

21-0027

21-011

AMENDING CHAPTER 30 (LDO)
AN ORDINANCE AMENDING THE GREENSBORO CODE OF ORDINANCES WITH
RESPECT TO ZONING, PLANNING AND DEVELOPMENT

(Editor's Note: Added text shown with underlines and deleted text shown with strikethroughs)

Section 1. That Subsection (A) of Section 30-12-2.1, Authority, is hereby amended to read as follows:

The Legislature of the State of North Carolina has in NCGS Part 6, Article 21 of Chapter 143; Article 6 of Chapter 153A; NCGS Parts 3, 5, and 8 of Article 19 of Chapter 160A, and NCGS Article 8 of 160A; and Article 7, 9, and 11 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare.

Section 2. That Subsection (B) of Section 30-12-2.1, Purposes, is hereby amended by adding new subsections (16) and (17) to read as follows:

(16) Make flood insurance available to the community through the National Flood Insurance Program;

(17) Maintain the natural and beneficial functions of floodplains.

Section 3. That Subsection (F) of Section 30-12-2.1, Basis for Establishing the Areas of Special Flood Hazard and Future Conditions Flood Hazard Areas, is hereby amended to read as follows:

(F) Basis for Establishing the Areas of Special Flood Hazard and Future Conditions Flood Hazard Areas

The special flood hazard areas and future conditions flood hazard areas are those identified under the Cooperating Technical state agreement between the State of North Carolina and FEMA in its flood insurance study (FIS) and its accompanying Flood Insurance Rate Maps (FIRM) associated Digital Flood Insurance Rate Map (DFIRM) panels, including any digital data developed as part of the FIS, for Guilford County dated June 18, 2007, which are adopted by reference and declared to be a part of these regulations; and all revisions thereafter.

Future revisions to the FIS and DFIRM panels that do not change flood hazard data within the jurisdictional authority of Guilford County are also adopted by reference and declared a part of this ordinance. Subsequent Letter of Map Revisions (LOMRs) and/or Physical Map Revisions (PMRs) shall be adopted within 6 months.

Section 4. That Subsection (2) of Section 30-12-2.2(A), Permitted and Prohibited Structures and Activities, is hereby amended to read as follows:

- (2) A Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained within 6 months upon completion of the proposed encroachment.

Section 5. That Subsection (A) of Section 30-12-2.3, General Standards, is hereby amended to read as follows:

(A) General Standards

In all areas of special flood hazard and future conditions flood hazard areas the following provisions are required:

- (1) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure;
- (2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- (3) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages;
- (4) All new electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or located at or above Regulatory Flood Prevention Elevation (RFPE) 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, hot water heaters, and electric outlets/switches:

(a) Replacements part of a substantial improvement, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall also meet the above provisions.

(b) Replacements that are for maintenance and not part of a substantial improvement, may be installed at the original location provided the addition and/or improvements only comply with the standards for new construction consistent with the code and requirements for the original structure;

- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
- (6) New and replacement sanitary sewerage systems shall be designed to minimize or eliminate infiltration of floodwaters 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 that is in compliance with the provisions of the flood prevention regulations of this section shall meet the requirement of "new construction" as contained in this section;~~
- (9) Nothing in this section shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of the flood prevention regulations of this section 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 the flood prevention regulations of this section.
- (9) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in 30-4-13.6. A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a special flood hazard area or future conditions flood hazard area only if the structure or tank is either elevated or floodproofed to at least the regulatory flood protection elevation and certified according to 30-4-26.10.
- (10) All subdivision plats and other development plans shall be consistent with the need to minimize flood damage.
- (11) All subdivision plats and other development plans shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- (12) All subdivision plats and other development plans shall have adequate drainage provided to reduce exposure to flood hazards.
- (13) All subdivision plats and other development plans 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 prior to land disturbance.
- (14) When a structure is partially located in a special flood hazard area, the entire structure shall meet the requirements for new construction and substantial improvements.
- (15) When a structure is located in multiple flood hazard risk zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the most restrictive flood hazard risk zone and the highest base flood elevation shall apply.

