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ARTICLE 9: ENVIRONMENTAL REGULATIONS

A. STORMWATER MANAGEMENT/ WATERSHED PROTECTION DISTRICTS

1. DISTRICT DESCRIPTIONS

Two overlay districts cover designated water supply watersheds in the Town of Summerfield. They are the Watershed Critical Area (WCA) and the General Watershed Area (GWA). The WCA covers the portion of the watershed adjacent to a water supply intake or reservoir. The GWA covers the rest of the watershed draining to the reservoir or intake.

2. INCORPORATION OF DESIGNATED WATER SUPPLY WATERSHED MAP

This Section incorporates by reference the Town of Summerfield Designated Water Supply Watershed Map, currently in existence as amended, showing Watershed Critical Areas, General Watershed Areas, and watershed classifications.

The Designated Water Supply Watershed Map shall be kept on file by the Administrator and shall be updated to account for changes in the land area covered by this ordinance and the geographic location of all structural Stormwater Control Measures (SCM) permitted under this ordinance. In the event of a dispute, the applicability of this ordinance to a particular area of land or SCM shall be determined by reference to the North Carolina Statutes, the North Carolina Administrative Code, and local zoning and jurisdictional boundary maps and the Town of Summerfield Development Ordinance.

3. APPLICABILITY

(a) Coverage

- (1) Article 9 applies to all sites in the Town of Summerfield unless specifically exempted by this ordinance.
- (2) The construction of new streets by local government shall comply with stormwater control measures required by the City of Greensboro's NPDES Stormwater Management Program, including their Stormwater Manual, which is incorporated herein by reference.
- (3) Widening of existing streets and the installation of sidewalks shall comply with the provisions of this ordinance to the extent practicable. When determined by the Administrator that the provisions of these sections cannot be met, the widening of existing streets and the installation of sidewalks shall comply with stormwater control measures required by the City of Greensboro's NPDES Stormwater Management Program, including their Stormwater Manual, which is incorporated herein by reference.

(b) Exempt Activities

The following activities are exempt from the plan submission and approval requirements of this Section. However, any restrictions upon building location, drainageways, pavement or other built-upon area, or any other matter appearing on any previously approved watershed development (watershed control) plan covering the subject property shall be complied with unless and until replaced by an approved revised plan.

- (1) Construction of a single-family dwelling and its accessory structures on a zone lot that was recorded prior to January 1, 1994 and is located outside WCA Tiers 1 and 2. This exemption does not apply to the Jordan Lake Watershed with regard to riparian buffer protection.
- (2) Replacement of existing built-upon area with a like or lesser amount of new built-upon area at the same location, or at a different location on the same zone lot if the Administrator has determined

that equal or improved water quality will result. Redevelopment requires submittal of a site plan documenting removal/relocation of built upon area.

- (3) Placement of small accessory buildings or structures or small amounts of other built-upon area provided that the total additional built-upon area is no greater than four hundred (400) square feet. This exemption shall apply to an individual property for one time only after January 1, 1994. Requires submittal of site plan documenting location of four hundred (400) square feet built-upon area. This provision shall not allow any development to circumvent the standards as set forth by the State and shall not be construed to allow development in Jordan Lake Riparian Areas.
- (4) Existing development until such time that additional new development is initiated on the site.

4. PARTICIPATION IN A PUBLIC REGIONAL WATER QUALITY LAKE PROGRAM

(a) Where Permitted

Where a regional water quality lake program has been established by one or more local governments, or by an authority operating on behalf of one or more local governments, and approved by the N.C. Environmental Management Commission, a development may participate in said program in lieu of any certification of stormwater control required by this Article, provided that:

- (1) the development is within an area covered by a public regional water quality lake program;
- (2) runoff from the development drains to an existing or funded public regional water quality lake which is part of said program;
- (3) participation is in the form of contribution of funds, contribution of land, contribution of lake construction work, or a combination of these, the total value of which shall be in accordance with a fee schedule adopted by the Town Council; and,
- (4) the Administrator finds that the Stormwater Management/Watershed Development Plan complies with all other applicable requirements of this Article.

(b) Use of Contributions

Each contribution from a development participating in a public regional water quality lake program shall be used for acquisition, design, or construction of one or more such lakes in the same water supply watershed that the development lies in.

5. STORMWATER MANAGEMENT/WATERSHED DEVELOPMENT PLAN

(a) Plan Required

A Stormwater Management/Watershed Development Plan in accordance with the performance standards specified in Table 9.B.1.(c) and the other requirements of this Article shall be submitted to the Administrator and shall include all applicable information listed in Appendix 1 *Map Standards*.

(b) Plan Approval

The Administrator is authorized to approve any Stormwater Management/Watershed Development Plan which is in conformance with the performance standards specified in Table 9.B.1(c) and with all other requirements of this Article.

(c) Approved Plan a Prerequisite

The Administrator is not authorized to issue any permits, except as provided in Article 3 for development on any land unless and until a Stormwater Management/Watershed Development Plan in compliance with the requirements of this Section has been approved.

(d) **Permanent Stormwater Control Structures**

When a permanent stormwater control structure is required for a development to meet the requirements of this Article, a North Carolina registered professional engineer qualified, practiced and competent in the design of stormwater management plans shall prepare the plan with the Engineer's Statement of Stormwater Control affixed, signed, sealed, and dated (see Exhibit 9.A.6(b)).

(e) **Appeals**

Appeals of the Administrator's decision on a Stormwater Management/Watershed Development Plan shall be made in writing to the Board of Adjustment.

6. IMPROVEMENTS

(a) **Design of Improvements**

(1) Design of improvements shall:

- a. be performed by a qualified North Carolina registered professional engineer
- b. be subject to approval of the Summerfield Administrator; and
- c. meet or exceed the guidelines in the latest edition of the Stormwater Design Manual, issued by the North Carolina Department of Environmental Quality.

(2) The Administrator may require that a given stormwater control structure(s) be positioned on a site such that water quality protection is improved.

(3) The construction plans for required stormwater control structures shall be approved prior to issuance of any building permit on a site. For subdivisions, construction plans shall be submitted in accordance with Article 7: Subdivision Standards.

(4) In the event that new development or redevelopment has, in the opinion of the Administrator or designee, the potential to cause downstream flooding or erosion, a structural stormwater management system will be required such that the peak discharge rate of stormwater runoff leaving the site in the post-development condition matches, within 10%, the pre-development peak discharge rate for the 2-year, 10-year, and 25-year, 6-hour storm events.

(5) The engineer must document that the design discharges listed in 6.a.4 will not cause increases in flooding to structures or nuisance flooding of property to a downstream point where the drainage area of the receiving system is 50 acres. If the Administrator has suspicion that the proposed project would pose a risk to improvements or habitable structures even beyond the 50-acre contributing drainage area for the receiving system, the Administrator may require the engineer to document that the receiving system has adequate flow capacity to handle the post-development peak flows up to the generally accepted design standard for flooding of habitable structures set forth by FEMA. At this time, that is represented by the event that equals the 1% annual chance event (100-year recurrence interval).

(b) **Engineer's Statements of Stormwater Runoff Control**

The certification required on Stormwater Management/Watershed Development Plans and construction plan drawings shall be of the following form:

ENGINEER'S STATEMENT OF STORMWATER QUALITY CONTROL

I state that, to the best of my knowledge and belief, the stormwater control measure(s) shown on this plan have been designed to control and treat stormwater runoff from the first one inch of rain from all built-upon areas over the total drainage area and the discharge of the storage volume is at a rate equal to or less than the predevelopment discharge rate for the one-year, 24-hour storm and that the stormwater control measures shown on this plan meet or exceed the guidelines in the latest edition of the Stormwater Design Manual, issued by the North Carolina Department of Environmental Quality.

SIGNATURE _____

P.E. SEAL _____

DATE _____

ENGINEER'S STATEMENT OF STORMWATER QUANTITY CONTROL

I state that, to the best of my knowledge and belief, the stormwater control measure(s) shown on this plan have been designed to control and treat stormwater runoff rates and quantity such that no damage to downstream improvements and structures will occur for the 2, 10, and 25 year; 6hr storm events for all sites. I further certify that if structures exist downstream that may be reasonably expected to experience increases in flooding due to the proposed project, the proposed stormwater control measures mitigate foreseeable increases in flood risk to those structures up the FEMA regulatory event (100 yr. recurrence interval).

Exhibit 9.A.6(b) Engineer's Statement of Stormwater Control

(c) Construction of Improvements

- (1) The construction of all improvements designed for watershed protection and shown on an approved Stormwater Management/Watershed Development Plan shall be substantially completed prior to any plat recordation or issuance of any building certificate of occupancy (compliance).
- (2) Final approval of installed stormwater control structures will be required at finalization of the grading permit or at issuance of the final building certificate of occupancy (compliance), whichever comes later. If neither a building permit nor a grading permit is required for a site, then any required stormwater control structure shall be substantially completed prior to installation of any built-upon area on the site. An Engineer's Statement of Completion (Exhibit 9.A.6(e)) shall be required prior to final approval by the Administrator.

(d) Recordation of Permanent Improvements

All permanent stormwater control structures and associated access/maintenance easement(s) (specific or general, at the owner's option) shall be recorded on a final plat; and an Operation and Maintenance Agreement, as outlined in the latest edition of the Stormwater Design Manual, issued by the North Carolina Department of Environmental Quality, shall be submitted to the Administrator for review and approval.

(e) Engineer's Statement of Completion

The owner or registered Engineer in responsible charge acting as the owner's agent shall employ one or more Engineers to provide inspections during construction. Upon the completion of final inspection, the Engineer shall provide the Engineer's statement of completion. The Record of Construction (supplied by

the Administrator) and the Engineer's Statement required upon completion of permanent stormwater control structures shall be of the following form:

ENGINEER'S STATEMENT OF COMPLETION

I state that, to the best of my knowledge and belief, the permanent stormwater control structure for (name of plat) is duly recorded in the Office of the Guilford County Register of Deeds and has been completed in conformance with the approved plans and specifications dated (approval date).

SIGNATURE _____

P.E. SEAL _____

DATE _____

Exhibit 9.A.6(e) Engineer's Certification of Completion

(f) Maintenance Responsibility

- (1) When stormwater control structures serve more than one lot, an owner's association or binding contract for the purpose of maintenance shall be required. (See Article 7.F.1 *Owners Associations*)
- (2) Maintenance of stormwater control structures shall be performed at such time as the designated sediment storage volume of the structure has been lost to sediment or a part of the system is not functioning as originally designed. The Owner of the Stormwater Control Structure shall have the responsibility to inspect stormwater control structures annually, to record the results on forms approved or supplied by the N.C. Department of Environmental Quality, and to annually submit a maintenance inspection report on each stormwater control measure to the Administrator. Maintenance inspection reports must be performed by a registered North Carolina professional engineer, surveyor, or landscape architect performing services only in their area of competence, or by a "Certified SCM Inspection and Maintenance Professional" as certified by the North Carolina State University Cooperative Extension, who is documented, and current, certification shall accompany the report. The inspection report shall contain, at a minimum, the following:
 - a. The name and address of the landowner;
 - b. The recorded book and page number of the lot for each stormwater control structure;
 - c. A statement that an inspection was made for all stormwater control structures;
 - d. The date the inspection was accomplished;
 - e. A statement that all inspected structural stormwater controls are performing properly and are in compliance with the term and conditions of the approved maintenance agreement required by this Ordinance;
 - f. The original signature and seal of the engineer, surveyor, or landscape Architect, or documented certification as a BMP Stormwater Professional;

Records of inspection shall be maintained by the Administrator. Stormwater Control Structures and stormwater management systems may be inspected by the Town to determine that the controls are performing as required by this Article. The Administrator shall notify the owner of any repair or reconstruction necessary to meet the requirements of the Article. All repair or reconstruction shall be in accordance with the plans and specifications for the stormwater control structure and the operation and maintenance plan and shall be completed within thirty (30) days after notification by the Administrator. Upon request of the owner, the Administrator

shall inspect and approve the completed repairs. In case of failure by the responsible party to perform the required maintenance or repairs within the stated period, the Town may impose a civil penalty in accordance with Article 10 of this Ordinance.

7. CLUSTERING

(a) Clustering Encouraged

Clustering of residential development is encouraged. Clustering of single-family detached development is allowed under the open space development provisions of this ordinance.

(b) Performance Requirements

Clustering is allowed if the overall density of the project meets the applicable density and stormwater control requirements, the built-upon areas are designed and sited to minimize stormwater runoff impact to the receiving waters and minimize concentrated stormwater flow, the remainder of the tract remains in a vegetated or natural state, and the riparian buffering requirements of Article 9.D are met.

8. DRAINAGE

The design of storm drainage systems and plans, including calculations, shall clearly indicate the easements or dedicated areas required for the construction and maintenance of the drainage system.

(a) General Drainage Requirement

(1) All watercourses which carry concentrated drainage from a public road or have a two acre or larger drainage basin shall be treated in one or more of the four ways listed in Article 9.A.8(b), (c), (d) and (e) which follow. The Administrator shall approve the treatments to be used when deemed compliant with the requirements of the subsections which follow. Open drainage channel requirements shall be based upon a minimum of one-hundred-year storm, and enclosed systems shall be based upon a minimum of ten-year storm. If the channel is a perennial or intermittent stream or drains a one hundred twenty (120) acre or larger basin, the determination of drainage treatment shall be made by the Administrator. In making this determination the following factors shall be considered before selecting the appropriate method(s) listed in the subsections which follow:

- a. the type of development;
- b. the treatment employed by nearby developments;
- c. the probability of creation of drainageway and open space;
- d. the probability of the creation of future maintenance problems;
- e. the probability of erosion or flooding problems; and,
- f. stream buffer requirements and channelization limitations for the WCA and GWA, as described in this article.

(2) If the channel is not a perennial or intermittent stream and drains less than a one hundred twenty (120) acre drainage basin, the determination of drainage treatment shall be made in a manner consistent with this Section.

(b) Enclosed Subsurface Drainage and requirement for a Drainage or Drainage Maintenance and Utility Easement

(1) This Section applies to enclosed subsurface drains. Profiles and enclosure standards shall be in accordance with the Guilford County Storm Sewer Design Manual.

(2) A drainage maintenance and utility easement (DMUE) or drainage easement designed to accommodate stormwater shall be placed on a recorded plat when determined necessary by the

Town. The required easement shall be centered on the enclosure when practical, but in no case shall the outside wall of the enclosure be located less than five (5) feet from the edge of the easement. The easement shall be of a width determined necessary for maintenance purposes by the Town based upon enclosure depth, topography and location of existing and proposed improvements, but no less than fifteen (15) feet.

- (3) The DMUE or drainage easement shall be kept free and clear of any buildings or other improvements which would interfere with the proper maintenance of the underground enclosures. The Town shall not be liable for damages to any improvement located within DMUE area caused by maintenance of utilities located therein. Furthermore, DMUE may be used for future installations of any underground utility, provided that:
 - a. Any underground utility to be installed by any utility provider other than the Town shall be subject to approval.
 - b. Any government agency, public utility, or private company installing additional underground lines after development has been completed by the owner of the property shall be responsible for the replacement of all fencing, pavement and grassed area disturbed by such installation.
 - c. The Town shall not be responsible for damages caused by installation of additional lines by any public or private utility company.

(c) Open Channel Drainage in Dedicated Drainageway and Open Space Area (Public Open Space):

- (1) This Section applies to an open channel in a dedicated drainageway and open space area. The drainageway and open space area shall be dedicated by a recorded plat and shall be labeled "Dedicated to the Town of Summerfield and the public for Drainageway and Open Space". This is a voluntary option available in lieu of Article 9.A.8(d) which enables one to utilize cluster options and reduce lot sizes when abutting public open space. The ownership of the dedicated land remains with the deeded owner, but the use is restricted. Dedication does not transfer title. The dedicated area can also be deeded to any individual or group, such as a homeowners association or to the Town of Summerfield (with Town Council acceptance). A previously dedicated area may be considered for development through approval from the Administrator and re-platting.
- (2) The voluntarily dedicated drainageway and open space area along any stream that drains a 120 acre or larger drainage basin shall include the land between the natural one hundred (100) year flood contour lines as determined by FEMA or by calculations approved by the US Army Corps of Engineers. (Caution: Other Environmental Regulations or federal wetland regulations will prohibit or restrict fill placement in certain locations.) An area within the floodway fringe can be developed as permitted in Article 9.F.8 with a Floodplain Development Permit. The remainder shall be dedicated as indicated in subsection 1) above.
- (3) In case of severe topography, additional width may be needed to assure reasonable ease of maintenance.
- (4) Adequate access to the public open space shall be provided by means of the dedicated area abutting public right-of-way or by appropriately spaced access easements no less than twenty (20) feet in width. If existing access from adjacent areas is deemed sufficient, no new access shall be required.
- (5) The centerline of the drainage channel that drains a one hundred twenty (120) acre or larger drainage basin shall be located no less than fifty (50) feet from any street or property line provided that the dimensions of the drainage way and open space area conform to all other requirements of this Section.

- (6) Public open space shall be left in its natural condition or graded to a section approved by the Town which will allow economical and efficient maintenance and shall be stabilized with permanent vegetative cover.
- (d) **Open Channel Drainage and Requirement for Drainageway and Open Space Easement (Private Open Space)**
 - (1) This Section applies requirements to an open channel meeting one or more of the descriptions listed in Article 9.A.8. At the time of plat recordation an easement for the drainageway and open space shall be provided and shall be labeled "Drainageway and Open Space Easement". The drainageway and open space easement shall include the drainage channel and the one-hundred-year regulatory floodplain contour as shown on the effective Flood Insurance Rate Maps or by calculations approved by the US Army Corps of Engineers.
 - (2) Drainageway and open space shall be left in its natural condition or graded to a section approved by the Town which will allow economical and efficient maintenance and shall be stabilized with permanent vegetative cover.
- (e) **Open Channel Drainage and Requirement for a Drainage or Drainage Maintenance and Utility Easement**
 - (1) This Section applies to open channels on private property within a drainage or drainage maintenance and utility easement.
 - (2) The drainage or drainage maintenance and utility easement shall be a minimum total width of no less than specified below.

TABLE 9.A.8(e) DRAINAGE MAINTENANCE AND UTILITY EASEMENT

Drainage Basin Size	Required Distance from Stream Centerline	Minimum Total Easement Width
2 to 6 acres	15 ft.	30 ft.
6.01 to 25 acres	30 ft.	60 ft.
25.01 or more acres	55 ft.	110 ft.

