

**ORDINANCE NO. (2024) 666 TC 483**

**TC-1B-24**

**STORMWATER DESIGN MANUAL UPDATE-RELATED TEXT CHANGES**

**AN ORDINANCE TO AMEND PORTIONS OF ARTICLES 1.1, 8.2, 9.2, 9.3, 9.4, 9.5, 11.4, AND 12.2 OF PART 10 RALEIGH UNIFIED DEVELOPMENT ORDINANCE (UDO) RELATED TO STORMWATER MANAGEMENT REGULATIONS**

**WHEREAS**, the Raleigh Stormwater Design Manual (the Manual) is proposed for full replacement under TC-1A-2024.

**WHEREAS**, accompanying text changes are also needed to provide consistency between the Manual and the UDO.

**NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF RALEIGH THAT:**

**Section 1.** Section 1.1.12. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**Sec. 1.1.12. Adopted Manuals**

The following external manuals contain technical requirements and are maintained by the City and referenced in this UDO:

- A. Addressing Manual;
- B. ~~Guidelines for Land Disturbing Activity;~~
- C. B. Design Guidelines for Raleigh Historic Districts and Landmarks dated May 2, 2017;
- D. C. Private Use of Public Spaces;
- E. D. Public Utilities Handbook;
- F. E. Solid Waste Services Design Manual;
- G. F. Stormwater ~~Management~~-Design Manual;
- H. G. Street Design Manual dated January 1, 2018; and
- I. H. Tree Manual.

**Section 2.** Section 8.2.6.A. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

**Sec. 8.2.6. Stormwater**

- A. The minimum configuration of any stormwater facility shall meet current Stormwater Design Manual requirements and may require off-site improvements.

**Section 3.** Section 8.8.2.B.4. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

4. Pipes and open channels must be designed in accordance with the Stormwater Management Design Manual;

**Section 4.** Section 9.2.1.B.1. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

**Sec. 9.2.1.B. Stormwater Design Manual and Guidelines Incorporated**

1. The Raleigh Stormwater Management Design Manual along with the Guidelines for Land Disturbing Activities and amendments, on file in the City Clerk's Office, is adopted by reference as part of this UDO.

**Section 5.** Section 9.2.1.D.1. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

Sec. 9.2.1.D. Authority for Interpretation

1. The Engineering Services Director and/or his or her designee has authority to determine the interpretation of this Article, as set forth in Sec. 10.2.14. This shall include the authority to recognize alternative methods for hydrology and hydraulics calculations that are necessitated by this Article. Any person may request an interpretation of this Article by submitting a written request to the Engineering Services Director and/or his or her designee.

**Section 6.** Section 9.2.2.A.4.b.ii. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- ii. It is demonstrated to the City that (with or without measures) the peak stormwater runoff leaving the site for the 2- and 10- year storm events shall be no greater at every point of discharge for the post-development conditions than for the zoning district maximum percentage of impervious surface coverage allowed under subsection a. ~~the flood level difference between the pre-development and post-development conditions for the 2-, 10-, 25-, 50- and 100-year storm events is equal to or less than 0.04 foot rise.~~

For lots where the existing impervious surface area already exceeds the zoning district maximum percentage of impervious surface coverage limitations listed in subsection a. above, the peak stormwater runoff leaving the site for the 2- and 10-year storm events shall be no greater at every point of discharge for the post-development conditions than for the existing conditions.

**Section 7.** Section 9.2.2.A.4.c. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- c. For any property owner installing any measure to comply with *subsection b.1 or b.2* above, the following additional requirements shall apply:
  - i. The requirements of *Sec. 9.2.2.D*
  - ii. The requirements of *Sec. 9.2.2.G*
  - iii. The requirements of *Sec. 9.2.2.H*
  - i. ~~The property owner must submit an annual inspection report to the Stormwater Management Division of the Engineering Services Department. The inspection report shall contain all of the following:
    - a) ~~The name and address of the property owner;~~
    - b) ~~A statement that an inspection was made of all required stormwater control facilities and/or required open space area;~~
    - c) ~~The date of the inspection;~~
    - d) ~~A statement that all inspected stormwater control facilities and/or open space areas are performing properly and are in compliance with the approved stormwater control plan, the applicable maintenance manual required by *Sec. 9.2.2.D.2* and the Raleigh Stormwater Management Manual. No sampling of pollutant loading is required as part of the inspection;~~
    - e) ~~Current photographs of the stormwater control facilities and/or open space areas;~~
    - d) ~~The original signature of the owner;~~
    - e) ~~All inspection reports shall be on forms supplied by the City beginning from the date of the as built certification under *Sec. 9.2.2.D.3* and each year thereafter on the anniversary date of the certification.~~~~
  - ii. ~~On lots with measures, prior to issuance of a building permit, or recordation of a subdivision plat, whichever first shall occur, the property owner shall deed an access easement and temporary construction easement to the benefit of the City of Raleigh. The easements shall be in the form of a deed that the property owner records in the County in which the property~~

~~is located. A copy of this recorded deed shall be provided to the Development Services Department.~~

**Section 8.** Sections 9.2.2.B.1.j. & k. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- ~~j.~~ Compliance with stormwater control master plan must include the installation within the development of all stormwater control measures shown on the stormwater control master plan, payment of fees in lieu of installation, when allowed by the City and payment of any applicable drainage fees.
- k-j. Stormwater control measures shown on the stormwater control master plan for a new development or expansion of existing development that are demonstrated to control stormwater on a runoff volume basis will be deemed to meet the nitrogen export load requirement, provided that the post-development volume of stormwater leaving the site is equal to or less than the pre-development volume of stormwater leaving the site based on the 90th percentile storm. For the purpose of meeting this requirement for new development sites, the pre-development land cover must be assumed to be forested for the entire development site. For expansion of existing development, any built-upon area added as part of the expansion of existing development must be assumed to be forested in the pre-development condition. In any case, output from appropriate Nutrient Sensitive Waters methodology shall be provided to the City for purposes of recordkeeping and reporting.