Section 6. That Subsection (2) of Section 30-12-2.3(B), Nonresidential Construction, is hereby amended to read as follows:

(2) Nonresidential Construction

New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation. Structures located in A, AE, AO, AH, A1-A30, and X (Future) zones may be floodproofed 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 water tight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. For AO Zones, the floodproofing elevation shall be in accordance with 30-12-2.3(E)2). A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the Water Resources Director as set forth in 30-4-26.10 along with the operational, inspection and maintenance plans.

Section 7. That Subsection (5) of Section 30-12-2.3(B), Elevated Buildings, is hereby amended to read as follows:

(5) Elevated Buildings

Fully enclosed area, other than a basement, of new construction and substantially improved structures that is below the lowest floor and is subject to flooding:

- (1) Shall not be designed or used for human habitation, but shall only be used for the 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 used in connection with the premises (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;
- (2) Shall be constructed entirely of flood resistant materials below the regulatory flood protection elevation; and
- (3) Shall include in Zones A, AO, AE, AH, A1-A30, and X (Future) flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. Designs for complying with this requirement must be either certified by a registered professional engineer or architect or meet or exceed the following minimum design criteria:
 - (i) Provide a minimum of 2 flood openings on different sides of each enclosed area subject to flooding having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - (ii) If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
 - (iii) The bottom of all required flood openings shall be no higher than one foot above the higher of the interior or exterior adjacent grade;
 - (iv) Flood openings may be equipped with screens, louvers, or other coverings or devices provided they permit the automatic flow of floodwaters in both directions; and
 - (v) 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 considered an enclosure and requires flood openings in accordance with 30-12-2.3(B)5a), 30-12-2.3(B)5b) and 30-12-2.3(B)5c).

(vi) Shall not be temperature controlled or conditioned.

Section 8. That Subsection (g) of Section 30-12-2.3(B)(8), Accessory Structures, is hereby amended to read as follows:

(g) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Regulatory Flood Protection Elevation in conformance with 30-12-2.3(B)5c)

Section 9. That Subsection (B) of Section 30-12-2.3, Specific Standards, is hereby amended by adding two new subsections (9) and (10) to read as follows:

(9) Tanks

When gas and liquid storage tanks are to be placed within a Special Flood Hazard Area, the following criteria shall be met:

(a) Underground tanks. Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty;

(b) Above-ground tanks, elevated. Above-ground tanks in flood hazard areas shall be elevated to or above the Regulatory Flood Protection Elevation on a supporting structure that is designed to prevent flotation, collapse or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area;

(c) Above-ground tanks, not elevated. Above-ground tanks that do not meet the elevation requirements of 30-12-2.3(B)(2) of this ordinance shall be permitted in flood hazard areas provided the tanks are designed, constructed, installed, and anchored to resist all flood-related and other loads, including the effects of buoyancy, during conditions of the design flood and without release of contents in the floodwaters or infiltration by floodwaters into the tanks. Tanks shall be designed, constructed, installed, and anchored to resist the potential buoyant and other flood forces acting on an empty tank during design flood conditions.

(d) Tank inlets and vents. Tank inlets, fill openings, outlets and vents shall be:

(i) At or above the Regulatory Flood Protection Elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood; and

(ii) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the design flood.

(10) Other Development.

- (a) Fences in regulated floodways and NEAs that have the potential to block the passage of floodwaters, such as stockade fences and wire mesh fences, shall meet the limitations outlined in 30-12-2.2 of this ordinance.
- (b) Retaining walls, sidewalks and driveways in regulated floodways and NEAs. Retaining walls and sidewalks and driveways that involve the placement of fill in regulated floodways shall meet the limitations outlined in 30-12-2.2 of this ordinance.
- (c) Roads and watercourse crossings in regulated floodways and NEAs. Roads and watercourse crossings, including roads, bridges, culverts, low-water crossings and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other side, that encroach into regulated floodways shall meet the limitations outlined in 30-12-2.2 of this ordinance.
- (d) Commercial storage facilities are not considered "limited storage" as noted in this ordinance, and shall be protected to the Regulatory Flood Protection Elevation as required for commercial structures.

Section 10. That Subsection (c) of Section 30-12-2.3(C)(3), Standards for Floodplains without Established Base Flood Elevations, is hereby amended to read as follows:

- (c) When base flood elevation data is not available from a federal, state, or other source as outlined in 30-12-2.3(C)2b), the reference level shall be elevated or floodproofed (nonresidential) no lower than the regulatory flood protection elevation. All non-elevation design and certification requirements of 30-12-2.3(B) shall also apply.