- (3) The easement width shall be centered on the drainage channel unless the Administrator approves other easement alignments because of topographic conditions. In cases in which the drainage channel flows into an impoundment, the easement shall extend over and twenty (20) feet beyond the normal water level of the impoundment or meet the minimum width as specified above, whichever is greater. Concentrated drainage from less than a two (2) acre drainage basin, exiting a public right-of-way, shall be as conveyed into a drainage easement as specified below:
 - a. Thirty (30) feet wide for the length of channel for concentrated flow exiting public right-of-way into a defined channel.
 - b. Minimum thirty (30) feet wide by fifty (50) feet in length for concentrated flow exiting public right-of-way onto terrain with no pronounced drainage features
- (4) In case of severe topography, additional width may be required to assure reasonable ease of maintenance.
- (5) The easement topography may be modified if permitted under other applicable local and state regulations (stream buffer, NC Department of Environmental Quality Section 401/U.S. Army Corps of Engineers Section 404, etc.). In such cases, the approved typical required drainage channel section shall include the necessary channel to accommodate a one hundred (100) year flood event and be in accordance with the Guilford County Storm Sewer Design Manual. The area outside of

the required drainage channel may be filled; but any resulting slope shall be no steeper than two (2) feet horizontal to one (1) foot vertical, unless the slope is protected by masonry paving, riprap, or other material which meets the Town's specifications. If the channel has been altered such that the design flow cannot be contained within the recorded easement, a corrected easement shall be recorded to show the altered location and width.

- (6) If the Administrator determines suitable access to the easement is not otherwise provided, access shall be guaranteed by a suitably located access easement which shall be no less than twenty (20) feet in width.
- (7) It shall be the responsibility of the owner to maintain all drainageways located on the property. If the Town Council determines that it is in the public interest to alter the typical required channel section and/or profile of the stream to improve flow, the Town may enter the property within the indicated access or drainage maintenance and utility easement and carry out the necessary work without liability for any damage to the property, or improvements thereon, located within the easement.
- (8) Drainage maintenance and utility easements may be utilized for any underground utility provided that:
 - a. underground utility lines to be installed by any utility provider other than the Town shall be subject to approval by the Administrator;
 - b. the government agency, public utility, or private company installing underground lines after development has been completed by the owner of the property shall be responsible for the replacement of all fencing, pavement and grassed areas disturbed by such installation;
 - c. the Town shall not be responsible for damage caused by the installation of additional lines by any public or private utility company;
 - d. the Town shall not be liable for damages to any improvements located within the drainage maintenance and utility easement area caused by maintenance of utilities located therein.
- (9) No buildings or structures except for water-related improvements shall be placed or constructed within the access or drainage maintenance and utility easement. All drives, parking areas, or other improvements, shall be constructed no closer than two (2) feet horizontally from the top of any back slope along any open watercourse.

(f) Modifications to Drainage or Drainage Maintenance and Utility Easement

- (1) This section applies to all recorded drainage or drainage maintenance and utility easements. This shall include other recorded easements identified by an assortment of varying names in which one of the principal functions is to convey runoff from stormwater.
- (2) Unless strictly prohibited under other applicable sections, easements may be modified, altered, or relocated with prior approval by the Administrator based upon review of certification with supporting technical data by a registered Engineer. Supporting data shall be in accordance with the Guilford County Storm Sewer Design Manual and must clearly demonstrate that such modifications will not result in any increase in flood levels or create any adverse impacts during the occurrence of the design flow discharge. Approval criteria shall include but not be limited to system capacity to adequately convey design flow discharge, location of outlet/discharge, resistance to erosive forces, potential to adversely impact neighboring properties, system maintenance requirements, existing utilities, other applicable local, state, and federal regulations.
- (3) Any alteration of a drainage or drainage maintenance and utility easement without prior approval may be deemed a violation and subject to enforcement actions. Nothing in this section shall prohibit the installation of utilities as allowed by other sections.

9. STREAM, LAKE, AND WETLAND BUFFERS REQUIRED

Article 9.D sets forth the requirements and standards for riparian buffers along all streams, lakes and certain wetlands as related to the Jordan Lake Reservoir watershed area, an area that encompasses the entire Town.

10. STREAM CHANNELIZATION

Perennial or Intermittent Streams in a water supply district shall not be channelized without prior approval by the Administrator.

11. ACTIVITIES REGULATED BY OTHER GOVERNMENTAL AGENCIES

(a) Designated Agencies

The following are the designated agencies responsible for implementing the requirements of the Water Supply Watershed Protection Rules as adopted by the N.C. Environmental Management Commission for the specified activity:

- (1) **Agriculture:** Guilford Soil and Water Conservation District; and,
- (2) **Silviculture:** N.C. Division of Forest Resources.

(b) Transportation

The North Carolina Department of Transportation shall comply with the practices outlined in its document entitled "NCDOT Post-Construction Stormwater: Program Post-Construction Stormwater Controls for Roadway and Non-Roadway Projects", which is incorporated by reference.

(c) Hazardous Materials

- (1) The Guilford County Fire Marshall and the Greensboro Emergency Management Assistance Agency are the designated management agencies responsible for implementing the provisions of this Subsection pertaining to hazardous materials.
- (2) An inventory of all hazardous materials used and stored in the watershed shall be maintained. A spill/failure containment plan and appropriate safeguards against contamination are required. Waste minimization and appropriate recycling of materials is encouraged.
- (3) Properties in the WCA or GWA shall comply with the requirements of the following hazardous substances regulations if materials listed in the Superfund Amendments and Reauthorization Act (SARA) Section 302 Extremely Hazardous Substances (42 USC 11000 et seq.), or Section 311 of the Clean Water Act, as amended (CWA) (33USC 1251 et seq.; oil and hazardous substances) are stored or used on the site.

12. MODIFICATIONS TO WATERSHED PROTECTION STANDARDS

(a) General

- (1) Requests for watershed protection modifications shall be submitted in writing on forms supplied by the Administrator and with a completed stormwater management/watershed development plan showing all pertinent information relative to the site in question. Information not shown on the stormwater management/watershed development plan or not presented in writing shall not be considered pertinent to the variance request.
- (2) For each request for a minor or major watershed modification, the Administrator shall notify all other local governments having jurisdiction within the same water supply watershed or using the affected water supply for consumption. A comment period of at least thirty (30) days shall be allowed before the required hearing before the Planning Board.
- (3) In granting modifications, the Town may require such conditions as will secure, insofar as practicable, the objectives of the requirements being modified.

(b) Minor Watershed Modifications

The Town Council is designated to approve minor watershed modifications in the General Watershed Area (GWA) and Watershed Critical Area (WCA). Before the Town Council may approve a minor watershed modification, it shall make the following three findings, and shall include the factual reasons on which they are based.

- (1) There are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of the watershed requirements, and all of the following conditions exist:
 - a. if the applicant complies with the provisions of the watershed requirements, the applicant can secure no reasonable return from, nor make reasonable use of the subject property. The modification granted must be the minimum possible deviation from the terms of the Ordinance that will allow the reasonable use of property;
 - b. the hardship results from the application of the Ordinance to the property rather than from other factors such as deed restrictions or other hardships;
 - c. the hardship is due to the physical nature of the applicant's property, such as size, shape, or topography, which is different from that of neighboring properties;
 - d. the hardship is not the result of the actions of an applicant who knowingly or unknowingly violates the Ordinance, or who purchases the property after the effective date of the Ordinance, and then comes to the Board of Adjustments for relief; and,
 - e. the hardship is peculiar to the applicant's property, rather than the result of conditions that are widespread.
- (2) The modification is in harmony with the general purpose and intent of the Ordinance and preserves its spirit.
- (3) In the granting of the modification the public safety and welfare have been assured, substantial justice has been done and stormwater controls will function in perpetuity.

(c) Major Watershed Modifications

- (1) The North Carolina Environmental Management Commission (EMC) is designated to approve major watershed modifications. The review process shall be the same as in subsection (b) above, except that the Town Council shall make recommendations to the EMC. The modification application, hearing notices, and minutes from any public meetings held to review the requested modification shall be forwarded to the EMC, which shall approve or deny the modification.
- (2) Before the Town Council may recommend to EMC an approval on a major watershed modification, it shall make the following three findings, and shall include the factual reasons on which they are based.
- (3) There are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of the watershed requirements, and all of the following conditions exist:
 - a. if the applicant complies with the provisions of the watershed requirements, the applicant can secure no reasonable return from, nor make reasonable use of the subject property. The modification granted must be the minimum possible deviation from the terms of the ordinance that will allow the reasonable use of property;
 - b. the hardship results from the application of the ordinance to the property rather than from other factors such as deed restrictions or other hardships;
 - c. the hardship is due to the physical nature of the applicant's property, such as size, shape, or topography, which is different from that of neighboring properties;

- d. the hardship is not the result of the actions of an applicant who knowingly or unknowingly violates the ordinance, or who purchases the property after the effective date of the ordinance, and then comes to the Board of Adjustments for relief; and,
 - e. the hardship is peculiar to the applicant's property, rather than the result of conditions that are widespread.
- (4) The modification is in harmony with the general purpose and intent of the ordinance and preserves its spirit.
- (5) In the granting of the modification the public safety and welfare have been assured, substantial justice has been done and stormwater controls will function in perpetuity.

13. WATERSHED REPORTING

(a) 10/70 Provision-Watershed Reporting

The Administrator shall keep records on the Town's use of the provisions that a maximum of ten (10) percent of the non-critical area of WS-III watersheds may be developed with new development at a maximum of seventy (70) percent built-upon surface area. Records for each watershed shall include the total area of non-critical watershed area, total acres eligible to be developed under this option, total acres approved for this development option, and individual records for each project with the following information: location, number of developed acres, type of land use and stormwater management plan (if applicable—the 10/70 provision is not available for use in the Town of Summerfield, but is included here for completeness).

(b) Stormwater Management/Watershed Variances

The Administrator shall keep a record of all stormwater management/watershed variances. This record shall be submitted for each calendar year to the Division of Water Quality Management on or before January 1st of the following year and shall provide a description of each project receiving a minor or major variance and the reasons for granting the variance.

B. GENERAL WATERSHED AREAS (GWA)

1. GENERAL PROVISIONS

(a) Boundary of the GWA

The GWA extends from the outer boundary of the WCA to the outer boundary of the watershed of a designated water supply reservoir or intake.

(b) Minimum Lot Size

The *average* minimum lot size for all developments shall be sixty thousand (60,000) square feet. The minimum required lot size shall not include the area in a Special Purpose Lot used for Off-site Sewage Treatment Systems.

(c) Performance Standards

The Stormwater Management/Watershed Development Plan for any development covered by this Section shall be prepared and submitted in accordance with the performance standards found in Table 9.B.1(c). The owner, developer, or person submitting the Stormwater Management/Watershed Development Plan shall indicate which performance standard they have chosen for review and approval.

TABLE 9.B.1(c) GENERAL WATERSHED AREA PERFORMANCE STANDARDS		
WATERSHED	LOW DENSITY OPTION	HIGH DENSITY OPTION^a
WS—III	2 DU/1 AC; 0—24% BUA	greater than 2 DU/1 AC; 24.01%-50% BUA ^b

a. Development under the High-Density Option shall require a Design Professional's Statement by a registered professional engineer or registered landscape architect, with seal (Exhibit 9.A.6(B)) certifying the control and treatment of the run-off from a one (1) inch rain and the discharge of the storage volume shall be equal to or less than the predevelopment discharge rate for the one-year, 24-hour storm.

b. Development cannot exceed fifty (50) percent built-upon unless it is non-residential development and has received an additional allocation option in compliance with Article 9.B.1.(f)(2)

NOTES:

1. DU = Dwelling Unit(s); AC=Acre; Percentage (%) refers to Built Upon Area of the zone lot, parcel, or tract.
2. Single-family detached residential developments will be evaluated on the basis of dwelling units per acre
3. All other residential and all non-residential developments will be evaluated on the basis of built-upon area percentage

(d) Stormwater Control

- (1) When stormwater control is required for development using the high-density option (see definition Article 9.H) the stormwater control structure(s) may be by use of a stormwater control measure meeting the performance standards of the following:
 - a. control and treat the runoff from the first one inch of rain;
 - b. discharges the storage volume at a rate equal to or less than the predevelopment discharge rate for the one-year, 24-hour storm;
 - c. meets the Minimum Design Criteria in the latest edition of the Stormwater Design Manual, issued by the North Carolina Department of Environmental Quality; and
 - d. Water impounding structures (i.e. dams) shall be designed in accordance with North Carolina Dam Safety Standards, and if required, shall be reviewed and approved by the NC State Dam Safety Engineer.

(e) GWA-Watershed Classification WS-III

(1) Built-Upon Area Limit

Development shall not exceed fifty (50) percent built-upon area.

(2) Ten/Seventy (10/70) Option for Non-Residential

- a. Ten (10) percent of the Town's portion of a WS-III GWA, as delineated on July 1, 1993 may be developed with new non-residential development at up to seventy (70) percent built-upon area.
- b. Allocation shall be made on a first come-first served basis. When a building permit for the site is issued or the subdivision plat for a development is recorded, an allocation shall be assigned. Expiration of a building permit shall terminate the allocation under this Section. Developments using this option shall provide an Engineer's statement of stormwater control for control and treatment of the runoff from the first one inch of rain and the discharge is at a rate equal to or less than the predevelopment discharge rate for the one-year, 24-hour storm.

(3) Prohibited Uses

No new discharging landfills.

C. WATERSHED CRITICAL AREAS (WCA)**1. GENERAL**

The Watershed Critical Area is a district covering the portion of the watershed adjacent to a designated existing or proposed water supply intake or reservoir where risk associated with pollution is greater than from the remaining portions of the watershed.

2. DISTRICT DESCRIPTION**(a) WCA Boundary**

The Guilford County Designated Water Supply Watershed Map shows the defined Watershed Critical Area boundaries. The WCA boundary shall not be less than one-half (1/2) mile from the normal pool elevation and draining to existing or proposed designated reservoirs.

(b) Divisions within the Watershed Critical Area

The WCA consists of four divisions as follows:

(1) Tier 1

- a. Tier 1 consists of those lands within two hundred (200) feet of the existing or proposed normal pool elevation and those lands within one-half (1/2) mile (Lake Brandt) or one mile (Lake Townsend) upstream of water intake structure(s).
- b. Tier 1 areas are intended for public purpose and should remain undisturbed.

(2) Tier 2

- a. Tier 2 consists of those lands lying within an area bounded by Tier 1 and a line parallel to and seven hundred and fifty (750) feet in distance from the normal pool elevation.
- b. Tier 2 areas are intended primarily for public purpose.

(3) Tier 3

- a. Tier 3 consists of those lands lying within an area bounded by Tier 2 and a line parallel to and three thousand (3000) feet from the normal pool elevation.
- b. Tier 3 areas shall not exceed the WCA Boundary.

(4) Tier 4

Tier 4 consists of those lands lying in the area between the outer boundary of Tier 3 and the WCA Boundary.

3. STORMWATER RUNOFF MINIMIZATION

The density and built-upon area coverage limits defined in Table 9.C.3 shall apply within the WCA; however, if the limits provided in Table 9.B.1(c) are more restrictive, then those standards shall apply.

TABLE 9.C.3 WCA DENSITY AND BUILT-UPON AREA COVERAGE LIMITS				
Residential Density Limits (expressed as dwelling units/gross acre or % maximum)				
	Tier 1	Tier 2	Tier 3	Tier 4
Septic System (Reserved for future use)	N/A	1 DU/5 AC; 0 to 2.5%	1 DU/3 AC; 0 to 4.0%	1 DU/1 AC; 0 to 12.0%

NOTES:
 1. DU= Dwelling Unit(s); AC = Acre; Percentage (%) refers to Built Upon Area of the zone lot, parcel, or tract.
 2. Single-family detached residential developments will be evaluated on the basis of dwelling units per acre.
 3. All other residential and all non-residential developments will be evaluated on the basis of built-upon area percentage.

4. LAND DISTURBANCE MINIMIZATION

(a) Erosion Control Plan

See Article 9.E.1 *General Requirements* to determine when an erosion control plan is required.

(b) Street Standards

Refer to Article 5.A for the minimum street standards. To the extent practicable, the construction of new roads in the WCA should be avoided.

(c) Land Disturbance

- (1) No land disturbing activity is allowed within stream buffers, open channel drainageways carrying runoff from a 6.01 acre or more drainage basin, greater than fifteen (15) percent slopes adjacent to drainageways, or Water Quality Conservation Easements, except for utilities, watershed devices, and road crossings.
- (2) The transfer of stormwater from a drainage area of five (5) acres or greater by piping or channeling between sub-basins within the Watershed Critical Area (WCA) is not permitted, unless approved by the Administrator. The piping or channeling of stormwater from the watershed critical area to a General Watershed Area (GWA) or to a non-watershed basin is allowed.
- (3) Land Disturbance Limits:

TABLE 9.C.4 LAND DISTURBANCE LIMITS				
	Tier 1	Tier 2	Tier 3	Tier 4
Maximum Land Disturbance	NA	10% of usable property	60% of usable property	75% of usable property

Usable Property = (Total Site Area) - (Area in stream buffers, open channel drainageways carrying runoff from a 6.01-acre basin or greater, 15 percent slopes adjacent to drainageways, Water Quality Conservation Easements, floodplains, or natural wetlands)

5. PROTECTION OF FRAGILE AREAS

(a) Slopes Greater than Fifteen Percent and Wetlands

- (1) Slopes greater than fifteen (15) percent lying adjacent and parallel to natural drainageways or streams, and wetlands shall remain in a natural and undisturbed condition except for road crossings, utilities, erosion control devices and stormwater control devices.
- (2) Recordation of these areas as Drainageway and Open Space Easements may be required wherever authorized by Article 5.D.10 or any other provision in local ordinances.
- (3) If not included in a Drainageway and Open Space Easement, a water quality conservation easement shall be recorded over such wetlands and slopes.
- (4) Where a water quality conservation easement serves to bring two (2) or more properties into compliance with WCA requirements, the Administrator may require that the wetlands and slopes covered by such easements be held as common area by an owners' association.

(b) Drainage

- (1) Drainage shall be provided by means of open channels. Piping of drainage to cross roadways is allowed.
- (2) All open channel drainageways carrying runoff from a 6.01 acre or greater drainage basin shall have protected channels or remain in a natural and undisturbed state, except for road crossings, utilities, erosion control devices and stormwater control devices.
- (3) The undisturbed area width shall be the width as specified in Article 9.A.8 Drainage.

(c) Best Soils

Development on the best soils and terrain of any site is encouraged.