**Section 9.** Section 9.2.2.C.1. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

**C. Stormwater Control Permits**

- 1. No development, expansion of existing development or the placement of impervious area or built-upon area, may occur on a site without an issued stormwater control permit from the City.

**Section 10.** Section 9.2.2.D.1.c. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- c. All parts of a stormwater control plan, including data calculation, design and installation of stormwater control measures and devices shall be in compliance with the Raleigh Stormwater ~~Control and Watercourse Buffer~~ Design Manual.

**Section 11.** Section 9.2.2.D.2.d. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- d. The maintenance manual shall ~~describe which lots are served by each device~~ include a map and a list of lots that comply with stormwater regulations based on the stormwater control measures described in the maintenance manual.

**Section 12.** Section 9.2.2.D.2.g. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- g. The maintenance manual must contain a statement about the expected repair life of each stormwater control facility. ~~and a replacement schedule derived by dividing the initial construction cost of each stormwater control facility by the expected life of that stormwater control facility.~~ The maintenance covenant required by Sec. 9.2.2.G.2. also must require the property owners' association or commercial lot owner that is responsible for the maintenance of all stormwater control facilities described in the maintenance manual to establish, collect, and retain funds for the maintenance, repair, replacement, and reconstruction of the stormwater control facilities, such funds to equal ten percent (10%) of the estimated costs to construct the stormwater control facilities. The responsible property owners' association or commercial lot owner shall have five (5) years from the date(s) the City accepted the as-built certification(s) for the stormwater control facilities to collect and retain such funds. All such funds to be collected and retained by the property owners' association or commercial lot owner shall be held in a segregated account used solely for the purposes of maintaining, repairing, replacing, and reconstructing the stormwater control facilities.

**Section 13.** Sections 9.2.2.D.2.j. & k. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- j. The maintenance manual shall contain the designer's cost estimate to construct the stormwater control measure(s).
- j-k. The budget shall include annual costs such as routine maintenance, periodic sediment removal and replenishment of rip-rap, insurance premiums associated with the stormwater control facilities, ~~taxes levied against the stormwater control~~

facilities, mowing and reseeding, replacing vegetation as necessary and required inspections.

**Section 14.** Section 9.2.2.D.3. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

**3. Private Drainage Easements for Stormwater Control Measures**

On privately-owned lots with stormwater control measures, prior to issuance of a building permit, or recordation of a subdivision plat, whichever first shall occur, a map shall be recorded in the local county registry of deeds office showing a private drainage easement that encompasses the stormwater control measure and its access. When a subdivision plat is required, the easement recordation may be on this plat. The easement shall be established with the maintenance covenant described in Sec. 9.2.2.G.

**Section 15.** Sections 9.2.2.D.3. & 4. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**34. As-Built Plans and Certification**

Stormwater control plans must be followed by as-built plans certified under seal, that the stormwater control measures and devices and their installation are in compliance with the Raleigh Stormwater ~~Management~~ Design Manual and the City- approved or modified stormwater control plan. No certificate of compliance or occupancy may be issued by the City without approved as- built plans, except where multiple units are served by the stormwater control measure(s), in which case the City may elect to withhold a percentage of permits or certificates of occupancy until as-built plans are submitted and approved by the City. At a minimum, the as-built plans must contain the following information:

- a. ~~The name and address of the land owner;~~
- b. ~~The final design specifications for all stormwater control measures and practices;~~
- e. ~~The field location, size, depth, and planted vegetation (when applicable) of all stormwater control measures and devices, as installed;~~
- d. ~~The recorded book and page number of the lot of each required stormwater control facility and required open space area;~~
- e. ~~A statement that all inspected stormwater control facilities and open space areas are in compliance with the approved stormwater control plan, the applicable maintenance manual required and the Raleigh Stormwater Management Design Manual; and~~
- f. ~~The original signature and seal of the engineer, surveyor or landscape architect.~~

- a. Form 503, signed by the City stormwater inspector;
- b. Completed checklist and certification by a licensed professional qualified in stormwater control measure design as detailed in *Sec. 9.2.2.D.1.a.*;
- c. Reference to the book and page of the recorded map showing the private drainage easement(s) for the stormwater control measure(s);
- d. Narrative summary of any deviations from approved development plans;
- e. Surveyed elevations of all stormwater control measure components;
- f. Redlines of approved stormwater control measure plans, details, and planting plans;
- g. Shop Drawings (when applicable);
- h. Updated stormwater control plan reflecting any hydrologic and hydraulic changes from the approved development plans to the as-built conditions;
- i. Updated maintenance manual to reflect as-built conditions;
- j. Photos of stormwater control measure components as detailed in the submittal form. Photos shall be dated and must be taken within seven (7) days of the initial as-built submittal to the City;
- k. Receipt/invoice/bill of sale with list of plants purchased; and
- l. Documentation of any required testing or materials certification with respect to the applicable control stormwater control measure(s).