Section 11. That Subsection (E) of Section 30-12-2.3, Standards for Areas of Shallow Flooding (AO Zones), is hereby amended to read as follows:

(E) Standards for Areas of Shallow Flooding (AO Zones)

Located within the areas of special flood hazard established in 30-12-2.1(F) are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one to 3 feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to 30-12-2.3(A), all new construction and substantial improvement, shall meet the following requirements:

- (1) The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of ~~one foot~~ two feet above the highest adjacent grade. If no depth number is specified, reference level shall be elevated at least 2 feet above the highest adjacent grade plus a freeboard of ~~one foot~~ two feet.
- (2) All new construction and substantial improvements of nonresidential structures shall:

- (a) Have the reference level elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of ~~one foot~~ two feet above the highest adjacent grade. If no depth number is specified, reference level shall be elevated at least 2 feet above the highest adjacent grade plus a freeboard of ~~one foot~~ two feet; or
 - (b) Be completely floodproofed, together with attendant utility and sanitary facilities, to or above that level required in 30-12-2.3(E)2)a) so that the structure below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required as per 30-4-26.10 and 30-12-2.3(B)2).
- (3) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

Section 12. That Subsection (F) of Section 30-12-2.3, Standards for Intermittent and Perennial Streams Without Established Special Flood Hazard Areas, is hereby amended to read as follows:

(F) Standards for Intermittent and Perennial Streams Without Established Special Flood Hazard Areas

Along intermittent and perennial streams where no special flood hazard area has been identified on the FIRM or in the FIS report, the following provisions shall apply to all development within such areas:

- (1) Except for streets, bridges, and utilities, no encroachments shall be permitted in drainage maintenance and utility easements as required by the subdivision standards of Article 13 unless granted an easement release. Except for streets, bridges, and utilities, no encroachment, including fill, new construction, substantial improvements, or new development shall be permitted within a distance of 30 feet each side from the top of the stream bank or 5 times the width of the stream, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating the impact of such encroachments on flood levels during the occurrence of the base flood discharge. The degree of such impact shall be reviewed and subject to approval by the Water Resources Director prior to the commencement of any development activities.
- (2) If base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard area provisions of this section and shall have all new construction and substantial improvements of nonresidential structures shall have the lowest floor, including basement and attendant mechanical equipment, elevated or floodproofed to the base flood elevation plus ~~one foot~~ two feet of freeboard. Elevation of floodproofing certification is required in accordance with 30-4-26.10 if the lowest adjacent grade to the structure is less than 5 feet above the base flood elevation. All non-elevation design and certification requirements of 30-12-2.3(B) shall also apply.
- (3) When base flood elevation data is not available from a federal, state or other source, the base flood elevation by a registered professional engineer, in accordance with standard engineering practice and direction from the city. All new construction and substantial improvements within such areas shall comply with all applicable flood hazard area

provisions of this section. The lowest floor, including basement and attendant mechanical equipment, shall be elevated or floodproofed to the higher of the base flood elevation plus ~~one foot~~ two feet of freeboard or 2 feet above the highest adjacent grade. Prior of issuance of a certificate of occupancy, elevation or floodproofing certification is required in accordance with 30-4-26.10 if the lowest adjacent grade to the structure is less than 5 feet above the base flood elevation. All non-elevation design and certification requirements of 30-12-2.3(B) shall also apply.

Section 13. That Subsections (B) and (C) of Section 30-4-26.6, Flood Plain Development Permit, is hereby amended to read as follows:

(B) The proposed elevation of all development within a special flood hazard area or future conditions flood hazard area including but not limited to:

- (1) Elevation in relation to NAVD 1988 ~~mean-sea-level~~ of the proposed reference level (including basement) of all structures;
- (2) Elevation in relation to NAVD 1988 ~~mean-sea-level~~ to which any nonresidential structure in Zone AE, A, AH, AO, A1-A30, or X (Future) will be flood-proofed; and
- (3) Elevation in relation to NAVD 1988 ~~mean-sea-level~~ to which any proposed utility systems will be elevated or flood-proofed.