6. SPILL RISK REDUCTION

(a) Prohibited Uses: The following uses shall be prohibited in a WCA district:

TABLE 9.C.6 PROHIBITED USES IN WATERSHED CRITICAL AREA		
	Description	SIC Industry Group Major Group Numbers
a)	<i>Agricultural Uses</i>	
	Animal Feeder/Breeder	0210
b)	<i>Agricultural Services</i>	
	Chemical Treatment and Fertilizer Application for Crops, Weed Control for Crop Operations, including Aerial Crop Dusting	0710, 0721
c)	<i>Mining Uses</i>	
	Mining and Quarrying	1000
d)	<i>Business, Professional and Personal Services</i>	
	Automobile Rental or leasing	7510
	Automobile Repair Services, Major	0000

	Automobile Repair Services, Minor	0000
	Automobile Towing and Storage Services	7549
	Boat Repairs	3730
	Car Wash	7542
	Commercial Chemical and Biological Research	8731
	Furniture Stripping or Refinishing (including secondary or accessory operations)	7641
	Equipment Repair, Heavy	7690
	Agricultural Equipment Repair, Boiler Cleaning and Repair, Cesspool Cleaning, Engine Repair, except automotive, Farm Machinery Repair, Industrial Truck Repair, Machinery Cleaning, Motorcycle Repair Service, Rebabbiting, Repair of Service Station Equipment, Sewer Cleaning and Rodding, Tank and Boiler Cleaning Service, Tank Truck Cleaning Service, Tractor repair, and Welding Repair Shops	
	Heavy Construction Equipment Rental and Leasing	7350
	Lawn Care, Lawn Fertilizing Services, Lawn Spraying Services, Ornamental Shrub and Tree Services with Spraying	0780
	Laundry or Dry-cleaning Plant	7211, 7216, 7217, 7218
	Laundromats, Coin-operated	7215
	Pest or Termite Control Services	7342
	Septic Tank Services	7699
	Truck Driving Schools	8249
	Truck and Utility Trailer Rental and Leasing, Light	0000
	Truck Tractor and Semi Rental and Leasing, Heavy	0000
	Truck Washing	7542
e)	<i>Retail Trade</i>	
	Fuel Oil Sales	5980
	Convenience Stores with fuel pumps	5411
	Motor Vehicle Sales (new and used)	5511
	Motorcycle Sales	5571
	Recreational Vehicle Sales	5561
	Service Stations, gasoline	5541
	Truck Stops	5541
f)	<i>Wholesale Trade</i>	
	Agricultural Chemicals, Pesticides, Fertilizers	5191
	Chemical and Allied Products	5169
	Motor Vehicles	5012
	Nursery Stock; Plants Potted	5193
	Paints and Varnishes	5198
	Petroleum and Petroleum Products	5170

	Scrap and Waste Materials	5093
g)	<i>Transportation, Warehousing, and Utilities</i>	
	Air Transportation Facilities	4789
	Bus Terminal and Service Facilities	4100, 4170
	Hazardous and Radioactive Waste (transportation, Storage, Disposal.)	4953
	Inert Debris Landfills, Major	0000
	Landfills of any character, minor or major in Lower Randleman Lake Watershed—WCA	0000
	Petroleum Contaminated Soil Remediation Disposal Sites	0000
	Pipelines, except Natural Gas	4600
	Railroad Terminal or Yard	4010
	Recycling Processing Centers	0000
	Refuse and Raw Material Hauling	4212
	Sanitary Sewer and Water Treatment Plant Sludge Application Sites	0000
	Sewage Treatment Plants	4952
	Solid Waste Disposal (nonhazardous)	4953
	Trucking or Freight Terminals	4230, 4213
h)	<i>Manufacturing and Industrial Uses</i>	
	Animal Slaughter or Rendering	0000 (2010)
	Arms and Weapons	3480
	Asbestos, Abrasive, and Related Products	3290
	Asphalt Plant	2951
	Batteries	3690
	Chemicals, Paints and Allied Products	2800
	Concrete, Cut Stone and Clay Products	3240, 3270
	Cement, Hydraulic	3241
	Contractors, Heavy construction	1600
	Contractors, Special Trade	1700
	Dairy Products	2020
	Fats and Oils, Animal	2077
	Fats and Oils, Plant	2070
	Fish, Canned, Cured or Frozen	2091
	Leather and Leather Products (tanning)	3110
	Magnetic and Optical Recording Media	3695
	Meat and Poultry, Packing and Processing (no rendering)	2010
	Metal Coating and Engraving	3470
	Paper Products (no coating or laminating)	2670

Paper Products (coating or laminating)	2670
Petroleum and Related Products	2900
Primary Metal Products and Foundries	3300
Pulp and Paper Mills	2610
Rubber and Plastics, Misc.	3000
Rubber and Plastics, Raw	3000
Salvage Yards, Auto Parts	5015
Salvage Yard, Scrap Processing	5903
Solvent Recovery	7389
Surface Active Agents	2843
Textile Products, (no Dyeing and Finishing)	2200
Textile Products, (with Dyeing and Finishing)	2260

(b) Containment Structures

- (1) Storage tanks for fuels and chemicals and associated pumping and piping shall be provided a spill containment system.
- (2) Such containment systems shall be of sufficient volume to contain one hundred (100%) percent of all the tank(s) contents stored in the area and shall have a leak detection system installed.
- (3) The containment system shall be approved by the Administrator and the Fire Marshall.
- (4) Such tanks and containment structures shall not be placed closer than one thousand (1,000) feet to the normal pool elevation of the existing or proposed reservoir.

(c) Underground Storage Tanks

Underground storage tanks for fuels and chemicals shall not be permitted except as approved by the Administrator.

(d) Point Source Discharges

No expansion of any existing private wastewater facilities or establishment of any new public or private wastewater treatment plants of any kind shall be permitted. On-site individual residential septic systems approved by the Guilford County Environmental Health Department are permitted. Off-site individual residential septic systems are permitted in Tier 4 only.

7. STORM WATER MANAGEMENT

(a) Control of Stormwater Run-off: Stormwater Run-off from built-upon areas shall be controlled as follows:

If the built-upon area is greater than twelve (12) percent, the stormwater control measure shall meet the requirements of Section 9(B)(1)(d)(1)(a).

D. RIPARIAN BUFFER PROTECTION FOR LANDS WITHIN THE JORDAN LAKE WATERSHED

1. AUTHORITY

Section 7-1.9 is adopted pursuant to the authority vested in the Town of Summerfield by the Session Laws and the General Statutes of North Carolina, particularly Session Law 2009-216 (House Bill 239), Session Law 2009-484 (Senate Bill 838), N.C. Gen. Stat §153A-121, 153A-140, Chapter 153A, Article 18, N.C. Gen. Stat §160A-174, -193, Chapter 160D and any special legislation enacted by the General Assembly for the Town of Summerfield.

2. PURPOSE

The purpose of the Town of Summerfield in adopting Article 9.D is to protect and preserve existing riparian buffers throughout the Jordan Watershed as generally described in Rule 15A NCAC 02B .0262 (Jordan Water Supply Nutrient Strategy: Purpose and Scope), in order to maintain their nutrient removal and stream protection functions. Additionally, this ordinance will help protect the water supply uses of Jordan Reservoir and of designated water supplies throughout the Jordan watershed.

3. PUBLIC BENEFITS

Buffers adjacent to streams provide multiple environmental protection and resource management benefits. Forested buffers enhance and protect the natural ecology of stream systems, as well as water quality through bank stabilization, shading, and nutrient removal. They also help to minimize flood damage in flood prone areas. Well-vegetated streamside riparian areas help to remove nitrogen and prevent sediment and sediment-bound pollutants such as phosphorous from reaching the streams.

4. JURISDICTION

Article 9.D shall be applied to all land in the planning jurisdiction of the Town of Summerfield that is located within the Jordan Reservoir Watershed. (Currently, the entire Town of Summerfield is located within the Jordan Reservoir Watershed.) Some areas in the Town of Summerfield also fall within the General Watershed Area of the City of Greensboro, North Carolina where additional rules apply.

5. APPLICABILITY

Article 9.D applies to all landowners and other persons conducting activities in the planning jurisdiction of the Town of Summerfield, with the exception of activities conducted under the authority of the State, the United States, multiple jurisdictions, or local units of government. Forest harvesting and agricultural activities are also exempt. The NC Division of Water Quality shall administer the requirements of Rule 15A NCAC 02B .0267 and .0268 (Jordan Water Supply Nutrient Strategy: Protection of Existing Riparian Buffers and Mitigation of Existing Riparian Buffers, respectively) for these activities.

6. RELATION TO OTHER REQUIREMENTS, REGULATIONS AND STANDARDS

These stream buffer requirements shall supersede all locally implemented buffer requirements stated in Rules 15A NCAC 02B .0214 through .0216 as applied to WS-II, WS-III, and WS-IV waters in the Jordan watershed. If the provisions of these standards otherwise conflict with the provisions of any other validly enforceable ordinance(s) or laws, the most stringent provisions shall control. These stream buffer requirements are not intended to interfere with, abrogate, or annul any other ordinance, rule, regulation, or other provision of law.

7. RIPARIAN AREA PROTECTION WITHIN THE JORDAN RESERVOIR WATERSHED

(a) Buffers Protected

The following minimum criteria shall be used for identifying regulated buffers:

- (1)** Article 9.D shall apply to activities conducted within, or outside of with hydrologic impacts in violation of the diffuse flow requirements set out in Article 9.D.7(e) upon, 50-foot-wide riparian

buffers directly adjacent to surface waters in the Jordan watershed (intermittent streams, perennial streams, lakes, reservoirs and ponds), excluding wetlands.

- (2) Wetlands adjacent to surface waters or within 50 feet of surface waters shall be considered as part of the riparian buffer but are regulated pursuant to Rules 15A NCAC 2B .0230 and .0231, Rules 15A NCAC 2H .0500, 15A NCAC 2H .1300, and Sections 401 and 404 of the Federal Water Pollution Control Act.
 - (3) For the purpose of this Section, only one of the following types of maps shall be used for purposes of identifying a water body subject to the requirements of this ordinance:
 - a. The most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture.
 - b. The most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic maps prepared by the United States Geologic Survey (USGS).
 - c. A map approved by the Geographic Information Coordinating Council and by the NC Environmental Management Commission. Prior to approving a map under this Item, the Commission shall provide a 30-day public notice and opportunity for comment. Alternative maps approved by the Commission shall not be used for buffer delineation on projects that are existing and ongoing within the meaning of Article 9.D.7(c).
 - (4) Where the specific point of origin of a stream regulated under this Item is in question, upon request of the NC Division of Water Quality or another party, the Town of Summerfield shall make an on-site determination. A Town of Summerfield representative who has successfully completed the Division's Surface Water Identification Training Certification course, its successor, or other equivalent training curriculum approved by the Division, shall establish that point using the latest version of the Division publication, Identification Methods for the Origins of Intermittent and Perennial Streams, available at the NC Division of Water Quality - 401 Oversight Express Permitting Unit, or its successor. The Town of Summerfield may accept the results of a site assessment made by another party who meets these criteria. Any disputes over on-site determinations made according to this Item shall be referred to the Director of the Division of Water Quality c/o the 401 Oversight Express Permitting Unit, or its successor, in writing. The Director's determination is subject to review as provided in Articles 3 and 4 of G.S. 150B.
 - (5) Riparian buffers protected by this ordinance shall be measured pursuant to Article 9.D.7.(d).
 - (6) Parties subject to these stream buffer requirements shall abide by all State rules and laws regarding waters of the state including but not limited to Rules 15A NCAC 2B .0230 and .0231, Rules 15A NCAC 2H .0500, 15A NCAC 2H .1300, and Sections 401 and 404 of the Federal Water Pollution Control Act.
 - (7) No new clearing, grading, or development shall take place, nor shall any new building permits be issued in violation of these stream buffer requirements.
- (b) **Exemption Based on On-site Determination**

When a landowner or other affected party including the Division believes that the maps have inaccurately depicted surface waters, he or she shall consult the Town of Summerfield. Upon request, a Town of Summerfield representative who has successfully completed the Division of Water Quality's Surface Water Identification Training Certification course, its successor, or other equivalent training curriculum approved by the Division, shall make an on-site determination. The Town of Summerfield may also accept the results of site assessments made by other parties who have successfully completed such training. Any disputes over on-site determinations shall be referred to the Director of the Division of Water Quality c/o the 401 Oversight Express Permitting Unit, or its successor, in writing. A determination of the Director as to the accuracy or application of the maps is subject to review as provided in Articles 3 and 4 of G.S.

150B. Surface waters that appear on the maps shall not be subject to these buffer requirements if a site evaluation reveals any of the following cases.

- (1) Man-made ponds and lakes that are not part of a natural drainage way that is classified in accordance with 15A NCAC 2B .0100, including ponds and lakes created for animal watering, irrigation, or other agricultural uses. (A pond or lake is part of a natural drainage way when it is fed by an intermittent or perennial stream or when it has a direct discharge point to an intermittent or perennial stream.)
- (2) Ephemeral streams.
- (3) The absence on the ground of a corresponding intermittent or perennial stream, lake, reservoir, or pond.
- (4) Ditches or other man-made water conveyances, other than modified natural streams.

(c) Exemption when Existing Uses are Present and Ongoing

These stream buffer requirements shall not apply to uses that are existing and ongoing; however, these requirements shall apply at the time an existing, ongoing use is changed to another use. Change of use shall involve the initiation of any activity that does not meet either of the following criteria for existing, ongoing activity.

- (1) It was present within the riparian buffer as of the effective date of this ordinance and has continued to exist since that time. Existing uses shall include agriculture, buildings, industrial facilities, commercial areas, transportation facilities, maintained lawns, utility lines and on-site sanitary sewage systems, any of which involve either specific, periodic management of vegetation or displacement of vegetation by structures or regular activity. Only the portion of the riparian buffer occupied by the footprint of the existing use is exempt from this ordinance. Change of ownership through purchase or inheritance is not a change of use. Activities necessary to maintain uses are allowed provided that the site remains similarly vegetated, no impervious surface is added within 50 feet of the surface water where it did not previously exist as of the effective date of this ordinance, and existing diffuse flow is maintained. Grading and revegetating Zone Two is allowed provided that the health of the vegetation in Zone One is not compromised, the ground is stabilized, and existing diffuse flow is maintained.
- (2) Projects or proposed developments that are determined by the Town of Summerfield to meet at least one of the following criteria:
 - a. Project requires a 401 Certification/404 Permit, and these were issued prior to the effective date this ordinance, and prior to the effective date of this ordinance.
 - b. Projects that require a state permit, such as landfills, NPDES wastewater discharges, land application of residuals and road construction activities, have begun construction or are under contract to begin construction and had received all required state permits and certifications prior to the effective date of this ordinance;
 - c. Projects that are being reviewed through the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process (published by the US Army Corps of Engineers and Federal Highway Administration, 2003) or its immediate successor and that have reached agreement with DENR on avoidance and minimization by the effective date of this ordinance; or
 - d. Projects that are not required to be reviewed by the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process (published by the US Army Corps of Engineers and Federal Highway Administration, 2003) or its immediate successor if a Finding of No

Significant Impact has been issued for the project and the project has the written approval of the Town of Summerfield prior to the effective date of this ordinance.

(d) Zones of the Riparian Buffer

The protected riparian buffer shall have two zones as follows:

- (1)** Zone One shall consist of a vegetated area that is undisturbed except for uses provided for in Table 9.D.8(b) *Table of Uses Permitted in a Riparian Buffer*. The location of Zone One shall be as follows.
 - a.** For intermittent and perennial streams, Zone One shall begin at the top of the bank and extend landward a distance of 30 feet on all sides of the surface water, measured horizontally on a line perpendicular to a vertical line marking the top of the bank.
 - b.** For ponds, lakes and reservoirs located within a natural drainage way, Zone One shall begin at the normal water level and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to a vertical line marking the normal water level.
- (2)** Zone Two shall consist of a stable, vegetated area that is undisturbed except for uses provided for in Table 9.D.8(b). Grading and revegetating in Zone Two are allowed provided that the health of the vegetation in Zone One is not compromised. Zone Two shall begin at the outer edge of Zone One and extend landward 20 feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones One and Two shall be 50 feet on all sides of the surface water.

(e) Diffuse Flow Requirements

Diffuse flow of runoff shall be maintained in the riparian buffer by dispersing concentrated flow prior to its entry into the buffer and reestablishing vegetation as follows:

- (1)** Concentrated runoff from new ditches or man-made conveyances shall be converted to diffuse flow at non-erosive velocities before the runoff enters Zone Two of the riparian buffer;
- (2)** Periodic corrective action to restore diffuse flow shall be taken as necessary and shall be designed to impede the formation of erosion gullies; and
- (3)** As set forth in Article 9.D.7(d) and Table 9.D.8(b), the Zones of the Riparian Buffer and Table of Permitted Uses respectively, no new stormwater conveyances are allowed through the buffers except for those specified in the Table 9.D.8(b), addressing stormwater management ponds, drainage ditches, roadside ditches, and stormwater conveyances.

8. POTENTIAL USES AND ASSOCIATED REQUIREMENTS

(a) Approval for New Development

The Town of Summerfield shall issue an approval for new development only if the development application proposes to avoid impacts to riparian buffers defined in Article 9.D.7(a) of this ordinance, or where the application proposes to impact such buffers, it demonstrates that the applicant has done the following, as applicable:

- (1)** Determined that the activity is exempt from requirements of this ordinance;
- (2)** Received an Authorization Certificate from the Town of Summerfield pursuant to Article 9.D.9(a);
- (3)** For uses designated as Allowable with Mitigation in Table 9.D.8(b) received approval of mitigation plan pursuant to 9.D.9(c); and
- (4)** Received a variance pursuant to Article 9.D.9(b).

(b) Uses Permitted Within the Riparian Buffer

The following chart sets out potential new uses within the buffer, or outside the buffer with impacts on the buffer, and categorizes them as exempt, allowable, or allowable with mitigation. All uses not categorized as exempt, allowable, or allowable with mitigation are considered prohibited and may not proceed within the riparian buffer or outside the buffer if the use would impact the buffer, unless a variance is granted pursuant to Article 9.D.9(b) Variances. The requirements for each category are given in Article 9.D.8(c) following the Table of Uses.