**Section 16.** Section 9.2.2.F.1.b. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- b. The only activities allowed in designated open space areas are those activities allowed by the approved stormwater control plan or allowed in riparian surface water buffers under Title 15A North Carolina Administrative Code Article 2B, section ~~.0714-0233~~, as amended from time to time. Determinations required by the North Carolina Administrative Code shall be made by the City.

**Section 17.** Section 9.2.2.F.1.d. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

- d. Permanently protected undisturbed open space areas identified on stormwater control plans shall be recorded on plats recorded with the County Register of Deeds and clearly delineated with a permanent fence.

**Section 18.** Section 9.2.2.G.2. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

**2. Maintenance Covenant**

For ~~off-site stormwater control facilities and all other~~ stormwater control facilities ~~which serve more than 1 lot~~ that are not accepted for maintenance by a governmental agency, the developer shall execute and record with the local county register of deeds office a maintenance covenant. The maintenance covenant shall be on an approved City form, with the contents described below.

When a stormwater control facility benefits a lot owned by a unit of government, alternate compliance to the Maintenance Covenant may be allowed. This alternate compliance must be in the form of a written agreement and must, to the satisfaction of the Engineering Services Director, address maintenance responsibilities, cost sharing, the City's right to assess the property, and rights of access to the City. The alternate compliance described herein shall not relieve any lot owner of any other applicable provisions of this UDO.

**Section 19.** Sections 9.2.2.G.2.d. & f. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by deleting the language shown in strikethrough:

**d. Stormwater Operations and Maintenance Manual and Budget**

A stormwater operations and maintenance manual and budget conforming to *Sec. 9.2.2.D.2.* shall be approved by the City prior to recording of the Maintenance Covenant. ~~attached to and incorporated into the maintenance covenant as an exhibit.~~

**f. Standards of Maintenance for Stormwater Control Facilities**

A statement that stormwater control facilities shall be maintained in accordance with the ~~attached~~ approved stormwater operations and maintenance manual and budget, which shall be incorporated by reference into the maintenance covenant as the same may be amended, and at all times, the stormwater control facilities shall comply with all applicable laws, ordinances, regulations, rules and directives of governmental authorities and that the stormwater control facilities shall perform as designed.

**Section 20.** Section 9.2.2.G.3. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

**3. Payment to Stormwater Facility Replacement Fund**

a. ~~At the time of either recording a subdivision plat or issuance of a building permit for a lot not established by subdivision, whichever event first~~



~~occurs, the developer shall pay to the City a stormwater facility replacement fund payment, which payment shall equal 24% of the estimated cost of constructing all stormwater control facilities shown on applicable development plans.~~

- ~~b. — The purpose of the stormwater replacement fund is to ensure that adequate funds are available to the City for the maintenance, repair replacement and reconstruction of stormwater control facilities required by this UDO. Funds expended from the stormwater facility replacement fund shall be used only for the repair, maintenance, reconstruction and/or replacement of stormwater control facilities, together with the costs incurred by the City associated with any work and/or redesign of the facilities.~~
- ~~e. — No funds from the stormwater facility replacement fund shall be used for administration of this fee program. Monies collected from the stormwater replacement fund may be spent for maintenance, repair, reconstruction and replacement of any stormwater control facility required by this UDO and located within the City limits or its extra-territorial jurisdiction.~~
- ~~d. — Payments collected by the City pursuant shall be kept separate from other revenues of the City. Any funds on deposit not immediately necessary for expenditure shall be invested as allowed in N.C. Gen. Stat. §159-30; all income derived shall be deposited in the separate account and may only be used for repair, maintenance, reconstruction and replacement of stormwater control facilities together with the costs incurred by the City associated with any work or redesign of the facilities.~~
- ~~e. — Monies expended from the stormwater facility replacement fund, together with interest, may be recouped by the City from lot owners served by stormwater control facilities maintained, repaired, reconstructed and replaced by the City or its contractors. All recouped monies and interest shall be returned to the stormwater facility replacement fund.~~
- ~~f. — The payment of stormwater facility replacement fees is not intended as a substitute for security to ensure the construction of the facilities, which security may be required at such point in the development process as specified in City ordinances and policies.~~

**Section 21.** Section 9.2.2.Hof Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- 5. A statement that all inspected stormwater control facilities and open space areas are performing properly and are in compliance with the approved stormwater control plan, the applicable maintenance manual required by *Sec. 9.2.2.D.2.* and

- the Raleigh Stormwater ~~Control and Watercourse Buffer Design~~ Manual. No sampling of pollutant loading is required as part of the inspection;
6. The original signature and seal of the North-Carolina licensed engineer, surveyor or landscape architect when the stormwater control measure(s) are required by Sec. 9.2.2.B or Sec. 9.2.2.E, by Sec. 9.2.2.A., or by Article. 9.5 and serving multiple lots or a non-residential lot. The original signature of the property owner when the stormwater control measure(s) are required by Sec. 9.2.2.A. or Article. 9.5 and serving one lot containing one primary structure used for single- or two-unit living;
  7. All inspection reports shall be on forms supplied by the City. An original inspection report shall be given to the ~~Development Services Department~~ City beginning from the date of the as-built certification, as required per Sec. 9.2.2.D.4., ~~was accepted by the City was first certified under Sec. 9.2.2.D.3. and then~~ each year thereafter on the anniversary date of the certification acceptance; and
  8. All inspection reports submitted to the Engineering Services Department after the fifth anniversary of the City's acceptance of the as-built certification(s) for the required stormwater control facilities shall include a certification signed by the party responsible for maintenance of the stormwater control facilities that ten percent (10%) of the estimated costs to construct the stormwater control facilities are being held by the responsible party in a segregated account used solely for the purposes of maintaining, repairing, replacing, and reconstructing the stormwater control facilities as is required by Sec. 9.2.2.D.2.g.

