

ARTICLE XVI

FLOOD HAZARD AREAS, DRAINAGE, STORM WATER MANAGEMENT

Part I. Flood Hazard Areas

Section 251 Statutory Authorization, Findings of Fact, Purpose and Objectives.

(a) Statutory Authorization. The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3, 5, and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare.

Therefore, the Town Council of Edenton, North Carolina, does ordain as follows:

(b) Findings of Fact

- (1) The flood prone areas within the jurisdiction of Edenton are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- (2) 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 of uses vulnerable to floods or other hazards.

(c) Purpose. It is the purpose of this Section 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:

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

(d) Objectives. The objectives of this Section are to:

- (1) Protect human life and health;
- (2) Minimize expenditure of public money for costly flood control projects;
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) Minimize prolonged business interruptions;
- (5) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in flood prone areas;
- (6) Help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas; and
- (7) Ensure that potential home buyers are notified that property is in a Special Flood Hazard Area.

Section 252 Definitions.

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

- (1) **Accessory Structure (Appurtenant Structure).** A structure which is 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.
- (2) **Addition (to an existing building).** An extension or increase in the floor area or height of a building or structure.
- (3) **Appeal.** A request for a review of the Floodplain Administrator's interpretation of any provision of this Ordinance.
- (4) **Area of Shallow Flooding.** A designated AO or VO Zone on a community's Flood Insurance Rate Map (FIRM) with base flood depths 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.
- (5) **Area of Special Flood Hazard.** See 'Special Flood Hazard Area (SFHA)'.
- (6) **Base Flood.** The flood having a one percent chance of being equaled or exceeded in any given year.
- (7) **Base Flood Elevation (BFE).** A determination, as published in the Flood Insurance Study, of the water surface elevations of the base flood. When the

BFE has not been provided in a “Special Flood Hazard Area”, it may be obtained from engineering studies available from a Federal, State, or other source using FEMA approved engineering methodologies. This elevation, when combined with the “Freeboard”, establishes the “Regulatory Flood Protection Elevation”.

(8) **Basement.** Any area of the building having its floor sub grade (below ground level) on all sides.

(9) **Breakaway Wall.** A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

(10) **Building.** See ‘Structure’.

(11) **CAMA.** North Carolina’s Coastal Area Management Act. This act, along with the Dredge and Fill Law and the federal Coastal Zone Management Act, is managed through North Carolina Department of Environment and Natural Resources’ (NCDENR’s) Division of Coastal Management (DCM).

(12) **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.

(13) **Coastal High Hazard Area.** A Special Flood Hazard Area extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on a FIRM, or other adopted flood map as determined in Article 3, Section B of this code, as Zone VE or V1-30.

(14) **Development.** Any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

(15) **Disposal.** Defined as in NCGS 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 ground waters.

(16) **Elevated Building.** A non-basement building which has its reference level raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

(17) **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.

(18) **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) is pre-FIRM. was completed before the initial effective date of the floodplain management regulations adopted by the community.

(19) **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, (b) The unusual and rapid accumulation of runoff of surface waters from any source.

(20) **Flood Boundary and Floodway Map (FBFM).** An official map of a community, issued by the Federal Emergency Management Agency, on which the Special Flood Hazard Areas 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).

(21) **Flood Hazard Boundary Map (FHBM).** An official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been defined as Zone A.

(22) **Flood Insurance.** The insurance coverage provided under the National Flood Insurance Program.

(23) **Flood Insurance Rate Map (FIRM).** An official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and risk premium zones applicable to the community.

(24) **Flood Insurance Study (FIS).** An examination, evaluation, and determination of flood hazard areas, corresponding water surface elevations (if appropriate), flood insurance risk zones, and other flood data in a community issued by FEMA. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.

(25) **Floodplain or Flood Prone Area.** Any land area susceptible to being inundated by water from any source.

(26) **Floodplain Administrator.** The individual appointed to administer and enforce the floodplain management regulations.

(27) **Floodplain Development Permit.** Any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

(28) **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.

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

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

(31) **Flood Prone Area.** See 'Floodplain'.

(32) **Floodway.** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. Floodways are located within areas of special flood hazard as defined herein.

(33) **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.

(34) **Floor.** See 'Lowest Floor'.

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

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

(37) **Hazardous Waste Management Facility.** A facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste as defined in NCGS Article 9 of Chapter 130A.

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

(39) **Historic Structure.** Any structure that is:

- 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. 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. individually listed on a local inventory of historic landmarks in communities with a "Certified Local Government (CLG) Program"; or
- d. certified as contributing to the historical significance of a historic district designated by a community with a "Certified Local Government (CLG) Program".
- e. Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

(40) **Lowest Adjacent Grade (LAG).** The elevation of the ground, sidewalk, patio slab, or deck support immediately next to the building after completion of the building. For Zone A and AO, use the natural grade elevation prior to construction.

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

(42) **Manufactured Home.** A structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term 'manufactured home' does not include a 'recreational vehicle'.

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

(44) **Market Value.** The building value, excluding the land (as agreed to between a willing buyer and seller), as established by what the local real estate market will bear. Market value can be established by independent certified appraisal; replacement cost depreciated by age of building (Actual Cash Value), or adjusted assessed values.