TABLE 9.D.8(b) TABLE OF USES PERMITTED WITHIN THE RIPARIAN BUFFER			
Use	Exempt*	Allowable*	Allowable w Mitigation*
Access trails: Pedestrian access trails leading to the surface water, docks, fishing piers, boat ramps and other water dependent activities:			
• Pedestrian access trails that are restricted to the minimum width practicable and do not exceed 4 feet in width of buffer disturbance, and provided that installation and use does not result in removal of trees as defined in this Ordinance and no impervious surface is added to the riparian buffer	X		
• Pedestrian access trails that exceed 4 feet in width of buffer disturbance, the installation or use results in removal of trees as defined in this Ordinance or impervious surface is added to the riparian buffer		X	
Airport facilities:			
• Airport facilities that impact equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	
• Airport facilities that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X
• Activities necessary to comply with FAA requirements (e.g. radar uses or landing strips) ¹		X	
Archaeological activities	X		
Bridges		X	
Canoe Access provided that installation and use does not result in removal of trees as defined in this Ordinance and no impervious surface is added to the buffer.	X		
Dam maintenance activities:			
•Dam maintenance activities that do not cause additional buffer disturbance beyond the footprint of the existing dam or those covered under the U.S. Army Corps of Engineers Nationwide Permit No. 3	X		
•Dam maintenance activities that do cause additional buffer disturbance beyond the footprint of the existing dam or those not covered under the U.S. Army Corps of Engineers Nationwide Permit No. 3		X	

Drainage ditches, roadside ditches and stormwater conveyances through riparian buffers:			
•New stormwater flows to existing drainage ditches, roadside ditches, and stormwater conveyances provided flows do not alter or result in the need to alter the conveyance and are managed to minimize the sediment, nutrients and other pollution that convey to water bodies	X		
•Realignment of existing roadside drainage ditches retaining the design dimensions, provided that no additional travel lanes are added and the minimum required roadway typical section is used based on traffic and safety considerations:		X	
•New or altered drainage ditches, roadside ditches and stormwater outfalls provided that a stormwater management facility is installed to control nutrients and attenuate flow before the conveyance discharges through the riparian buffer;		X	
•New drainage ditches, roadside ditches and stormwater conveyances applicable to linear projects that do not provide a stormwater management facility due to topography constraints provided that other practicable BMPs are employed.			X
Driveway crossings of streams and other surface waters subject to this Ordinance:			
•Driveway crossings on single-family residential lots that disturb equal to or less than 25 linear feet or 2,500 square feet of riparian buffer	X		
•Driveway crossings on single-family residential lots that disturb greater than 25 linear feet or 2,500 square feet of riparian buffer		X	
•In a subdivision that cumulatively disturb equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	
•In a subdivision that cumulatively disturb greater than 150 linear feet or one-third of an acre of riparian buffer			X
Driveway impacts other than crossing of a stream or other surface waters subject to this Ordinance			X
Fences:			
•Fences provided that disturbance is minimized, and installation does not result in removal of trees as defined in this Ordinance	X		
•Fences provided that disturbance is minimized and installation results in removal of trees as defined in this Ordinance		X	
Fertilizer application: One-time application to establish vegetation	X		
Grading and revegetation in Zone Two provided that diffuse flow and the health of existing vegetation in Zone One is not compromised and disturbed areas are stabilized until they are revegetated.	X		
Greenway/hiking trails designed, constructed and maintained to maximize nutrient removal and erosion protection, minimize adverse		X	

effects on aquatic life and habitat, and protect water quality to the maximum extent practical.			
Historic preservation	X		
Maintenance access on modified natural streams: a grassed travel way on one side of the water body when less impacting alternatives are not practical. The width and specifications of the travel way shall be only that needed for equipment access and operation. The travel way shall be located to maximize stream shading.		X	
Mining activities:			
•Mining activities that are covered by the Mining Act provided that new riparian buffers that meet the requirements of Articles 9.D.7.(d) and 9.D.7.(e) are established adjacent to the relocated channels		X	
•Mining activities that are not covered by the Mining Act OR where new riparian buffers that meet the requirements of Articles 9.D.7.(d) and 9.D.7.(e) are not established adjacent to the relocated channels			X
•Wastewater or mining dewatering wells with approved NPDES permit	X		
Playground equipment:			
•Playground equipment on single-family lots provided that installation and use does not result in removal of vegetation	X		
•Playground equipment installed on lands other than single-family lots or that requires removal of vegetation		X	
Ponds created by impounding streams and not used as stormwater BMPs:			
•New ponds provided that a riparian buffer that meets the requirements of Articles 9.D.7(d) and 9.D.7(e) is established adjacent to the pond		X	
•New ponds where a riparian buffer that meets the requirements of Articles 9.D.7(d) and 9.D.7(e) is NOT established adjacent to the pond			X
Protection of existing structures, facilities and stream banks when this requires additional disturbance of the riparian buffer or the stream channel.		X	
Railroad impacts other than crossings of streams and other surface waters subject to this Ordinance.			X
Railroad crossings of streams and other surface waters subject to this Ordinance:			
•Railroad crossings that impact equal to or less than 40 linear feet of riparian buffer	X		
•Railroad crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	

•Railroad crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X
Recreational and accessory structures in Zone Two:			
•Sheds and gazebos in Zone Two, provided they are not prohibited under local water supply ordinance:			
-Total footprint less than or equal to 150 square feet per lot.		X	
-Total footprint greater than 150 square feet per lot.			X
•Wooden slatted decks and associated steps, provided the use meets the requirements of Articles 9.D.7(d) and 9.D.7(e):			
- Deck at least 8 feet tall and no vegetation removed from Zone 1.		X	
-Deck less than 8 feet tall or vegetation removed from Zone 1.			X
Removal of previous fill or debris provided that diffuse flow is maintained and vegetation is restored	X		
Road impacts other than crossings of streams and other surface waters subject to this Ordinance			X
Road crossings of streams and other surface waters subject to this Ordinance:			
•Road crossings that impact equal to or less than 40 linear feet of riparian buffer	X		
•Road crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	
•Road crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X
Road relocation: Relocation of existing private access roads associated with public road projects where necessary for public safety:			
•Less than or equal to 2,500 square feet of buffer impact		X	
•Greater than 2,500 square feet of buffer impact			X
Stormwater BMPs:			
•Wet detention, bioretention, and constructed wetlands in Zone Two if diffuse flow of discharge is provided into Zone One		X	
•Wet detention, bioretention, and constructed wetlands in Zone One			X
Scientific studies and stream gauging	X		
Streambank or shoreline stabilization		X	
Temporary roads, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions immediately after			

construction is complete and replanted immediately with comparable vegetation, except that tree planting may occur during the dormant season. A one-time application of fertilizer may be used to establish vegetation: At the end of five years the restored buffer shall comply with the restoration criteria in Article 9.D.9(c)(6)c:			
•Less than or equal to 2,500 square feet of buffer disturbance	X		
•Greater than 2,500 square feet of buffer disturbance		X	
•Associated with culvert installation or bridge construction or replacement		X	
Temporary sediment and erosion control devices, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions immediately after construction is complete and replanted immediately with comparable vegetation, except that tree planting may occur during the dormant season. A one-time application of fertilizer may be used to establish vegetation. At the end of five years the restored buffer shall comply with the restoration criteria in Articles 9.D.9(c)(6)c.			
•In Zone Two provided ground cover is established within timeframes required by the Sedimentation and Erosion Control Act, vegetation in Zone One is not compromised, and runoff is released as diffuse flow in accordance with Article 9.D.7(e).	X		
•In Zones One and Two to control impacts associated with uses approved by Guilford County or that have received a variance, provided that sediment and erosion control for upland areas is addressed, to the maximum extent practical, outside the buffer.		X	
•In-stream temporary erosion and sediment control measures for work within a stream channel that is authorized under Sections 401 and 404 of the Federal Water Pollution Control Act.	X		
•In-stream temporary erosion and sediment control measures for work within a stream channel.		X	
Utility, electric, aerial, perpendicular crossings of stream and other surface waters subject to this Ordinance ^{2, 3, 5}			
•Disturb equal to or less than 150 linear feet of riparian buffer	X		
•Disturb greater than 150 linear feet of riparian buffer		X	
Utility, electric, aerial, other than perpendicular crossings ⁵			
•Impacts in Zone Two		X	
•Impacts in Zone One ^{2, 3}			X
Utility, electric, underground, perpendicular crossings ^{3, 4, 5} :			
•Disturb less than or equal to 40 linear feet of riparian buffer	X		

•Disturb greater than 40 linear feet of riparian buffer		X	
Utility, electric, underground, other than perpendicular crossings ⁴			
•Impacts in Zone Two	X		
•Impacts in Zone One ¹	X		
Utility, non-electric, perpendicular crossings of streams and other surface waters subject to this Ordinance ^{3, 5} :			
•Disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor equal to or less than 10 feet in width	X		
•Disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width		X	
•Disturb greater than 40 linear feet but equal to or less than 150 linear feet of riparian buffer with a maintenance corridor equal to or less than 10 feet in width		X	
•Disturb greater than 40 linear feet but equal to or less than 150 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width			X
•Disturb greater than 150 linear feet of riparian buffer			X
Utility, non-electric, other than perpendicular crossings ^{4, 5} :			
•Impacts in Zone Two		X	
•Impacts in Zone One			X
Vegetation management:			
•Emergency fire control measures provided that topography is restored	X		
•Mowing or harvesting of plant products in Zone Two	X		
•Planting vegetation to enhance the riparian buffer	X		
•Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised	X		
•Removal of individual trees that are in danger of causing damage to dwellings, other structures or human life, or are imminently endangering stability of the streambank.	X		
•Removal of individual trees which are dead, diseased or damaged.	X		
•Removal of poison ivy	X		
•Removal of invasive exotic vegetation as defined in: <i>Smith, Cherri L. 1998. Exotic Plant Guidelines. NC DENR Division of Parks and Recreation. Raleigh, NC. Guideline #30</i>	X		

•Vehicular access roads leading to water-dependent structures as defined in 15A NCAC 02B .0202, provided they do not cross the surface water and have minimum practicable width not exceeding ten feet.		X	
•Water dependent structures as defined in 15A NCAC 02B .0202 where installation and use result in disturbance to riparian buffers.		X	
Water supply reservoirs:			
•New reservoirs where a riparian buffer that meets the requirements of Articles 9.D.7(d) and 9.D.7(e) is established adjacent to the reservoir		X	
•New reservoirs where a riparian buffer that meets the requirements of Articles 9.D.7(d) and 9.D.7(e) is not established adjacent to the reservoir			X
Water wells			
•Single-family residential water wells	X		
•All other water wells		X	
Wetland, stream and buffer restoration that results in impacts to the riparian buffers:			
•Wetland, stream and buffer restoration that requires NC Division of Water Quality approval for the use of a 401 Water Quality Certification	X		
•Wetland, stream and buffer restoration that does not require Division of Water Quality approval for the use of a 401 Water Quality Certification		X	
Wildlife passage structures		X	

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Article 9.D.8(c).

Footnotes:

- 1 Provided that:
 - No heavy equipment is used in Zone One.
 - Vegetation in undisturbed portions of the buffer is not compromised.
 - Felled trees are removed by chain.
 - No permanent felling of trees occurs in protected buffers or streams.
 - Stumps are removed only by grinding.
 - At the completion of the project the disturbed area is stabilized with native vegetation.
 - Zones one and two meet the requirements of Articles 9.D.7(d) and 9.D.7(e).
- 2 Provided that, in Zone One, all of the following BMPs for overhead utility lines are used. If all of these BMPs are not used, then the overhead utility lines shall require a no practical alternative evaluation by the Town of Summerfield, as defined in Articles 9.D.9(a).
 - A minimum zone of 10 feet wide immediately adjacent to the water body shall be managed such that only vegetation that poses a hazard or has the potential to grow tall enough to interfere with the line is removed.
 - Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
 - Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps shall remain where trees are cut.
 - Riprap shall not be used unless it is necessary to stabilize a tower.
 - No fertilizer shall be used other than a one-time application to re-establish vegetation.
 - Construction activities shall minimize the removal of woody vegetation, the extent of the disturbed area, and the time in which areas remain in a disturbed state.
 - Active measures shall be taken after construction and during routine maintenance to ensure diffuse flow of stormwater through the buffer.
 - In wetlands, mats shall be utilized to minimize soil disturbance.
- 3 Provided that poles or aerial infrastructure shall not be installed within 10 feet of a water body unless the Town of Summerfield completes a no practical alternative evaluation as defined in Articles 9.D.9(a).
- 4 Provided that, in Zone One, all of the following BMPs for underground utility lines are used. If all of these BMPs are not used, then the underground utility line shall require a no practical alternative evaluation by Town of Summerfield, as defined in Article 9.D.9(a).
 - Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
 - Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps shall remain, except in the trench where trees are cut.
 - Underground cables shall be installed by vibratory plow or trenching.
 - The trench shall be backfilled with the excavated soil material immediately following cable installation.
 - No fertilizer shall be used other than a one-time application to re-establish vegetation.
 - Construction activities shall minimize the removal of woody vegetation, the extent of the disturbed area, and the time in which areas remain in a disturbed state.
 - Measures shall be taken upon completion of construction and during routine maintenance to ensure diffuse flow of stormwater through the buffer.
 - In wetlands, mats shall be utilized to minimize soil disturbance.
- 5 Perpendicular crossings are those that intersect the surface water at an angle between 75 degrees and 105 degrees.

(c) Requirements for Categories of Uses

Uses designated in Article 9.D.8(b) as exempt, allowable, and allowable with mitigation within a riparian buffer shall have the following requirements:

(1) Exempt

Uses designated as exempt are permissible without authorization by the Town of Summerfield provided that they adhere to the limitations of the activity as defined in Article 9.D.8(b), the Table of Uses. In addition, exempt uses shall be designed, constructed and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable, including construction, monitoring, and maintenance activities.

(2) Allowable

Uses designated as allowable may proceed provided that there are no practical alternatives to the requested use pursuant to Article 9.D.9(a). This includes construction, monitoring, and maintenance activities. These uses require written authorization from the Town of Summerfield.

(3) Allowable with Mitigation

Uses designated as allowable with mitigation may proceed provided that there are no practical alternatives to the requested use pursuant to Article 9.D.9(a) and an appropriate mitigation strategy has been approved pursuant to Article 9.D.9(c). These uses require written authorization from the Town of Summerfield.

9. PERMITS PROCEDURES, REQUIREMENTS, AND APPROVALS

(a) Determination of No Practical Alternatives / Request for Authorization Certificate

- (1) Persons who wish to undertake uses designated as allowable or allowable with mitigation shall submit a request for a “no practical alternatives” determination to the Town of Summerfield. The applicant shall certify that the project meets all the following criteria for finding “no practical alternatives”:
 - a. the basic project purpose cannot be practically accomplished in a manner that would better minimize disturbance, preserve aquatic life and habitat, and protect water quality;
 - b. the use cannot practically be reduced in size or density, reconfigured or redesigned to better minimize disturbance, preserve aquatic life and habitat, and protect water quality; and,
 - c. best management practices shall be used when necessary to minimize disturbance, preserve aquatic life and habitat, and protect water quality.
- (2) The applicant shall also submit at least the following information in support of their assertion of “no practical alternatives”:
 - a. the name, address and phone number of the applicant;
 - b. the nature of the activity to be conducted by the applicant;
 - c. the location of the activity, including the jurisdiction;
 - d. a map of sufficient detail to accurately delineate the boundaries of the land to be utilized in carrying out the activity, the location and dimensions of any disturbance in riparian buffers associated with the activity, and the extent of riparian buffers on the land;
 - e. an explanation of why this plan for the activity cannot be practically accomplished, reduced or reconfigured to better minimize disturbance to the riparian buffer, preserve aquatic life and habitat and protect water quality; and
 - f. plans for any best management practices proposed to be used to control the impacts associated with the activity.
- (3) Within 60 days of a submission that addresses Article 9.D.9(a)(2), the Town of Summerfield shall review the entire project and make a finding of fact as to whether the criteria in Article 9.D.9(a)(1) have been met. A finding of “no practical alternatives” shall result in issuance of an Authorization Certificate. Failure to act within 60 days shall be construed as a finding of “no practical alternatives” and an Authorization Certificate shall be issued to the applicant unless one of the following occurs:
 - a. the applicant agrees, in writing, to a longer period;
 - b. the Town of Summerfield determines that the applicant has failed to furnish requested information necessary to the Town of Summerfield decision;
 - c. the final decision is to be made pursuant to a public hearing; or,
 - d. the applicant refuses access to its records or premises for the purpose of gathering information necessary to the Town of Summerfield’s decision.
- (4) The Town of Summerfield Board of Adjustment may attach conditions to the Authorization Certificate that support the purpose, spirit and intent of this ordinance.
- (5) Any appeals of determinations regarding Authorization Certificates shall be referred to the Director of the Division of Water Quality, c/o the 401 Oversight Express Permitting Unit, or its successor. The Director’s decision is subject to review as provided in G.S. 150B Articles 3 and 4.

(b) Variances from Riparian Buffer Requirements**(1) Requirements for Variances**

Persons who wish to undertake prohibited uses may pursue a variance. The Town of Summerfield may grant minor variances. For major variances, the Town of Summerfield shall prepare preliminary findings and submit them to the Division of Water Quality, 401 Oversight Express Permitting Unit, or its successor for approval by the Environmental Management Commission. The variance request shall follow this procedure.

- a.** For any variance request, the Board of Adjustment shall make a finding of fact as to whether there are practical difficulties or unnecessary hardships that prevent compliance with the riparian buffer protection requirements. A finding of practical difficulties or unnecessary hardships shall require that the following conditions be met (NOTE: The variance findings found in Article 3.B.14 of this Ordinance shall not apply to any major or minor watershed variance coming before the Board of Adjustment):
 - i.** if the applicant complies with the provisions of this ordinance, he/she can secure no reasonable return from, nor make reasonable use of, his/her property. Merely proving that the variance would permit a greater profit from the property shall not be considered adequate justification for a variance. Moreover, the Board of Adjustment shall consider whether the variance is the minimum possible deviation from the terms of this ordinance that shall make reasonable use of the property possible;
 - ii.** the hardship results from application of this ordinance to the property rather than from other factors such as deed restrictions or other hardship;
 - iii.** the hardship is due to the physical nature of the applicant's property, such as its size, shape, or topography, such that compliance with provisions of this ordinance would not allow reasonable use of the property;
 - iv.** the applicant did not cause the hardship by knowingly or unknowingly violating this ordinance;
 - v.** the applicant did not purchase the property after the effective date of this ordinance, and then request a variance; and,
 - vi.** the hardship is rare or unique to the applicant's property.
- b.** The variance is in harmony with the general purpose and intent of the State's riparian buffer protection requirements and this ordinance and preserves its spirit.
- c.** In granting the variance, the public safety and welfare have been assured, water quality has been protected, and substantial justice has been done.

(2) Minor Variances

A minor variance request pertains to activities that will impact only Zone Two of the riparian buffer. Minor variance requests shall be reviewed and approved based on the criteria in Article 9.D.9(b)(1) through Article 9.D.9(b)(3) by the Board of Adjustment pursuant to G.S. 160D. The Town of Summerfield may attach conditions to the variance approval that support the purpose, spirit and intent of the riparian buffer protection program. Request for appeals to decisions made by the Board of Adjustment shall be made in writing to the Director of the Division of Water Quality c/o the 401 Oversight Express Permitting Unit, or its successor. The Director's decision is subject to review as provided in G.S. 150B Articles 3 and 4.

(3) Major Variances

A major variance request pertains to activities that will impact any portion of Zone One or any portion of both Zones One and Two of the riparian buffer. If the Board of Adjustment has determined that a major variance request meets the requirements in Article 9.D.9(b)(3), then it shall prepare a preliminary finding and submit it to the NC Environmental Management Commission c/o the Division of Water Quality, 401 Oversight Express Permitting Unit, or its successor, for approval. Within 90 days after receipt by Town of Summerfield, the Commission shall review preliminary findings on major variance requests and take one of the following actions: approve, approve with conditions and stipulations, or deny the request. Appeals from a Commission decision on a major variance request are made on judicial review to Superior Court.

(c) Mitigation

(1) This item shall apply to persons who wish to impact a riparian buffer in the Jordan watershed when one of the following applies:

- a.** a person has received an Authorization Certificate pursuant to Article 9.D.9(a) of this ordinance for a proposed use that is designated as “allowable with mitigation;” or,
- b.** a person has received a variance pursuant to Article 9.D.9(b) of this ordinance and is required to perform mitigation as a condition of a variance approval.