**Section 22.** Sections 9.2.3.B.2 & 3. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

2. Property located within a riparian water surface buffer and within a required natural resource buffer, must also comply with Title 15A of the North Carolina Administrative Code Subarticle 2B, section .0714-0233, as amended from time to time.
3. Property located inside of a riparian water surface buffer and outside a required natural resource buffer is subject to Title 15A of the North Carolina Administrative Code Subarticle 2B, section .0714-0233, as amended from time to time.

**Section 23.** Section 9.2.3.E.3. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

3. No watercourse buffer permit may be issued for work in a riparian surface water buffer regulated by the State pursuant to Title 15A of the North Carolina Administrative Code Subarticle 2B, Section ~~.0714-0233~~ unless:

**Section 24.** Section 9.3.3.A. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**A. Types of Special Flood Hazard Areas**

There are ~~three (3)~~ four (4) primary SFHAs within the City.

**1. FEMA designated SFHA**

If FEMA designated SFHA boundaries overlap with the boundaries of another SFHA, FEMA designated SFHA boundary interpretations and standards shall prevail.

**2. Drainage Basin Study Maps**

A drainage basin study map shall supersede the boundaries of flood hazard soils.

**3. Flood Study Maps**

A site-specific flood study map shall supersede the boundaries of flood hazard soils.

**34. Flood Hazard Soils**

~~A City accepted detailed boundary study shall supersede the boundaries of the flood hazard soils if the boundaries conflict.~~

**Section 25.** Section 9.3.3.B.2.b. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

- b. Drainage basin studies are completed by the City (or their designee) and accepted by the City to produce maps that supplement the FIRMs. These drainage basin study maps use the same FEMA SFHA criteria but for contributing drainage areas of less than 1 square mile (640 acres) ~~and at least 100 acres.~~

**Section 26.** Section 9.3.3.B. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

**3. SFHA Based on Flood Study Maps**

- a. SFHAs also include flood studies prepared for specific sites. These studies are defined through standard engineering analysis but have not been incorporated in the FIRM.

- b. Flood studies are completed by applicants and must be reviewed and accepted by the City.
- c. Comprehensive Flood Studies are required for sites with stream(s) draining 100 acres or more. Comprehensive Flood Study maps' designated SFHAs are divided into two (2) primary areas:
  - i. Floodway areas; and
  - ii. Floodway fringe areas.
- d. Comprehensive Flood Studies or Simple Flood Studies are required for sites draining equal to or greater than 25 acres and less than 100 acres. Simple flood study maps only contain one category of SFHA; the entire 100-year flood boundary shall be considered floodway and the provisions of Sec. 9.3.7.A. shall apply.

**Section 27.** New Section 9.3.3.B.4 of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**34. SFHA Based on Flood Hazard Soils**

- a. Flood hazard soils are illustrated on maps published in the Wake County or Durham County, North Carolina Soil Survey, whichever is applicable, prepared by the U.S. Soil Conservation Service and the North Carolina Agricultural Experiment Station. Flood hazard soil types are listed in the definition of flood hazard soils in Chapter 12, Definitions.
- b. Maps depicting flood hazard soils with all explanatory matter attached to them are adopted by reference and declared to be part of the UDO.
- c. SFHA for flood hazard soils shall only apply when the flood hazard soils drain greater than or equal to 5 acres of area.
- e. ~~Flood hazard soils SFHAs are divided into two (2) primary areas:~~
  - i. ~~Floodway areas; and~~
  - ii. ~~Floodway fringe areas.~~

**Section 28.** Section 9.3.4.C. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

**C. SFHA Based on Drainage Basin Study Maps and Flood Study Maps**

- 1. Upon approval by the Engineering Services Director and/or his or her designee, drainage basin study maps or flood study maps may supersede flood hazard soil maps or North Carolina licensed soil scientist (NCLSS) determinations. SFHA and flood elevation data shall be obtained from the most current drainage basin study maps or flood studies.

2. The boundaries of SFHAs shown on drainage basin study maps are determined from information obtained or produced by the City as part of watershed master planning process. The boundaries of SFHAs shown on flood study maps are determined from information obtained or produced by an applicant.
3. These boundaries are based on the engineering data that most accurately reflects actual field and hydrologic conditions. Field and hydraulic conditions shall prevail over mapped boundaries shown on drainage basin study maps.
4. In areas of official cross-sections, drainage basin study map and flood study map SFHA boundaries shall be determined by scaling distances between official cross sections. Where interpretation of the lateral location of scaled distances is needed to determine the actual field location of these boundaries, the Engineering Services Director and/or his or her designee is directed to make the necessary interpretation of drainage basin study maps and flood study maps applying the following:
  - a. The RFPE shall be the controlling factor in determining the location of the outer limits of the floodway fringe or future conditions flood hazard area boundaries; and
  - b. Interpretations of floodway boundaries on drainage basin study maps and flood study maps shall be based on the current procedures for interpreting floodways in accordance with FEMA guidelines.
5. The RFPE for drainage basin study map and flood study map designated SFHAs is the BFE plus two (2) vertical feet.

