

Chapter 34 - FLOOD DAMAGE PREVENTION^[1]

Footnotes:

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Editor's note—The flood damage prevention ordinance, as set out herein by Ord. No. 20-09, § 5(Exh. C), adopted Sept. 21, 2009, shall become effective October 2, 2009.

ARTICLE I. - IN GENERAL

Sec. 34-1. - 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.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-2. - Findings of fact.

- (a) The flood prone areas within the jurisdiction of the City of Brevard 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.
- (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 of uses vulnerable to floods or other hazards.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-3. - Statement of purpose.

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

- (1) Restrict or prohibit uses 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;
- (2) Require that uses vulnerable to floods, including facilities that 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 all other development that may increase erosion or flood damage; and

- (5) Prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards to other lands.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-4. - Objectives.

The objectives of this chapter are to:

- (1) Protect human life, safety, 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 losses and interruptions;
- (5) Minimize damage to public facilities and utilities (i.e. water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges) that are located in flood prone areas;
- (6) Help maintain a stable tax base by providing for the sound use and development of flood prone areas; and
- (7) Ensure that potential buyers are aware that property is in a special flood hazard area.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-5. - 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) means 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) means an extension or increase in the floor area or height of a building or structure.

Appeal means a request for a review of the administrator's interpretation of any provision of this chapter.

Area of shallow flooding means a designated Zone AO on a community's flood insurance rate map (FIRM) with base flood depths determined to be from one to three feet. These areas are located 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 means any area of the building having its floor subgrade (below ground level) on all sides.

Base flood means the flood having a one percent chance of being equaled or exceeded in any given year.

Base flood elevation (BFE) means a determination of the water surface elevations of the base flood as published in the flood insurance study. When the BFE has not been provided in a "special flood hazard area," it may be obtained from engineering studies available from a federal, state, or other source using

FEMA approved engineering methodologies. This elevation, when combined with the "freeboard," establishes the "regulatory flood protection elevation."

Building. See "Structure."

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

Critical facility means a structure used to house a function that is especially vulnerable or essential to the community. Uses include but are not limited to: child and adult daycare facilities, nursing homes, schools, hospitals, fire, police and medic facilities and other uses as determined by the administrator.

Development means 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.

Development activity means any activity defined as development which will necessitate a floodplain development permit.

Disposal means, as defined 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 groundwaters.

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

Encroachment means the advance or infringement of uses, fill, excavation, buildings, structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

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

Flood or flooding means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) The overflow of inland or tidal waters; and/or
- (2) The unusual and rapid accumulation of runoff of surface waters from any source.

Flood boundary and floodway map (FBFM) means 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).

Flood hazard boundary map (FHBM) means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the special flood hazard areas have been defined as Zone A.

Flood insurance means the insurance coverage provided under the National Flood Insurance Program.

Flood insurance rate map (FIRM) means an official map of a community, issued by the Federal Emergency Management Agency, on which both the special flood hazard areas and the risk premium zones applicable to the community are delineated.

Flood insurance study (FIS) means 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 means any land area susceptible to being inundated by water from any source.

Floodplain administrator means the individual appointed to administer and enforce the floodplain management regulations.

Floodplain development permit means 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 means 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 means this chapter and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

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

Floodway means 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.

Floodway encroachment analysis means an engineering analysis of the impact a proposed encroachment into a floodway or nonencroachment is expected to have on the floodway boundaries, base flood elevations, and floodway surcharge elevations. The evaluation shall be prepared by a qualified North Carolina licensed engineer using standard engineering methods and models.

Flood zone means 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 means 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, blockage of bridge openings, and the hydrological effect of urbanization of the watershed. The base flood elevation plus the freeboard establishes the "regulatory flood protection elevation."

Functionally dependent facility means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, limited to 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 management facility means, as defined in NCGS 130A, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

Highest adjacent grade (HAG) means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

Historic structure means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) Certified or preliminarily determined by the Secretary of the 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;

- (3) Individually listed on a local inventory of historic landmarks in communities with a "Certified Local Government (CLG) Program;" or
- (4) 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.

Income capitalization means a valuation method appraisers and real estate investors use to estimate the value of income producing real estate. It is based upon the premise of anticipation i.e., the expectation of future benefits. This method of valuation relates value to two things: (1) the "market rent" that a property can be expected to earn; and (2) the "reversion" (resale) when a property is sold.