(2) Issuance of the Mitigation Approval

The Town of Summerfield shall issue a mitigation approval upon determining that a proposal meets the requirements set out in this ordinance. The approval shall identify at a minimum the option chosen, the required and proposed areas, and either the mitigation location or the offset payment amount as applicable.

(3) Options for Meeting the Mitigation Requirement

The mitigation requirement may be met through one of the following options:

- a.** payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to 15A NCAC 02B .0269 (Jordan Water Supply Nutrient Strategy: Riparian Buffer Mitigation Fees to the NC Ecosystem Enhancement Program) contingent upon acceptance of payments by the NC Ecosystem Enhancement Program, or to a private mitigation bank that complies with banking requirements of the US Army Corps of Engineers from the US Army Corps of Engineers, P.O. Box 1890, Wilmington, NC, 28402-1890, and the applicable trading criteria in Rule 15A NCAC 02B .0273;
- b.** donation of real property or of an interest in real property pursuant to Article 9.D.9(c)(6) of this ordinance; or,
- c.** restoration or enhancement of a non-forested riparian buffer pursuant to the requirements of Article 9.D.9(c)(7).

(4) The Area of Mitigation

The Administrator shall determine the required area of mitigation, which shall apply to all mitigation options identified in Article 9.D.9(c)(3) of this ordinance and as further specified in the requirements for each option set out in this Article.

- a.** The impacts in square feet to each zone of the riparian buffer shall be determined by the Town of Summerfield by adding the following:
 - i.** the area of the footprint of the use causing the impact to the riparian buffer;

- ii. the area of the boundary of any clearing and grading activities within the riparian buffer necessary to accommodate the use; and,
 - iii. the area of any ongoing maintenance corridors within the riparian buffer associated with the use.
- b. The required area of mitigation shall be determined by applying the following multipliers to the impacts determined in Article 9.D.9(c)(4)a of this ordinance to each zone of the riparian buffer.
- i. Impacts to Zone One of the riparian buffers shall be multiplied by three.
 - ii. Impacts to Zone Two of the riparian buffer shall be multiplied by one and one-half.
 - iii. Impacts to wetlands within Zones One and Two of the riparian buffer that are subject to mitigation under 15A NCAC 2H .0506 shall comply with the mitigation ratios in 15A NCAC 2H .0506.

(5) The Location of Mitigation

For any option chosen, the mitigation effort shall be located within the same sub-watershed of the Jordan watershed, as defined in 15A NCAC 02B.0262, and the same distance from the Jordan Reservoir as the proposed impact, or closer to the Reservoir than the impact, and as close to the location of the impact as feasible. Alternatively, the applicant may propose mitigation anywhere within the same sub-watershed of the Jordan watershed, as defined in 15A NCAC 02B.0262, provided that the mitigation proposal accounts for differences in delivery of nutrients to the affected arm of Jordan Reservoir resulting from differences between the locations of the buffer impact and mitigation. Additional location requirements for the property donation option are enumerated in Article 9.D.9(c)(6)c.i.

(6) Donation of Property

Persons who choose to satisfy their mitigation determination by donating real property or an interest in real property shall meet the following requirements.

- a. The donation of real property interests may be used to either partially or fully satisfy the payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to 15A NCAC 02B .0269. The value of the property interest shall be determined by an appraisal performed in accordance with Article 9.D.9(c)(6)d.iv. The donation shall satisfy the mitigation determination if the appraised value of the donated property interest is equal to or greater than the required fee. If the appraised value of the donated property interest is less than the required fee calculated pursuant to 15A NCAC 02B .0269, the applicant shall pay the remaining balance due.
- b. The donation of conservation easements to satisfy compensatory mitigation requirements shall be accepted only if the conservation easement is granted in perpetuity.
- c. Donation of real property interests to satisfy the mitigation determination shall be accepted only if such property meets all of the following requirements:
 - i. in addition to the location requirements of Article 9.D.9(c)(5) of this ordinance, the property shall be located within an area that is identified as a priority for restoration in, or is otherwise consistent with the goals of, the Basin wide Wetlands and Riparian Restoration Plan for the Cape Fear River Basin developed by NC Division of Water Quality pursuant to G.S. 143-214.10;

- ii. the property shall contain riparian buffers not currently protected by the State's riparian buffer protection program that need restoration as defined in Article 9.D.9(7)(d) of this ordinance;
 - iii. the restorable riparian buffer on the property shall have a minimum length of 1000 linear feet along a surface water and a minimum width of 50 feet as measured horizontally on a line perpendicular to the surface water;
 - iv. the size of the restorable riparian buffer on the property to be donated shall equal or exceed the area of mitigation responsibility determined pursuant to Article 9.D.9(c)(4) of this ordinance;
 - v. restoration shall not require removal of man-made structures or infrastructure;
 - vi. the property shall be suitable to be successfully restored, based on existing hydrology, soils, and vegetation;
 - vii. the estimated cost of restoring and maintaining the property shall not exceed the value of the property minus site identification and transaction costs;
 - viii. the property shall not contain any building, structure, object, site, or district that is listed in the National Register of Historic Places established pursuant to Public Law 89-665, 16 U.S.C. 470 as amended;
 - ix. the property shall not contain any hazardous substance or solid waste;
 - x. the property shall not contain structures or materials that present health or safety problems to the general public. If wells, septic, water or sewer connections exist, they shall be filled, remediated or closed at owner's expense in accordance with state and local health and safety regulations;
 - xi. the property and adjacent properties shall not have prior, current, and known future land use that would inhibit the function of the restoration effort; and,
 - xii. the property shall not have any encumbrances or conditions on the transfer of the property interests.
- d. At the expense of the applicant or donor, the following information shall be submitted to the Town of Summerfield with any proposal for donations or dedications of interest in real property:
- i. documentation that the property meets the requirements laid out in Article 9.D.9(c)(6)c of this ordinance;
 - ii. US Geological Survey 1:24,000 (7.5 minute) scale topographic map, county tax map, USDA Natural Resource Conservation Service County Soil Survey Map, and county road map showing the location of the property to be donated along with information on existing site conditions, vegetation types, presence of existing structures and easements;
 - iii. a current property survey performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the State Board of Registration for Professional Engineers and Land Surveyors in "Standards of Practice for Land Surveying in North Carolina." Copies may be obtained from the North

Carolina State Board of Registration for Professional Engineers and Land Surveyors, 3620 Six Forks Road, Suite 300, Raleigh, North Carolina 27609;

- iv. a current appraisal of the value of the property performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the Appraisal Board in the "Uniform Standards of Professional North Carolina Appraisal Practice." Copies may be obtained from the Appraisal Foundation, Publications Department, P.O. Box 96734, Washington, D.C. 20090-6734; and,
- v. a title certificate.

(7) Riparian Buffer Restoration or Enhancement

Persons who choose to meet their mitigation requirement through riparian buffer restoration or enhancement shall meet the following requirements.

- a. The applicant may restore or enhance a non-forested riparian buffer if either of the following applies:
 - i. the area of riparian buffer restoration is equal to the required area of mitigation determined pursuant to Article 9.D.9(c)(4) of this ordinance; or,
 - ii. the area of riparian buffer enhancement is three times larger than the required area of mitigation determined pursuant to Article 9.D.9(c)(4) of this ordinance.
- b. The location of the riparian buffer restoration or enhancement shall comply with the requirements in Article 9.D.9(c)(5) of this ordinance.
- c. The riparian buffer restoration or enhancement site shall have a minimum width of 50 feet as measured horizontally on a line perpendicular to the surface water.
- d. Enhancement and restoration shall both have the objective of establishing a forested riparian buffer according to the requirements of this Item. Enhancement shall be distinguished from restoration based on existing buffer conditions. Where existing trees are sparse, that is greater than or equal to 100 trees per acre but less than 200 trees per acre, a buffer may be enhanced. Where existing woody vegetation is absent, that is less than 100 trees per acre, a buffer may be restored.
- e. The applicant shall first receive an Authorization Certificate for the proposed use according to the requirements of Article 9.D.9(a). After receiving this determination, the applicant shall submit a restoration or enhancement plan for approval by the Town of Summerfield. The restoration or enhancement plan shall contain the following:
 - i. a map of the proposed restoration or enhancement site;
 - ii. a vegetation plan. The vegetation plan shall include a minimum of at least two native hardwood tree species planted at a density sufficient to provide 320 trees per acre at maturity;
 - iii. a grading plan. The site shall be graded in a manner to ensure diffuse flow through the riparian buffer;
 - iv. a fertilization plan; and,
 - v. A schedule for implementation.

- f. Within one year after the Administrator has approved the restoration or enhancement plan, the applicant shall present proof to the Town of Summerfield that the riparian buffer has been restored or enhanced. If proof is not presented within this timeframe, then the person shall be in violation of both the State's and the Town of Summerfield riparian buffer protection program.
- g. The mitigation area shall be placed under a perpetual conservation easement that will provide for protection of the property's nutrient removal functions.
- h. The applicant shall submit annual reports for a period of five years after the restoration or enhancement showing that the trees planted have survived and that diffuse flow through the riparian buffer has been maintained. The applicant shall replace trees that do not survive and restore diffuse flow if needed during that five-year period.

10. COMPLIANCE AND ENFORCEMENT

(a) Site Inspections and Enforcement

- (1) Agents, officials, or other qualified persons authorized by the Town of Summerfield may periodically inspect riparian buffers to ensure compliance with this ordinance.
- (2) Notice of the right to inspect shall be included in the letter of approval of each variance and buffer authorization.

(3) Authority to Enter Property and Conduct Investigations and Inspections

Authorized agents, officials or other qualified persons shall have the authority, upon presentation of proper credentials, to enter and inspect at reasonable times any property, public or private, for the purpose of investigating and inspecting the site of any riparian buffer. No person shall willfully resist, delay, or obstruct an authorized representative, employee, or agent of Town of Summerfield, while that person is inspecting or attempting to inspect a riparian buffer, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out their official duties. The Town of Summerfield shall have the power to conduct such investigations as deemed reasonably necessary to carry out the duties as prescribed in this ordinance.

- (4) Any person engaged in new activities as defined by this Section who fails to meet the buffering requirements of this Section shall be deemed in violation of this ordinance and subject to enforcement actions under Article 8.

E. SOIL EROSION AND SEDIMENTATION CONTROL

1. GENERAL REQUIREMENTS

(a) Plan Required

No person shall initiate any land-disturbing activity without an erosion control plan approved by the Town, if the land-disturbing activity:

- (1) exceeds one (1) acre;
- (2) will take place on highly erodible soils with a "k" factor greater than .36 in a watershed critical area;
- (3) includes a permanent runoff control structure in a watershed critical area; or,
- (4) Will take place in Tier 1 or Tier 2 of a watershed critical area.

(b) Protection of Property

Persons conducting land-disturbing activity shall take all reasonable measures to protect all public and private property from damage caused by such activity.

(c) **More Restrictive Rules Shall Apply**

Whenever conflicts exist between federal, state, or local laws, ordinances, or rules, the more restrictive provision shall apply.

2. **BASIC CONTROL OBJECTIVES**

A soil erosion and sedimentation control plan may be disapproved in accordance with the provisions of Article 9.E.12(m) if the plan fails to address the following control objectives:

(a) **Identify Critical Areas**

on-site areas which are subject to severe erosion, and off-site areas which are especially vulnerable to damage from erosion and/or sedimentation, are to be identified and receive special attention;

(b) **Limit Time of Exposure**

all land-disturbing activity is to be planned and conducted to limit exposure to the shortest feasible time;

(c) **Limit Exposed Areas**

all land-disturbing activity is to be planned and conducted to minimize the size of the area to be exposed at any one time;

(d) **Control Surface Water**

surface water runoff originating upgrate of exposed areas should be controlled to reduce erosion and sediment loss during the period of exposure;

(e) **Control Sedimentation**

all land-disturbing activity is to be planned and conducted so as to prevent off-site sedimentation damage; and,

(f) **Manage Storm Water Runoff**

When the increase in the velocity of storm water runoff resulting from a land-disturbing activity is sufficient to cause accelerated erosion of the receiving watercourse, plans are to include measures to control the velocity at the point of discharge so as to minimize accelerated erosion of the site and increased sedimentation of the stream.

3. **MANDATORY STANDARDS FOR LAND-DISTURBING ACTIVITY**

No land-disturbing activity subject to the control of this ordinance shall be undertaken except in accordance with the following mandatory standards.

(a) **Riparian Buffer**

No land-disturbing activity shall be permitted in proximity to a lake or natural watercourse except in accordance with the riparian buffer standards of Article 9.D. *Riparian Buffer Protection for Lands within the Jordan Lake Watershed.*

(b) **Graded Slopes and Fills**

The angle for graded slopes and fills shall be no steeper than two (2) to one (1) slope if they are to be stabilized with vegetative cover. Slopes or fills steeper than two (2) to one (1) slope must be protected by structures. In any event, slopes left exposed will, within thirty (30) days of completion of any phase of grading, be planted or otherwise provided with ground cover, devices, or structures sufficient to restrain erosion.

(c) **Ground Cover**

Whenever land-disturbing activity is undertaken on a tract comprising more than one (1) acre, if more than one acre is uncovered, the person conducting the land-disturbing activity shall install such sedimentation and erosion control devices and practices as are sufficient to retain the sediment generated by the land-disturbing activity within the boundaries of the tract during construction upon and development of said tract, and shall plant or otherwise provide a permanent ground cover sufficient to restrain erosion after completion of construction or development. Except as provided in Article 9.E.4(b)(5), provisions for a ground cover sufficient to restrain erosion must be accomplished within thirty (30) working days or one hundred and twenty (120) calendar days following completion, whichever period is shorter.

(d) **Prior Plan Approval**

No person shall initiate any land-disturbing activity on a tract more than one acre is to be uncovered unless, thirty (30) or more days prior to initiating the activity, an erosion and sedimentation control plan for such activity is filed with and approved by the Town.

4. DESIGN AND PERFORMANCE STANDARDS

(a) **Design for Ten-year Storm**

Except as provided in Article 9.E.4(b)(2) of this ordinance, soil erosion and sedimentation control measures, structures, and devices shall be so planned, designed, and constructed as to provide protection from the calculated maximum peak rate of runoff from the ten (10) year storm. Runoff rates shall be calculated using the procedures in the USDA, Soil Conservation Service's "National Engineering Field Manual for Conservation Practices," or other acceptable calculation procedures.

(b) **High Quality Water Zones**

In High Quality Water (HQW) zones the following design standards shall apply.

- (1) Uncovered areas in HQW zones shall be limited at any time to a maximum total area within the boundaries of the tract to twenty (20) acres. Only the portion of the land disturbing activity within an HQW zone shall be governed by this subsection. Larger areas may be uncovered within the boundaries of the tract with the written approval of the Director (NC Department of Environmental and Natural Resources).
- (2) Soil erosion and sedimentation control measures, structures and devices within HQW zones shall be so planned, designed and constructed to provide protection from the runoff of the twenty-five-year storm which produces the maximum peak rate of runoff as calculated according to procedures in the United States Department of Agricultural Soil Conservation Service's "National Engineering Field Manual for Conservation Practices" or according to procedures adopted by any other agency of this state or the United States or any generally recognized organization or association.
- (3) Sediment basins within HQW zones shall be designed and constructed such that the basin will have a settling efficiency of at least seventy (70%) percent for the forty (40) micron size soil particle transported into the basin by the runoff of that two-year storm which produces the maximum peak rate of runoff as calculated according to procedures in the United States Department of Agricultural Soil Conservation Service's "National Engineering Field Manual for Conservation Practices" or according to procedures adopted by any other agency of this State or the United States or any generally reorganized organization or association.
- (4) Newly constructed open channels in HQW zones shall be designed and constructed with side slopes no steeper than two (2) horizontal to one (1) vertical if a vegetative cover is used for stabilization unless soil conditions permit a steeper slope or where the slopes are stabilized by using mechanical devices, structural devices, or other acceptable ditch liners. In any event, the angle for side slopes shall be sufficient to restrain accelerated erosion.

- (5) Ground cover sufficient to restrain erosion must be provided for any portion of a land disturbing activity in an HQW zone within fifteen (15) working days or sixty (60) calendar days following completion of construction or development, whichever period is shorter.

5. STORM WATER OUTLET PROTECTION

(a) Intent

Stream banks and channels downstream from any land-disturbing activity shall be protected from increased degradation by accelerated erosion caused by increased velocity of runoff from the land-disturbing activity.

(b) Performance Standard

Any land-disturbing activity shall be conducted so that the post-construction velocity of the ten (10) year storm runoff in the receiving watercourse to the discharge point does not exceed the greater of:

- (1) the velocity established by Table 9.E.5(d); or,
- (2) the velocity of the ten (10)-year storm runoff in the receiving watercourse prior to development.

If conditions (1) or (2) above cannot be met, then the receiving watercourse to and including the discharge point shall be designed and constructed to withstand the expected velocity anywhere the velocity exceeds the “prior to development” velocity by ten (10%) percent.

(c) Acceptable Management Measures

Measures applied alone or in combination to satisfy the intent of this Section are acceptable if there are no objectionable secondary consequences. The Town recognizes that the management of stormwater runoff to minimize or control downstream channel and bank erosion is a developing technology. Innovative techniques and ideas will be considered and may be used when shown to have the potential to produce successful results. Some alternatives are to:

- (1) avoid increases to surface runoff volume and velocity by including measures to promote infiltration to compensate for increased runoff from areas rendered impervious;
- (2) avoid increases in stormwater discharge velocities by using vegetated or roughened swales and waterways in lieu of closed drains and high velocity paved sections;
- (3) provide energy dissipaters at outlets of storm drainage facilities to reduce flow velocities to the point of discharge. These may range from simple rip-rapped sections to complex structures; or,
- (4) protect watercourses subject to accelerated erosion by improving cross sections and/or providing erosion-resistant lining.

(d) Exceptions

This rule shall not apply where it can be demonstrated that stormwater discharge velocities will not create an erosion problem in the receiving watercourse.

TABLE 9.E.5(d) MAXIMUM PERMISSIBLE VELOCITY FOR STORMWATER DISCHARGES		
Material	Maximum Permissible Velocities	
	F.P.S	M.P.S
Fine sand (noncolloidal)	2.5	0.8
Sandy Loam (noncolloidal)	2.5	0.8

Silt loam (noncolloidal)	3.0	0.9
Ordinary firm loam	3.5	1.1
Fine Gravel	5.0	1.5
Stiff clay (very colloidal)	5.0	1.5
Graded, loam to cobbles (noncolloidal)	5.0	1.5
Graded, silt to cobbles	5.5	1.7
Alluvial silts (noncolloidal)	3.5	1.1
Alluvial silts (colloidal)	5.0	1.5
Coarse gravel (noncolloidal)	6.0	1.8
Cobbles and shingles	5.5	1.7
Shales and hard pans	6.0	1.8

Source – Adapted from recommendations by Special Committee on Irrigation Research, American Society of Civil Engineers, 1926, for channels with straight alignment. For sinuous channels, multiply allowable velocity by 0.95 for slightly sinuous, by 0.9 for moderately sinuous channels, and by 0.8 for highly sinuous channels.