**Section 29.** Section 9.3.4.D.3. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

3. When flood hazard soils are present on a property and an encroachment, including fill, is proposed within flood hazard soils the following shall apply:
  - a. For sites draining greater than or equal to 5 acres and less than 100 acres, a Simple Flood Study or Comprehensive Flood Study shall be performed, submitted to the City for review and accepted by the City. In a Simple Flood Study, the entire 100-year flood boundary shall be considered floodway and the provisions of Sec. 9.3.7.A. shall apply.
  - ~~a.~~ For sites draining greater than or equal to 100 acres, a Comprehensive Flood Study shall be performed submitted to the City for review and accepted by the City. The floodway and floodway fringe boundaries shall

be identified based upon a flood study provided by the property owner to the Floodplain Administrator and/or his or her designee which consists of an analysis and hydraulic routing methods used by the U.S. Army Corps of Engineers to establish FIRMs. These methods are contained in the FIS for Wake County or Durham County, whichever is applicable, as published by FEMA. Approved interpretations of flood hazard soils boundaries may be described by bearings and distances and drawn with elevations in mean sea level datum given for each cross-section used in the routing computations.

- be. If the property owner chooses not to complete a flood study the entire flood hazard soil area on the property as depicted on the Wake County or Durham County Soil Survey, whichever is applicable, shall be considered floodway and the provisions of *Sec. 9.3.7.A.* shall apply.
- d. The RFPE for Simple and Comprehensive Flood Study map designated SFHAs is the BFE plus two (2) vertical feet.

**Section 30.** Section 9.3.7.A. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

**Sec. 9.3.7. SFHA Based on Drainage Basin Study, Flood Study, and Flood Hazard Soils Standards**

**A. Drainage Basin Study, Flood Study, and Flood Hazard Soils Floodway Standards**

**Section 31.** Section 9.3.7.B. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline:

**B. Drainage Basin Study, Flood Study, and Flood Hazard Soils Floodway Fringe Standards**

**Section 32.** Section 9.3.8.C. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- C. Any street, driveway, bridge or culvert associated with any street or driveway, which is located in a SFHA draining less than one (1) square mile and not shown on a FEMA map or located outside a FEMA SFHA, may either increase the flow levels and area of flooding of the 10\_ through 100\_ year frequency floods or redirect floodwaters if the following is met:

1. Copies of recorded drainage easements for flood storage easements or flood easements shown on recorded plats adequate to contain the increased flow levels are first submitted to the City; and
2. Land areas contained within the drainage easement boundaries shall be delineated as flood storage areas.

**Section 33.** Sections 9.3.8.D.1. & 2. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline:

1. Any street, driveway, bridge or culvert associated with any street or driveway shall pass the 100-year flood crest, under free flow conditions that will not result in any increase in the elevation of the 10- through 100-year floods above those specified in the FIS for Wake County or Durham County, whichever is applicable, as published by FEMA, unless a map revision is completed for the FEMA SFHA.
2. If the drainage areas exceed one (1) square mile, the maximum rise allowed for the 100- year flood shall not exceed a total of one (1) foot above the BFE established for flood hazard soil areas or those elevations specified either in the drainage basin study maps or in the FIS for Wake County or Durham County, whichever is applicable, as published by FEMA. If flood levels are increased, a map revision is needed for FEMA SFHA and drainage easements for flood storage are required for non-FEMA SFHA.

**Section 34.** Section 9.3.9.A. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- A. All streets in SFHAs shall be designed and constructed to provide a minimum of two (2) feet of vertical freeboard, as measured from the predicted 10-year flood peak water surface elevation to the low point of the top of curb or edge of pavement for streets without curbs. All throughfares in SFHAs shall be designed and constructed so as not to be overtopped during the predicted 50-year storm. All other streets in SFHAs shall be designed and constructed so as not to be overtopped during the predicted 25-year storm. Exceptions may be granted as outlined below to projects meeting at least one of the following conditions: ~~The following are exceptions to this standard:~~
  1. When the Engineering Services Department finds those portions of streets within allowable City or State of NC Transportation vertical and horizontal controls which act as a transition to existing streets or

2. When the City Council finds that the public benefit derived from the construction of the thoroughfare or collector street would be better served if these standards were varied.
3. ~~All thoroughfares in SFHAs shall be designed and constructed so as not to be overtopped during the predicted 50-year storm. All other streets in SFHAs shall be designed and constructed so as not to be overtopped during the predicted 25-year storm.~~

**Section 35.** Section 9.3.9.D. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- D. Outside of inundation areas designated in the National Inventory of Dams ~~regulated discharge floodplain areas~~, the maximum depth of any overtopping flow during the predicted 100-year flood shall not exceed one (1) foot for a privately maintained street. For all public streets located outside of the inundation areas designated in the National Inventory of Dams ~~regulated discharge floodplain areas~~, no overtopping is allowed during the predicted 100-year flood. The downstream slope of the roadway section shall be protected from erosion due to the overtopping flow. Public streets located within inundation areas designated in the National Inventory of Dams ~~regulated discharge floodplain areas~~ must be located at or above the 100- year flood elevation, consistent with the regulations of *Sec. 9.3.6.B.*

**Section 36.** Section 9.4.1.A.1. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

1. Land-disturbing activities, including but not limited to, the breeding and grazing of livestock ~~lifestock~~ undertaken on agricultural land for the production of plants and animals useful to man, including but not limited to:

**Section 37.** Section 9.4.2. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**Sec. 9.4.2. Guidelines Incorporated**

The Raleigh ~~Guidelines for Land Disturbing Activities~~ Stormwater Design Manual and amendments, on file in the City Clerk's Office, is adopted by reference as part of this UDO.



