



Charlotte Storm Water
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Rezoning Petition Review

To: Keith MacVean, CMPC

From: Doug Lozner / Jeff Hieronymus / Danée McGee

Date of Review: July 10, 2007

Rezoning Petition #: 07-114

Existing Zoning: R-3: R-20MF

Proposed Zoning: MX-2 (Innovative)

Location of Property: Approximately 33.7 acres located at the intersection of Quail Wood Drive and Quail Forest Drive

Downstream Complaints and analysis: Downstream complaints consist of erosion, flooding and blockage. This site drains to a stream listed as impaired by the NC Division of Water Quality.

Source citation: A portion of the water quantity and quality comments reference information gained from the "Post-Construction Ordinance Stakeholders' Group Final Report". This report reflects consensus reached during the Council-approved process to include community input on the proposed ordinance language. Other comments, including the environmental permit, stream buffer and some detention requirements reflect existing regulations and ordinances.

Recommendations

Concerning Storm Water: **Charlotte Storm Water Services recommends that this petition be revised to include the following notes on the petition:**

Storm Water Quantity Control

The petitioner shall tie-in to the existing storm water system(s). The petitioner shall have the receiving drainage system(s) analyzed to ensure that it will not be taken out of standard due to the development. If it is found that development will cause the storm drainage system(s) to be taken out of standard, the petitioner shall provide alternate methods to prevent this from occurring.

Storm Water Quality Treatment – *Source: BMP recommendation taken from "Post-Construction Ordinance Stakeholders' Group Final Report"*

For projects with defined watersheds greater than 24% built-upon area, construct water quality best

management practices (BMPs) to achieve 85% Total Suspended Solid (TSS) removal for the entire post-development runoff volume for the runoff generated from the first 1-inch of rainfall. BMPs must be designed and constructed in accordance with the N.C. Department of Environment and Natural Resources (NCDENR) Best Management Practices Manual, April 1999, Section 4.0 (Design Standards shall be met according to the City of Charlotte Best Management Practices Manual, when available). Use of Low Impact Development (LID) techniques is optional.

Volume and Peak Control – Source: *Volume Control and Peak Control Downstream Analysis taken from “Post-Construction Ordinance Stakeholders’ Group Final Report”*.

For projects with defined watersheds greater than 24% built-upon area, control the entire volume for the 1-year, 24-hour storm. Runoff volume drawdown time shall be a minimum of 24 hours, but not more than 120 hours.

For residential projects with greater than 24% BUA, control the peak to match the predevelopment runoff rates for the 10-year and 25-year, 6-hour storms or perform a downstream analysis to determine whether peak control is needed, and if so, for what level of storm frequency. “Residential” shall be defined as “A development containing dwelling units with open yards on at least two sides where land is sold with each dwelling unit.”

For commercial projects with greater than 24% BUA, control the peak to match the predevelopment runoff rates for the 10-yr, 6-hr storm and perform a downstream flood analysis to determine whether additional peak control is needed and if so, for what level of storm frequency, or if a downstream analysis is not performed, control the peak for the 10-yr and 25-yr, 6-hour storms.

For commercial projects with less than or equal to 24% BUA, but greater than one acre of disturbed area, control the peak to match the predevelopment runoff rates for the 2 and 10-yr, 6-hr storm.

Stream Buffers

The S.W.I.M. Stream Buffer requirements apply described in the City of Charlotte_Zoning Ordinance, Chapter 12. In addition, intermittent and perennial streams within the project boundary shall be delineated by a certified professional using U.S. Army Corps of Engineers and N.C. Division of Water Quality methodology and shall be shown in the site plan submittal along with all buffer areas.

All perennial and intermittent streams draining less than 50 acres shall have a minimum 30-foot vegetated buffer including a 10-foot zone adjacent to the bank. Disturbance of the buffer is allowed; however, any disturbed area must be re-vegetated and disturbance of the 10-foot zone adjacent to the bank shall require stream bank stabilization using bioengineering techniques as specified in the Design Manual.

All streams draining greater than or equal to 50 acres and less than 300 acres shall have a 35-foot buffer with two (2) zones, including stream side and upland. Streams draining greater than or equal to 300 acres and less than 640 acres shall have a 50-foot buffer with three (3) zones, including stream side, managed use and upland.

Streams draining greater than or equal to 640 acres shall have a 100-foot buffer, plus 50% of the area of the flood fringe beyond 100 feet. This buffer shall consist of three (3) zones, including stream side, managed use and upland.

All buffers shall be measured from the top of the bank on both sides of the stream. The uses allowed in the different buffer zones as described in the S.W.I.M. Stream Buffer requirements in the

Zoning Ordinance, Chapter 12, as well as the other provisions of the S.W.I.M. ordinance shall apply (except buffer widths).