6. BORROW AND WASTE AREAS

When the person conducting the land-disturbing activity is also the person conducting the borrow or waste disposal activity, areas from which borrow is obtained and which are not regulated by the provisions of the Mining Act of 1971, any waste areas for surplus materials other than landfills regulated by the Department's, Division of Solid Waste Management shall be considered as part of the land-disturbing activity where the borrow material is being used or from which the waste material originated. When the person conducting land-disturbing activity is not the person obtaining the borrow and/or disposing of the waste, these areas shall be considered a separate land-disturbing activity.

7. ACCESS AND HAUL ROADS

Temporary access and haul roads, other than public roads, constructed or used in connection with any land-disturbing activity shall be considered a part of such activity.

8. OPERATIONS IN LAKES OR NATURAL WATERCOURSES

Land-disturbing activity in connection with construction in, on, over, or under a lake or natural watercourse shall be conducted so as to minimize the extent and duration of disturbance of the stream channel. The relocation of a stream, where relocation is an essential part of the proposed activity, shall be executed so as to minimize changes in the stream flow characteristics, except when justification for significant alteration to flow characteristic is provided. The U.S. Army Corps of Engineers shall be notified by the developer of any planned operation in lakes or natural watercourses for possible issuance of Section 404 or other permits.

9. RESPONSIBILITY FOR MAINTENANCE

During the development of a site, the person conducting the land-disturbing activity shall install and maintain all temporary and permanent erosion and sedimentation control measures as required by the approved plan, by any provision of this ordinance, or by any ordinance adopted pursuant to this ordinance. After site development, the landowner or person in possession or control of the land shall install and/or maintain all necessary permanent erosion and sediment control measures, except those measures installed within a road or street right-of-way or easement accepted for maintenance by a governmental agency.

10. ADDITIONAL MEASURES

Whenever the Town determines that significant sedimentation is occurring as a result of land-disturbing activity, despite application and maintenance of protective practices, the person conducting the land-disturbing activity will be required to and shall take additional protective action.

11. EXISTING UNCOVERED AREAS**(a) Applicability**

All uncovered, land-disturbed areas existing on the effective date of this ordinance which exceed one (1) acre, which are subject to continued accelerated erosion, and which are causing off-site damage from sedimentation, shall be provided with a ground cover or other protective measures, structures, or devices sufficient to restrain accelerated erosion and control off-site sedimentation.

(b) Notice of Violation

The Administrator will serve upon the landowner a written notice of violation by registered or certified mail, return receipt requested. The notice will set forth the measures needed to comply and will state the time within which such measures must be completed. In determining the measures required and the time allowed for compliance, the Administrator shall take into consideration the economic feasibility, technology, and quantity of work required, and shall set reasonably attainable time limits for compliance.

(c) Requiring Erosion Control Plan

The Town reserves the right to require preparation and approval of an erosion control plan in any instance where extensive control measures are required.

(d) Exemption

This rule shall not require ground cover on cleared land forming the future basin of a planned reservoir.

12. EROSION AND SEDIMENTATION CONTROL PLANS**(a) Applicability**

An erosion control plan shall be prepared for all land-disturbing activities subject to this ordinance whenever the proposed activity is to be undertaken on a tract comprising more than one (1) acre, if more than one (1) acre is to be uncovered.

(b) Preparation of Plan

The erosion control plan shall be prepared by and shall bear the seal and signature of a registered professional engineer, architect, landscape architect, or a registered surveyor to the extent permitted by North Carolina laws, at a scale not smaller than one (1) inch equals one hundred (100) feet. The plan shall be filed with the Town, and the Guilford Soil and Water Conservation District, thirty (30) days prior to the commencement of the proposed activity.

(c) Submission of Plan

Persons conducting land-disturbing activity on a tract which covers one or more acres shall file five (5) copies of the erosion control plan with the Administrator, at least thirty (30) days prior to beginning of such activity and shall keep another copy of the plan on file at the job site. If the Administrator, either upon review of such plan or on inspection of the job site, determines that a significant risk of accelerated erosion or off-site sedimentation exists, the Administrator will require a revised plan. Pending the preparation of the revised plan, work shall cease or shall continue under conditions outlined by the Administrator.

(d) Financial Responsibility Statement

Erosion control plans may be disapproved unless accompanied by an authorized statement of financial responsibility and ownership. This statement shall be signed by the person financially responsible for the land-disturbing activity or his attorney in fact. The statement shall include the mailing and street addresses of the principal place of business of the person financially responsible and of the owner of the land or their registered agents. If the person financially responsible is not a resident of North Carolina, a North Carolina agent must be designated in the statement for the purpose of receiving notice of this compliance or non-compliance with the plan, this ordinance, or rules or orders adopted or issued pursuant to this ordinance.

(e) Conservation District Review

The Guilford Soil and Water Conservation District, within twenty (20) days of receipt of any plan, shall review such plan and submit its comments and recommendations to the Town. Failure of the Soil and Water Conservation District to submit its comments and recommendations within these twenty (20) days will not delay final action on the plan.

(f) Town Review

The Administrator will review each plan submitted to them and within thirty (30) days of receipt thereof will notify the person submitting the plan that it has been approved, approved with modifications, approved with performance reservations, or disapproved. Failure to approve or disapprove a complete erosion and sedimentation control plan within thirty (30) days of receipt shall be deemed approval. Denial of a plan must specifically state in writing the reasons for denial. The Administrator must approve or deny a revised plan within fifteen (15) days of receipt, or it is deemed to be approved. If, following commencement of a land-disturbing activity pursuant to an approved plan, the Administrator determines that the plan is inadequate to meet the requirements of this ordinance, the Administrator require such revisions as are necessary to comply with this ordinance.

(g) Plan Requirements

The plan required by this Section shall contain architectural and engineering drawings, maps, assumptions, calculations, and narrative statements as needed to adequately describe the proposed development of the tract and the measures proposed to ensure compliance with the requirements of this ordinance. Plan content may vary to meet the needs of specific site requirements. Detailed guidelines for plan preparation can be found in Appendix 1 *Map Standards*.

(h) Application Amendments

Applications for amendment of an erosion control plan in written and/or graphic form may be made at any time under the same conditions as the original application. Until such time as said amendment is approved by the Administrator, the land-disturbing activity shall not proceed except in accordance with the erosion control plan as originally approved.

(i) Work Conducted from Approved Plan

Any person engaged in land-disturbing activity who fails to file a plan in accordance with this ordinance, or who conducts a land-disturbing activity except in accordance with provisions of an approved plan shall be deemed in violation of this ordinance.

(j) Plan Approval Required for Permit

No building or location permits, approvals or other documents relating to land or building development or improvement shall be issued or granted under applicable zoning, building, subdivision and other laws and ordinances of the Town, unless and until an erosion control plan, as required by this ordinance, has been submitted to the Town, a grading permit has been issued, and a Certificate of Erosion Control

Performance has been issued by the Town, indicating that initial erosion control devices have been installed and are functioning properly.

(k) Work Completed Before Final Subdivision Approval

No final subdivision plat approval nor any Certificate of Occupancy shall be issued or granted where required under applicable zoning, building, subdivision and other laws and ordinances unless and until work at the site has been completed in accordance with a valid grading permit, or an improvement security or performance bond has been approved and accepted as required by this ordinance.

(l) Surety

The applicant for a grading permit to grade one (1) acre or more may be required to file with the Town an improvement security or bond in the form of an escrow account or other instruments satisfactory to the Town Attorney in the amount deemed sufficient by the Town to cover all costs of protection of the site against erosion and off-site sedimentation according to requirements of this ordinance. The amount of such surety requirement shall be determined by the Town in consultations with the Soil and Water Conservation District and with disinterested private contractors. Such surety shall be valid until the work is completed in accordance with the grading permit and until same is released by the Town. Applicable surety shall be forfeited upon violation of this ordinance and shall be used to establish protective cover on the site, to control the velocity of runoff, and/or prevent off-site sedimentation. Any monies in excess of the cost of providing protective measures shall be refunded to the applicant. Surety shall be released when the Town has certified that the requirements of this ordinance have been met.

(m) Grounds for Plan Disapproval

A soil erosion and sedimentation control plan may be disapproved upon a finding that an applicant, or any parent or subsidiary corporation, if the applicant is a corporation:

- (1)** is conducting or has conducted land-disturbing activity without an approved plan, or has received notice of violation of a plan previously approved by the Commission or the Town and has not complied with the notice within the time specified in the notice;
- (2)** has failed to pay a civil penalty assessed pursuant to the Act or this ordinance which is due and for which no appeal is pending;
- (3)** has been convicted of a misdemeanor pursuant to NCGS 113A-64(b) or any criminal provision of this ordinance; and,
- (4)** has failed to substantially comply with State rules adopted pursuant to the Act or regulations of this ordinance.

For purposes of this subsection an applicant's record may be considered for only the two years prior to the application date.

(n) North Carolina Environmental Policy Act

Any plan submitted for a land-disturbing activity for which an environmental document is required by the North Carolina Environmental Policy Act (NCGS 113A-1, et seq.) shall be deemed incomplete until a complete environmental document is available for review. The Town of Summerfield shall promptly notify the person submitting the plan that the thirty (30) day period for review of the plan pursuant to Article 9.E.12(f) of this ordinance shall not begin until a complete environmental document is available for review.

F. FLOOD DAMAGE PREVENTION

1. STATUTORY AUTHORIZATION AND LEGAL STATUS PROVISIONS

(a) Statutory Authorization

The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Chapter 160D of the North Carolina General Statutes, delegated to local government the responsibility of units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry.

(b) Legal Status Provisions

(1) Effect on Rights and Liabilities under the Existing Flood Damage Prevention Ordinance

This ordinance in part comes forward by re-enactment of some of the provisions of the flood damage prevention ordinance enacted on July 1, 1999, as amended, and it is not the intention to repeal but rather re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued there under are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit, or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of the Town of Summerfield enacted on July 1, 1999, as amended, which are not re-enacted are repealed.

(2) Effect Upon Outstanding Floodplain Development Permits

Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a Floodplain Development Permit has been granted by the floodplain administrator or his or her authorized agents before the time of passage of this ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

(3) Effective Date

This ordinance shall become effective upon date of adoption.

2. FINDINGS OF FACT

(a) The flood prone areas within the jurisdiction of the Town of Summerfield are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

(b) These flood losses are caused by the cumulative effect of obstructions in flood plains causing increases in flood heights and velocities and by the occupancy in flood hazard areas of uses vulnerable to floods or other hazards.

3. GENERAL PROVISIONS

(a) Lands to which this Ordinance Applies

This ordinance shall apply to all Special Flood Hazard Areas within the Town of Summerfield. Bona fide farms are not exempt from the provisions of this ordinance regulating development in floodways and floodplains as required for participation in the National Flood Insurance Program.

(b) Basis for Establishing the Special Flood Hazard Areas

The Special Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and the Federal Emergency Management Agency in its Flood Insurance Study (FIS) and its accompanying Flood Insurance Rate Maps (FIRM), for Guilford County dated June 18, 2007, which are adopted by reference and declared to be a part of this ordinance.

(c) Flood Hazard Administrator and Duties

An Enforcement Officer, hereinafter referred to as the "Floodplain Administrator", is hereby appointed to administer and implement the provisions of this Ordinance. The Floodplain Administrator shall perform, but not be limited to, the following duties.

- (1) Review all floodplain development applications and issue permits for all proposed development within Special Flood Hazard Areas to assure that the requirements of this Ordinance have been satisfied.
- (2) Advise permittee that additional Federal or State permits (Wetlands, Endangered Species, Erosion and Sedimentation Control, Riparian Buffers, Mining, etc.) may be required, and require that copies of such permits be provided and maintained on file with the Floodplain Development Permit.
- (3) Notify adjacent communities and the North Carolina Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).
- (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- (5) Prevent encroachments into floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Article 9.F.10 are met.
- (6) Obtain actual elevation (in relation to mean sea level) of the reference level (including basement) and all attendant utilities of all new or substantially improved structures, in accordance with Article 9.F.7(c).
- (7) Obtain actual elevation (in relation to mean sea level) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with Article 9.F.7(c)
- (8) Obtain actual elevation (in relation to mean sea level) of all public utilities in accordance with Article 9.F.7(c).
- (9) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with Articles 9.F.7(c) and 9.F.8(b)(2).
- (10) Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- (11) When Base Flood Elevation (BFE) data has not been provided in accordance with Article 9.F.3(b) obtain, review, and reasonably utilize any Base Flood Elevation (BFE) data, along with floodway data or non-encroachment area data available from a Federal, State, or other source, including data developed pursuant to Article 9.F.9(b)(2), in order to administer the provisions of this Ordinance.
- (12) When Base Flood Elevation (BFE) data is provided but no floodway nor non-encroachment area data has been provided in accordance with Article 9.F.3(b), obtain, review, and reasonably utilize any floodway data or non-encroachment area data available from a Federal, State, or other source in order to administer the provisions of this Ordinance.
- (13) When the lowest ground elevation of a parcel or structure in a Special Flood Hazard Area is above the Base Flood Elevation, advise the property owner of the option to apply for a Letter of Map

Amendment (LOMA) from FEMA. Maintain a copy of the Letter of Map Amendment (LOMA) issued by FEMA in the Floodplain Development Permit file.

- (14) Permanently maintain all records that pertain to the administration of this Ordinance and make these records available for public inspection.
- (15) Make on-site inspections of work in progress. As the work pursuant to a Floodplain Development Permit progresses, the Floodplain Administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the Floodplain Administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action.
- (16) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this Ordinance, the Floodplain Administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.
- (17) Revoke Floodplain Development Permits as required. The Floodplain Administrator may revoke and require the return of the Floodplain Development Permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, or specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any Floodplain Development Permit mistakenly issued in violation of an applicable State or local law may also be revoked.
- (18) Make periodic inspections throughout all special flood hazard areas within the jurisdiction of the community. The Floodplain Administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.
- (19) Follow through with corrective procedures of Article 10.
- (20) Review, provide input, and make recommendations for variance requests.
- (21) Maintain a current map repository to include, but not limited to, the FIS Report, FIRM and other official flood maps and studies adopted in accordance with Article 9.F.3(b), including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.
- (22) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-F) and Letters of Map Revision (LOMR).

4. ESTABLISHMENT OF FLOODPLAIN DEVELOPMENT PERMIT

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas determined in accordance with Article 9.F.3(b).

5. COMPLIANCE

No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this ordinance and other applicable regulations.

6. WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the Special Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the Town of Summerfield or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

7. FLOOD PLAIN DEVELOPMENT APPLICATION, PERMIT AND CERTIFICATION

(a) Application Requirements

Application for a Floodplain Development Permit shall be made to the Floodplain Administrator prior to any development activities located within Special Flood Hazard Areas. The following items shall be presented to the Floodplain Administrator to apply for a Floodplain Development Permit.

- (1)** A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:
 - a.** the nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;
 - b.** the boundary of the special flood hazard area as delineated on the FIRM or other flood map as determined in this section, or a statement that the entire lot is within the Special Flood Hazard Area;
 - c.** flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Article 9.F.3(b);
 - d.** the boundary of the floodway(s) or non-encroachment area(s) as determined in Article 9.F.3(b);
 - e.** the Base Flood Elevation (BFE) where provided as set forth in Article 9.F.3(b);
 - f.** the old and new location of any watercourse that will be altered or relocated as a result of proposed development; and,
 - g.** certification of the plot plan by a registered land surveyor or professional engineer.
- (2)** Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area including but not limited to:
 - a.** elevation in relation to mean sea level of the proposed reference level (including basement) of all structures;
 - b.** elevation in relation to mean sea level to which any non-residential structure in Zone AE or A will be flood-proofed; and,
 - c.** elevation in relation to mean sea level to which any proposed utility systems will be elevated or floodproofed.
- (3)** If floodproofing, a Floodproofing Certificate (FEMA Form 81-65) with supporting data and an operational plan that includes, but is not limited to, installation, exercise, and maintenance of floodproofing measures.
- (4)** A Foundation Plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this Ordinance are met. These details include but are not limited to:

- a. the proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls); and,
 - b. openings to facilitate equalization of hydrostatic flood forces on walls in accordance with Article 9.F.8(b)(4)c, when solid foundation perimeter walls are used in Zones A, AE, and A1-30.
- (5) Usage details of any enclosed areas below the regulatory flood protection elevation.
 - (6) Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage.
 - (7) Copies of all other Local, State and Federal permits required prior to Floodplain Development Permit issuance (Wetlands, Endangered Species, Erosion and Sedimentation Control, Riparian Buffers, Mining, etc.).
 - (8) Documentation for placement of Recreational Vehicles and/or Temporary Structures, when applicable, to ensure that the provisions of Article 9.F.8(b)(6) are met.
 - (9) A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.

(b) Permit Requirements

The Floodplain Development Permit shall include, but not be limited to:

- (1) a description of the development to be permitted under the Floodplain Development Permit;
- (2) the Special Flood Hazard Area determination for the proposed development per available data specified in Article 9.F.3(b);
- (3) the regulatory flood protection elevation required for the reference level and all attendant utilities;
- (4) the regulatory flood protection elevation required for the protection of all public utilities;
- (5) all certification submittal requirements with timelines;
- (6) a statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse, as applicable;
- (7) the flood openings requirements, if in Zones A, AE, or A1-30; and,
- (8) limitations of below BFE enclosure uses (if applicable). (i.e., Parking, Building Access and Limited Storage only).

(c) Elevation Certificate

- (1) An Elevation Certificate (FEMA Form 086-0-33) is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to mean sea level. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit.
- (2) An Elevation Certificate (FEMA Form 086-0-33) is required after the reference level is established. Within seven (7) calendar days of establishment of the reference level elevation, it shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to mean sea level. Any work done within the seven (7) day

calendar period and prior to submission of the certification shall be at the permit holder's risk. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being permitted to proceed. Failure to submit the certification or failure to make required corrections shall be cause to issue a stop-work order for the project.

- (3) A final as-built Elevation Certificate (FEMA Form 086-0-33) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

(d) Floodproofing Certificate

If non-residential floodproofing is used to meet the regulatory flood protection elevation requirements, a Floodproofing Certificate (FEMA Form 086-0-34), with supporting data and an operational plan, is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD88. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data and plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

- (e) If a manufactured home is placed within Zone A, AE, or A1-30 and the elevation of the chassis is more than 36 inches in height above grade, an engineered foundation certification is required per Article 9.F.8(b)(3).
- (f) If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a Floodplain Development Permit.

(g) Certification Exemptions

The following structures, if located within Zone A, AE or A1-30, are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:

- (1) recreational Vehicles meeting requirements of Article 9.F.8(b)(6);
- (2) temporary Structures meeting requirements of Article 9.F.8(b)(7); and,
- (3) accessory Structures less than 150 square feet meeting requirements of Article 9.F.8(b)(8).