**Section 38.** Section 9.4.4.A.1.c. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- c. A surety for permanent stabilization based on the total disturbed area as identified in the submitted plans. The surety shall be \$2,000/acre of disturbed land rounded to the nearest 1/10 acre. ~~equal to the cost of clearing, grubbing and reseeding a site shall be paid to the City prior to grading permit issuance.~~ If the property is subject to a continuing violation the City may cash the surety.

**Section 39.** Sections 9.4.4.B. & C. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**B. Adequate Erosion Control Measures**

Adequate erosion control measures shall be planned, designed, installed, and maintained so as to control accelerated erosion and prevent sedimentation from leaving the site during construction for the maximum calculated peak rates of runoff from the 10- and 25-year storms ~~Adequate erosion control measures shall be provided~~ and in accordance with *Sec. 9.2.2.E.*

**C. Design and Performance Standards and Guidelines**

- 1. Copies of design and performance standards which are contained in the Raleigh Stormwater Design Manual Guidelines for Land Disturbing Activities will be published by the City and placed on file in the Office of the City Clerk and the Engineering Services Director.
- 2. All erosion control plans, erosion control measures, ground covers, maintenance and calculations must be in accordance with the ~~applicable~~ Raleigh Stormwater Design Manual Guidelines for Land Disturbing Activities and State of North Carolina Erosion and Sediment Control Planning and Design Manual; in the event of any conflict, the more stringent regulation applies.

**Section 40.** Section 9.4.4.G.4.a. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

- a. Applying sandy loam, 10% to 15% slopes (ApP);

**Section 41.** Section 9.4.6.A. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**Sec. 9.4.6. Land Disturbing Grading Activity Permit & Control Plans Required**

- A. All ~~land-disturbing activity~~ land disturbance grading permits shall be obtained from the City.

**Section 42.** Section 9.5.1.D. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**D. Maintenance of Stormwater Control Measures**

1. When stormwater control measure(s) or open space are required, a maintenance covenant and easements that comply with Sec. 9.2.2.G. are required.
2. When stormwater control measure(s) are required, the requirements of Sec. 9.2.2.D. shall be met.
3. When stormwater control measure(s) or open space are required, annual inspections and an inspection report that comply with Sec. 9.2.2.H. are required.

~~When retention devices, detention devices or wet ponds serve more than 1 lot and are located on private property, a maintenance covenant which complies with Sec. 9.2.2.G.2. for sharing the maintenance costs must be recorded. After approval by the City, a map must be recorded in the Wake County Registry, showing the location of the retention device, detention device or wet pond on the lot; the map must bear the following note: " The stormwater control facilities, which serve more than 1 lot, that are not accepted for maintenance by a governmental agency are required by the Raleigh City Code to be owned and maintained by a property owners association for which all lot owners shall be a member."~~

**Section 43.** Section 9.5.2.B.1. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**B. Impervious Surface Coverage**

1. For all lots or portions of lots in existence prior to March 1, 1988 or lots established outside the subdivision process after that date, no additional impervious surface may be added to the property which would result in greater coverage by impervious surface ~~or by built area~~ than is allowed by the following table:

Area	No Stormwater Control Measures <u>except as needed to comply with Sec. 9.5.2.D.</u>	Retention, Detention or Capture First Half Inch of Runoff	Management of First Inch of Rainfall
Primary water supply watershed protection areas	6% impervious surface; or 3,500 sq. ft. if this is not more than 12% impervious surface	N/A	N/A
Secondary water supply watershed protection areas not connected to both City water and sewer utilities	12% impervious surface; or 3,500 sq. ft. if this is not more than 24% impervious surface	N/A	N/A
Secondary water supply watershed protection areas with connections to both City water and sewer utilities	12% impervious surface; or 3,500 sq. ft. if this is not more than 24% impervious surface	24% impervious surface	30% <u>impervious surface built area</u> ; or 3,500 sq. ft. if this is not more than 50% <u>impervious surface built area</u> ; 70% <u>impervious surface built area</u> in areas designated in the Comprehensive Plan for higher impervious surfaces

**Section 44.** Section 9.5.2.B.2. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

2. Impervious surfaces ~~and built areas~~ include all proposed public and private streets within the development approved after June 20, 1993 and all impervious surfaces ~~and built areas~~ on any lot and common area.

**Section 45.** Section 9.5.2.B.4. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

4. All lots established after June 20, 1993 must comply with the impervious surface coverage standards ~~and the built area coverage standards~~ of the Article.

**Section 46.** Section 9.5.2.C.1.b. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- b. ~~Built area~~ Impervious surface coverage of 24% or higher is allowed in secondary reservoir watershed protection areas when the first inch of rainfall (including the amount from the first 24% ~~built area~~ impervious surface coverage) is captured by an approved stormwater treatment device. Such runoff must be managed in accordance with *Sec. 9.5.2.C.3* below.

**Section 47.** Section 9.5.2.C.3.a. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- a. When impervious surface ~~built area~~ exceeds 24% in secondary reservoir watershed protection areas, runoff from the entire development site must be controlled on a runoff volume basis such that the post-development volume of stormwater leaving the site is equal to or less than the pre- development volume of stormwater leaving the site based on the 90<sup>th</sup> percentile storm. For the purpose of meeting this requirement for new development sites, the pre-development land cover must be assumed to be forested for the entire development site. The developer may request, and the City may approve, a design exception to this requirement based on one or more of the following criteria:

**Section 48.** Section 9.5.2.D.1.b.ii. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- ii. The developer's stormwater management plan must determine the load reductions necessary to comply with the above maximums by using the accounting tool approved by the State of North Carolina. ~~utilizing the loading calculation method prescribed in the Stormwater Control and Watercourse Buffer Manual.~~

**Section 49.** Sections 9.5.2.D.1.c.ii.a) – c). of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- a) Payments to the North Carolina Department of Environmental Quality Division of Mitigation Services Nutrient Offset Program ~~NC Ecosystem Enhancement Program~~ contingent upon acceptance of payments by that program;
- b) A City approved offset program prescribed in the Raleigh Stormwater Design Control and Watercourse Buffer Manual; or
- c) An offset program proposed by the property owner which is located within the applicable reservoir watershed protection area basin subject to final approval by the Engineering Services Director ~~Public Works Director~~.

