

11

FLOOD DAMAGE PREVENTION

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RECODE
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DEVELOPMENT
ORDINANCE

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CHAPTER 11 FLOOD DAMAGE PREVENTION¹

11.1 STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE, & OBJECTIVES

11.1.1 STATUTORY AUTHORIZATION

A. The Legislature of the State of North Carolina has in [Chapter 143, Article 21, Part 6: Floodway Regulation](#), ~~and Chapter 153A, Article 6: Delegation and Exercise of the General Police Power of Chapter 153A; Chapter 160A, Article 8: Delegation and Exercise of the General Police Power of Chapter 160A; and Chapter 160D, Article 7: Zoning Regulation, Article 9: Regulation of Particular Uses and Areas, and Article 11: Building Code Enforcement of Chapter 160D~~ of the North Carolina General Statutes, delegated to local governmental units the authority to adopt regulations designed to promote the public health, safety, and general welfare.

B. Therefore, the Board of County Commissioners of Chatham County, North Carolina does ordain ~~as follows~~ [the findings of fact, statement of purpose, and objectives specified below](#):

11.1.2 FINDINGS OF FACT

A. The flood prone areas of Chatham County are subject to periodic inundation, which results in loss of life, [and](#) property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of 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 floodplains causing increases in flood heights and velocities; and by the occupancy in flood prone areas by uses vulnerable to floods or other hazards.

¹ This Chapter carries forward the current Flood Damage Prevention Ordinance with minor edits to formatting and grammar and to clarify the text. Proposed edits are shown in red text and include edits proposed by staff. Proposes to relocate the definitions to the end of the chapter. Updates internal cross-references (but does not show these in red text).

11.1.3 STATEMENT OF PURPOSE

It is the purpose of this Chapter to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- A. Restrict or prohibit uses ~~which~~ that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights, or velocities;
- B. Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;
- D. Control filling, grading, dredging, and all other development that may increase erosion or flood damage; and
- E. Prevent or regulate the construction of flood barriers ~~which~~ that will unnaturally divert floodwaters or ~~which~~ that may increase flood hazards to other lands.

11.1.4 OBJECTIVES

The objectives of this Chapter are to:

- A. Protect human life and health;
- B. Minimize expenditure of public money for costly flood control projects;
- C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. Minimize prolonged business losses and interruptions;
- E. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges that are located in flood prone areas;
- F. Minimize damage to private and public property due to flooding;
- G. Make flood insurance available to the community through the National Flood Insurance Program;
- H. Maintain the natural and beneficial functions of floodplains;

- I. Help maintain a stable tax base by providing for the sound use and development of flood prone areas; and
- J. Ensure that potential buyers are aware that property is in a Special Flood Hazard Area.

11.2 GENERAL PROVISIONS

11.2.1 LANDS TO WHICH THIS CHAPTER APPLIES

This Chapter ~~shall apply~~applies to all Special Flood Hazard Areas ([SFHAs](#)) within the jurisdiction of Chatham County and within the jurisdiction of any other community whose governing body agrees, by resolution, to such applicability.

11.2.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD

The ~~Special Flood Hazard Area~~[SFHAs](#) are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and [the Federal Emergency Management Agency \(FEMA\)](#) in its [Flood Insurance Study \(FIS\)](#) dated July 19th, 2022, for Chatham County and associated [Digital Flood Insurance Rate Map \(DFIRM\)](#) panels, including any digital data developed as part of the FIS, and any revision thereto, which are adopted by reference and declared a part of this Chapter; and any revision thereto.

11.2.3 ESTABLISHMENT OF FLOODPLAIN DEVELOPMENT PERMIT

A Floodplain Development Permit ~~shall be~~is required in conformance with the provisions of this Chapter prior to the commencement of any development activities within ~~Special Flood Hazard Area~~[SFHAs](#) determined in accordance with 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*.

11.2.4 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 Chapter and other applicable regulations.

11.2.5 ABROGATION & GREATER RESTRICTIONS

This Chapter ~~is not intended to~~does not repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this Chapter and

another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

11.2.6 INTERPRETATION

In the interpretation and application of this Chapter all provisions shall be:

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under State statutes.

11.2.7 WARNING & DISCLAIMER OF LIABILITY

- A. The degree of flood protection required by this Chapter 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 human-made or natural causes. This Chapter does not imply that land outside the Special Flood Hazard Area SFHAs or uses permitted within such areas will be free from flooding or flood damages.
- B. This Chapter shall does not create liability on the part of Chatham County or by any officer or employee thereof for any flood damages that result from reliance on this Chapter or any administrative decision lawfully made hereunder.

11.2.8 PENALTIES FOR VIOLATION

- A. Violation of the provisions of this Chapter or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitutes a Class 1 misdemeanor pursuant to N.C.G.S. § 143-215.58.
- B. Any person who violates this Chapter or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$100.00 or imprisoned for not more than 30 days, or both. Each day such violation continues shall be is considered a separate offense.
- C. Nothing herein contained shall in this Chapter prevents Chatham County from taking such other lawful action as is necessary to prevent or remedy any violation.

11.3 ADMINISTRATION

11.3.1 DESIGNATION OF FLOODPLAIN ADMINISTRATOR

The Chatham County Manager or ~~his~~their designee ~~is hereby appointed to~~shall administer and implement ~~the provisions of~~ this Chapter.