(45) **Mean Sea Level.** For purposes of the NFIP, the National Geodetic

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

(46) **New Construction.** Structures for which the 'start of construction' commenced on or after the effective date of the original version of this Section and includes any subsequent improvements to such structures.

(47) **Nonconforming Building or Development.** Any legally existing building or development which fails to comply with the current provisions of this Ordinance.

(48) **Non-Encroachment Area.** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

(49) **Obstruction.** Includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.

(50) **Post-FIRM.** Construction or other development which started on or after January 1, 1975 or on or after the effective date of the initial Flood Insurance Rate Map for the area, whichever is later.

(51) **Pre-FIRM.** Construction or other development which started before January 1, 1975 or before the effective date of the initial Flood Insurance Rate Map for the area, whichever is later.

(52) **Primary Frontal Dune.** A continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and over-topping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

(53) **Principally Above Ground.** At least 51% of the actual cash value of the structure is above ground.

(54) **Public Safety and/or Nuisance.** Anything which 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.

(55) **Recreational Vehicle (RV).** A vehicle which is: (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projection; (c) designed to be self-propelled or permanently towable by a light duty truck; and (d) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

(56) **Reference Level.** The top of the lowest floor for structures within Special Flood Hazard Areas designated as Zone A1-A30, AE, A, A99 or AO .

(57) **Regulatory Flood Protection Elevation.** The elevation to which all structures and other development located within the Special Flood Hazard Areas must be elevated or flood proofed, if non-residential. Within areas where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE plus two feet of freeboard. In areas where no BFE has been established, all structures and other development must be elevated or flood proofed, if non-residential, to two feet above the highest adjacent grade.

(58) **Remedy a Violation.** To bring the structure or other development into compliance with State or local floodplain management regulations, or, if this is not possible, to reduce the impact 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 this Ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

(59) **Repetitive Loss.** Flood-related damages sustained by a structure on two separate occasions during any 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

(60) **Retrofitting.** Measures, such as flood proofing, elevation, construction of small levees, and other modifications, taken on an existing building or its yard to protect it from flood damage.

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

(62) **Salvage Yard.** Property used for the storage, collection, and/or recycling of any type of equipment whatsoever, whether industrial or noncommercial, and including but not limited to vehicles, appliances and related machinery.

(63) **Special Flood Hazard Area (SFHA).** The land in the floodplain subject to a one (1%) percent or greater chance of being flooded in any given year as determined in subsection D 2. This area shall comprise the Flood Hazard Overlay District established in Section 4.04 B.

(64) **Solid Waste Disposal Facility.** Any facility involved in the disposal of solid waste, as defined in NCGS 130A-290(a) (35).

(65) **Solid Waste Disposal Site.** Defined as in NCGS 130A-290(a) (36), any

place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

(66) **Start of Construction.** Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the state 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.

(67) **Structure.** A walled and roofed building, a manufactured home, a gas or liquid storage tank that is principally above ground.

(68) **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 percent of the market value of the structure before the damage occurred. See definition of 'substantial improvement'. *Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.*

(69) **Substantial Improvement.** Any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one year period whereby the cost of which equals or exceeds 50 percent of the market value of the structure before the 'start of construction' of the improvement. This term includes structures which have incurred 'substantial damage', regardless of the actual repair work performed. The term does not, however, include either: (a) any correction of existing violations of State or Community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or, (b) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

(70) **Variance.** A grant of relief to a person from the requirements of this Ordinance which permits construction in a manner otherwise prohibited by this Ordinance where specific enforcement would result in unnecessary hardship.

(71) **Violation.** The failure of a structure or other development to be fully compliant with the County's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this Section is presumed to be in violation until such time as that documentation is provided.

(72) **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.

(73) **Water Surface Elevation (WSE).** The height, in relation to mean sea level, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

Section 253 General Provisions.

(a) **Applicability.** The provisions of this Section shall apply to all Special Flood Hazard Areas within the planning and zoning jurisdiction of the Town of Edenton.

(b) **Basis for Establishing the Special Flood Hazard Areas.** The Special Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its Flood Insurance Study (FIS) and its accompanying Flood Insurance Rate Maps (FIRM), for the Town of Edenton dated October 16, 2008 which are adopted by reference and declared to be a part of this ordinance. *In addition, upon annexation to the Town of Edenton or inclusion in the Extra-Territorial Jurisdiction (ETJ), the Special Flood Hazard Areas identified by the Federal Emergency Management Agency (FEMA) and/or produced under the Cooperating Technical State agreement between the State of North Carolina and FEMA as stated above, for the Unincorporated Areas of Chowan County, with accompanying maps and other supporting data are adopted by reference and declared to be a part of this ordinance.*

(c) **Establishment of Floodplain Development Permit.** Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas determined in accordance with the provisions of Section 253 (b) of this ordinance.

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

(e) **Abrogation and Greater Restrictions.** This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(f) **Interpretation.** In the interpretation and application of this ordinance, all provisions shall be:

- (1) considered as minimum requirements;
- (2) liberally construed in favor of the governing body; and
- (3) deemed neither to limit nor repeal any other powers granted under State statutes.