Letter of map change (LOMC) means 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:

- (1) Letter of map amendment (LOMA): An amendment based on technical data showing that a property was incorrectly included in a designated special flood hazard area. 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.
- (2) Letter of map revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.
- (3) 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 base flood elevation and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community's floodplain management regulations.
- (4) Conditional letter of map revision (CLOMR): A formal review and comment as to whether a proposed flood protection project or other project complies with the minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective flood insurance rate map or flood insurance study; upon submission and approval of certified as-built documentation, a letter of map revision may be issued by FEMA to revise the effective FIRM.

Lowest adjacent grade (LAG) means the elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

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

Manufactured home means 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."

Manufactured home park or subdivision means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Market value means 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. The income capitalization approach of appraisal shall not be utilized to determine market value.

North American Vertical Datum of 1988 (NAVD 88) means the vertical control datum established in 1991 by the minimum-constraint adjustment of the Canadian-Mexican-U.S. leveling observations. It held fixed the height of the primary tidal bench mark, referenced to the new International Great Lakes Datum of 1985 local mean sea level height value, at Father Point/Rimouski, Quebec, Canada. Additional tidal bench mark elevations were not used due to the demonstrated variations in sea surface topography, i.e., the fact that mean sea level is not the same equipotential surface at all tidal bench marks.

New construction means structures for which the "start of construction" commenced on or after the effective date of the initial floodplain management regulations and includes any subsequent improvements to such structures.

No adverse impact floodplain management means providing appropriate regulatory oversight that the action of one property owner or community does not adversely affect the flood risks for other properties or communities as measured by increased flood stages, increased flood velocity, increased flows, or the increased potential for erosion and sedimentation, or any other impact deemed important by the City of Brevard, unless the impact is mitigated as provided for in a community or watershed based plan.

Non-encroachment area means 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.

No rise requirement means that, prior to undertaking any development or other activity within the special flood hazard area or floodway, the person desiring to do so shall demonstrate through an engineering study that such activity will cause no increase in the base flood elevation of the base flood. "No rise" shall also mean an increase in the base flood elevation due to development in the special flood hazard area where such rise and any change in the geographic extent of the special flood hazard area or floodway is strictly confined within property or properties upon which the project creating the rise is located or the property of a consenting owner, where such property is protected from future development by means of a conservation easement or other, similar restriction that is acceptable to the administrator. The "no rise requirement" as a standard for development efforts shall not be varied as per section 34-25 of this chapter.

Post-FIRM means construction or other development for which the "start of construction" occurred on or after the effective date of the initial flood insurance rate map.

Pre-FIRM means construction or other development for which the "start of construction" occurred before the effective date of the initial flood insurance rate map.

Principally above ground means that at least 51 percent of the actual cash value of the structure is above ground.

Public safety and/or nuisance means 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.

Recreational vehicle (RV) means a vehicle, which is:

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

Reference level means the bottom of the lowest horizontal structural member of the lowest floor and any ductwork, excluding the foundation system, for structures within all special flood hazard areas.

Regulatory flood protection elevation means the "base flood elevation" plus the "freeboard." In "special flood hazard areas" where base flood elevations (BFEs) have been determined, this elevation shall be the BFE plus two feet of freeboard. In "special flood hazard areas" where no BFE has been established, this elevation shall be at least three feet above the highest adjacent grade.

Remedy a violation means to bring the structure or other development into compliance with state and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the chapter or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development.

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

Salvage yard means 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 means any facility involved in the disposal of solid waste, as defined in NCGS 130A-290(a)(35).

Solid waste disposal site means, as defined in NCGS 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) means the land in the floodplain subject to a one percent or greater chance of being flooded in any given year, as determined in section 34-7 of this chapter.

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

Structure means any walled and roofed building or other physical object, whether temporary or permanent, that is deigned for human habitation or to uphold, house, contain, or bear other objects or materials. Examples of structures include but are not limited to permanently affixed signs, swimming pools, houses, telecommunication towers, manufactured homes, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

Substantial damage means damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to the 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 ten-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.