11.3.2 FLOODPLAIN DEVELOPMENT APPLICATION, PERMIT, & CERTIFICATION REQUIREMENTS

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 Area~~SFHAs. 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~~at a minimum, 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~~SFHA as delineated on the Flood Insurance Rate Map (FIRM) or other flood map as determined in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*, or a statement that the entire lot is within the ~~Special Flood Hazard Area~~SFHA;
 - (c) Flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*;
 - (d) The boundary of the floodway(s) or non-encroachment area(s) as determined in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*;
 - (e) The Base Flood Elevation (BFE) where provided as set forth in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*, 11.4.1: *General Standards*, 11.4.2: *Specific Standards*, or 11.4.3: *Standards for Floodplains Without Established Base Flood Elevations*;

- (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 SFHA including, but not limited to:
 - (a) Elevation in relation to NAVD 1988 of the proposed reference level (including basement) of all structures;
 - (b) Elevation in relation to NAVD 1988 to which any non-residential structure in Zone AE, A or AO will be flood-proofed; and
 - (c) Elevation in relation to NAVD 1988 to which any proposed utility systems will be elevated or flood-proofed;
 3. If flood-proofing, a Flood p-Proofing Certificate (FEMA Form 81-65) with supporting data and an operational plan that includes, but is not limited to at a minimum, installation, exercise, and maintenance of flood-proofing measures;:
 4. A Foundation Plan, drawn to scale, which shall that includes details of the proposed foundation system to ensure all provisions of this Chapter are met. These details include but are not limited to:
 - (a) The proposed method of elevation, if applicable (i.e.e.g., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls);
 - (b) Openings to facilitate equalization of hydrostatic flood forces on walls in accordance with 11.4.2E.4, when solid foundation perimeter walls are used in Zones A, AO, AE, and A1 -30;
 5. Usage details of any enclosed areas below the Regulatory Flood Protection Elevation (RFPE);:
 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 (e.g., 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 [compliance with 11.4.2G: Recreational Vehicles](#) and [11.4.2H: Temporary Non-Residential Structures](#)~~are met~~; [and](#)
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~~ [at a minimum](#):

1. A complete description of all the development to be permitted under the Floodplain Development Permit. (e.g., house, garage, pool, septic, bulkhead, cabana, pier, bridge, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials~~, etc.~~);
2. The [Special Flood Hazard Area \(SFHA\)](#) determination for the proposed development per available data specified in [11.2.2: Basis for Establishing the Areas of Special Flood Hazard](#);
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 unless the requirements of [11.4.5: Floodways and Non-Encroachment Areas](#) have been met;
7. The flood openings requirements, if in Zones A, AO, AE, or A1-30; [and](#)
8. A statement, that all materials below BFE/RFPE must be flood resistant materials.

C. **Certification Requirements.**

1. *Elevation Certificates.*

(a) An Elevation Certificate (FEMA Form 086-0-33) is required prior to the actual start of any new construction.

(1) 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.

(2) 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.

~~(a)(3)~~ Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit.

(b) 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.

(1) 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.

(2) 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.

~~(b)(3)~~ Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

2. Floodp-Proofing Certificates.

(a) If non-residential flood-proofing is used to meet the ~~regulatory flood protection elevation~~RFPE requirements, a Flood-proofing Certificate (FEMA Form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the actual start of any new construction.

(1) 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 NAVD 1988. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same.

(2) The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval.

~~(a)~~(3) 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.

(b) A final Finished Construction Floodproofing Certificate (FEMA Form 086 -0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the issuance of a Certificate of Compliance/Occupancy.

(1) 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 NAVD 1988. Floodproofing Certificate shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same.

(2) The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to Certificate of Occupancy.

~~(b)~~(3) 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 deny a Certificate of Compliance/Occupancy.

3. Manufactured Homes. If a manufactured home is placed within Zone A, AO, 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 11.4.2D: *Manufactured Homes*.

4. Watercourse Alteration or Relocation. If a watercourse is to be altered or relocated, the permit applicant shall submit the following prior to issuance of a Floodplain Development Permit:

(a) ~~a~~A description of the extent of watercourse alteration or relocation;

(b) ~~A~~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

~~4.(c)~~ ~~A~~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.~~

5. *Certification Exemptions.* The following structures, if located within Zone A, AO, AE₁ or A1 -30, are exempt from the elevation/flood-proofing certification requirements specified in 11.3.2C.1: *Elevation Certificates* and 11.3.2C.2: *Floodproofing Certificates*:

(a) Recreational Vehicles meeting requirements of 11.4.2G.1: *Temporary Placement*;

(b) Temporary Structures meeting requirements of 11.4.2H: *Temporary Non-Residential Structures*; and

(c) Accessory Structures less than 150 square feet meeting requirements of 11.4.2I: *Accessory Structure*.

D. **Determinations for Existing Buildings and Structures.** For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator, in coordination with the Building Official, shall:

1. Estimate the market value, or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made;

2. Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure;
3. Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and
4. Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the N.C. Building Code and this Chapter is required.

11.3.3 DUTIES & RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR

Duties of the ~~local Floodplain A~~ administrator ~~shall~~ include, but ~~are~~ not ~~be~~ limited to:

- A. Review all floodplain development applications and issue permits for all proposed development within ~~Special Flood Hazard Area~~ SFHAs to assure that the requirements of this Chapter have been satisfied;
- B. Advise permittees that additional Federal or State permits may be required (e.g., Wetlands, Endangered Species, Erosion and Sedimentation Control, Riparian Buffers, Mining, etc.) and require that copies of such permits ~~be~~ are provided and maintained on file with the ~~Floodplain D~~ development ~~P~~ permit;
- C. 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;
- D. Assure that maintenance is provided within ~~the an~~ altered or relocated portion of ~~said a~~ watercourse so that the flood-carrying capacity is not diminished;
- E. Prevent encroachments within floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of 11.4.5: *Floodways and Non-Encroachment Areas* are met;
- F. Obtain actual elevation (in relation to NAVD 1988) of the reference level (including basement) and all attendant utilities of all new or substantially improved structures, in accordance with 11.3.2C: *Certification Requirements*;

