Topic:	Buffer Zones; Wetlands & Watercourse Protection; Floodwater Management; Zoning
Resource Type:	Regulations
State:	North Carolina
Jurisdiction Type:	Municipal
Municipality:	Town of Huntersville
Year *(adopted, written, etc.)*:	1999
Community Type – applicable to:	Suburban; Rural
Title:	Town of Huntersville Surface Water Improvement & Management – Stream Buffers Ordinance
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Abstract

This ordinance amends the current zoning regulations to create a "stream buffer network" that will filter pollutants, store floodwater, provide habitat, and contribute to the "green infrastructure." The buffer is divided into three sections, streamside zone, managed use zone, and upland zone. Each zone has varying level of restrictions, the streamside zone being the most restrictive and the upland zone being the least restrictive.

Resource

Section 1. Be it ordained by the Board of Commissioners for the Town of Huntersville that Article 8, GENERAL PROVISIONS, of the Huntersville Zoning Ordinance is hereby amended by adding a new Section 8.25 as follows:
8.25 S.W.I.M. (Surface Water Improvement and Management) Stream Buffers

.1 Purpose. The purpose of a stream buffer network is to filter pollutants, store floodwaters, provide habitat, and contribute to the "green infrastructure". Stream systems are comprised of each stream and its respective drainage basin.

• Streams have the primary natural functions of conveying storm and ground water, storing floodwater, and supporting aquatic life.

• Vegetated lands adjacent to the stream channel in the drainage basin serve as "buffers" to protect the stream's ability to fulfill its natural functions. Buffers have the primary natural functions of protecting water quality by filtering pollutants, providing intermittent storage for floodwaters, allowing channels to meander naturally, and providing suitable habitat for wildlife.

.2 Definitions. For the purposes of this section, the following words and phrases shall be defined as specified below:

Best Management Practices (BMPs). A structural or nonstructural management based practice used singularly or in combination to reduce non-point source input to receiving waters in order to achieve water quality protection goals.

Buffer. A vegetated area through which storm water runoff flows in a diffuse manner so that the runoff does not become channelized and which provides for infiltration of the runoff and filtering of pollutants.

Buffer Zones. Buffer widths are measured in three (3) zones as shown below. The buffer width is measured horizontally on a line perpendicular to the surface water, landward from the top of the bank on each side of the stream.

Drainage Basin. The area of land which drains to a given point on a body of water.

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 the allowable surcharge (currently one foot).

Flood Fringe. The land area located between the limits of the floodway and the maximum elevation subject to inundation by the base (1% chance) flood.

Floodplain. The low, periodically flooded lands adjacent to rivers and lakes. For land use planning purposes, the regulatory floodplain is usually viewed as all alongside a watercourse that would be inundated by the base (1% chance) flood; the floodway plus the flood fringe.

Mitigation. Actions taken on-site and/or off-site to offset the effects of temporary or permanent loss of a buffer.

Top of Bank. The landward edge of the stream channel during high water, bankfull conditions at the point where water begins to overflow onto the floodplain.

.3 Applicability.

a) All properties shall comply with the buffer requirements of this Section except those which, as of the effective date of October 19, 1999, have previously secured a right to proceed by:

- Having been issued a Certificate of Building Code Compliance;

- Having a valid and unexpired building permit;

- Being subject to a recorded subdivision plat;

• Being subject to a subdivision sketch plan approved by the Board of

Commissioners prior to the effective date of this Section;

• Being subject to a site specific development plan defined under Section 2.2.2 of these zoning regulations; or

• Having otherwise secured a vested property right under state law.

b) Redevelopment or expansion of uses and structures included in a), above, shall comply with the buffer requirements of this Section, however uses and structures previously approved and constructed in a buffer may remain.

c) A site specific development plan amended by action of the Board of Commissioners subsequent to adoption of this Section shall comply, in its amended form, with the S.W.I.M. buffer requirements, however uses and structures previously approved for construction in a buffer may remain.

d) Where stream buffers are also required as part of the Lake Norman or Mountain Island Lake Watershed Overlay Districts, the more stringent of the stream buffer requirements shall apply.

.4 Minimum Buffer Widths.

Minimum stream buffer widths vary based on the size of the upstream drainage basin, as described in the following table. Mecklenburg County's Geographic Information System will locate streams and delineate the size of drainage basins associated with each. S.W.I.M. stream buffer requirements begin at the point where the stream drains an area of 50 acres or greater. Refer to the Charlotte-Mecklenburg Storm Water Design Manual for specifications regarding streams that drain less than 50 acres.

.5 Buffer Description

Buffer function, vegetation and use vary according to the different buffer zones and are described in the following table. (table omitted)

.6 Diffuse Flow Requirement.