Substantial improvement means any combination of repairs, reconstruction, rehabilitation, addition, or other modification or improvement of a structure taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the structure as of the date the improvement was permitted (or, in the absence of any permit, before the date of start of construction of the improvement). In the absence of any information pertaining to market value, the administrator shall utilize the assessed value of the structure. This term includes structures which have incurred substantial damage, regardless of the actual repair work performed. The term does not, however, include either of the following:

- (1) Any correction of existing violations of state, city, or county health, sanitary, or safety code specifications which have been identified by the administrator or other authorized official of the

State of North Carolina or Transylvania County, and which are the minimum necessary to assure safe living conditions; or

- (2) Any alteration of a historic structure provided it meets the following criteria: such alteration is necessary to maintain, retain or restore historically significant characteristics; the alteration will not preclude the structure's continued designation as a historic structure; and the alteration does not result in the expansion of a non-conforming condition.

Variance means a grant of relief from the requirements of this chapter.

Violation means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles II and III is presumed to be in violation until such time as that documentation is provided.

Water surface elevation (WSE) means the height, in relation to NAVD 88, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

Watercourse means 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.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09; Ord. No. [2015-29](#), § 01(Exh. A), 10-19-15)

Sec. 34-6. - Lands to which this chapter applies.

This chapter shall apply to all special flood hazard areas within the jurisdiction, including extra-territorial jurisdictions (ETJs) if applicable, of the City of Brevard and within the jurisdiction of any other community whose governing body agrees, by resolution, to such applicability.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-7. - 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 Transylvania County dated October 2, 2009, which are adopted by reference and declared to be a part of this chapter. It should be noted that the initial flood insurance rate maps for the City of Brevard were adopted by Brevard City Council on September 29, 1978. The initial flood insurance rate maps for Transylvania County, of which the City of Brevard is the County Seat, were adopted by the Transylvania County Board of Commissioners on January 2, 1980.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-8. - Establishment of floodplain development permit.

A floodplain development permit shall be required in conformance with the provisions of this chapter prior to the commencement of any development activities within special flood hazard areas determined in accordance with the provisions of section 34-7 of this chapter.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-9. - 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.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-10. - Abrogation and greater restrictions.

This chapter is not intended to 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.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-11. - Interpretation.

In the interpretation and application of this chapter, 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.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-12. - Warning and disclaimer of liability.

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 man-made or natural causes. This chapter 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 chapter shall not create liability on the part of the City of Brevard 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.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-13. - Penalties for violation.

Penalties and remedies for violations 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 floodplain development permits are contained in Chapter 18 of the City of Brevard Unified Development Ordinance. Further, nothing therein contained shall prevent the City of Brevard from taking any other such lawful action as is necessary to prevent or remedy any violation.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Secs. 34-14—34-20. - Reserved.

ARTICLE II. - ADMINISTRATION

Sec. 34-21. - Designation of floodplain administrator.

The City of Brevard Planning Director, or his/her designee, shall serve as the floodplain administrator, hereinafter referred to as the "administrator", and is hereby appointed to administer and implement the provisions of this chapter.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09; Ord. No. [2015-29](#), § 01(Exh. A), 10-19-15)

Sec. 34-22. - Floodplain development application, permit and certification requirements.

- (a) *Application requirements.* Application for a floodplain development permit shall be made to the administrator prior to any development activities located within special flood hazard areas. The following items shall be presented to the administrator to apply for a floodplain development permit:
- (1) A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:
 - a. The nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;
 - b. The boundary of the special flood hazard area as delineated on the FIRM or other flood map as determined in section 34-7, 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 34-7;
 - d. The boundary of the floodway(s) or non-encroachment area(s) as determined in section 34-7;
 - e. The base flood elevation (BFE) where provided as set forth in section 34-7, section 34-23, or section 34-34;
 - f. The old and new location of any watercourse that will be altered or relocated as a result of proposed development;
 - g. The certification of the plot plan by a registered land surveyor or professional engineer if required by the administrator or this chapter;
 - h. Other information as may be required by the administrator.
 - (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 NAVD 88 of the proposed reference level (including basement) of all structures;
 - b. Elevation in relation to NAVD 88 to which any non-residential structure in Zone AE, A or AO will be floodproofed; and
 - c. Elevation in relation to NAVD 88 to which any proposed utility systems will be elevated or floodproofed.
 - (3) If floodproofing, a floodproofing certificate (FEMA Form 086-0-34 (07/12)) with supporting data, an operational plan, and an inspection and maintenance plan that includes, but is not limited to, installation, exercise, and maintenance of floodproofing measures.
 - (4) A foundation plan, drawn to scale,, which shall include details of the proposed foundation system to ensure all provisions of this chapter are met. These details include but are not limited to:

- a. The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls);
 - b. Openings to facilitate automatic equalization of hydrostatic flood forces on walls in accordance with subsection 34-32(4)c. when solid foundation perimeter walls are used in Zones A, AO, AE, and A1-30.
 - (5) Usage details of any enclosed 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 floodplain development permit issuance have been received.
 - (8) Documentation for placement of recreational vehicles and/or temporary structures, when applicable, to ensure that the provisions of subsections 34-32(6) and (7) of this chapter are met.
 - (9) A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.
- (b) *Permit requirements.* The floodplain development permit shall include, but not be limited to:
- (1) A description of the development to be permitted under the floodplain development permit.
 - (2) The special flood hazard area determination for the proposed development in accordance with available data specified in section 34-7.
 - (3) The regulatory flood protection elevation required for the reference level and all attendant utilities.
 - (4) The regulatory flood protection elevation required for the protection of all public utilities.
 - (5) All certification submittal requirements with timelines.
 - (6) A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse, as applicable.
 - (7) The flood openings requirements, if in Zones A, AO, AE or A1-30.
 - (8) A statement by the property owner that no uses below BFE other than parking and storage shall be employed.
 - (9) Other information as may be required by the administrator.
- (c) *Certification requirements.*
- (1) Elevation certificates.
 - a. An elevation certificate (FEMA Form 086-0-33 (7/12)) is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the administrator a certification of the elevation of the reference level, in relation to NAVD 88. The administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit.
 - b. An elevation certificate (FEMA Form 086-0-33 (7/12)) is required after the reference level is established. Within seven calendar days of establishment of the reference level elevation, it shall be the duty of the permit holder to submit to the administrator a certification of the elevation of the reference level, in relation to NAVD 88. Any work done within the seven-day calendar period and prior to submission of the certification shall be at the permit

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

- c. A final as-built elevation certificate (FEMA Form 086-0-33 (7/12)) 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 administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to certificate of compliance/occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a certificate of compliance/occupancy.
- (2) Certification of no adverse impact. When deemed appropriate by the administrator and as per section 34-33 of this chapter, development endeavors within the City of Brevard's Special Flood Hazard Areas shall be required to certify, utilizing a professional engineer licensed in the State of North Carolina, that the development endeavors of one property owner or community do not adversely affect flood risks for other properties or communities as measured by increased flood stages, increased flood velocity, increased flows, the increased potential for erosion and sedimentation, or any other impact deemed important or as specified by the City of Brevard, unless the impact is mitigated as provided for in a community or watershed based plan. This certification shall employ industry standards for hydraulic and hydrological analysis to determine no adverse impact and all data shall be provided in hard-copy and digitally for review and corroboration by the city's engineer or any governmental review agency acceptable to the City of Brevard. See section 34-33 of this chapter.
 - (3) Floodproofing certificate. If nonresidential floodproofing is used to meet the regulatory flood protection elevation requirements, a floodproofing certificate (FEMA Form 086-0-34 (7/12)), 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 administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 88. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The 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) 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 in accordance with the provisions of subsection 34-32(3)b.
 - (5) If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.
 - (6) Certification exemptions. The following structures, if located within Zone A, AO, AE or A1-30, are exempt from the elevation/floodproofing certification requirements specified in items (c)(1) and (2) of this subsection:
 - a. Recreational vehicles meeting requirements of subsection 34-32(6)a.;

- b. Temporary structures meeting requirements of subsection 34-32(7); and
- c. Accessory structures less than 150 square feet meeting requirements of subsection 34-32(8).

(Ord. No. 20-09, § 5(Exh. C), 9-21-09; Ord. No. [2015-29](#), § 01(Exh. A), 10-19-15)

Sec. 34-23. - Duties and responsibilities of the administrator.