- G. Obtain the actual elevation (in relation to NAVD 1988) to which all new and substantially improved structures have been flood-proofed, in accordance with 11.3.2C: *Certification Requirements*;
- H. Obtain actual elevation (in relation to NAVD 1988) of all public utilities in accordance with 11.3.2C: *Certification Requirements*;
- I. When flood-proofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with 11.3.2C: *Certification Requirements* and 11.4.2C: *Non-Residential Construction*;
- J. Where interpretation is needed as to the exact location of boundaries of the areas of ~~Special Flood Hazard Area~~ *SFHAs* (for example *ee.g.*, 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~~ *Chapter*;
- K. When ~~Base Flood Elevation (BFE)~~ data has not been provided in accordance with 11.2.2: Hazard 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 11.4.3B.2, in order to administer ~~the provisions of~~ this Chapter;
- L. When ~~Base Flood Elevation (BFE)~~ data is provided but ~~no~~ *neither* floodway nor non-encroachment area data has been provided in accordance with 11.2.2: Hazard 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 Chapter;
- M. When the lowest ground elevation of a parcel or structure in a ~~Special Flood Hazard Area~~ *SFHA* is above the ~~Base Flood Elevation~~ *BFE*, 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;
- N. Permanently maintain all records pertaining to the administration of this Chapter and make these records available for public inspection;
- O. 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~~ *this Chapter* 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~~ Chatham County at any reasonable hour for the purposes of inspection or other enforcement action;

- P. Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this Chapter, 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;
- Q. 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;
- R. Make periodic inspections throughout all ~~Special Flood Hazard Area~~ SFHAs within the jurisdiction of ~~the community~~ Chatham County. 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;
- S. Follow through with corrective procedures of 11.3.4: *Corrective Procedures*;
- T. Review, provide input, and make recommendations for variance requests;
- U. Maintain a current map repository to include ~~, but not limited to,~~ historical and effective FIS Report, historical and effective FIRM, and other official flood maps and studies adopted in accordance with 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*, including any revisions thereto including Letters of Map Change, issued by FEMA;
- ~~U.V.~~ Notify State and FEMA of mapping needs; and;
- ~~W.W.~~ Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-F) and Letters of Map Revision (LOMR).

11.3.4 CORRECTIVE PROCEDURES

- A. **Violations to be Corrected.** When the ~~local~~Floodplain Administrator finds violations of applicable State and local laws, it ~~shall be his~~is their duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.
- B. **Actions in Event of Failure to Take Corrective Action.** If the owner of a building or property ~~shall~~fails to take prompt corrective action, the Floodplain Administrator shall give the owner written notice, by certified or registered mail to the owner's last known address or by personal service, stating that:
1. The building or property is in violation of ~~the UDO~~ Chapter 11: Flood Damage Prevention Ordinance;
 2. A hearing will be held before the Floodplain Administrator at a designated place and time, not later than 10 days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and;
 3. Following the hearing, the Floodplain ~~local~~ Administrator may issue such order to alter, vacate, or demolish the building; or to remove fill as appears appropriate.
- C. **Order to Take Corrective Action.** If, upon a hearing held pursuant to the notice prescribed above, the Floodplain Administrator ~~shall find~~s that the building or development is in violation of ~~the Flood Damage Prevention Ordinance~~this Chapter, they shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, not less than 60 calendar days, nor more than 180 calendar days. Where the Administrator finds ~~that~~ there is imminent danger to life or other property, they may order that corrective action be taken in such lesser period as may be feasible.
- D. **Appeal.** Any owner who has received an order to take corrective action may appeal from the order to the ~~local elected governing body~~Chatham County Board of Commissioners by giving notice of appeal in writing to the Floodplain Administrator and the Clerk to the Board of Commissioners within 10 days following issuance of the final order. In the absence of an appeal, the order of the Administrator shall be final. The Board of Commissioners ~~local governing body~~ shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

- E. **Failure to Comply with Order.** If the owner of a building or property fails to comply with an order to take corrective action from which no appeal has been made or fails to comply with an order of the [Board of Commissioners governing body](#) following an appeal, the owner shall be guilty of a Class 1 misdemeanor pursuant to N.C.G.S. [§ 143-215.58](#) and shall be punished in the discretion of the court.

11.3.5 VARIANCE PROCEDURES

- A. **Appeal Board.** The Chatham County Board of Adjustment ~~as established by Chatham County~~, hereinafter referred to as the “appeal board,” shall hear and decide requests for variances from the requirements of this Chapter.
- B. **Who May Appeal.** Any person aggrieved by the decision of the appeal board or any taxpayer may appeal such decision to the Court, as provided in [N.C.G.S. Chapter 7A of the North Carolina General Statutes](#).
- C. **Variances.** ~~The appeal board may issue~~ variances ~~may be issued~~ for:
1. The repair or rehabilitation of historic structures, upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure;
 2. Functionally dependent facilities, if determined to meet the definition ~~as stated~~ in 11.6: *Definitions*, provided provisions of 11.3.5I.2, 11.3.5I.3, and 11.3.5I.5 (*Conditions for Variances*) have been satisfied, and such facilities are protected by methods that minimize flood damages; ~~and~~;
 3. Any other type of development ~~provided if~~ it meets the requirements ~~stated~~ in this Section.
- D. **Considerations.** In passing upon such applications, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this Chapter, and the:
1. Danger that materials may be swept onto other lands to the injury of others;
 2. Danger to life and property due to flooding or erosion damage;
 3. Susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

4. Importance of the services provided by the proposed facility to the community;
 5. Necessity to the facility of a waterfront location as defined under 11.6: *Definitions* as a functionally dependent facility, where applicable;
 6. Availability of alternative locations; not subject to flooding or erosion damage; for the proposed use;
 7. Compatibility of the proposed use with existing and anticipated development;
 8. Relationship of the proposed use to the Comprehensive Plan and floodplain management program for that area;
 9. Safety of access to the property in times of flood for ordinary and emergency vehicles;
 10. Expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and;
 11. Costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.
- E. **Written Report Required.** The applicant shall submit a written report addressing each of the above factors ~~shall be submitted~~ with the application for a variance.
- F. **Conditions of Approval.** Upon consideration of the factors listed above and the purposes of this Chapter, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this Chapter.
- G. **Written Notice to Applicant Required.** Any applicant to whom a variance is granted shall be given written notice specifying the difference between the Base Flood Elevation (BFE) and the elevation to which the structure is to be built and that such construction below the ~~Base Flood Elevation~~ BFE increases risks to life and property, and that the issuance of a variance to construct a structure below the ~~Base Flood Elevation~~ BFE will result in increased premium rates for flood insurance up to \$25 per \$100 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their issuance.

