buffers along perennial streams, OR 24% built-upon area, AND 30' stream buffers along perennial streams.
	<i>High Intensity Option</i>	
	On-site infiltration of the first inch of stormwater runoff required where density exceeds 2 dwelling units per 40,000 square feet (.92 acre), AND 50% built-upon area, AND 100' stream buffers along perennial streams.	
Other Residential and Non- Residential Development	<i>Low Density Option</i>	
	24% built-upon area, AND 30' stream buffers along perennial streams.	
	<i>High Density Option</i>	
		On-site infiltration of the first inch of stormwater runoff required where development (residential or non-residential) exceeds 2 dwelling units per 40,000 square feet (.92 acre) or 24% built-upon area, AND 50% built-upon area, AND 100' stream buffers along perennial streams.

U-CAPE FEAR-PA L-CAPE FEAR- PA	Single-Family Development	<p style="text-align: center;"><i>Low Density Option</i></p> 20,000 square foot (.45 acre) minimum lot size with curb and gutter, AND 30' stream buffers along perennial streams, OR 24% built-upon area with curb and gutter, AND 30' stream buffers along perennial streams, OR 14,000 square foot (.32 acre) minimum lot size without curb and gutter, AND 30' stream buffers along perennial streams, OR 36%built-upon area without curb and gutter, AND 30' stream buffers along perennial streams.
		<p style="text-align: center;"><i>High Density Option</i></p> On-site infiltration of the first inch of stormwater runoff required where density exceeds either 2 dwelling units per 40,000 square feet (.92 acre) or 24% built-upon area (with curb & gutter), or 3 dwelling units per 40,000 square feet (.92 acre) or 36% built-upon area (without curb and gutter), AND 70% built-upon area, AND 100' stream buffers along perennial streams.

	Other Residential and Non-Residential Development	<i>Low Density Option</i>
		24% built-upon area with curb and gutter, AND 30' stream buffers along perennial streams, OR 36% built-upon area without curb and gutter, AND 30' stream buffers along perennial streams.
		<i>High Density Option</i>
		On-site infiltration of the first inch of stormwater runoff required where development (residential or non-residential) exceeds either 2 dwelling units per 40,000 square feet (.92 acre) or 24% built-upon area (with curb & gutter), or 3 dwelling units per acre or 36% built-upon area (without curb & gutter), AND 70% built-upon area, AND 100' stream buffers along perennial streams.

Section 5-5: Stormwater Control Structures

- (A) All stormwater control structures shall be designed by a North Carolina registered professional with qualifications appropriate for the type of system required. These registered professionals are defined as professional engineers, landscape architects (to the extent that the General Statutes, Chapter 89A allow), and land surveyors, to the extent that the design represents incidental drainage within a subdivision, as provided in the General Statutes, Chapter 89 (c)-3(7).

- (B) All stormwater controls shall use wet detention as a primary treatment system unless alternate stormwater management measures, as outlined in Subsection C, are used. Wet detention ponds shall be designed for specific pollutant removal according to modeling techniques approved by the North Carolina Division of Environmental Management. Specific requirements for these systems shall be in accordance with the following design criteria:
 - (1) Wet detention ponds shall be designed to remove eighty-five percent (85%) of total suspended solids in the permanent pool and storage runoff from a one (1) inch rainfall from the site above the permanent pool.

- (2) The designed runoff storage volume shall be above the permanent pool.
 - (3) The discharge rate from these systems following the one (1) inch rainfall design storm shall be such that the runoff does not draw down to the permanent pool level in less than two (2) days and that the pond is drawn down to the permanent pool level within at least five (5) days.
 - (4) The mean permanent pool depth shall be a minimum of three (3) feet.
 - (5) The inlet structure shall be designed to minimize turbulence using baffles or other appropriate design features.
 - (6) Vegetative filters shall be constructed for the overflow and discharge of all stormwater wet detention ponds and shall be at least thirty (30) feet in length. The slope and width of the vegetative filter shall be determined so as to provide a non-erosive velocity flow-through filter for a ten (10) year, twenty-four (24) hour storm with a ten (10) year, one (1) hour intensity with a slope of five percent (5%) or less. Vegetation in the filter shall be natural vegetation, grasses, or artificially planted wetland vegetation appropriate for the site characteristics.
- (C) Alternative stormwater management systems, consisting of one (1) treatment option or a combination of treatment options, may be used. The design criteria for approval shall be eighty-five percent (85%) average annual removal of total suspended solids. Also, the discharge rate shall meet one (1) of the following criteria:
- (1) The discharge rate following the one (1) inch design storm shall be such that the runoff draws down to the pre-storm design stage within five (5) days, but not less than two (2) days; or
 - (2) The post development peak discharge rate shall equal the predevelopment rate for the one (1) year, twenty-four (24) hour storm.
- (D) In addition to the vegetative filters required in Subsection B(6), all land areas outside of the pond shall be provided with a ground cover sufficient to restrain erosion within thirty (30) days after any land disturbance. Upon completion of the stormwater control structure, a permanent ground cover shall be

established and maintained as part of the maintenance agreement described in Section 5-6, Subsection B(4).