(C) If flood-proofing, a Flood-proofing Certificate (FEMA Form ~~81-65~~ 086-0-34) with supporting data and an operational plan that includes, but is not limited to, installation, exercise, and maintenance of flood-proofing measures.

Section 14. That Subsection (J) of Section 30-4-26.6, Flood Plain Development Permit, is hereby amended to read as follows:

(J) 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 or future conditions flood hazard area determination for the proposed development per available data specified in 30-12-2.1(F).
- (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, AO, AE, AH, A1-A30, or X (Future).~~
- (8) Limitations of enclosure use below the lowest floor, if applicable below BFE enclosures uses (if applicable) (i.e., parking, building access and limited storage).
- (9) A statement, that all materials below BFE/RFPE must be flood resistant materials."

Section 15. That Subsections (A) and (B) of Section 30-4-26.10, Certificate of Floor Elevation/Flood-proofing, is hereby amended to read as follows:

(A) Elevation Certificate

An Elevation Certificate (FEMA Form ~~81-31~~ 086-0-33) is required after the reference level is established and prior to the actual start of any new construction. Within 7 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 NAVD 1988 mean sea level. Any work done within the 7-day 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. A final as-built Elevation Certificate (FEMA Form ~~81-31~~ 086-0-33) is required after construction is completed and prior to Certificate of 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 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 Occupancy.

(B) Flood-proofing Certificate

If nonresidential flood-proofing is used to meet the regulatory flood protection elevation requirements, a Flood-proofing Certificate (FEMA Form ~~81-65~~ 086-0-34), with supporting data, ~~and an operational plan and an inspection and maintenance plan are~~ 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 flood-proofed design elevation of the reference level and all attendant utilities, in relation to mean NAVD 1988 mean sea level. Flood-proofing certification shall be prepared by or under the direct supervision of a professional engineer or architect, who is authorized by the State of North Carolina to certify such information, and certified by same. The Floodplain Administrator shall review the certificate data ~~and plan, the operational plan, and the inspection and maintenance 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 Occupancy.

Section 16. That Section 30-13-3.3, Minimum Building Area, is hereby amended to read as follows:

30-13-3.3, Minimum Building Area

Every lot must have a contiguous buildable area of a shape sufficient to hold a principal building that is at least 2,000 square feet with a minimum dimension of at least 20 feet. This contiguous buildable area must lie at or be filled to an elevation at least ~~one foot~~ two feet above the base flood elevation.

Section 17. That Subsection 30-3-13.6 of Section 30-3-13, Floodplain Administrator, is hereby amended to read as follows:

30-3-13.6 Obtain actual elevation (in relation to NAVD 1988 ~~mean sea level~~) of the reference level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with 30-4-26.10(A);

Section 18. That Subsection 30-3-13.7 of Section 30-3-13, Floodplain Administrator, is hereby amended to read as follows:

30-3-13.7 Obtain actual elevation (in relation to NAVD 1988 ~~mean sea level~~) to which all new and substantially improved nonresidential structures and utilities have been flood proofed, in accordance with 30-4-26.10(B);

Section 19. That Subsection 30-3-13.8 of Section 30-3-13, Floodplain Administrator, is hereby amended to read as follows:

30-3-13.8 Obtain actual elevation (in relation to NAVD 1988 ~~mean sea level~~) of all public utilities in accordance with 30-12-2.3(A)12);

Section 20. That Section 30-15-3, Terms Beginning with “B,” is hereby amended by adding a definition for the terms “Base Flood” and “Building, existing (Flood Damage Prevention Regulations)” to read as follows:

Base Flood

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

Building, existing (Flood Damage Prevention Regulations)

Any building for which the “start of construction” commenced before the effective date of the floodplain management regulations adopted by a community, dated April 16, 1971. [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Section 21. That Section 30-15-5, Terms Beginning with “D,” is hereby amended by adding a definition for the terms “Design Flood (See Regulatory Flood Protection Elevation),” “Development Activity,” and “Digital Flood Insurance Rate Map (DFIRM)” to read as follows:

Design Flood (See Regulatory Flood Protection Elevation)

Development Activity

Any activity defined as Development which will necessitate a Floodplain Development Permit. This includes buildings, structures, and non-structural items, including (but not limited to) fill, bulkheads, piers, pools, docks, landings, ramps, and erosion control/stabilization measures. [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Digital Flood Insurance Rate Map (DFIRM)

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

Section 22. That Section 30-15-5, Terms Beginning with “D,” is hereby amended by revising the definition for the term “Development” to read as follows:

Development

Any manmade change or disturbance to improved or unimproved real estate, including but not limited to, buildings or other structures; mining, dredging, filling, grading, paving, excavation, or drilling operations; or storage of equipment or materials.