- (g) **Warning and Disclaimer of Liability.** The degree of flood protection required by this Section is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Actual flood heights may be increased by man-made or natural causes. This Section does not imply that land outside the Special Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damages. This Section shall not create liability on the part of Chowan County or by any officer or employee thereof for any flood damages that result from reliance on this Section or any administrative decision lawfully made hereunder.
- (h) **Penalties for Violation.** Violation of the provisions of this ordinance 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 constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$50.00 or imprisoned for not more than thirty (30) days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent Chowan County from taking such other lawful action as is necessary to prevent or remedy any violation.

Section 254 Administration.

(a) **Designation of Floodplain Administrator.** The Building Inspector, hereinafter referred to as the "Floodplain Administrator", is hereby appointed to administer and implement the provisions of this ordinance.

(b) **Plans and Application Requirements.** Application for a Floodplain Development Permit shall be made to the Floodplain Administrator prior to any development activities located within Special Flood Hazard Areas which must be presented to the Floodplain Administrator:

- (1) Plot plans and sites plans shall include, but shall not be limited to, the following details of the proposed floodplain development:
 - a. The nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, the location of utility systems, proposed grading/pavement areas, fill materials, storage areas, drainage facilities, and other proposed development;
 - b. The boundary of the Special Flood Hazard Area as delineated on the FIRM or other flood map as determined in Section 253 (b) or a statement that the entire lot is within the Special Flood Hazard Area;

- c. Flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Section 253 (b);
- d. The boundary of the floodway(s) or non-encroachment area(s) as determined in Section 253 (b);
- e. The Base Flood Elevation (BFE) where provided as set forth in Section 253 (b); Section 254 (e) (12) and (e) (13); Section 255 (b) (10); Section 255 (c); and Section 255 (a) 15;
- f. The old and new location of any watercourse that will be altered or relocated as a result of proposed development;
- g. The boundary and effective date of COBRA zone or OPA, if applicable.

(2) Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area including but not limited to:

- a. Elevation in relation to mean sea level of the proposed reference level (including basement) of all structures;
- b. Elevation in relation to mean sea level to which any non-residential structure will be flood-proofed;
- c. Elevation in relation to mean sea level to which any proposed utility systems will be elevated or flood proofed;

(3) If flood proofing, a Floodproofing Certificate (FEMA Form 81-65) with supporting data, an operational plan, and an inspection and maintenance plan that include, but are not limited to, installation, exercise, and maintenance of flood proofing measures.

(4) A Foundation Plan drawn to scale which shall include details of the proposed foundation system to ensure all provisions of this Section met. These details include but are not limited to:

- a. Proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/piers);
- b. Openings to facilitate automatic equalization of hydrostatic flood forces on walls in accordance with Section 255 (b) (4) (c) (i) when solid foundation perimeter walls are used in Zones A, AO, AE, and A1-30.
- c. In Coastal High Hazard Areas, the following must also be submitted prior to permit issuance. Specific requirements are

detailed in Section 255 (e) and Section 254 (b) (4) (b).

- (i) V-zone Certification form with accompanying plans and specifications verifying the engineered structure and breakaway wall designs as set forth in Section 254 (b) (4) (b);
- (ii) Plans for lattice work or decorative screening, if applicable. Plans for any structures that will have lattice work or decorative screening must be submitted to the Zoning Administrator for approval prior to permit issuance;
- (iii) Plans for non-structural fill, if applicable. Plans for placement of any non-structural fill must be submitted to the Zoning Administrator for approval prior to permit issuance. Requirements are detailed in Section 255 (f) (8).

(5) Usage details of any enclosed space areas below the lowest floor.

(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) Certification that all other Local, State and Federal permits required prior to permit issuance (i.e. Wetlands, Erosion and Sedimentation Control, CAMA, Riparian Buffers, Mining, etc.)

(8) If permit is issued for placement of Recreational Vehicles and/or Temporary Structures, documentation to ensure Section 255 (b) (7) and (8) are met.

(9) If a watercourse is proposed to be altered and/or relocated, a description of the extent of watercourse alteration or relocation; 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.

(c) Permit Data Requirements. The following information shall be provided on the approved permit to ensure compliance with this Section:

(1) A description of the development to be permitted under the floodplain development permit.

(2) The Special Flood Hazard Area determination for the proposed development per available data specified in Section 253 (b).

(3) The regulatory flood protection elevation required for the reference level and all attendant utilities.

(4) The regulatory flood protection elevation required for the protection of all public utilities.

- (5) All certification submittal requirements with timelines.
- (6) State that no fill material shall encroach into the floodway or non-encroachment area of any watercourse, if applicable.
- (7) If in an A, AO, AE or A1-30 zone, specify the minimum foundation opening requirements.
- (8) State limitations of below BFE enclosure uses (if applicable). (i.e., Parking, Building Access and Limited Storage only).
- (9) If in a VE or V1-30 zone, state that there shall be no alteration of sand dunes which would increase potential flood damage.
- (10) If in a VE or V1-30 zone, state that there shall be no fill used as structural support.