- H. **Recordkeeping.** The Floodplain Administrator shall maintain the records of all appeal actions and report any variances to ~~the Federal Emergency Management Agency~~ [FEMA](#) and the State of North Carolina upon request.
- I. **Conditions for Variances.**
1. Variances shall not be issued when the variance will ~~make-cause~~ the structure ~~in violation of~~ [to violate](#) other Federal, State, or local laws, regulations, or ordinances;
 2. Variances shall not be issued within any designated floodway or non-encroachment area if the variance would result in any increase in flood levels during the base flood discharge;
 3. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief;
 4. Variances shall only be issued prior to development permit approval;
 5. Variances shall only be issued upon a:
 - (a) Showing of good and sufficient cause;
 - (b) Determination that failure to grant the variance would result in exceptional hardship; and;
 - (c) Determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, [or](#) extraordinary public expense; [create nuisance;](#) [cause fraud on or victimization of the public;](#) [or conflict with existing local laws or ordinances;](#) [and;](#)
- ~~7.6.~~ A variance shall not be issued for solid waste disposal facilities, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located in [Special Flood Hazard Area](#) [SFHAs](#).

11.4 PROVISIONS FOR FLOOD HAZARD REDUCTION

11.4.1 GENERAL STANDARDS

In all Special Flood Hazards Areas the following provisions are required:

- A. All new residential and non-residential construction and new structures shall be located outside the [Special Flood Hazard Area](#) [SFHA](#); except as otherwise provided in this Chapter;

- B. All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure;
- C. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- D. All new 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.
1. Replacements part of a substantial improvement, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall also meet the above provisions.
 2. Replacements that are for maintenance and not part of a substantial improvement; may be installed at the original location, ~~provided if~~ the addition and/or improvements only comply with the standards for new construction consistent with the code and requirements for the original structure.
- E. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
1. New water supply wells shall be located outside the SFHA ~~plain~~ unless circumstances warrant otherwise, except for new residential construction on non-conforming lots of record as provided in 11.4.2C: *Non-Residential Construction*.
 - E.2. New and replacement water supply systems that need to be located in the floodplain must be reviewed and approved by the Floodplain Administrator.
- F. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
1. New surface sewage disposal systems and repair areas shall be located outside the SFHA unless circumstances warrant otherwise, except for new residential construction on non-conforming lots of record as provided in 11.4.2C: *Non-Residential Construction*.

- ~~F.2.~~ New and replacement sanitary sewer systems that need to be located in the floodplain must be reviewed and approved by the Floodplain Administrator.
- G. On-site waste disposal systems shall be located outside the SFHA unless circumstances warrant otherwise and constructed to avoid impairment to them or contamination from them during flooding. On-site waste disposal systems that need to be located in the floodplain must be reviewed and approved by the Floodplain Administrator.
- H. Nothing in this Chapter shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this Chapter (see 11.5.4: Effective Date) and located totally or partially within the floodway, non-encroachment area, or stream setback, ~~provided if:~~
1. ~~T~~there is no additional encroachment below the regulatory flood protection elevation in the floodway, non-encroachment area, or stream setback; and ~~provided that~~
- ~~H.2.~~ Such repair, reconstruction, or replacement meets all of the other requirements of this Chapter.
- I. New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities ~~shall not be permitted~~are prohibited. 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 ~~SFHA~~ only if the structure or tank is either elevated or flood-proofed to at least the regulatory flood protection elevation and certified according to 11.3.2C: *Certification Requirements*.
- J. All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.
- K. 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.
- L. All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- M. Public or private roads and bridges serving more than three subdivision lots shall have a travel way a minimum height of three feet above the base flood elevation ~~BFE~~.

- N. When a structure is partially located in ~~Special Flood Hazard Area~~an ~~SFHA~~, the entire structure shall meet requirements or new construction and substantial improvements.
- O. When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest BFE ~~shall~~ apply.
- P. Pedestrian bridges, boardwalks, greenway trails, walkways, and canoe and boat access points may be permitted according to 11.3.2: *Floodplain Development Application, Permit, & Certification Requirements* within ~~Special Flood Hazard Area~~SFHAs and shall comply with the applicable standards of 11.4.5: *Floodways and Non-Encroachment Areas*. Pedestrian bridges and boardwalks ~~shall be~~are prohibited across the Haw River, Rocky River, and Deep River.
- Q. 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.
- R. Fill material ~~shall is~~ only ~~be~~ allowed in ~~Special Flood Hazard Area~~SFHAs when reasonably necessary for the elevation of structures in compliance with the standards of this Chapter or remediation of contaminated sites. The amount of fill material shall be the minimum necessary to meet the standards of this Chapter.

11.4.2 SPECIFIC STANDARDS

In all ~~Special Flood Hazard Area~~SFHAs where Base Flood Elevation data has been provided, as set forth in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard* or 11.4.2: *Specific Standards*, the following provisions, in addition to 11.4.1: *General Standards*, are required:

- A. **Residential Construction.** New residential construction shall be located outside the SFHA, except as provided in 11.4.2B: *Residential Construction on Nonconforming Lots of Record*, below. Substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than regulatory flood protection elevation, as defined in 11.6: *Definitions*.
- B. **Residential Construction on Nonconforming Lots of Record.** Where the owner of a non-conforming lot of record does not own sufficient land to enable the owner to conform to the provisions of 11.4.2A: *Residential Construction*, above, such lot may be used as a building site. Any new

residential construction on a non-conforming lot of record shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation (RFPE), as defined in 11.6: *Definitions*.

C. **Non-Residential Construction.**

1. 1. New non-residential construction shall be located outside of the SFHA.
2. 2. Substantial improvement of any existing commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the RFPE Regulatory Flood Protection Elevation, as defined in 11.6: *Definitions*.
3. 3. Structures located in Zones A, AE, AH, AO, and A99 may be floodproofed to the RFPE Regulatory Flood Protection Elevation in lieu of elevation, provided that if all areas of the structure, together with attendant utility and sanitary facilities, below the RFPE Regulatory Flood Protection Elevation are watertight 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.
- ~~C.4.~~ 4. For AO Zones, the floodproofing elevation shall be in accordance with 11.4.6B. A registered professional engineer or architect shall certify that the floodproofing standards of this Subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in 11.3.2C: *Certification Requirements*, along with the operational plan and the inspection and maintenance plan.