The administrator shall perform, but not be limited to, the following duties:

- (1) Review all floodplain development applications and issue permits for all proposed development within special flood hazard areas to assure that the requirements of this chapter 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, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
- (3) Notify adjacent communities and the North Carolina Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).
- (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is maintained.
- (5) Prevent encroachments into floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of section 34-36 are met.
- (6) Obtain actual elevation (in relation to NAVD 88) of the reference level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with subsection 34-22(c).
- (7) Obtain actual elevation (in relation to NAVD 88) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with the provisions of subsection 34-22(c).
- (8) Obtain actual elevation (in relation to NAVD 88) of all public utilities in accordance with the provisions of subsection 34-22(c).
- (9) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the provisions of subsection 34-22(c) and subsection 34-32(2).
- (10) Where interpretation is needed as to the exact location of boundaries of the special flood hazard areas, floodways, or non-encroachment areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- (11) When base flood elevation (BFE) data has not been provided in accordance with section 34-7, 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 subsection 34-34(2)b., in order to administer the provisions of this chapter.
- (12) When base flood elevation (BFE) data is provided but no floodway or non-encroachment area data has been provided in accordance with section 34-7, 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.

- (13) When the lowest floor and the lowest adjacent grade of a structure or the lowest ground elevation of a parcel in a special flood hazard area is above the base flood elevation, advise the property owner of the option to apply for a letter of map amendment (LOMA) from FEMA, and maintain a copy of all letter of map amendment (LOMA) issued by FEMA in the floodplain development permit file.
- (14) Permanently maintain all records that pertain to the administration of this chapter 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 floodplain development permit progresses, the administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the 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 chapter, the administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing or in charge of 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. Penalties for the violation of a stop-work order are provided in Chapter 18 of the City of Brevard Unified Development Ordinance. Further, nothing therein contained shall prevent the City of Brevard from taking any other such lawful action as is necessary to prevent or remedy any violation.
- (17) Revoke floodplain development permits as required. The 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, and specifications; for refusal or failure to comply with the requirements of state or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable state or local law may also be revoked.
- (18) Make periodic inspections throughout the special flood hazard areas within the jurisdiction of the community. The administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.
- (19) Follow through with corrective procedures of section 34-24.
- (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 section 34-7 of this chapter, including any revisions thereto including letters of map change, issued by FEMA. Notify state and FEMA of mapping needs.
- (22) Coordinate revisions to FIS reports and FIRMs, including letters of map revision based on fill (LOMR-F) and letters of map revision (LOMR).
- (23) All costs associated with the administration of this chapter, including but not limited to the review of engineering analysis for the benefit of the city and the costs associated with map revisions, shall be borne by the applicant, developer or property owner, as appropriate.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09; Ord. No. [2015-29](#), § 01(Exh. A), 10-19-15)

Sec. 34-24. - Corrective procedures.

- (a) *Violations to be corrected.* When the administrator finds violations of applicable state and local laws, it shall be his or her 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 fail to take prompt corrective action, the administrator shall give the owner written notice, by certified or registered mail to the owner's last known address or by personal service, stating:
 - (1) That the building or property is in violation of the floodplain management regulations;
 - (2) That a hearing will be held before the administrator at a designated place and time, not later than ten 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) That following the hearing, the administrator may issue an order to alter, vacate, or demolish the building; or to remove fill as applicable.
- (c) *Order to take corrective action.* If, upon a hearing held pursuant to the notice prescribed above, the administrator shall find that the building or development is in violation of the flood damage prevention ordinance, 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 the order to the local elected governing body by giving notice of appeal in writing to the administrator and the clerk within ten days following issuance of the final order. In the absence of an appeal, the order of the administrator shall be final. The City of Brevard Board of Adjustment shall hear an appeal within a reasonable time and as provided in Chapter 16, Section 16.12 of the City of Brevard Unified Development Ordinance.
- (e) *Failure to comply with order.* If the owner of a building or property fails to comply with an order to take corrective action for which no appeal has been made or fails to comply with an order of the governing body following an appeal, the owner shall be subject to remedies and penalties as provided for in Chapter 18 of the City of Brevard Unified Development Ordinance.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-25. - Variance procedures.

- (a) The Board of Adjustment as for the City of Brevard shall hear and decide requests for variances from the requirements of this chapter.
- (b) Any person aggrieved by the decision of the board of adjustment may appeal such decision to the court, as provided in Chapter 7A of the North Carolina General Statutes.
- (c) Variances from this chapter shall be considered under the variance procedures of chapter 16 of the City of Brevard Unified Development Ordinance, as well as the requirements of this chapter. In addition to the required public hearing notification procedures for variances, the administrator shall provide notification of a public hearing by means of first-class mail to the owners of all properties lying within or adjacent to the special flood hazard area within the same cross section area (as indicated in the flood insurance study), as well as the owners of all properties lying within or adjacent to the special flood hazard area within each cross section area located immediately upstream and downstream of the cross section area in which the proposed development is located. If such variance is granted, the administrator shall provide the same property owners with notification that a variance has been granted that may cause adverse impact deriving from increased flood velocities, a rise in the base flood elevation, or other impacts.