(d) Certification Requirements

- (1) An Elevation Certificate (FEMA Form 81-31) or Floodproofing Certificate (FEMA Form 81-65) is required after the reference level is completed. Within seven (7) calendar days of establishment of the reference level elevation, or flood proofing, by whatever construction means, whichever is applicable, it shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, or flood proofed elevation, whichever is applicable in relation to mean sea level. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When flood proofing is utilized, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work done within the seven (7) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the certification or failure to make said corrections required shall be cause to issue a stop-work order for the project.
- (2) A Final As-Built Elevation Certificate (FEMA Form 81-31) or Floodproofing Certificate (FEMA Form 81-65) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation or flood proofed elevation of the reference level and all attendant utilities. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When flood proofing is utilized, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be

corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make said corrections required shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

- (3) Floodproofing Certificate. If non-residential flood proofing is used to meet the Regulatory Flood Protection Elevation requirements, a Floodproofing Certificate (FEMA Form 81-65), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the flood proofed design elevation of the reference level and all attendant utilities, in relation to mean sea level. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.
- (4) A V-Zone/Breakaway Wall Certification is required prior to issuance of a permit within coastal high hazard areas. It shall be the duty of the permit applicant to submit to the Floodplain ~~Zoning~~ Administrator said certification to ensure the design standards of this Section are met. A registered professional engineer or architect shall develop or review the structural design, plans, and specifications for construction and certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of this Section. This certification is not a substitute for an Elevation Certificate.
- (5) If a manufactured home is placed within an A, AO, AE, or A1-30 zone and the elevation of the chassis is above 36 inches in height, an engineered foundation certification is required per Section 255 (b) (3).
- (6) If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; 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 showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a permit.
- (7) Certification Exemptions. The following structures, if located within A, AO, AE or A1-30 zones, are exempt from the elevation/flood proofing certification requirements specified in items 1. and 2. above:
 - a. Recreational Vehicles meeting requirements of Section 255 (b) (7) (a);

- b. Temporary Structures meeting requirements of Section 255 (b) (8), and
- c. Accessory Structures less than 150 square feet meeting requirements of Section 255 (b) (9).

(e) Duties of the Floodplain Administrator. The duties of the Floodplain Administrator as they relate to the administration and enforcement of the provisions of Section 7.02 shall include, but not be limited to:

- (1) Review all applications and issue permits for all proposed development within flood prone areas to assure that the requirements of this Section have been satisfied.
- (2) Review all proposed development within Special Flood Hazard Areas to assure that all necessary Local, State and Federal permits have been received.
- (3) Notify adjacent communities and the North Carolina Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- (5) Prevent encroachments within floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Section 255 (e) are met.
- (6) Obtain actual elevation (in relation to mean sea level) of the reference level (including basement) of all attendant utilities of all new or substantially improved structures, in accordance with Section 254 (d).
- (7) Obtain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures and all utilities have been flood proofed, in accordance with Section 254 (d).
- (8) Obtain actual elevation (in relation to mean sea level) of all public utilities, in accordance with Section 254 (d).
- (9) When flood proofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with Section 254 (d) and Section 255 (b) (2).
- (10) Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary

shall be given a reasonable opportunity to appeal the interpretation as provided in this Section.

- (11) When Base Flood Elevation (BFE) data has not been provided in accordance with Section 253 (b), obtain, review, and reasonably utilize any Base Flood Elevation (BFE) data, along with floodway data and/or non-encroachment area data available from a Federal, State, or other source, including data developed pursuant to Section 255 (b) (10) d., in order to administer the provisions of this Section.
- (12) When Base Flood Elevation (BFE) data is provided but no floodway nor non-encroachment area data has been provided in accordance with Section 253 (b), obtain, review, and reasonably utilize any floodway data, and/or non-encroachment area data available from a Federal, State, or other source in order to administer the provisions of this Section.
- (13) When the exact location of boundaries of the Special Flood Hazard Areas conflict with the current, natural topography information at the site, the property owner may apply and be approved for a Letter of Map Amendment (LOMA) by FEMA. A copy of the Letter of Map Amendment issued from FEMA will be maintained by the Floodplain Administrator in the permit file.
- (14) Permanently maintain all records that pertain to the administration of this Section and make these records available for public inspection recognizing that such information may be subject to the Privacy Act of 1974, as amended.
- (15) Make on-site inspections of work in progress. As the work pursuant to a 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 this Section and the terms of the permit. In exercising this power, the Floodplain Administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action.
- (16) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this Section, the Floodplain Administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.
- (17) Revocation of permits as required. The Floodplain Administrator may revoke and require the return of the 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 permit mistakenly issued in violation of an applicable State or local law may also be revoked.

- (18) Make periodic inspections throughout all special flood hazard areas within the jurisdiction of Chowan County. The Floodplain Administrator and each member of the Department of Planning and Inspections shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of Chowan County at any reasonable hour for the purposes of inspection or other enforcement action.
- (19) Follow through with corrective procedures of Section 254 (f).
- (20) Review, provide input, and make recommendations for variance requests.
- (21) Maintain a current map repository to include, but not limited to, the FIS Report, FIRM and other official flood maps and studies adopted in accordance with the provisions of Section 253 of this ordinance, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.
- (22) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-Fs) and Letters of Map Revision (LOMRs).