Section 23. That Section 30-15-6, Terms Beginning with “E,” is hereby amended by revising the definition for the term “Encroachment” to read as follows:

Encroachment

The advance or infringement of uses, fill, excavation, buildings, structures or development into a floodplain that may impede or alter the flow capacity of a ~~floodplain~~ special flood hazard area. [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Section 24. That Section 30-15-7, Terms Beginning with “F,” is hereby amended by revising the definition for the terms “Flood Insurance Rate Map (FIRM)” and “Freeboard” to read as follows:

Flood Insurance Rate Map (FIRM)

~~An official map of the community issued by the Federal Emergency Management Agency (FEMA), on which the special flood hazard areas, the future conditions flood hazard areas, and the risk premium zones applicable to the community are delineated.~~ An official map of a community, issued by the FEMA, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated. (see also DFIRM)
[definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Freeboard

The height added to the base flood elevation (BFE) or the future conditions flood elevation 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, blockage of bridge or culvert openings, precipitation exceeding the base flood and the hydrological effect of urbanization of the watershed. The base flood elevation plus the freeboard establishes the "Regulatory Flood Protection Elevation". [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Section 25. That Section 30-15-7, Terms Beginning with “F,” is hereby amended by adding a definition for the terms “Floodplain Development Permit” and “Flood-resistant material” to read as follows:

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.

Flood-resistant material

Any building product [material, component or system] capable of withstanding direct and prolonged contact with floodwaters without sustaining damage that requires more than low-cost cosmetic repair. Any material that is water-soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber

or naturally decay-resistant lumbers are acceptable flooring materials. Sheet-type flooring coverings that restrict evaporation from below and materials that are impervious, but dimensionally unstable are not acceptable. Materials that absorb or retain water excessively after submergence are not flood-resistant. Please refer to Technical Bulletin 2, Flood Damage-Resistant Materials Requirements, and available from the FEMA. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.

Section 26. That Section 30-15-9, Terms Beginning with “H,” is hereby amended by revising the definition for the term “Historic Structure” to read as follows:

Historic Structure

Any structure that is: 1) listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register; 2) certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; or 3) individually listed on a local inventory of historic landmarks or certified as contributing to the historical significance of a historic district in communities with a "Certified Local Government (CLG) program."

Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

Section 27. That Section 30-15-12, Terms Beginning with “L,” is hereby amended by adding a definition for the term “Letter of Map Change (LOMC)” to read as follows:

Letter of Map Change (LOMC)

An official determination issued by FEMA that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:

- (a) Letter of Map Amendment (LOMA): An official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA is based on technical data showing that a property had been inadvertently mapped as being in the floodplain, but is actually on natural high ground above the base flood elevation. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a special flood hazard area.
- (b) Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.
- (c) Letter of Map Revision Based on Fill (LOMR-F): A determination that a structure or parcel of land has been elevated by fill above the BFE and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community’s floodplain management regulations.

(d) Conditional Letter of Map Revision (CLOMR): A formal review and comment as to whether a proposed project complies with the minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

Section 28. That Section 30-15-12, Terms Beginning with “L,” is hereby amended by revising the definition for the term “Lowest adjacent grade (LAG)” to read as follows:

Lowest adjacent grade (LAG)

The lowest elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building. [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Section 29. That Section 30-15-13, Terms Beginning with “M,” is hereby amended by adding a definition for the term “Map Repository” to read as follows:

Map Repository

The location of the official flood hazard data to be applied for floodplain management. It is a central location in which flood data is stored and managed; in North Carolina, FEMA has recognized that the application of digital flood hazard data products carry the same authority as hard copy products. Therefore, the NCEM’s Floodplain Mapping Program websites house current and historical flood hazard data. For effective flood hazard data the NC FRIS website (<http://FRIS.NC.GOV/FRIS>) is the map repository, and for historical flood hazard data the FloodNC website (<http://FLOODNC.GOV/NCFLOOD>) is the map repository.