D. **Manufactured Homes.**

1. New manufactured homes shall be placed outside the SFHA. Replacement manufactured homes for manufactured homes located within Special Flood Hazard Areas SFHAs shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation RFPE, as defined in 11.6: *Definitions*.
2. 2. 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.

(a) Additionally, when the elevation would be met by an elevation of the chassis 36 inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation.

~~2.(b)~~ When the elevation of the chassis is above 36 inches in height, an engineering certification is required.

3. All enclosures or skirting below the lowest floor shall meet the requirements of 11.4.2E: *Elevated Buildings*.
4. An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home 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.

E. **Elevated Buildings.** Fully enclosed area, of new construction and substantially improved structures, ~~which that~~ is below the lowest floor:

1. 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;

(a) 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);

~~1.(b)~~ The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;

2. Shall not be temperature-controlled or conditioned;

3. Shall be constructed entirely of flood--resistant materials below the regulatory flood protection elevation;

4. Shall include, in Zones A, AO, AE, and A1-30, flood openings to automatically equalize hydrostatic flood forces on walls by 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;

(a) A minimum of two flood openings on different sides of each enclosed area subject to flooding;

- (b) The total net area of all flood openings must be at least one square inch for each square foot of enclosed area subject to flooding;
- (c) If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
- (d) The bottom of all required flood openings shall be no higher than one foot above the adjacent grade;
- (e) Flood openings may be equipped with screens, louvers, or other coverings or devices, ~~provided if~~ they permit the automatic flow of floodwaters in both directions; and
- (f) 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 as outlined above.

F. **Additions/Improvements.**

1. 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:
 - (a) 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;
 - (b) A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction, as defined in 11.6: *Definitions*.
2. 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.
3. 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:

- (a) Not a substantial improvement, then the addition and/or improvements only must comply with the standards for new construction, as defined in 11.6: *Definitions*; or:
- (b) A substantial improvement, then both the existing structure and the addition and/or improvements must comply with the standards for new construction, as defined in 11.6: *Definitions*.

4. Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during a one year period, the cumulative cost of which equals or exceeds 50% of the market value of the structure before the improvement or repair is started must comply with the standards for new construction.

(a) For each building or structure, the one year period begins on the date of the first improvement or repair of that building or structure subsequent to the effective date of this Chapter.

~~4.(b)~~ Substantial damage also means flood-related damage sustained by a structure on two 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. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The requirement does not, however, include either:

~~(a)(1)~~ Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the Building Official and that are the minimum necessary to assume safe living conditions; or:

~~(b)(c)~~ Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

G. **Recreational Vehicles.** Recreational vehicles shall either be placed temporarily or permanently, in accordance with the following:

1. *Temporary Placement.*

- (a) Be on site for fewer than 180 consecutive days; or
- (b) Be fully licensed and ready for highway use. (A recreational vehicle is ready for highway use if it is on its wheels or jacking

system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions.)

2. *Permanent Placement.* Recreational vehicles that do not meet the limitations of Temporary Placement shall meet all the requirements for new construction.

H. **Temporary Non-Residential Structures.** Prior to the issuance of a development 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 ~~applicant following information~~ shall ~~be submitted the following information~~ in writing to the Floodplain Administrator for review and written approval:

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

I. **Accessory Structure.**

~~1.~~ When accessory structures (~~e.g.~~, sheds, detached garages, ~~etc.~~) are to be placed within the ~~Special Flood Hazard Area~~ SFHA, the following criteria shall be met:

- ~~1.~~(a) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking, or restroom areas);
- ~~2.~~(b) Accessory structures shall not be temperature controlled;
- ~~3.~~(c) Accessory structures shall be designed to have low flood damage potential;

~~4.(d)~~ Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;

~~5.(e)~~ Accessory structures shall be firmly anchored in accordance with 11.4.1B;

~~6.(f)~~ All service facilities such as electrical shall be installed in accordance with 11.4.1E; and

~~7.(g)~~ Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below regulatory flood protection elevation in conformance with 11.4.2E.3.

~~2.~~ An accessory structure ~~shall be limited to with~~ a footprint of 150 square feet or less; ~~shall that~~ ~~satisfies~~ the criteria ~~in~~ 11.4.2I.1, ~~outlined~~ above; ~~and does~~ not require an elevation or flood-proofing certificate.

J. **Tanks.** When gas and liquid storage tanks are to be placed within a ~~Special Flood Hazard Area~~ ~~SFHA~~, the following criteria shall be met:

1. *Underground Tanks.* Underground tanks in ~~flood hazard areas~~ ~~SFHAs~~ 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;
2. *Above-Ground Tanks, Elevated.* Above-ground tanks in ~~flood hazard areas~~ ~~SFHAs~~ shall be elevated to or above the ~~Regulatory Flood Protection Elevation~~ ~~RPFE~~ 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~~ ~~SFHA~~;
3. *Above-Ground Tanks, Not Elevated.* Above-ground tanks that do not meet the elevation requirements of 11.4.2J.2: ~~*Above-Ground Tanks, Elevated*~~ ~~Section B (2) of this ordinance shall be~~ ~~permitted~~ ~~allowed~~ in ~~flood hazard areas~~ ~~SFHAs~~, ~~provided if~~ 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.

4. *Tank Inlets and Vents.* Tank inlets, fill openings, outlets, and vents shall be:
 - (a) 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
 - (b) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the design flood.

K. **Other Development.**

1. *Fences in Regulated Floodways and Non-Encroachment Areas.* Fences in regulated floodways and non-encroachment areas (NEAs) that have the potential to block the passage of floodwaters, such as stockade fences and wire mesh fences, shall meet the limitations of 11.4.5: *Floodways and Non-Encroachment Areas*.
2. *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 of 11.4.5: *Floodways and Non-Encroachment Areas*.
3. *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 of 11.4.5: *Floodways and Non-Encroachment Areas*.