(f) **Corrective Procedures.** Violations of the provisions of this Section shall be subject to the enforcement procedures, remedies, and penalties delineated in Article VII, Enforcement and Review.

(g) **Variance Procedures.** Requests for variances from the provisions of Section 138 (b) shall be reviewed by the Board of Adjustment in accordance with the procedures delineated in Article V, Appeals, Variances, and Interpretations.

(1) The Board of Adjustment as established by Chowan County, hereinafter referred to as the "appeal board", shall hear and decide requests for variances from the requirements of this ordinance.

(2) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.

(3) Variances may be issued for:

- a. 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;
- b. functionally dependent facilities if determined to meet the definition as stated in Section 252 of this ordinance, provided provisions of Section 254 (g) (9) (b), (c), and (e) have been

satisfied, and such facilities are protected by methods that minimize flood damages during the base flood and create no additional threats to public safety; or

- c. any other type of development, provided it meets the requirements of this Section.

(4) In passing upon variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

- a. the danger that materials may be swept onto other lands to the injury of others;
- b. the danger to life and property due to flooding or erosion damage;
- c. the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- d. the importance of the services provided by the proposed facility to the community;
- e. the necessity to the facility of a waterfront location as defined under Section 252 of this ordinance as a functionally dependent facility, where applicable;
- f. the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- g. the compatibility of the proposed use with existing and anticipated development;
- h. the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- i. the safety of access to the property in times of flood for ordinary and emergency vehicles;
- j. the 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
- k. the 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.

(5) A written report addressing each of the above factors shall be submitted with the application for a variance.

- (6) Upon consideration of the factors listed above and the purposes of this ordinance, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this ordinance.
- (7) 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 BFE increases risks to life and property, and that the issuance of a variance to construct a structure below the 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.
- (8) The Floodplain Administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency and the State of North Carolina upon request.
- (9) Conditions for Variances:
- a. Variances shall not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.
 - b. 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.
 - c. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - d. Variances shall only be issued prior to development permit approval.
 - e. Variances shall only be issued upon:
 - (i) a showing of good and sufficient cause;
 - (ii) a determination that failure to grant the variance would result in exceptional hardship; and
 - (iii) a 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.
- (10) A variance may be issued for solid waste disposal facilities or sites, hazardous waste management facilities, salvage yards, and chemical storage

facilities that are located in Special Flood Hazard Areas provided that all of the following conditions are met.

- a. The use serves a critical need in the community.
- b. No feasible location exists for the use outside the Special Flood Hazard Area.
- c. The reference level of any structure is elevated or flood proofed to at least the Regulatory Flood Protection Elevation.
- d. The use complies with all other applicable Federal, State and local laws.
- e. The County has notified the Secretary of the North Carolina Department of Crime Control and Public Safety of its intention to grant a variance at least thirty (30) calendar days prior to granting the variance.

Section 255 Provisions for Flood Hazard Reduction.

(a) General Standards. In all Special Flood Hazard Areas the following provisions are required:

- (1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
- (2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- (3) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damages.
- (4) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. These include but are not limited to HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric meter panels/boxes, utility/cable boxes, appliances (i.e., washers, dryers, refrigerator, etc.), hot water heaters, electric outlets/switches.
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
- (7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (8) Any alteration, repair, reconstruction, or improvements to a structure which is in

compliance with the provisions of this Section, shall meet the requirements of 'new construction' as contained in this Section.

- (9) Non-conforming structures or other development may not be enlarged, replaced, or rebuilt unless such enlargement or reconstruction is accomplished in conformance with the provisions of this Section. Provided, however, nothing in this Section shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this Ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided that the bulk of the building or structure below the regulatory flood protection elevation in the floodway, non-encroachment area, or stream setback is not increased and provided that such repair, reconstruction, or replacement meets all of the other requirements of this Section.
- (10) New solid waste disposal facilities, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted in Special Flood Hazard Areas. 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 only if the structure or tank is either elevated or flood proofed to at least the regulatory flood protection elevation and certified according to Section 254 (d).
- (11) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.
- (12) All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- (13) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- (14) All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
- (15) When a structure is partially located in a Special Flood Hazard Area, the entire structure shall meet the requirements for new construction and substantial improvements.
- (16) 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 Base Flood Elevation (BFE) shall apply.