Section 30. That Section 30-15-13, Terms Beginning with “M,” is hereby amended by deleting the definition for the term “Mean Sea Level” in it’s entirely.

Section 31. That Section 30-15-17, Terms Beginning with “Q” and “R,” is hereby amended by revising the definition for the terms “Recreational Vehicle” and “Regulatory Flood Protection Elevation” to read as follows:

Recreational Vehicle

A vehicle which was originally built as a recreational vehicle, on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light duty vehicle, and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use and is fully licensed and ready for highway use.

(Amended by Ord. 13-124 on 9/17/13)

Regulatory Flood Protection Elevation

The elevation above NAVD 1988 mean sea level to which the reference level of all structures and other development located within special flood hazard areas and future conditions flood hazard areas must be protected. In special flood hazard areas where base flood elevations (BFEs) have been determined, this elevation shall be the BFE plus ~~one foot~~ two feet of freeboard. In special flood hazard areas where no BFE has been established, this elevation shall be at least 2

feet above the highest adjacent grade. In future conditions flood hazard areas this elevation shall be the future conditions flood elevation plus ~~one foot~~ two feet of freeboard. [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Section 32. That Section 30-15-18, Terms Beginning with “S,” is hereby amended by adding a definition for the term “Structure, existing (Flood Damage Prevention Regulations)” to read as follows:

Structure, existing (Flood Damage Prevention Regulations)

Any structure for which the “start of construction” commenced before the effective date of the floodplain management regulations adopted by a community, dated April 16, 1971. [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Section 33. That Section 30-15-18, Terms Beginning with “S,” is hereby amended by revising the definition for the terms “Substantial Damage (Flood Damage Protection Regulations)” and “Substantial Improvement” to read as follows:

Substantial Damage (Flood Damage Protection Regulations)

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 ~~50%~~ 49% of the market value of the structure before the damage occurred. Substantial damage also means flood-related damage sustained by a structure on 2 separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25% of the market value of the structure before the damage occurred. [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Substantial Improvement

Any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period, the cost of which equals or exceeds ~~50%~~ 49% of the market value of the structure before the start of construction of the improvement. This term includes structures that have incurred substantial damage, regardless of actual repair work performed. The term does not, however, include either: (1) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications that have been identified by the Planning Director and that 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. [definition applies to Flood Damage Prevention regulations (30-12-2) only.]

Section 34. That Section 30-15-19, Terms Beginning with “T,” is hereby amended by adding a definition for the terms “Technical Bulletin and Technical Fact Sheet” and “Temperature Controlled” to read as follows:

Technical Bulletin and Technical Fact Sheet

A FEMA publication that provides guidance concerning the building performance standards of the NFIP, which are contained in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. The bulletins and fact sheets are intended for use primarily by State and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of

existing bulletins, are issued periodically as needed. The bulletins do not create regulations; rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.

Temperature Controlled

Having the temperature regulated by a heating and/or cooling system, built-in or appliance.

Section 35. That Section 30-15-21, Terms Beginning with “W” and “X,” is hereby amended by adding a definition for the term “Watercourse Alteration” to read as follows:

Watercourse Alteration

A dam, impoundment, channel relocation, change in channel alignment, channelization, or change in cross-sectional area of the channel or the channel capacity, or any other form of modification which may alter, impede, retard or change the direction and/or velocity of the riverine flow of water during conditions of the base flood.

Section 36. That Section 30-15-21, Terms Beginning with “W” and “X,” is hereby amended by revising the definition for the term “Water Surface Elevation (WSE)” to read as follows:

Water Surface Elevation (WSE)

The height, in relation to ~~mean sea level~~ NAVD 1988, of floods of various magnitudes and frequencies in the floodplains of riverine areas.

Section 37. All ordinances in conflict with the provisions of this ordinance are repealed to the extent of such conflict.

Section 38. This ordinance shall become effective upon date of adoption.

THE FOREGOING ORDINANCE WAS ADOPTED
BY THE CITY COUNCIL OF THE CITY OF
GREENSBORO ON THE 19th DAY
OF JANUARY, 2021 AND WILL BECOME
EFFECTIVE UPON ADOPTION.

ANGELA R. LORD
CITY CLERK

APPROVED AS TO FORM


CITY ATTORNEY