- (E) A description of the area containing the stormwater control structure shall be prepared and filed consistent with Section 5-6, Subsections C (1) and C(2), as a separate deed with the Harnett County Register of Deeds along with any easements necessary for general access to the stormwater control structure. The deeded area shall include the stormwater control structure, vegetative filters, all pipes and water control structures, berms, dikes, etc., and sufficient area to perform inspections, maintenance, repairs, and reconstruction.
- (F) Qualifying areas of the stormwater control structure may be considered pervious when computing total built-upon area. However, if the structure is used to compute the percentage built-upon area for one (1) site, it shall not be used to compute built-upon area for any other site or area.

Section 5-6: Operation and Maintenance of Stormwater Control Structures

(A) Posting of Financial Security

All new stormwater control structures shall be conditioned on the posting of adequate financial assurance for the purpose of maintenance, repairs, or reconstruction necessary for adequate performance of the stormwater control structures. Financial assurance shall be in the form of the following:

(1) Security Performance Bond or Other Security.

- (a) The permit applicant shall obtain either a performance bond from a surety bonding company authorized to do business in North Carolina, an irrevocable letter of credit or other instrument readily convertible into cash at face value payable to the Town of Lillington or placed in escrow with a financial institution designated as an official depository of the Town of Lillington. The bond or other instrument shall be in an amount equal to 1.25 times the total cost of the stormwater control structure, as estimated by the applicant and approved by the Town Engineer. The total cost of the stormwater control structure shall include all materials such as piping and other structures; seeding and soil

stabilization; design and engineering; and grading, excavation, fill, etc. The cost shall not be prorated as part of a larger project, but rather under the assumption of an independent mobilization.

- (b) Upon default of the permit applicant to complete and/or maintain the stormwater control structure as spelled out in the performance bond or other security, the Town may obtain and use all or any portion of the funds necessary to complete the improvements based on an engineering estimate. The Town shall return any funds not spent in completing the improvement to the owning entity.

(2) **Cash or Equivalent Security Deposited After the Release of the Performance Bond.**

- (a) The permit applicant shall deposit with the Town of Lillington either cash or other instrument approved by the Town Attorney that is readily convertible into cash at face value. The cash or security shall be in an amount equal to fifteen percent (15%) of the total cost of the stormwater control structure or the estimated cost of maintaining the stormwater control structure over a ten (10) year period, whichever is greater. The estimated cost of maintaining the stormwater control structure shall be consistent with the approved operation and maintenance plan or manual provided by the developer under Subsection B(1) and B(2). The amount shall be computed by estimating the maintenance cost for twenty-five (25) years and multiplying this amount by two-fifths or 0.4.
- (b) Upon default of the owning entity to maintain, repair and, if necessary, reconstruct the stormwater control structure in accordance with the Operation Maintenance Agreement, the Town shall obtain and use all or any portion of the cash security to make necessary improvements based on an engineering estimate. Such expenditure of funds shall only be made after exhausting all other reasonable remedies seeking the owning entity to comply with the terms and conditions of the Operating

and Maintenance Agreement. The Town shall not return any deposited cash funds.

(B) Maintenance and Upkeep

(1) Operation and Maintenance Agreement Required

The permit applicant shall enter into the binding Operation and Maintenance Agreement between the Town of Lillington and all interests in the development. Said Agreement shall require the owning entity to maintain, repair, and if necessary, reconstruct the stormwater control structure in accordance with the operation management plan or manual provided by the developer. The developer shall file the Operation and Maintenance Agreement with the Harnett County Register of Deeds.

(2) Operation and Maintenance Plan Required

An operation and maintenance plan or manual shall be provided by the developer for each stormwater control structure, indicating what operation and maintenance actions are needed, what specific quantitative criteria will be used for determining when those actions are to be taken and, consistent with the Operations Maintenance Agreement, who is responsible for those actions. The Plan shall clearly indicate the steps that will be taken for restoring a stormwater control structure to design specifications if a failure occurs.

(3) Landscaping and Grounds Maintenance

Landscaping and grounds management shall be the responsibility of the owning entity. However, vegetation shall not be established or allowed to mature to the extent that the integrity of the control structure is diminished or threatened, or to the extent of interfering with any easement or access to the stormwater control structure.

(4) Repair or Reconstruction

Except for general landscaping and grounds management, the owning entity shall notify the Administrator prior to any repair or reconstruction

of the stormwater control structure. All improvements shall be made consistent with the approved plans and specifications of the stormwater control structure and the operation and maintenance plan or manual. After notification by the owning entity, the Town Engineer shall inspect the completed improvements and shall inform the owning entity of any required additions, changes, or modifications and of the time period to complete said improvements.