**Section 50.** Section 9.5.2.D.1.d. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

- d. **Maintenance of Stormwater Control Measures and Devices**  
~~The land owner or person in possession or control of the land must maintain, repair, reconstruct, replace and make payments for all stormwater control measures and devices and open space areas required by the stormwater control plan in accordance with Sec. 9.2.2.G., unless those measures, devices and open space areas are accepted for maintenance by a governmental agency.~~

**Section 51.** Section 9.5.2.E. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- E. **Maintenance of Stormwater Control Measures**
  - 1. When stormwater control measure(s) or open space are required, a maintenance covenant and easements that comply with Sec. 9.2.2.G. are required.
  - 2. When stormwater control measure(s) are required, the requirements of Sec. 9.2.2.D. shall be met.
  - 3. When stormwater control measure(s) or open space are required, annual inspections and an inspection report that comply with Sec. 9.2.2.H. are required.
  - 1. ~~When retention devices, detention devices or wet ponds serve more than 1 lot and are located on private property, a maintenance covenant which complies with Sec. 9.2.2.G.2. for sharing the maintenance costs must be recorded.~~

2. ~~After approval by the City, a map must be recorded in the Wake County Registry, showing the location of the retention device, detention device or wet pond on the lot; the map must bear the following note: "The stormwater control facilities, which serve more than 1 lot, that are not accepted for maintenance by a governmental agency are required by the Raleigh City Code to be owned and maintained by a property owners association for which all lot owners shall be a member."~~

**Section 52.** Section 9.5.3.B.1. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**B. Impervious Surface Coverage**

1. For all lots or portions of lots in existence prior to March 1, 1988 or lots established outside the subdivision process after this date, no additional impervious surface may be added to the property which would result in greater coverage by impervious surface ~~or by built area~~ than is allowed by the following table:

Area	No Stormwater Control Measures <u>except as needed to comply with Sec. 9.5.3.D.</u>	Retention, Detention or Capture First Half Inch of Runoff	Management of First Inch of Rainfall
Primary water supply watershed protection areas	6% impervious surface; or 3,500 sq. ft. if this is not more than 12% impervious surface	N/A	N/A
Secondary water supply watershed protection areas not connected to both City water and sewer utilities	12% impervious surface; or 3,500 sq. ft. if this is not more than 24% impervious surface	N/A	N/A
Secondary water supply watershed protection areas with connections to both City water and sewer utilities	12% impervious surface; or 3,500 sq. ft. if this is not more than 24% impervious surface	24% impervious surface	30% <u>impervious surface built area</u> ; or 3,500 sq. ft. if this is not more than 50% <u>impervious surface built area</u> ; 70% <u>impervious surface built area</u> in areas designated in the Comprehensive Plan

			for higher impervious surfaces
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**Section 53.** Section 9.5.3.B.2. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

2. Impervious surfaces ~~and built areas~~ include all proposed public and private streets within the development approved after June 20, 1993 and all impervious surfaces ~~and built areas~~ on any lot and common area.

**Section 54.** Section 9.5.3.B.4. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

4. All lots established after June 20, 1993 must comply with the impervious surface coverage standards ~~and the built area coverage standards~~ of the Article.

**Section 55.** Section 9.5.3.C.1.b. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- b. ~~Built area~~ Impervious surface coverage of 24% or higher is allowed in secondary reservoir watershed protection areas when the first inch of rainfall (including the amount from the first 24% ~~built area~~ impervious surface coverage) is captured by an approved stormwater treatment device. Such runoff must be managed in accordance with *Sec. 9.5.3.C.3* below.

**Section 56.** Section 9.5.3.C.3.a. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- a. When ~~built area~~ impervious surface exceeds 24% in secondary reservoir watershed protection areas, runoff from the entire development site must be controlled on a runoff volume basis such that the post-development volume of stormwater leaving the site is equal to or less than the pre- development volume of stormwater leaving the site based on the 90th percentile storm. For the purpose of meeting this requirement for new development sites, the pre-development land cover must be assumed to be forested for the entire development site. The

developer may request, and the City may approve, a design exception to this requirement based on one or more of the following criteria:

**Section 57.** Section 9.5.3.D.1.b.ii. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- ii. The developer’s stormwater management plan must determine the load reductions necessary to comply with the above maximums by using the accounting tool approved by the State. ~~utilizing the loading calculation method prescribed in the Stormwater Management Design Manual.~~

**Section 58.** Section 9.5.3.D.1.c.ii.b. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

- b) A City approved offset program prescribed in the Raleigh Stormwater ~~Management Design Manual~~; or

**Section 59.** Section 9.5.3.D.1.d. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by deleting the language shown in strikethrough:

- d. ~~Maintenance of Stormwater Control Measures and Devices~~**  
~~The land owner or person in possession or control of the land must maintain, repair, reconstruct, replace and make payments for all stormwater control measures and devices and open space areas required by the stormwater control plan in accordance with Sec. 9.2.2.G., unless those measures, devices and open space areas are accepted for maintenance by a governmental agency.~~

**Section 60.** Section 9.5.3.E. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- E. Maintenance of Stormwater Control Measures**
  - 1. When stormwater control measure(s) or open space are required, a maintenance covenant and easements that comply with Sec. 9.2.2.G. are required.
  - 2. When stormwater control measure(s) are required, the requirements of Sec. 9.2.2.D. shall be met.