11.4.3 STANDARDS FOR FLOODPLAINS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS

Within the ~~Special Flood Hazard Area~~ SFHAs designated as Approximate Zone A and established in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*, where no ~~Base Flood Elevations~~ (BFE) data has been provided by FEMA, the following provisions, in addition to 11.4.1: *General Standards* and 11.4.2: *Specific Standards*, shall apply:

- A. ~~No e~~Encroachments, including fill, new construction, substantial improvements, or new development ~~shall be permitted~~ are prohibited within a distance of 20 feet each side from top of 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~~RFPE shall be determined based on the following criteria:
1. When BFE data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this Chapter and shall be elevated or floodproofed in accordance with standards in 11.4.1: *General Standards* and 11.4.2: *Specific Standards*.
 2. When floodway or non-encroachment data is available from a Federal, State, or other source, all new construction and substantial improvements within floodway and non-encroachment areas shall also comply with the requirements of 11.4.2: *Specific Standards* and 11.4.5: *Floodways and Non-Encroachment Areas*.
 3. All subdivision, manufactured home park, and other development proposals shall provide BFE data if development is greater than five acres or has more than 50 lots/manufactured home sites. Such BFE data shall be adopted by reference in accordance with 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard* and utilized in implementing this Chapter.
 4. When BFE data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated or floodproofed (non-residential) to or above the ~~Regulatory Flood Protection Elevation~~RFPE, as defined in 11.6: *Definitions*. All other applicable provisions of 11.4.2: *Specific Standards* ~~shall~~ also apply.

11.4.4 STANDARDS FOR FLOODPLAINS WITH BFE BUT WITHOUT ESTABLISHED FLOODWAYS OR NON-ENCROACHMENT AREAS

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

- A. Standards outlined in 11.4.1: *General Standards* and 11.4.2: *Specific Standards*; and
- 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~~ are prohibited 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.

11.4.5 FLOODWAYS AND NON-ENCROACHMENT AREAS

A. Areas designated as floodways or non-encroachment areas are located within the ~~Special Flood Hazard Areas~~ SFHAs established in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*. 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 this Subsection, in addition to standards outlined in 11.4.1: *General Standards* and 11.4.2: *Specific Standards*, ~~shall~~ apply to all development within such areas.:

A.B. ~~No e~~ Encroachments, including fill, new construction, substantial improvements and other developments ~~shall be permitted~~ are prohibited unless ~~it has been~~ the applicant demonstrates 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.C. If 11.4.5B is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this Chapter.

C.D. ~~No m~~ Manufactured homes ~~shall be permitted~~ are prohibited, except replacement manufactured homes in an existing manufactured home park or subdivision, provided if the following provisions are met:

1. The anchoring and the elevation standards of 11.4.2D: *Manufactured Homes*; and
2. The no-~~encroachment~~ standard of 11.4.5B.

11.4.6 STANDARDS FOR AREAS OF SHALLOW FLOODING (AO ZONES)

Located within the [Special Flood Hazard Area \(SFHA\)](#)s established in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one to three feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to 11.4.1: *General Standards*, all new construction and substantial improvements shall meet the following requirements:

- A. 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 three feet, above the highest adjacent grade; or at least two feet above the highest adjacent grade plus a freeboard of three feet if no depth number is specified;
- B. Non-residential structures may, in lieu of elevation, be flood-proofed to the same level as required in 11.4.6A so that the structure, together with attendant utility and sanitary facilities, below that level [shall be](#) 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 11.3.2C: *Certification Requirements* and 11.4.2C: *Non-Residential Construction*; [and](#);
- C. Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

11.4.7 STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AH)

A. Located within the [Special Flood Hazard Area \(SFHA\)](#)s established in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard*, are areas designated as shallow flooding areas. These areas are subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are one to three feet. Base Flood Elevations [are](#) derived from detailed hydraulic analyses are shown in this zone.

— In addition to 11.4.1: *General Standards* and 11.4.2: *Specific Standards*, all new construction and substantial improvements shall [meet the following requirements](#); [provide](#)

A.B. A adequate drainage paths [shall be provided](#) around structures on slopes, to guide floodwaters around and away from proposed structures.

11.5 LEGAL STATUS PROVISIONS

11.5.1 EFFECT ON RIGHTS AND LIABILITIES UNDER THE ~~EXISTING PREVIOUS~~ FLOOD DAMAGE PREVENTION ORDINANCE

- A. This Chapter, in part, comes forward by re-enactment of some of the provisions of the Flood Damage Prevention Ordinance enacted February 17, 1997, as amended, ~~and it~~ is not the intention to repeal but rather to 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.
- B. The enactment of this Chapter ~~shall~~ does not affect any action, suit, or proceeding instituted or pending.
- C. All provisions of the Flood Damage Prevention Ordinance of Chatham County enacted on February 17, 1997, as amended, ~~which that~~ are not reenacted herein, are repealed.

11.5.2 EFFECT UPON OUTSTANDING BUILDING PERMITS

Nothing ~~herein contained shall in this Chapter~~ requires any change in the plans, construction, size, or designated use of any building, structure, or part thereof for which a building permit has been granted by the Director of Building Inspections and Central Permitting Chief Building Inspector or ~~his their~~ authorized agents before the time of passage of this Chapter; provided, however, that when construction is not begun under such outstanding permit within a period of 60 days subsequent to passage of this Chapter, construction or use shall be in conformity with the provisions of this Chapter.

11.5.3 SEVERABILITY

If any section, clause, sentence, or phrase of ~~the Ordinance~~ this Chapter is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this ~~Ordinance~~ Chapter.

11.5.4 EFFECTIVE DATE

This Chapter ~~shall become~~ became effective upon ~~its original~~ adoption on February 17, 1997.