8. PROVISIONS FOR FLOOD HAZARD REDUCTION

(a) General Standards

In all Special Flood Hazard Areas, the following provisions are required:

- (1) all new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure;
- (2) all new construction or substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- (3) all new construction or substantial improvements shall be constructed by methods and practices that minimize flood damages;
- (4) electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, appliances (washers, dryers, refrigerators, freezers, etc.), hot water heaters, and electric outlets/switches. Underground Storage tanks are not allowed. Above ground fuel storage tanks, as defined herein, must meet the regulatory flood protection elevation as defined in Article 9.H *Definitions Related to Environmental Regulations*;
- (5) all new or replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (6) new or replacement sanitary sewerage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
- (7) on-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;
- (8) any alteration, repair, reconstruction or improvements to a structure which is in compliance with the provisions of this Article, shall meet the requirement of "new construction" as contained in this ordinance;
- (9) nothing in this ordinance shall prevent repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the regulatory flood protection elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance;
- (10) new solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted;
- (11) all subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage;
- (12) all subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
- (13) all subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards;
- (14) all subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.

(b) Specific Standards

In all Special Flood Hazard Areas where Base Flood Elevation (BFE) data has been provided, as set forth in Article 9.F.3(b), or Article 9.F.3(c)(11)(12) the following provisions, in addition to Article 9.F.8 (a) are required:

(1) Residential Construction

New construction or substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Article 9.H.

(2) Non-Residential Construction

New construction or substantial improvement of any commercial, industrial, or non-residential structure shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation as defined in Article 9.H. Structures located in A, AE, and A1-30 Zones may be flood-proofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the regulatory flood protection elevation are watertight with wall substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Article 9.F.7(c), along with the operational and maintenance plans.

(3) Manufactured Housing

- a. New or replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the Regulatory Flood Protection Elevation, as defined in Article 9.H.
- b. Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by engineer certification, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the required elevation will be met by elevating the chassis at least thirty-six (36) inches above grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, engineering certification is required.
- c. All enclosures or skirting below the lowest floor shall meet the requirements of Article 9.F.8(b)(4)a., b., and c.
- d. An evacuation plan shall be prepared for evacuation of all residents of all new, substantially improved, or substantially damaged manufactured dwelling parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the floodplain administrator and the local Emergency Management Coordinator.

(4) Elevated Buildings

Fully enclosed area of new construction and substantially improved structures, which is below the lowest floor:

- a. shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such

enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;

- b. shall be constructed entirely of flood resistant materials to the top of any enclosure below the lowest floor;
- c. shall include, in Zones A, AE, and A1-30, flood openings to automatically equalize hydrostatic flood forces in walls be allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria:
 - i. a minimum of two openings on different sides of each enclosed area subject to flooding;
 - ii. the total net area of all flood openings must be at least one (1) square inch for every square foot of enclosed area subject to flooding;
 - iii. If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
 - iv. The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade;
 - v. Flood openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic flow of floodwaters in both directions; and,
 - vi. Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is not considered an enclosure and requires flood openings outlined above.

(5) Additions/Improvements

- a. Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - i. not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure; and,
 - ii. a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- b. Additions to post-FIRM structures with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.
- c. Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - i. not a substantial improvement, the addition and/or improvements must only comply with the standards for new construction; and,
 - ii. a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- d. Where an independent perimeter load-bearing wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and only the addition must comply with the standards for new construction.

(6) Recreational Vehicles

Recreational vehicles shall either:

- a. be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its own wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions); or,
- b. meets all the requirements for new construction.

(7) Temporary Non-Residential Structures

Prior to the issuance of a floodplain permit for a temporary structure, the applicant must submit to the floodplain administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood, or other type of flood warning notification. The following information shall be submitted in writing to the floodplain administrator for review and written approval.

- a. A specified time period for which the temporary use will be permitted. Time specified may not exceed three months, renewable up to one year.
- b. The name, address, and phone number of the individual responsible for the removal of the temporary structure.
- c. The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification).
- d. A copy of the contract or other suitable instrument with the entity responsible for the physical removal of the structure.
- e. Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.

(8) Accessory Structures

When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area, the following criteria shall be met:

- a. accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);
- b. accessory Structures shall not be temperature-controlled;
- c. accessory Structures shall be designed to have low flood damage potential;
- d. accessory Structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
- e. accessory Structures shall be firmly anchored in accordance with Article 9.F.8(a)(1);
- f. all service facilities such as electrical shall be installed in accordance with Article 9.F.8(a) (4); and,
- g. flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below regulatory flood protection elevation in conformance with Article 9.F.8(b)(4)c.

An accessory structure with a footprint of less than 150 square feet that satisfies the criteria outlined above does not require an elevation or flood-proofing certificate. Elevation or flood-proofing certifications are required for all other accessory structures in accordance with Article 9.F.7(c).

(c) Permitted Uses

The following uses shall be permitted below flood protection elevation within the floodway fringe zone to the extent that they are otherwise permitted by this ordinance.

- (1) Any use as permitted and regulated in the floodway zone.
- (2) Fill material graded to drain, provided such is protected against erosion. Any fill material on which a structure is to be located shall be extended at grade ten (10) feet beyond the limits of the structure foundation and shall have a side slope no steeper than two (2) feet horizontal to one (1) foot vertical.

9. STANDARDS FOR FLOODPLAINS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS

- (a) Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Article 9.F.3(b) where no Base Flood Elevation (BFE) data has been provided by FEMA, the following provisions, in addition to Article 9.F.8(a) and (b), shall apply:

No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from the top of the bank or five times the width of the stream, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

- (b) The BFE used in determining the regulatory flood protection elevation shall be determined based on one of the following criteria set in priority order.
- (1) If Base Flood Elevation (BFE) data is available from other sources, all new construction and substantial improvements within such areas shall also comply with applicable provisions of this ordinance and shall be elevated or flood-proofed in accordance with Article 9.F.3(c)(11 & 12).
 - (2) All subdivisions, manufactured home park and other development proposals shall provide Base Flood Elevation (BFE) data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such BFE data shall be adopted by reference per Article 9.F.3(b) to be utilized in implementing this ordinance.
 - (3) When Base Flood Elevation (BFE) data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated to or above the Regulatory Flood Protection Elevation, as defined in Article 9.H.

10. STANDARDS FOR RIVERINE FLOODPLAINS WITH BFE BUT WITHOUT ESTABLISHED FLOODWAYS OR NON-ENCROACHMENT AREAS

Along rivers and streams where BFE data is provided by neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements apply to all development within such areas.

- (a) Standards outlined in Articles 9.F.8(a & b).
- (b) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

11. FLOODWAYS AND NON-ENCROACHMENT AREAS

Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Article 9.F.3(b). The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Article 9.F.8(a &b) shall apply to all development within such areas.

- (a) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated that:
 - (1) the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the floodplain administrator prior to issuance of floodplain development permit, or,
 - (2) a Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A letter of Map Revision (LOMR) must also be obtained upon completion of the proposed encroachment;
- (b) if Article 9.F.11(a) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance;
- (c) no manufactured homes shall be permitted, except replacement manufactured homes in an existing manufactured home park or subdivision, provided the following provisions are met:
 - (1) the anchoring and the elevation standards of Article 9.F.8(b)(3); and
 - (2) The no encroachment standard of Article 9.F.11(a).

(d) Permitted Uses

The following uses shall be permitted within the Floodway Zone to the extent that they are otherwise permitted by this ordinance and provided that they do not employ structures or fill except as specified herein:

- (1) general farming, pasture, outdoor plant nurseries, horticulture, forestry, wildlife sanctuary, game farm, and other similar agricultural, quarrying, wildlife and related uses;
- (2) ground level loading areas, ground level automobile parking areas, rotary aircraft ports and other similar industrial and commercial uses;
- (3) tractor-trailer parking, provided that no trailers are detached from tractors;
- (4) lawns, gardens, play areas, and other similar uses;
- (5) golf courses, tennis courts, driving ranges, archery ranges, picnic grounds, parks, swimming pools, hiking or horseback riding trails, open space and other similar private and public recreational uses;
- (6) streets, bridges, utility lines, storm drainage facilities, sewage or waste treatment facilities, water supply facilities, and other similar public or private utility uses, but only if the proposed activity combined with the allowable encroachment of the floodway fringe and with any previously placed approved encroachment in the floodway complies with the provisions of Article 9.F.11(a);
- (7) temporary facilities such as displays, circuses, carnivals, or similar transient amusement enterprises;
- (8) boat docks, ramps, piers, or similar structures;
- (9) grading, as it complies with the provisions of Article 9.F.11(a); and,

- (10) cantilevered portions of structures, provided that foundation and supports are located outside the floodway zone and the underside of the cantilevered portion is at least two (2) feet above base flood elevation.

(e) **Prohibited Uses**

Storage or processing of materials that are flammable, corrosive, toxic, or explosive or which could otherwise be injurious to human, animal, or plant life in time of flood is prohibited from the floodway zone.

G. JORDAN NEW DEVELOPMENT STORMWATER RULE (PLACEHOLDER)

This placeholder is reserved to insert a future Jordan New Development Stormwater Rule into Article 9. Depending on the final outcome and format of the Rule, the Town may also want to consider combining the Rule with another section of Article 9 (e.g. Article 9.A.) Stormwater Management/ Watershed Protection Districts. Regardless of which approach is taken, it recommended that the Town follow the lead of Guilford County in amending the ordinance so that stormwater standards throughout the County are as consistent as possible from one jurisdiction to another.

H. DEFINITIONS RELATED TO ENVIRONMENTAL REGULATIONS

For the purpose of this ordinance, the various terms listed in this section shall be defined as follows:

ACCESS TRAILS

Pedestrian trails constructed of pervious or impervious surfaces and related structures to access a surface water, including boardwalks, steps, rails, and signage.

ACT

The North Carolina Sedimentation Pollution Control Act of 1973 N.C.G.S. § 113A-50 et seq., and all rules and orders adopted pursuant to it.

ACTIVE CONSTRUCTION

Activities which contribute directly to the completion of facilities contemplated or shown on the construction plans.

ADDITION (TO AN EXISTING BUILDING)

An extension or increase in the floor area or height of a building or structure.

AIRPORT FACILITIES

All properties, facilities, buildings, structures, and activities that satisfy or otherwise fall within the scope of one or more of the definitions or uses of the words or phrases 'air navigation facility', 'airport', or 'airport protection privileges' under G.S. 63-1; the definition of 'aeronautical facilities' in G.S. 63-79(1); the phrase 'airport facilities' as used in G.S. 159-48(b)(1); the phrase 'aeronautical facilities' as defined in G.S. 159-81 and G.S. 159-97; and the phrase 'airport facilities and improvements' as used in Article V, Section 13, of the North Carolina Constitution, which shall include, without limitation, any and all of the following: airports, airport maintenance facilities, clear zones, drainage ditches, fields, hangars, landing lighting, airport and airport-related offices, parking facilities, related navigational and signal systems, runways, stormwater outfalls, terminals, terminal shops, and all appurtenant areas used or suitable for airport buildings or other airport facilities, and all appurtenant rights-of-way; restricted landing areas; any structures, mechanisms, lights, beacons, marks, communicating systems, or other instrumentalities or devices used or useful as an aid, or constituting an advantage or convenience to the safe taking off, navigation, and landing of aircraft, or the safe and efficient operation or maintenance of an airport or restricted landing area; easements through, or interests in, air space over land or water, interests in airport hazards outside the boundaries of airports or restricted landing areas, and other protection privileges, the acquisition or control of which is necessary to ensure safe approaches to the landing areas of airports and restricted landing areas, and the safe and efficient operation thereof and any combination of any or all of such facilities. Notwithstanding the foregoing, the following shall not be included in the definition of 'airport facilities':

- (1) satellite parking facilities;

- (2) retail and commercial development outside of the terminal area, such as rental car facilities; and
- (3) other secondary development, such as hotels, industrial facilities, free-standing offices and other similar buildings, so long as these facilities are not directly associated with the operation of the airport and are not operated by a unit of government or special governmental entity such as an airport authority, in which case they are included in the definition of 'airport facilities'.

APPEAL

A request for a review of the Floodplain Administrator's interpretation of any provision of this Ordinance. (This definition applies only with respect to flood hazard regulations.)

BASEMENT

Any area of the building having its floor subgrade (below ground level) on all sides. (This definition applies only with respect to flood hazard regulations.)

BASE FLOOD

The flood having a one (1) percent chance of being equaled or exceeded in any given year.

BASE FLOOD ELEVATION (BFE)

A determination of the water surface elevations of the base flood as published in the Flood Insurance Study. When the BFE has not been provided in a "Special Flood Hazard Area", it may be obtained from engineering studies available from a Federal or State or other source using FEMA approved engineering methodologies. This elevation, when combined with the "Freeboard", establishes the "Regulatory Flood Protection Elevation".

BEING CONDUCTED

A land-disturbing activity has been initiated and permanent stabilization of the site has not been completed.

BERM, EROSION CONTROL

A mound of material and/or ditch, the purpose of which is to divert the flow of run-off water.

BEST MANAGEMENT PRACTICE (BMP).

A structural or nonstructural management-based practice used singularly or in combination to reduce nonpoint source inputs to receiving waters in order to achieve water quality protection goals.

BORROW

Fill material which is required for on-site construction and is obtained from other locations.

BUFFER

An area of land planted or constructed to separate uses.

BUFFER ZONE

The strip of land adjacent to a lake or natural watercourse.

BUILT-UPON AREA

That portion of a development project that is covered by impervious or partially impervious cover including buildings, pavement, gravel (for pedestrian or vehicular use), recreation facilities (e.g. tennis courts), etc. (Note: Wooden slatted decks and the water area of a swimming pool are not considered built-upon area.)

CHANNEL

A natural water-carrying trough cut vertically into low areas of the land surface by erosive action of concentrated flowing water or a ditch or canal excavated for the flow of water.

CHEMICAL STORAGE FACILITY

A building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.

COASTAL COUNTIES

The following counties are considered Coastal Counties: Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell and Washington.

COMMISSION, SEDIMENTATION

The North Carolina Sedimentation Control Commission.

COMPLETION OF CONSTRUCTION OR DEVELOPMENT

No further land-disturbing activity is required on a phase of a project except that which is necessary for establishing a permanent ground cover.

DIAMETER AT BREAST HEIGHT (DBH)

Diameter at breast height of a tree measured at 4.5 feet above ground surface level.

DEPARTMENT (DEQ)

The North Carolina Department of Environmental Quality.

DEVELOPMENT

Any land-disturbing activity which adds to or changes the amount of built-upon area or otherwise decreases the infiltration of precipitation into the soil (also as set forth in Rule 15A NCAC 2B .0202(23). This definition applies only with respect to Article 9 Environmental Regulations.

DEVELOPMENT, EXISTING

Those projects that are built and those projects that, at a minimum, have established a vested right under N.C. zoning law prior to the implementation of applicable stormwater regulations, based on at least one of the following criteria: 1) substantial expenditure of resources (time, labor, money) based on a good faith reliance upon having received a valid local government approval to proceed with the project; or 2) having a valid outstanding building permit; or 3) having expended substantial resources (time, labor, money) and having an approved site specific (or phased) development plan in compliance with NCGS 153A-344.1 or NCGS 160D-108, -108.1. (This definition applies only with respect to watershed protection regulations.)

DIRECTOR (DEQ)

The Director of the Division of Land Resources of the Department of Environmental Quality.

DISCHARGE POINT

That point at which runoff leaves a tract of land.

DISCHARGING LANDFILL

A facility with liners, monitoring equipment, and other measures to detect and/or prevent leachate from entering the environment and in which the leachate is treated on site and discharged to a receiving stream. These facilities require approval and a discharge permit from the N.C. Department of Environmental Management for legal operation.

DISTRICT, SOIL AND WATER CONSERVATION

The Guilford Soil and Water Conservation District created pursuant to NCGS 139.

DITCH OR CANAL

A man-made channel other than a modified natural stream constructed for drainage purposes that is typically dug through inter-stream divide areas. A ditch or canal may have flows that are perennial, intermittent, or ephemeral and may exhibit hydrological and biological characteristics similar to perennial or intermittent streams.

DRAINAGEWAY AND OPEN SPACE EASEMENT

Land designated for use as an open channel conveying the flow from a one-hundred-year storm event and for use as open space. Granting of the easement does not transfer title. Drainageway and open space shall be left in its natural condition or graded to a section approved by the Town which will allow economical and efficient maintenance and shall be stabilized with permanent vegetative cover. The area within the easement can be included in the gross property area used for calculation of density of development.

DRAINAGE, REQUIRED CHANNEL

The theoretical stream bed section which is required to carry and discharge the runoff from a one-hundred-year storm.

DRAINAGE, TYPICAL REQUIRED CHANNEL SECTION

A cross-sectional view of a required drainage channel.

DRAINAGEWAY

Any natural or manmade channel that carries surface runoff from precipitation.

ELEVATED BUILDING

A non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

ENCROACHMENT

The advance or infringement of uses, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain. (This definition applies only with respect to flood hazard regulations.)

ENERGY DISSIPATOR

A structure or shaped channel section with mechanical armoring placed at the outlet pipes or conduits to receive and break down the energy from high velocity flow.

EPHEMERAL STREAM

A feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

EROSION

The wearing away of land surface by the action of wind, water, gravity, or any combination thereof.

EROSION, ACCELERATED

Any increase over the rate of natural erosion as a result of land-disturbing activities.

EROSION CONTROL MEASURE, STRUCTURE OR DEVICE, ADEQUATE

A device which controls the soil material within the land area under responsible control of the person conducting the land-disturbing activity.

EROSION, NATURAL

The wearing away of the earth's surface by water, wind, or other natural agents under natural environmental conditions undisturbed by man.

EXISTING DEVELOPMENT

Development, other than that associated with agricultural or forest management activities, that meets one of the following criteria:

- (1) It either is built or has established a vested right based on statutory or common law as interpreted by the courts, for projects that do not require a state permit, as of the effective date of either local new development stormwater programs implemented under Rule 15A NCAC 2B .0265 (Jordan Water Supply Nutrient Strategy: Stormwater Management for New Development) or, for projects requiring a state permit, as of the applicable compliance date established in Rule 15A NCAC 2B .0271 (Jordan Water Supply Nutrient Strategy: Stormwater Management for New Development), Items (5) and (6).
- (2) It occurs after the compliance date set out in Sub-Item (4)(d) of Rule .0265 (Jordan Water Supply Nutrient Strategy: Stormwater Management for New Development) but does not result in a net increase in built-upon area.

EXISTING MANUFACTURED HOME PARK OR MANUFACTURED HOME SUBDIVISION

A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before the original effective date of the floodplain management regulations adopted by the community.

FLOOD OR FLOODING

A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters; and/or the unusual and rapid accumulation of runoff of surface waters from any source.

FLOOD INSURANCE

The insurance coverage provided under the National Flood Insurance Program.

FLOOD INSURANCE RATE MAP (FIRM)

An official map of a community, issued by the Federal Emergency Management Agency, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

FLOOD INSURANCE STUDY (FIS)

An examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the Federal Emergency Management Agency. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.

FLOODPLAIN

Any land area susceptible to being inundated by water from any source.