Diffuse flow of runoff shall be maintained in the buffer by dispersing concentrated flow and reestablishing vegetation. Techniques for providing diffuse flow are specified in the Charlotte-Mecklenburg Land Development Standards Manual.

• Concentrated runoff from ditches or other manmade conveyances shall be diverted to diffuse flow before the runoff enters the buffer.

• Periodic corrective action to restore diffuse flow shall be taken by the property owner as necessary to impede the formation of erosion gullies.

.7 Ponds that intersect the stream channel shall have the same buffers as the original stream. Buffer requirements do not apply to wet ponds used as structural BMPs.

.8 Buffer Delineation. The following buffer delineations are required:

a) Buffer boundaries including all buffer zones must be clearly delineated on all site specific plans for Board of Commissioner approval, on all construction plans, including grading and clearing plans, erosion and sediment control plans, and site plans.

b) Buffer boundaries including all buffer zones must be clearly marked on-site prior to any land disturbing activities. Where existing trees are to be preserved in a buffer zone, limits of grading shall maintain a minimum 20' separation from the base of each tree on the upland side of the buffer.

c) The outside boundary of the buffer must be permanently marked on each parcel following the completion of grading activities and prior to occupancy.

d) Separate buffer zones must be permanently marked at highway stream crossings.

e) Buffer boundaries including all buffer zones as well as all buffer requirements must be specified on the record plat, on individual deeds, and in property association documents for lands held in common.

.9 Buffer Impacts Permitted under Section 8.25, S.W.I.M.

The following buffer impacts are permitted, but design and construction shall comply with the specifications provided in the Charlotte-Mecklenburg Land Development Standards Manual for stabilization of disturbed areas to minimize negative effects on the quality of surface waters.

• Near perpendicular (75° or greater) road crossings for connectivity or transportation links where the Town of Huntersville has granted site plan approval.

• Near perpendicular (75° or greater) utility crossings as approved by Charlotte-Mecklenburg Utilities.

• Parallel water and sewer utility installation as approved by Charlotte-

Mecklenburg Utilities, where a logical and appropriate basis for the impact is demonstrated, where disturbance of the Stream Side Zone is minimized to the maximum extent practicable, and where guidelines for restoring vegetation within buffers disturbed as a result of parallel utility installation are met. These guidelines are specified in the Charlotte-Mecklenburg Land Development Standards Manual.

• Public paths and trails parallel to the creek outside the Stream side Zone and near perpendicular stream crossings in any zone. Pathways must use existing and proposed utility alignments or previously cleared areas and minimize tree cutting to the maximum extent practicable. To the extent possible, pathways shall preserve existing drainage patterns and avoid drainage structures that concentrate storm water.

• Incidental drainage improvements/repairs for maintenance.

• Individual pedestrian paths connecting homeowners to the stream in the form of narrow, pervious footpaths with minimal tree disturbance.

• New domesticated animal trails (farming) where existing trails are lost as a result of action beyond the farmer's control. Stream crossings should be constructed to minimize impacts to the Stream Side Zone and be maintained with fencing perpendicular to and through the buffer to direct animal movement.

• Mitigation approved by a state or federal agency acting pursuant to Sections 401 or 404 of the federal Clean Water Act.

.10 Appeals and Variances.

a) An appeal to reverse or modify the order, decision, determination, or interpretation of the Zoning Administrator shall comply with the procedures and standards of Section 11.3 of these regulations.

b) Special Variance Provisions/Mitigation Techniques.

• When "practical difficulties or unnecessary hardships" would result from strict adherence to the buffer width requirements and/or buffer treatment standards, a petition for variance may be filed with the Huntersville Board of Adjustment in compliance with the procedures and standards of Section 11.3.

• Site specific mitigation plans using the mitigation techniques set out below and approved by the designated agency shall be construed by the Board of Adjustment to be evidence responsive to Section 11.3.2 f), subparagraphs 1)(b) and 1) (c) – consistency with adopted plans and protection of public safety and welfare. Specifications for these mitigation techniques are provided in the Charlotte-Mecklenburg Stream Buffer Guidelines and Mecklenburg County Land Development Standards Manual (for Structural BMPs). The techniques below are not construed to offset the requirement of Section 8.25.6 for diffuse flow.

(1) Installation of Structural BMPs. The installation of an on-site structural BMP designed to achieve specified pollutant removal targets will allow for all proposed stream buffer impact on the specific site. The BMP must remain outside of the Stream Side Zone and Managed Use Zone. A detailed BMP design plan must be submitted to the Mecklenburg County Department of Environmental Protection for approval based on specifications

contained in the Charlotte-Mecklenburg County Land Development Standards Manual. This plan must also include a long term maintenance strategy for the BMPs, complete with the establishment of adequate financing to support the proposed maintenance practices.