(b) Specific Standards for Flood Hazard Reduction. In all Special Flood Hazard Areas where Base Flood Elevation (BFE) data has been provided, as set forth in Section 253 (b) or Sections 254 (e) (11) and (12), the following provisions are required:

- (1) Residential Construction. New construction or substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation.
- (2) Non-Residential Construction. New construction or substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation. Structures located in A, AO, AE and A1-30 Zones may be flood proofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the structure below the required 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. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in subsection N along with the operational plan and the inspection and maintenance plan.
- (3) Manufactured Homes.
 - a. New or replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation.
 - b. Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement in accordance with the State of North Carolina Regulations for Manufactured/Mobile Homes, 2004 Edition, and any revision thereto adopted by the Commissioner of Insurance pursuant to NCGS §143-143.15 or a certified engineered foundation. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or other foundation elements of at least equivalent strength. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.
 - c. All foundation enclosures or skirting shall be in accordance with Section 255 (b) (4).
 - d. 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 Zoning Administrator and the local Emergency Management coordinator.
- (4) Elevated Buildings. Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:

- a. shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;
- b. shall be constructed entirely of flood resistant materials at least to the Regulatory Flood Protection Elevation;
- c. In A, AO, AE, and A1-30 zones, measures for complying with this requirement shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. To meet this requirement, the foundation must either be certified by a professional engineer or architect or meet the following minimum design criteria:
 - (i) Provide a minimum of two openings on different sides of each enclosed area subject to flooding.
 - (ii) The total net area of all openings must be at least one (1) square inch for each square foot of each enclosed area subject to flooding.
 - (iii) If a building has more than one enclosed area, each area must have openings on exterior walls to allow floodwater to directly enter;
 - (iv) The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade; and,
 - (v) Openings may be equipped with screens, louvers, or other opening coverings or devices provided they permit the automatic flow of floodwaters in both directions.
 - (vi) Foundation enclosures:
 - 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.

(5) In Coastal High Hazard Areas (VE and V1-30 zones),

- a. Breakaway walls, lattice work or decorative screening shall be allowed below the regulatory flood protection elevation provided

they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action, without damage to the structural integrity of the building on which they are to be used and provided the following design specifications are met:

- b. Material shall consist of open wood lattice or mesh insect screening; or
- c. Breakaway walls meeting the following design specifications:
 - (i) Design safe loading resistance of each wall shall be not less than 10 nor more than 20 pounds per square foot; or
 - (ii) If more than 20 pounds per square foot, a registered professional engineer or architect shall certify that the design wall collapse would result from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). The water loading values used shall be those associated with the base flood. The wind loading values used shall be those required by the North Carolina State Building Code.

(6) Additions/Improvements.

- a. Additions and/or improvements to pre-FIRM structures whereas the addition and/or improvements in combination with any interior modifications to the existing structure
 - (i) are 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.
 - (ii) are a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- b. Additions to post-FIRM structures with no modifications to the existing structure shall require only the addition to comply with the standards for new construction.
- c. Additions and/or improvements to post-FIRM structures whereas the addition and/or improvements in combination with any interior modifications to the existing structure

- (i) are not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction.
- (ii) are a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- (iii) Where a fire wall or independent perimeter load-bearing wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and only the addition must comply with the standards for new construction.

(7) Recreational Vehicles. Recreation vehicles placed on sites within a Special Flood Hazard Area shall either:

- a. be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and has no permanently attached additions); or
- b. meet all the requirements for new construction, including anchoring and elevation requirements of Section 254 (b), Section 255 (a) and Section 255 (b) (3).

(8) Temporary Structures. Prior to the issuance of a permit for a temporary structure, the following requirements must be met:

- a. Applicants must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane or flash flood warning notification. The plan must include the following information:
 - (i) a specified time period for which the temporary use will be permitted. Time specified may not exceed three (3) months, renewable up to one (1) year;
 - (ii) the name, address, and phone number of the individual responsible for the removal of the temporary structure;
 - (iii) the time frame prior to the event at which a structure will be removed (i.e. minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
 - (iv) a copy of the contract or other suitable instrument with a trucking company to insure the availability of removal equipment when needed; and
 - (v) designation, accompanied by documentation, of a location outside the Special Flood Hazard Area to which the temporary structure will be moved.

The above information shall be submitted in writing to the Zoning Administrator for review and written approval

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

- a. Accessory structures shall not be used for human habitation (including work, sleeping, living, cooking or restroom areas);
- b. Accessory Structures shall not be temperature-controlled;
- c. Accessory structures shall be designed to have low flood damage potential;
- d. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
- e. Accessory structures shall be firmly anchored in accordance with Section 255 (a) (1)
- f. All service facilities such as electrical and heating equipment shall be installed in accordance with Section 255 (a) (4). and
- g. Openings to relieve hydrostatic pressure during a flood shall be provided below regulatory flood protection elevation in conformance with Section 255 (b) (4) (c).

An accessory structure with a footprint less than 150 square feet does not require an elevation or flood proofing certificate. Elevation or flood proofing certifications are required for all other accessory structures in accordance with Section 254 (d).

(10) Subdivisions, Manufactured Home Parks, and Major Developments. All subdivision, manufactured home park and major development proposals located within Special Flood Hazard Areas shall:

- a. Be consistent with the need to minimize flood damage;
- b. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
- c. Have adequate drainage provided to reduce exposure to flood hazards; and;
- d. Have Base Flood Elevation (BFE) data provided if development is greater than the lesser of five (5) acres or fifty (50) lots/manufactured home sites. Such Base Flood Elevation (BFE) data shall be adopted by reference per Section 253 (b) to be utilized in implementing this Section.