3. When stormwater control measure(s) or open space are required, annual inspections and an inspection report that comply with Sec. 9.2.2.H. are required.
- ~~1. When retention devices, detention devices or wet ponds serve more than 1 lot and are located on private property, a maintenance covenant which complies with Sec. 9.2.2.G.2. for sharing the maintenance costs must be recorded.~~
- ~~2. After approval by the City, a map must be recorded in the Wake County Registry, showing the location of the retention device, detention device or wet pond on the lot; the map must bear the following note: "The stormwater control facilities, which serve more than 1 lot, that are not accepted for maintenance by a governmental agency are required by the Raleigh City Code to be owned and maintained by a property owners association for which all lot owners shall be a member."~~

**Section 61.** Sections 10.2.5.F.2.c.x., xi., & xii. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

- x. Stormwater control facilities, including without limitation, detention facilities, retention facilities, wet ponds, sand filters, wetlands, bio-retention measures, swales and storm pipes required by *Article 9.2. Stormwater Management*, permanently protected undisturbed open space areas, together with showing the means of transporting stormwater runoff ~~to and~~ from any nitrogen reduction and stormwater runoff control measures or facilities.
- xi. ~~A statement on the plat which lots, by number, are served by which stormwater control facility; the stormwater control facility shall be indicated by type and by its general location.~~
- ~~xi.~~ ~~xii.~~ A notation that the dedicators and their successors waive their statutory rights to withdraw dedications of the right-of-way when the public has made reimbursement for the right-of-way or when density has been transferred from the right-of-way.

**Section 62.** Sections 11.4.1.I. - N. of Part 10 Raleigh Unified Development Ordinance, General Provisions, are hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**I. Land Disturbance Grading Permit**

A land disturbance grading permit is required for any land disturbing activity that is regulated by Article 9.4. A permit shall expire three years following the date of approval if no land disturbing activity has been undertaken.

**J.** **Stormwater Control Permit**

A stormwater control permit is required for projects with a change in built-upon area or impervious surface.

**K.** **Stormwater Conveyance System Permit**

A stormwater conveyance system permit is required for the construction, reconstruction, replacement, extension, renovation, alteration, demolition, or abandonment of stormwater conveyance systems.

**L.** **Water Supply Watershed Permit**

A water supply watershed permit is required for projects with a change in impervious area within the following regulated overlay districts: Urban Watershed Protection Overlay District, Falls Watershed Protection Overlay District, and Swift Creek Watershed Protection Overlay District.

**M.** **Watercourse Buffer Permit**

A watercourse buffer permit is required for a project with a regulated watercourse buffer on site pursuant to Sec. 9.2.3.E. or for projects that have streams or waterbodies subject to the Neuse River riparian buffer rules on site.

**IN.** **Permit Expiration**

Any permit issued pursuant to Sec. 11.4.1., unless otherwise provided, shall expire 6 months after the day of issuance if the work authorized by the permit has not commenced. If after commencement, the work is discontinued for a period of 12 months, the permit shall, therefore, immediately expire. A permit shall not expire or be revoked because of the running of time while a vested right under Sec. 10.2.19. is outstanding. The duration of a land-disturbing activity permit shall be exempt from this section.

**J.** **Stormwater Control Permit**

~~A stormwater control permit is required for projects with a change in built-upon area or impervious surface.~~

**Section 63.** Article 12.2. of Part 10 Raleigh Unified Development Ordinance, General Provisions, is hereby amended by adding the language shown in underline and deleting the language shown in strikethrough:

**Built Area**

~~The sum of the horizontal areas of materials existing or placed at the ground surface that have impervious surfaces, as defined herein, that are not 0% impervious, including but not limited to permeable and semi-permeable pavements and pavers, green roofs, and living roofs.~~

**Raleigh Stormwater Control and Watercourse Buffer Design Manual**

A manual adopted by the City Council by reference, as fully as though set forth in this UDO that includes plan and data submission requirements, presents design procedures and criteria for conducting ~~natural~~, hydrologic and hydraulic evaluations, stormwater control measure ~~best management practice~~ designs, ~~regulations for riparian surface water buffers~~, standards for managing the volume and quality of stormwater runoff and standards for maintenance.

**Section 64.** All laws and clauses of laws in conflict herewith are repealed to the extent of such conflict.

**Section 65.** If this ordinance or application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of the ordinance which can be given separate effect and to this end the provisions of this ordinance are declared to be severable.

**Section 66.** This text change has been reviewed by the Raleigh City Planning Commission.

**Section 67.** This ordinance has been adopted following a duly advertised public hearing of the Raleigh City Council.

**Section 68.** This ordinance has been provided to the North Carolina Capital Planning Commission as required by law.

**Section 69.** This ordinance shall be enforced as provided in N.C.G.S. 160A-175 or as provided in the Raleigh City Code.

**Section 70.** This ordinance is effective 60 days after adoption.

**ADOPTED: September 3, 2024**

**EFFECTIVE: November 3, 2024**

**DISTRIBUTION:**

Engineering Services – Hoyt, Kelly  
Planning & Development – Young, Rametta  
City Attorney – MacDonald, Hargrove

*Prepared by the Department of Engineering Services.*