(2) Stream Restoration. The owner may restore and preserve the buffer area on any stream of equivalent or greater drainage area the condition of which is determined to be qualified for restoration by the Mecklenburg County Department of Environmental Protection on a 1:1 basis in linear feet of stream. This restoration shall include stream bank improvements and Stream Side and Managed Use Zone re-vegetation, in accordance with the Charlotte-Mecklenburg Land Development Standards Manual, and receive approval by Mecklenburg County Department of Environmental Protection.

(3) Stream Preservation. The owner may purchase, fee simple, other stream segments at equivalent or greater drainage area on a 1:1 linear foot basis and convey fee simple and absolute title to the land to the Town of Huntersville, Mecklenburg County, or conservation trust, with a plan approved by the Mecklenburg County Department of Environmental Protection.

(4) Wetlands Restoration. On a 2:1 acreage basis for disturbed stream and buffer area (2 acres of wetland for each acre of disturbed area), the owner may provide a combination of the preservation and/or restoration of wetlands with protective easements and the implementation of structural or non-structural BMPs to achieve specific pollutant removal targets within the impacted area. Restoration plan must be approved by the Mecklenburg County Department of Environmental Protection.

(5) Bottom Land Hardwood Preservation. On a 2:1 acreage basis for impacted stream and buffer area 2 acres of bottomland hardwood for each acre of disturbed area), the owner may provide a combination of the preservation of existing bottom land hardwood forest or other specifically approved natural heritage area by conservation easement or other legal instrument, and the implementation of structural or non-structural BMPs to achieve specific pollutant removal targets within the impacted area. Plan to be approved by Mecklenburg County Department of Environmental Protection.

(6) Controlled Impervious Cover for Disturbance landward of Stream Side Zone. The owner may commit to, and provide, a specific site development plan for the parcel with requested buffer disturbance. The plan shall limit overall site impervious cover to less than or equal to 24%. Preservation of the Stream Side Zone is still required. Plan to be approved by Mecklenburg County Department of Environmental Protection.

(7) Open Space Development. The submission of a site specific development plan that preserves 50% of the total land area as undisturbed open space. Plan to be approved by Mecklenburg County Department of Environmental Protection.

(8) Mitigation Credits: The purchase of mitigation credits through the Stream Restoration Program on a 1:1 basis, utilizing linear feet of stream impacted and the prevailing rate of purchase as established by the Charlotte-Mecklenburg Land Development Standards

Manual. Mitigation credits purchased under any other program (i.e., U.S. Army Corp of Engineers) shall not cover this requirement unless the issuing agency agrees to relinquish the funds to the appropriate local government agency.

(9) Alternative mitigation. The list of mitigation techniques shall not prevent the creative development of alternative mitigation plans that achieve the purposes of this section.

.11 Posting of financial security required. When structural BMPs (wet detention ponds and other BMPs) are approved for mitigation of a buffer disturbance, the approval will be subject to the owner filing a surety bond or letter of credit or making other financial arrangements which are acceptable to the Mecklenburg County Department of Environmental Protection, in a form which is satisfactory to the County Attorney, guaranteeing the installation and maintenance of the required structural BMPs until the issuance of certificates of occupancy for seventy-five percent (75%) of all construction which might reasonably be anticipated to be built within the area which drains into the BMPs, allowing credit for improvements completed prior to the submission of the final plat. At such time that this level of occupancy is achieved, written notice thereof must be submitted by the owner to the Mecklenburg County Department of Environmental Protection. The owner must also verify the adequacy of the maintenance plan for the BMPs including the necessary financing to support the proposed maintenance practices. The Mecklenburg County Department of Environmental Protection will inspect the structural BMPs and verify the effectiveness of the maintenance plan and, if both are found to be satisfactory, the Department will notify the owner in writing within 30 days of the date of notice.

.12 Maintenance responsibilities for structural BMPs – Civil Penalties. Maintenance of all structural BMPs will be the responsibility of the property owner or his designee. Any person who fails to maintain the required BMPs in accordance with the approved maintenance plan will be subject to a civil penalty of not more than $500. Each day that the violation continues shall constitute a separate violation. No penalties shall be assessed until the person alleged to be in violation has been notified in writing of the violation by registered or certified mail, return receipt requested, or by other means which are reasonably calculated to give actual notice. The notice shall describe the nature of the violation with reasonable particularity, specify a reasonable time period within which the violation must be corrected, and warn that failure to correct the violation within the time period will result in assessment of a civil penalty or other enforcement action.