11.5.5 ADOPTION CERTIFICATION

~~I hereby certify that this~~ This is a true and correct copy of the Flood Damage Prevention Ordinance, ~~originally as~~ adopted on the 17th day of February 1997 ~~and revised on~~ :

~~Revised:~~ October 7, 2002;

December 18, 2006;

October 16, 2017 (effective November 17, 2017);

September 24, 2018;

February 15, 2021; and

June 21, 2022.

11.6 DEFINITIONS

Unless specifically defined below, words or phrases used in this Chapter shall be interpreted so as to give them the meaning they have in common usage and to give this Chapter its most reasonable application.

Accessory Structure (Appurtenant Structure): A structure located on the same parcel of property as the principal structure, ~~and~~ the use of which is incidental to the use of the principal structure. Garages, carports, and storage sheds are common ~~urban~~ accessory structures. Pole barns, hay sheds, and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.

Addition (to an existing building): An extension or increase in the floor area or height of a building or structure.

Alteration of a Watercourse: 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 that~~ may alter, impede, ~~retard~~ or change the direction and/or velocity of the riverine flow of water during conditions of the base flood.

Appeal: A request from a review of the ~~local~~ Floodplain Administrator's interpretation of any provision of this Chapter.

Area of Shallow Flooding: A designated ~~AO-AO~~ Zone on a ~~community's~~ Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one to

three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

Area of Special Flood Hazard: See [“Special Flood Hazard Area \(SFHA\).”](#)

Basement: Any area of the building having its floor subgrade (below ground level) on all sides.

Base Flood: The flood having a 1% 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 SFHA,”](#) 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.”](#)

Best Available Data: ~~This is~~ Information provided by the U.S. Army Corps of Engineers, other government agencies, or other competence sources such as a registered surveyor or engineer, ~~which that~~ is prepared using standard accepted practices.

Building: See [“Structure.”](#)

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.

Design Flood: See [“Regulatory Flood Protection Elevation.”](#)

Development: Any ~~hu~~man-made change to improved or unimproved real estate, including, but not limited to, [construction of](#) buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

Development Activity: Any activity defined as [Development](#) ~~which that~~ 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.

Digital Flood Insurance Rate Map (DFIRM): The digital official map ~~of a~~ [community](#), issued by the Federal Emergency Management Agency (FEMA), ~~on~~ [which that delineates](#) both the [Special Flood Hazard Area SFHA](#)s and the risk premium zones applicable to ~~the community~~ [Chatham County are delineated](#).

Disposal: As defined in N.C.G.S. [§ 130A-290\(a\)\(6\)](#), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

Elevated Building: A non-basement building ~~which that~~ 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.

Existing Building and Existing Structure: Any building and/or structure for which the ~~“Start of Construction” commenced occurred~~ before ~~February 17, 1997~~ ~~the effective date of this Chapter (see 11.5.4: Effective Date)~~.

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 ~~February 17, 1997~~ ~~the effective date of this Chapter (see 11.5.4: Effective Date)~~.

Flood or Flooding: A general and temporary condition of partial or complete inundation of normally dry land areas from:

- A. The overflow of inland or tidal waters; ~~and/or~~
- B. The unusual and rapid accumulation of runoff of surface waters from any source.

Flood Boundary and Floodway Map (FBFM): An official map ~~of a community~~, issued by the Federal Emergency Management Agency, ~~on which that delineates~~ the ~~Special Flood Hazard Area~~ ~~SFHAs~~ and the floodways ~~are delineated~~. This official map is a supplement to and ~~shall be~~ used in conjunction with the Flood Insurance Rate Map (FIRM).

Flood Hazard Boundary Map (FHBM): An official map ~~of a community~~, issued by the Federal Emergency Management Agency, where the boundaries of the ~~Special Flood Hazard Area~~ ~~SFHAs~~ ~~have been~~ ~~are~~ defined as Zone A.

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 that delineates~~ both the ~~Special Flood Hazard Area~~ SFHA and the risk premium zones applicable to ~~the community~~ Chatham County ~~are delineated~~ (see also **“DFIRM”**).

Flood Insurance Study: 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.

Flood Prone Area: See **“Floodplain.”**

Floodplain: Any land area susceptible to ~~being~~ inundated ~~ion~~ed by water from any source.

Floodplain Administrator: The individual appointed to administer and enforce ~~the floodplain management regulations~~ this Chapter.

Floodplain Development Permit: Any type of permit ~~that is~~ required in conformance with ~~the provisions of~~ this Chapter, 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 Chapter and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power ~~which that~~ control development in flood-prone areas. This term ~~describes~~ includes federal, state, or local regulations, in any combination thereof, ~~which that~~ provide standards for preventing and reducing flood loss and damage.

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

Flood-Resistant Material: Any building product ~~{[material, component or system]}~~ capable of withstanding direct and prolonged contact (minimum 72 hours) 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-un~~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.

Floodway: The channel of a river or other watercourse, including the area above a bridge or culvert when applicable, 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 foot.

Floodway Encroachment Analysis: An engineering analysis of the impact ~~that~~ a proposed encroachment into a floodway or non-encroachment area is expected to have on the floodway boundaries and flood levels during the occurrence of the base flood discharge. The ~~evaluation shall be an analysis is~~ prepared by a qualified North Carolina licensed engineer using standard engineering methods and models.

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~~ BFE plus the freeboard establishes the [“Regulatory Flood Protection Elevation.”](#) [In Special Flood Hazard Areas where BFEs have been determined, this elevation is the BFE plus three feet of freeboard. In SFHAs where a BFE has not been established, this elevation must be at least five feet above the highest adjacent grade.](#)

Functionally Dependent Facility: A facility ~~which that~~ 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.

Hazardous Waste Facility: As defined in N.C.G.S. [§ 130A, Article 9](#), a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

Highest Adjacent Grade (HAG): The highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

Historic Structure: Any structure that is:

- A. ~~(a)~~ 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;
- B. ~~(b)~~ 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;
- C. ~~(c)~~ Individually listed on a local inventory of historic landmarks in communities with a "Certified Local Government (CLG) Program"; or
- ~~C.D.~~ ~~(d)~~ Certified as contributing to the historical significance of a historic district designated by a community with a "Certified Local Government (CLG) Program.