(5) Minor Amendments to Plans and Specifications

Amendments to the plans and specifications of the stormwater control structure and/or the operation and maintenance plan or manual shall be approved by the Town Engineer, provided that the changes do not involve a change in the size or location of the structure. Proposed changes shall be prepared by a North Carolina registered professional engineer or landscape architect (to the extent that the General Statutes, Chapter 89A, allow) and submitted to and reviewed by the Town Engineer.

- (a) If the Town Engineer approves the proposed changes, the owning entity of the stormwater control structure shall file sealed copies of the revisions with the Administrator.
- (b) If the Town Engineer disapproves the changes, the proposal may be revised and resubmitted to the Town Engineer as a new proposal. If the proposal has not been revised and is essentially the same plan that was already reviewed, it shall be returned to the applicant.
- (c) The Town Engineer shall report any such revisions to the Board of Commissioners at the next regularly scheduled meeting.

(6) Major Amendments to Plans and Specifications

Amendments to the plans and specifications of the stormwater control structure and/or the operation and maintenance plan or manual that

involve a change in the size or location may be approved by the Board of Commissioners after receiving a recommendation from the Town Engineer. Proposed changes shall be prepared by a North Carolina registered professional engineer or landscape architect (to the extent that the General Statutes, Chapter 89A, allow) and submitted to, and reviewed by the Town Engineer.

(7) Revision of Plan Required if Found to be Inadequate

If the Town finds that the operation and maintenance plan or manual is inadequate for any reason, the Board of Commissioners shall notify the owning entity of any required changes and shall prepare and file copies of the revised agreement with the Harnett County Register of Deeds, the Town Engineer, the Administrator, and the owning entity.

(C) Inspection and Release of the Performance Bond

(1) Inspection by Town Engineer

The stormwater control structure shall be inspected by the Town Engineer, after the owning entity notifies the Administrator that all work has been completed. At this inspection, the owning entity shall provide:

- (a) The signed deed, related easements and survey plat for the stormwater control structure ready for filing with the Harnett County Register of Deeds.
- (b) A certification sealed by an engineer or landscape architect (to the extent that the General Statutes, Chapter 89A, allow) stating that the stormwater control structure is complete and consistent with the approved plans and specifications.

(2) Submittal of Inspection Report to Town Engineer

The Administrator shall present the materials submitted by the developer and the inspection report and recommendations to the Town Engineer.

- (a) If the Town Engineer approves the inspection report and accepts the certification, deed, and easements, the Administrator shall file the deed and easements with the Harnett County Register of Deeds, release up to seventy-five percent (75%) of the value of the performance bond or other surety and issue a Zoning Permit for the stormwater control structure.
- (b) If deficiencies are found, the Town Engineer shall direct that improvements and inspections be made and/or documents corrected and resubmitted to the Town Engineer.

(3) Release of Remaining Security

No sooner than one (1) year after the filing date of the deed, easements and maintenance agreement, the developer may petition the Board of Commissioners to release the remaining value of the performance bond or other security. Upon receipt of said petition, the Town Engineer shall inspect the stormwater control structure to determine whether the controls are performing as designed and intended. The Administrator shall present the petition, inspection report, and recommendations to the Board of Commissioners.

- (a) If the Board of Commissioners approve the report and accept the petition, the developer shall deposit with the Town of Lillington a cash amount equal to that described in Section 5-6, Subsection A(1)(a), after which, the Board shall release the performance bond or other security.
- (b) If the Board of Commissioners do not accept the report and rejects the petition, the Board shall provide the developer with instructions to correct any deficiencies and all steps necessary for the release of the performance bond or other surety.

(4) Annual Inspection Required

- (a) All stormwater control structures shall be inspected at least once on an annual basis to determine whether the controls are performing as designed and intended. Records of inspections shall be maintained on forms approved or supplied by the North

Carolina Division of Environmental Management. Annual inspections shall begin within one (1) year of the filing date of the deed for the stormwater control structure.

- (b) In the event the Town Engineer discovers the need for corrective action or improvements, he/she shall notify the Administrator who shall notify the owning entity of the needed improvements and the date by which the corrective action is to be completed. All improvements shall be made consistent with the plans and specifications of the stormwater control structure and the operation plan or manual. After notification by the owning entity, the Town Engineer shall inspect and approve the completed improvements.

Section 5-7: Stream Buffers Required

- (A) A minimum one hundred (100) foot vegetative stream buffer is required for all new development activities that exceed the Low Density Option; otherwise, a minimum thirty (30) foot vegetative stream buffer for development activities is required along all perennial waters indicated on the most recent versions of USGS 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies. Desirable artificial stream bank or shoreline stabilization approved by the Administrator is permitted.
- (B) No new development is allowed in stream buffers except for water dependent structures, other structures such as flag poles, signs and security lights which result in only diminutive increases in impervious area and public projects such as road crossings and greenways where no practical alternative exists. These activities should minimize built-upon surface area, direct runoff away from the surface waters, and maximize the utilization of stormwater Best Management Practices.