FLOODPLAIN ADMINISTRATOR

The individual appointed to administer and enforce the floodplain management regulations.

FLOODPLAIN DEVELOPMENT PERMIT

Any type of permit that is required in conformance with the provisions of this Ordinance, prior to the commencement of any development activity.

FLOODPLAIN MANAGEMENT

The operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

FLOODPLAIN MANAGEMENT REGULATIONS

This Ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power which control development in flood-prone areas. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

FLOODPROOFING

Any combination of structural and nonstructural additions, changes, or adjustments to structures, which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

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 one (1) foot.

FLOOD ZONE

A geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

FREEBOARD

The height added to the Base Flood Elevation (BFE) to account for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization on the watershed. The Base Flood Elevation plus the freeboard establishes the "Regulatory Flood Protection Elevation".

FUNCTIONALLY DEPENDENT FACILITY

A facility which cannot be used for its intended purpose unless it is located in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.

GRADING

Any operation or occurrence by which the existing site elevations are changed, or where any ground cover, natural or man-made, is removed, or any buildings or other structures are removed, or any watercourse or body of water, either natural or man-made, is relocated on any site, thereby creating an unprotected area. The term "grading" is interchangeable with "land-disturbing activity".

GRADING, PHASE OF

One (1) of the two (2) types of grading, rough or fine.

GRADING PLAN

The graphic plan, including narrative where appropriate, required by this Ordinance as a prerequisite for a grading permit, the purpose of which is to explain existing conditions and proposed grading of land including any development, and to describe the activities and measures to be undertaken to control accelerated soil erosion and sedimentation.

GREENWAY / HIKING TRAILS

Pedestrian trails constructed of pervious or impervious surfaces and related structures including but not limited to boardwalks, steps, rails, and signage, and that generally run parallel to the shoreline.

GROUND COVER

Any vegetation, masonry, paving, riprap, or other material or materials which render the soil surface stable against accelerated erosion.

HAZARDOUS MATERIAL

Any material listed as such in: Superfund Amendments and Reauthorization Act (SARA) Section 302 Extremely Hazardous Substances (42 USC 1100 et seq.); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Hazardous Substances (42 USC 9601 et seq.); or Section 311 of the Clean Water Act, as amended (CWA) (33 USC 1251 et seq.; oil and hazardous substances) hereby incorporated by reference including any subsequent amendments and editions.

HIGH DENSITY OPTION

A density or intensity option for development wherein the density or intensity exceeds the applicable limit for development under the Low-Density Option (see Performance Tables in Article VII), thereby imposing a requirement for engineered stormwater controls (runoff control structures) in conformance with the requirements of Article VII (Environmental Regulations).

HIGHEST ADJACENT GRADE (HAG)

The highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

HIGH QUALITY WATERS

Those classified as such in 15A NCAC 2B.0101(e)(5) General Procedures, which is incorporated herein by reference to include further amendments pursuant to NCGS 150B-14(c).

HIGH QUALITY WATER (HQW) ZONES

Areas in the coastal counties that are within five hundred seventy-five (575) feet of High-Quality Waters and, for the remainder of the State, areas that are within one (1) mile and drain into HQW's.

HIGH VALUE TREE

A tree that meets or exceeds the following standards: for pine species, 14-inch DBH or greater or 18-inch or greater stump diameter; or for hardwoods and wetland species, 16-inch DBH or greater or 24-inch or greater stump diameter.

INTERMITTENT STREAM

A well-defined channel that contains water for only part of the year, typically during winter and spring when the aquatic bed is below the water table. The flow may be heavily supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.

JORDAN NUTRIENT STRATEGY OR JORDAN WATER SUPPLY NUTRIENT STRATEGY

The set of Rules 15A NCAC 2B .0262 through .0273 and .0311(p).

JORDAN RESERVOIR

The surface water impoundment operated by the US Army Corps of Engineers and named B. Everett Jordan Reservoir, as further delineated for purposes of the Jordan nutrient strategy in Rule 15A NCAC 2B .0262(4).

JORDAN WATERSHED

All lands and waters draining to B. Everett Jordan Reservoir.

LAKE OR NATURAL WATERCOURSE

Any stream, river, brook, swamp, sound, bay, creek, run, branch, canal, waterway, estuary, and any reservoir, lake or pond, natural or impounded, in which sediment may be moved or carried in suspension, and which could be damaged by accumulation of sediment.

LAND-DISTURBING ACTIVITY

Any use of the land by any person or persons in residential, industrial, educational, institutional, or commercial development, highway or road construction or maintenance, that results in a change in natural cover or topography that may cause or contribute to sedimentation.

LOW DENSITY OPTION

A density or intensity option for development wherein the density, expressed in dwelling units per acre, and/or the intensity, expressed in percentage of the land surface covered by built-upon area, does not exceed certain limits established in Article 9.B(c). The limits vary depending upon the classification of the watershed and upon which overlay zone. Stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable.

LOWEST ADJACENT GRADE (LAG)

The elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

LOWEST FLOOR

Lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this Ordinance.

MANUFACTURED HOME

A structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle". (This definition applies only with respect to flood hazard regulations.)

MANUFACTURED HOME PARK OR SUBDIVISION

A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale. (This definition applies only with respect to flood hazard regulations.)

MARKET VALUE

The building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.

MEAN SEA LEVEL

For purposes of this Ordinance, the National Geodetic Vertical Datum (NGVD) as corrected in 1929, the North American Vertical Datum (NAVD) as corrected in 1988, or other vertical control datum used as a reference for establishing varying elevations within the floodplain, to which Base Flood Elevations (BFEs) shown on a FIRM are referenced. Refer to each FIRM panel to determine datum used.

NEW CONSTRUCTION

Structures for which the "start of construction" commenced on or after the effective date of the original version of the community's Flood Damage Prevention Ordinance and includes any subsequent improvements to such structures. (This definition applies only with respect to flood hazard regulations.)

NEW DEVELOPMENT

Any development project that does not meet the definition of existing development set out in this ordinance.

NON-ENCROACHMENT AREA

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 one (1) foot as designated in the Flood Insurance Study report.

POST-FIRM

Construction or other development for which the "start of construction" occurred on or after the effective date of the initial Flood Insurance Rate Map for the area.

PERSON CONDUCTING LAND DISTURBING ACTIVITY

Any person who may be held responsible for a violation unless expressly provided otherwise by this Ordinance, the Act, or any order adopted pursuant to this Ordinance or the Act.

PERSON RESPONSIBLE FOR LAND DISTURBING VIOLATION

As used in this Ordinance, and NCGS 113A-64, a developer or other person who has or holds himself out as having financial or operational control over the land-disturbing activity; or the landowner or person in possession or control of the land when he has directly or indirectly allowed the land-disturbing activity or has benefitted from it, or he has failed to comply with any provision of this Ordinance, the Act, or any order adopted pursuant to this Ordinance or the Act as imposes a duty upon him.

PRE-FIRM

Construction or other development for which the "start of construction" occurred before the effective date of the initial Flood Insurance Rate Map for the area.

PRINCIPALLY ABOVE GROUND

That at least 51% of the actual cash value of the structure is above ground.

PROTECTED AREA

Any ground surface area having established cover, artificial or natural, of such density that not more than twenty (20) percent of the soil surface of any square yard of surface is exposed to the physical forces of meteorological elements.

RECREATIONAL VEHICLE (RV)

A vehicle, which is:

- (1) Built on a single chassis;
- (2) Four hundred (400) square feet or less when measured at the largest horizontal projection;
- (3) Designed to be self-propelled or permanently towable by a light duty truck; and
- (4) Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

REDEVELOPMENT

Any land disturbing activity that does not result in a net increase in built-upon area and that provides greater or equal stormwater control than the previous development.

REFERENCED OR REFERENCED REACH

A stable stream that is in dynamic equilibrium with its valley and contributing watershed. A reference reach can be used to develop natural channel design criteria for stream restoration projects.

REFERENCE LEVEL

The top of the lowest floor for structures within Special Flood Hazard Areas designated as Zone A1-A30, AE, A, or A99.

REGULATORY FLOOD PROTECTION ELEVATION

The "Base Flood Elevation" plus the "Freeboard". In "Special Flood Hazard Areas" where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE plus two (2) feet of Freeboard. In "Special Flood Hazard Areas" where no BFE has been established, this elevation shall be at least two (2) feet above the highest adjacent grade.

REMEDY A VIOLATION

To bring the structure or other development into compliance with State and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways to reduce impacts include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development. (This definition applies only with respect to flood hazard regulations.)

RIVERINE

Relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

SEDIMENT

Solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin.

SEDIMENTATION

The process by which sediment resulting from accelerated erosion has been or is being transported off the site of the land-disturbing activity, or into a lake or natural watercourse.

SHORELINE STABILIZATION

The in-place stabilization of an eroding shoreline. Stabilization techniques which include "soft" methods or natural materials (such as root wads, or rock vanes) may be considered as part of a restoration design. However, stabilization techniques that consist primarily of "hard" engineering, such as concrete lined channels, riprap, or gabions, while providing bank stabilization, shall not be considered stream restoration.

SILTATION

Sediment resulting from accelerated erosion which is settleable or removable by properly designed, constructed, and maintained control measures; and which has been transported from its point of origin within the site of a land-disturbing activity, and which has been deposited, or is in suspension in water.

SILVICULTURE

The practice of controlling growth, composition, health and quality of forests and woodlands to meet diverse needs and values of landowners and society such as wildlife habitat, timber, water resources, restoration, and recreation on a sustainable basis.

SITE OR TRACT

All contiguous land and bodies of water being disturbed or to be disturbed as a unit, regardless of ownership.

SLUDGE

Any solid or semisolid waste generated from a wastewater treatment plant, water treatment plant, or air pollution control facility permitted under authority of the N.C. Environmental Management Commission.

SPECIAL FLOOD HAZARD AREA (SFHA)

The land in the floodplain subject to a one (1%) percent or greater chance of being flooded in any given year, as determined in Article 9.F.3(b).

START OF CONSTRUCTION

Substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building. (This definition applies only with respect to flood hazard regulations.)

STORM DRAINAGE FACILITIES

The system of inlets, conduits, channels, ditches and appurtenances which serve to collect and convey stormwater through and from a given drainage area.

STORM, TEN (10)—YEAR

The surface runoff resulting from a rainfall of an intensity that has a ten (10) percent chance of being equaled or exceeded in any given year and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.

STORM, ONE HUNDRED (100)-YEAR

The surface runoff resulting from a rainfall of an intensity that has a one (1) percent chance of being equaled or exceeded in any given year and of a duration which will produce the maximum peak rate of runoff for the watershed of interest under average antecedent wetness conditions.

STORMWATER RUNOFF

The direct runoff of water resulting from precipitation in any form.

STREAM

- (1) A watercourse that collects surface runoff.
- (2) A body of concentrated flowing water in a natural low area or natural channel on the land surface.

STREAM BUFFER

A natural or vegetated area through which stormwater 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. The buffer width is measured landward from the normal pool elevation of impoundments and from the top of bank of each side of streams or rivers. (This definition applies only with respect to watershed protection regulations.)

STREAM, PERENNIAL AND INTERMITTENT

Streams, with associated lakes and ponds, that are indicated as such on the following:

- (1) on the most recent version of the United States Geological Survey 1:24000 scale (7.5-minute quadrangle) topographical map;

- (2) on the most recent version of the Soil Survey of Guilford County developed by the USDA—Natural Resource Conservation Service (formerly United States Department of Agricultural—Soil Science Service); or
- (3) by examination of site-specific evidence that indicates to the Enforcement Officer (using criteria approved by the N.C. Division of Water Quality) the presence of waters not shown on either of these two maps or, evidence that no actual stream or water body exists.

STREAM, PERENNIAL

A well-defined channel that contains water year-round during a year of normal rainfall with the aquatic bed located below the water table for most of the year. Groundwater is the primary source of water for a perennial stream, but it also carries stormwater runoff. A perennial stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.

STREAM RESTORATION

The process of converting an unstable, altered or degraded stream corridor, including adjacent riparian zone and flood-prone areas to its natural or referenced, stable conditions considering recent and future watershed conditions. This process also includes restoring the geomorphic dimension, pattern, and profile as well as biological and chemical integrity, including transport of water and sediment produced by the stream's watershed in order to achieve dynamic equilibrium.

STRUCTURE

A walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground. (This definition applies only with respect to flood hazard regulations.)

STUMP DIAMETER

The diameter of a tree measured at six inches above the ground surface level.

SUBSTANTIAL DAMAGE

Damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty (50) percent of the market value of the structure before the damage occurred. See definition of "substantial improvement". Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds twenty-five (25) percent of the market value of the structure before the damage occurred. (This definition applies only with respect to flood hazard regulations.)

SUBSTANTIAL IMPROVEMENT

Any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds fifty (50) percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

- (1) any correction of existing violations of State or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or,
- (2) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

(This definition applies only with respect to flood hazard regulations.)

SUBSTANTIALLY COMPLETED

Work has progressed to the point that, in the opinion of the Enforcement Officer, it is sufficiently completed in accordance with the approved plans and specifications that the work can be utilized for its intended purposes. For

permanent stormwater control structures this generally means that the following have been accomplished: 1) the dam has been constructed to the approved lines and grades; 2) all slopes have been fine graded, seeded, mulched, fertilized, and tacked to establish permanent ground cover; 3) principal and emergency spillways have been installed at the approved elevations and dimensions; and 4) permanent velocity controls on the inlet and outlet pipes and channels have been installed.

SURFACE WATERS

All waters of the state as defined in G.S. 143-212 except underground waters

TREE

A woody plant with a DBH equal to or exceeding five inches or a stump diameter exceeding six inches.

TEMPORARY ROAD

A road constructed temporarily for equipment access to build or replace hydraulic conveyance structures such as bridges, culverts, pipes or water dependent structures, or to maintain public traffic during construction.

TWENTY-FIVE-YEAR STORM

The surface runoff resulting from a rainfall of an intensity expected to be equaled or exceeded, on the average, once in twenty-five (25) years, and of a duration which will produce the maximum peak rate of runoff, from the watershed of interest under average antecedent wetness conditions.

UNCOVERED

The removal of ground cover from, on or above the soil surface.

UNDERTAKEN

The initiating of any activity, or phase of activity, which results or will result in a change in the ground cover or topography of a tract of land.

UNDISTURBED AREA

That portion of a lot, tract, or subdivision which has not and will not be occupied and which has not and will not be graded to change land contours or to destroy existing vegetation. Only areas that are wooded or reforested are considered undisturbed. This definition applies only with respect to Watershed Protection Regulations.

UNPROTECTED AREA

Any ground surface area disturbed to such an extent that twenty (20) percent or more of the soil surface of any square is exposed to the physical forces of meteorological elements.

VARIANCE, MAJOR WATERSHED

Variance of the existing regulations that does not meet the definition of a Minor Watershed Variance. The North Carolina Environmental Management Commission is designated to rule on all major watershed variance requests.

VARIANCE, MINOR WATERSHED

Variance of the existing regulations that meets one of the following criteria: (A) Variance of any standard present in the Ordinance but not in the State Water Supply Watershed Protection Rules; (B) Variance of any standard on which the level of performance required by the Ordinance exceeds that required by the corresponding section of the State Water Supply Watershed Protection Rules, provided that approval of the variance does not lower the level of performance below that required by the State regulations; (C) Variance of the State Water Supply Watershed Protection Regulations by a factor of up to five (5) percent under the high density option or ten (10) percent under the low density option of any standard expressed as a number; or (D) Variance to National Pollutant Discharge Elimination System (NPDES) standards.

VELOCITY

The average velocity of flow through the cross section of the main channel at the peak flow of the storm of interest. The cross section of the main channel shall be that area defined by the geometry of the channel plus the area of flow below the flood height defined by vertical lines at the main channel banks. Overload flows are not to be included for the purpose of computing velocity of flow.

VIOLATION

The failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 9.F.7.(c) and 9.F.8 is presumed to be in violation until such time as that documentation is provided. (This definition applies only with respect to flood hazard regulations.)

WASTE

Surplus materials resulting from on-site construction and disposed of at other locations.

WATERBODY, PERENNIAL

A natural or man-made basin, including lakes, ponds, and reservoirs, that stores surface water permanently at depths sufficient to preclude growth of rooted plants. For the purpose of the state's riparian buffer protection program, the waterbody must be part of a natural drainage way (i.e., connected by surface flow to a stream).

WATERCOURSE

A lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

Except as specifically defined herein, all words used in this chapter shall have their customary dictionary definitions. Certain words or terms used herein are defined as follows:

- (1) Words used in the present tense include the future tense and the future tense includes the present tense. Words used in the singular number include the plural number and the plural number includes the singular number.
- (2) The words "shall" and "will" are mandatory and not discretionary.
- (3) The words "may" and "should" are permissive.
- (4) The word "lot" includes the words "plot," "parcel," or "tract."
- (5) The word "used" or "occupied" as applied to any land or building shall be construed to imply that said land or building is in actual use or occupancy and shall be construed to include the words "intended," "arranged" or "designed" to be used or occupied.
- (6) The word "map" or "zoning map" shall mean the official zoning map of the Town of Summerfield, North Carolina.
- (7) The word "ordinance" or "regulation" shall mean this Development Ordinance, including any amendment. Whenever the effective date of the ordinance is referred to, the reference includes the effective date of any amendment to it.
- (8) The word "street" includes the word "alley," "road," "cul-de-sac," "highway" or "thoroughfare," whether designated as public or private.
- (9) The word "includes" shall not limit the term to specified examples but is intended to extend its meaning to all other instances or circumstances of like kind or character.
- (j) And, or: Where a regulation involves two (2) or more items, conditions, provisions or events connected by the conjunction "and," "or," or "and/or," the conjunction shall be interpreted as follows:
 - a. "And" indicates that all the connected items, conditions, provisions or events shall apply.

- b. "Or" indicates that the connected items, conditions, provisions or events shall apply.
- c. "And/or" indicates that the connected items, conditions, provisions or events may apply singly or in combination as is appropriate.

WATER DEPENDENT STRUCTURES

Structures for which the use requires access or proximity to or siting within surface waters to fulfill its basic purpose, such as boat ramps, boat houses, docks, and bulkheads. Ancillary facilities such as restaurants, outlets for boat supplies, parking lots, and commercial boat storage areas are not water dependent structures.

WATERSHED, WATER SUPPLY

The entire area contributing drainage to Lake Townsend, Lake Brandt, Lake Higgins, Oak Hollow Lake, High Point City Lake, Polecat Creek Lake, Reidsville Reservoir, Lake Mackintosh, Ramseur Reservoir, Madison intake, and the Randleman Dam reservoir.

WATERSHED CRITICAL AREA

That portion of the watershed within the lake basin of the water supply reservoir as delineated in Article 9 (Environmental Regulations).

WATER SURFACE ELEVATION (WSE)

The height, in relation to mean sea level, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

WORKING DAYS

Days exclusive of Saturday and Sunday during which weather conditions or soil conditions permit land-disturbing activity to be undertaken.