(c) Standards for Floodplains without Established Base Flood Elevations. Within the Special Flood Hazard Areas established in Section 253 (b), where no Base Flood Elevation (BFE) data has been provided, the following provisions shall apply:

- (1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty 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.
- (2) The BFE used in determining the Regulatory Flood Protection Elevation shall be determined based on the following criteria:
 - a. When Base Flood Elevation (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 ordinance and shall be elevated or flood proofed in accordance with standards in Section 255 (a) and (b).
 - b. 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 Sections 255 (a) and (e).
 - c. All subdivision, manufactured home park and other development proposals shall provide Base Flood Elevation (BFE) data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such Base Flood Elevation (BFE) data shall be adopted by reference in accordance with Section 253 and utilized in implementing this ordinance.
 - d. When Base Flood Elevation (BFE) data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated or flood proofed (nonresidential) to or above the Regulatory Flood Protection Elevation, as defined in Section 252. All other applicable provisions of Section 255 (b) shall also apply.

(d) Standards for Riverine Floodplains with Base Flood Elevations but without Established Floodways or Non-encroachment Areas. Along rivers and streams where Base Flood Elevation (BFE) data is provided by FEMA or is available from another source but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

- (1) Standards of Sections 255 (a) and (b); and
- (2) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional

engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community.

(e) Floodways and Non-encroachment Areas. Located within the Special Flood Hazard Areas established in Section 253 (b) are areas designated as floodways or non-encroachment areas. 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 shall apply to all development within such areas:

- (1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless:
 - a. it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood. Such certification and technical data shall be presented to the Floodplain Administrator prior to issuance of permit.
 - b. 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.
- (2) If Section 255 (e) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this Section.
- (3) No manufactured homes shall be permitted, except replacement manufactured homes in an existing manufactured home park or subdivision provided the following provisions are met:
 - a. The anchoring and the elevation standards of Section 255 (b) (3); and
 - b. The no encroachment standards of subsection Section 255 (e) (1) are met.

(f) Coastal High Hazard Areas (VE and V1-30 Zones). Coastal High Hazard Areas are Special Flood Hazard Areas established in Section 253 (b) and designated as Zones VE or V1-30. These areas have special flood hazards associated with high velocity waters from surges and, therefore, in addition to meeting all provisions in this Section, the following provisions shall apply to all new construction, substantial improvements and all other development:

- (1) All development shall:
 - a. Be located landward of the reach of mean high tide;

- b. Be located landward of the first line of stable natural vegetation, and
 - c. Comply with all applicable CAMA setback requirements.
- (2) All development shall be elevated so that the bottom of the lowest supporting horizontal member (excluding pilings or columns) is located no lower than the regulatory flood protection elevation. Floodproofing may not be utilized on any structures in Coastal High Hazard Areas to satisfy the regulatory flood protection elevation requirements.
- (3) All space below the regulatory flood protection elevation shall be open so as not to impede the flow of water.
- (4) Open wood lattice work or mesh insect screening may be permitted below the regulatory flood protection elevation for aesthetic purposes only and must be designed to wash away in the event of abnormal wave action and in accordance with Section 255 (b) (5). Design plans shall be submitted in accordance with Section 254 (b) (4) (c).
- (5) All development shall be securely anchored on pilings or columns.
- (6) All pilings and columns and the attached structures shall be anchored to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.
- (7) A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions contained in Section 254 (b) and Section 255 (f) (4), (6), and (8).
- (8) There shall be no fill used as structural support. Non-compacted fill may be used around the perimeter of a building for landscaping/ aesthetic purposes provided the fill will wash out from storm surge, thereby rendering the building free of obstruction prior to generating excessive loading forces, ramping effects, or wave deflection. Design plans shall be submitted in accordance with Section 254 (b) (4) (c). The Floodplain Administrator may approve design plans for landscaping/aesthetic fill only after the applicant has provided an analysis by an engineer, architect, and/or soil scientist which demonstrates that the following factors have been fully considered:
- a. Particle composition of fill material does not have a tendency for excessive natural compaction;
 - b. Volume and distribution of fill will not cause wave deflection to adjacent properties; and,
 - c. Slope of fill will not cause wave run-up or ramping.
- (9) There shall be no alteration of sand dunes which would increase potential flood damage.

- (10) No manufactured homes shall be permitted except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring and elevation standards are in compliance with this section of code.
- (11) Recreational vehicles shall be permitted in Coastal High Hazard Areas provided that they meet the Recreational Vehicle criteria of Section 255 (b) (7) (a) and the Temporary Structure provisions of Section 255 (b) (8).

Section 256 Legal Status Provisions.

(a) Effect on Rights and Liabilities under the Former Flood Damage Prevention Ordinance. This Section in part comes forward by re-enactment of some of the provisions of the Flood Damage Prevention Ordinance enacted September 14, 1987 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. The enactment of this Section shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of Chowan County enacted on September 14, 1987, as amended, which are not reenacted herein are repealed.

(b) Effect upon Outstanding Building Permits. Nothing herein contained shall require any change in the plans, construction, size or designated use of any development or any part thereof for which a permit has been granted by the Floodplain Administrator or his authorized agents before the time of passage of this Section; provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to passage of this Section or any revision thereto, construction or use shall be in conformity with the provisions of this Section.