~~Certified Local Government (CLG)~~ Programs are approved by the U.S. 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.

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:

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~~ was 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~~ SFHA.

Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, ~~special flood hazard area~~ SFHA boundaries and floodway delineations, and other planimetric features.

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~~ SFHA. In order to qualify for this determination, the fill must have been permitted and placed in accordance with ~~the community's~~ Chatham County's floodplain management regulations.

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 Area~~ SFHAs. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, FEMA may issue a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

Light Duty Truck: Any motor vehicle rated at 8,500 pounds Gross Vehicular Weight Rating or less ~~which that~~ has a vehicular curb weight of 6,000 pounds or less and ~~which that~~ has a basic vehicle frontal area of 45 square feet or less as defined in 40 CFR 86.082-2 and is:

- A. Designed primarily for purposes of transportation of property or is a derivation of such a vehicle; or
- B. Designed primarily for transportation of persons and has a capacity of more than 12 persons; or
- C. Available with special features enabling off-street or off-highway operation and use.

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.

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

Manufactured Home: A structure, transportable in one or more sections, which that 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".

Manufactured Home Park or Subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

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.

NAVD 1988: North American Vertical Datum of 1988.

New Construction: Structures for which the "~~Start of Construction~~~~start of construction~~" commenced on or after the effective date of ~~the original version of the community's Flood Damage Prevention Ordinance~~~~this Chapter~~ (see 11.5.4: *Effective Date*) and includes any subsequent improvements to such structures.

Non-Conversion Agreement: A document stating that the owner will not convert or alter what has been constructed and approved. Violation of the agreement is ~~considered~~ a violation of this Chapter and, therefore, subject to the same enforcement procedures and penalties. The agreement must be filed with the recorded deed for the property. The agreement must show the clerk's or recorder's stamps and/or notations that the filing has been completed.

~~Non-Conforming~~ Lot of Record: A lot existing at the effective date of this ~~Chapter~~ (see 11.5.4: *Effective Date*) or any amendment to it (and not created for the purpose of evading the restrictions of this Chapter) that cannot meet the minimum requirements as prescribed herein.

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 foot as designated in the Flood Insurance Study report.

Post-FIRM: Construction or other development for which the "~~Start of Construction~~~~start of construction~~" occurred on or after the effective date of the initial Flood Insurance Rate Map for the area.

Pre-FIRM: Construction or other development for which the "~~Start of Construction~~~~start of construction~~" occurred before the effective date of the initial Flood Insurance Rate Map for the area.

Principally Above Ground: At least 51% of the actual cash value of the structure is above ground.

Public Safety and/or Nuisance: Anything ~~which~~~~that~~ is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

Recreational Vehicle: A vehicle ~~which that~~ is:

- A. ~~(a) b~~ Built on a single chassis;
- B. ~~(b)~~ 400 square feet or less when measured at the largest horizontal projection;
- C. ~~(c) d~~ Designed to be self-propelled or permanently towable by a light duty truck; ~~and~~;
- D. ~~(d) e~~ Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use; ~~and~~;
- A.E. ~~(e) is f~~ Fully licensed and ready for highway use.

For the purpose of this Chapter, “Tiny Homes/Houses” and Park Models that do not meet the items listed above are not considered Recreational Vehicles and should meet the standards of and be permitted as Residential Structures.

Reference Level: The top of the lowest floor for structures within ~~Special Flood Hazard Area~~ SFHAs designated as Zones A, AE, AH, AO, 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~~ is the BFE plus three feet of freeboard. In “~~Special Flood Hazard Area~~ SFHAs” where ~~no a~~ BFE has not been established, this elevation ~~shall~~ must be at least five feet above the highest adjacent grade.

Remedy a Violation: To bring the structure or other development into compliance with State or ~~community~~ local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of ~~the ordinance~~ this Chapter or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

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

Salvage Yard: Any non-residential property used for the storage, collection, and/or recycling of any type of equipment, ~~and~~ including, but not limited to, vehicles, appliances, and related machinery.

Solid Waste Disposal Facility: As defined in N.C.G.S. 130A-290(a)(35), any facility involved in the disposal of solid waste.

Solid Waste Disposal Site: As defined in [N.C.G.S. 130A-290\(a\)\(36\)](#), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

Special Flood Hazard Area (SFHA): The land in the floodplain subject to a 1% or greater chance of being flooded in any given year, as determined in 11.2.2: *Basis for Establishing the Areas of Special Flood Hazard* of this [ordinanceChapter](#).

Start of Construction: Includes substantial improvement, and means the date the building permit was issued, ~~provided if~~ the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or 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 slabs or footings, installation of piles, 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.

Structure: ~~Means, for floodplain management purposes, a~~ walled and roofed building; a manufactured home; or a gas, liquid, or liquefied gas storage ~~than~~ that is principally above ground.

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 50% of the market value of the structure before the damage occurred. See [definition of "Substantial Improvement."](#)

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 50% of the market value of the structure before the ~~"Start of Construction"~~ [start of construction](#) of the improvement. This term includes structures, ~~which that~~ have incurred ["Substantial Damage"](#), regardless of the actual repair work performed. The term does not, however, include either:

~~A. (1) a~~ Any correction of existing violations of State or local health, sanitary, or safety code specifications ~~which that~~ have been identified by the

local code enforcement official and ~~which that~~ are the minimum necessary to assure safe living conditions; or;

~~A.B. _____ (2) a~~Any alteration of a historic structure, ~~provided that if~~ the alteration will not preclude the structure's continued designation as a historic structure and the alteration is approved by variance issued pursuant to 11.3.5: *Variance Procedures*.

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.

Variance: A grant of relief to a person from the requirements of this Chapter.

Violation: The failure of a structure or other development to be fully compliant with ~~the community's floodplain management regulationsthis Chapter~~. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in 11.3: *Administration* and 11.4: *Provisions for Flood Hazard Reduction* is presumed to be in violation until such time as that documentation is provided.

Water Surface Elevation (WSE): The height, in relation to mean sea level, of floods of various magnitudes and frequencies in the floodplains of [Riverine](#) areas.

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.