(c) Effective Date. This ordinance shall become effective October 16, 2008.

I hereby certify that this is a true and correct copy of the flood damage prevention ordinance as adopted by the Town Council of the Town of Edenton, North Carolina, on the 8th day of October, 2008.

WITNESS my hand and the official seal of the Town of Edenton, this the 8th day of October, 2008.

(signature)

Sections 257 through 269 Reserved.

Part II. Drainage, Erosion Control, Storm Water Management

Section 263 Natural Drainage System Utilized to Extent Feasible.

(a) To the extent practicable, all development shall conform to the natural contours of the land and natural and pre-existing man-made drainage ways shall remain undisturbed.

(b) To the extent practicable, lot boundaries shall be made to coincide with natural and pre-existing man-made drainage ways within subdivisions to avoid the creation of lots that can be built upon only by altering such drainage ways.

Section 264 Developments Must Drain Properly.

(a) All developments shall be provided with a drainage system that is adequate to prevent the undue retention of surface water on the development site. Surface water shall not be regarded as unduly retained if:

- (1) The retention results from a technique, practice or device deliberately installed as part of an approved sedimentation or storm water runoff control plan; or
- (2) The retention is not substantially different in location or degree than that experienced by the development site in its pre-development stage, unless such retention presents a danger to health or safety.

(b) No surface water may be channeled or directed into a sanitary sewer.

(c) Whenever practicable, the drainage system of a development shall coordinate with and connect to the drainage systems or drainage ways on surrounding properties or streets.

(d) Use of drainage swales rather than curb and gutter and storm sewers in subdivisions is provided for in Section 216. Private roads and access ways within unsubdivided developments shall utilize curb and gutter and storm drains to provide adequate drainage if the grade of such roads or access ways is too steep to provide drainage in another manner or if other sufficient reasons exist to require such construction.

(e) Construction specifications for drainage swales, curbs and gutters, and storm drains are contained in Appendix C.

Section 265 Storm Water Management.

(a) All developments shall be constructed and maintained so that adjacent properties are not unreasonably burdened with surface waters as a result of such developments. More specifically:

- (1) No development may be constructed or maintained so that such development unreasonably impedes the natural flow of water from higher adjacent properties across such development, thereby unreasonably causing substantial damage to such higher adjacent properties; and

- (2) No development may be constructed or maintained so that surface waters from such development are unreasonably collected and channeled onto lower adjacent properties at such locations or at such volumes as to cause substantial damage to such lower adjacent properties.

(b) All developments shall contain an adequate drainage system for the property drainage of all surface water. No new construction and no substantial improvements of a structure may take place unless the design of a drainage system is reviewed by the administrator to assure that:

- (1) No surface water shall be channeled or directed into a sanitary sewer.
- (2) Where feasible, the subdivider shall connect to an existing storm drainage system.
- (3) Where an existing storm drainage system cannot feasibly be extended to the subdivision, a surface drainage system shall be designed to protect the proposed development from water damage.
- (4) Surface drainage courses shall have side slopes of not less than the natural angle of repose for the soil but not less than a 3 to 1 slope in which the course is constructed and courses shall be of sufficient size to accommodate the drainage area without flooding the adjacent properties.

Section 266 Sedimentation and Erosion Control.

(a) No zoning, special use, or conditional use permit may be issued and final plat approval for subdivisions may not be given with respect to any development that would cause land disturbing activity requiring prior approval of an erosion and sedimentation control plan by the N.C. Sedimentation Control Commission under NCGS 113A-57(4) unless the commission has certified to the town, either that:

- (1) An erosion control plan has been submitted to and approved by the commission; or
- (2) The commission has examined the preliminary plans for the development and it reasonably appears that an erosion control plan can be approved upon submission by the developer of more detailed construction or design drawings. However, in this case, construction of the development may not begin (and no building permits may be issued) until the commission approves the erosion control plan.

(b) For purposes of this section, "land disturbing activity" means any use of the land by any person in residential, industrial, educational, institutional or commercial development, highway and road construction and maintenance that results in a change in the natural cover or topography and that may cause or contribute to sedimentation except activities that are exempt under NCGS 113A-52(6)). Sedimentation occurs whenever solid particulate matter, mineral or organic, is transported by water, air, gravity, or ice from the site of its origin.

(c) All developments shall maintain a 25-foot vegetated buffer along each side of a stream or natural drainageway. The 25-foot distance shall be measured from the top edge of the streambank or drainageway. If no drainageway bank exists, the centerline of the drainageway swale shall be used for measurement purposes. The vegetated buffer shall remain undisturbed except as may be necessary to accommodate roads (provided they cross at a horizontal angle of at least sixty degrees), utilities and their easements, pedestrian paths and their easements and approved water-dependent uses such as marinas, docks, piers, boat ramps and bridges. In cases in which a 25-foot buffer may not be practical nor desirable, the Board of Adjustment may consider a special exception if it finds that an acceptable alternative means of handling stormwater can be achieved without maintaining a 25-foot vegetated buffer.

(Amended October 16, 2008.)

Sections 267 through 269 Reserved.