- (d) Provided the requirements of this chapter have been satisfied and such facilities are protected by methods that minimize flood damages, a variance may be granted to facilitate the construction of functionally dependant facilities.
- (e) In passing upon variances, the board of adjustment shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this chapter, and:
 - (1) The danger that materials may be swept onto other lands to the injury of others;
 - (2) The danger to life and property due to flooding or erosion damage;
 - (3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - (4) The importance of the services provided by the proposed facility to the community;
 - (5) The necessity to the facility of a waterfront location as defined under section 34-5 of this chapter as a functionally dependent facility, where applicable;
 - (6) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (7) The compatibility of the proposed use with existing and anticipated development;
 - (8) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - (9) The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (10) 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
 - (11) 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.
- (f) Conditions for variances:
 - (1) Variances shall not be issued when the variance will make the structure in violation of other federal, state, or local laws, regulations, or ordinances.
 - (2) The "no rise" and "no adverse impact" requirements of this chapter shall not be varied.
 - (3) A variance shall not be issued that would permit an encroachment within any floodway or other non-encroachment area.
 - (4) A variance shall not be issued that would permit the establishment, expansion, or continuation of a use or structure within a special flood hazard area, floodway, non-encroachment area, or other surface water protection area that is prohibited by this chapter. A variance shall not be issued for solid waste disposal facilities, hazardous waste management facilities, salvage yards, chemical storage facilities, junkyards, and critical facilities.
 - (5) A variance shall not be issued that would vary any requirement of this chapter pertaining to the floodproofing or elevation of any structure, or the prevention of floatation or lateral movement of any structure.
 - (6) A variance shall not be issued that would permit the channelization, straightening of a stream or other water body channel, or the establishment of a levy, dyke, berm or other similar structure, or the clearance of protected vegetation for any purpose other than to permit reasonable use of the property.
 - (7) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (8) Variances shall only be issued prior to development permit approval.

- (9) Variances shall only be issued upon:
- a. A showing of good and sufficient cause;
 - b. A determination that failure to grant the variance would result in exceptional hardship; and
 - c. 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.
- (g) A written report addressing each of the above factors shall be submitted with the application for a variance.
- (h) Upon consideration of the factors listed above and the purposes of this chapter, the board of adjustment may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this chapter.
- (i) 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 increases risks to life and property, and that the issuance of a variance to construct a structure below the base flood elevation will result in increased premium rates for flood insurance up to \$25.00 per \$100.00 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their issuance.
- (j) The board of adjustment shall notify the Secretary of the North Carolina Department of Crime Control and Public Safety and the property owners who received notification of the hearing of its intention to grant a variance at least 30 calendar days prior to granting the variance. The notification shall contain evidence, presented at the hearing that addresses the factors listed in subsections (h) and (i), above as well as the findings and considerations listed in Chapter 16 of the UDO.
- (k) The administrator shall maintain the records of all variances and appeal actions and report any variances to the Federal Emergency Management Agency and the State of North Carolina upon request.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09; Ord. No. [2015-29](#), § 01(Exh. A), 10-19-15)

Secs. 34-26—34-30. - Reserved.

ARTICLE III. - PROVISIONS FOR FLOOD HAZARD REDUCTION

Sec. 34-31. - General standards.

In all special flood hazard areas the following provisions are required:

- (1) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.
- (2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- (3) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.
- (4) 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 to the regulatory flood protection elevation. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures,

ductwork, electric/gas meter panels/boxes, utility/cable boxes, hot water heaters, and electric outlets/switches.

- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
- (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 chapter, shall meet the requirements of "new construction" as contained in this chapter.
- (9) Nothing in this chapter shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this chapter and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the regulatory flood protection elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this chapter.
- (10) 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 floodproofed to at least the regulatory flood protection elevation and certified in accordance with the provisions of subsection 34-22(c).
- (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) Newly created parcels of land shall have adequate developable area outside of the special flood hazard area, except parcels created and restricted for the purpose of recreation, agriculture, conservation or open space protection. Fill and other encroachments shall not be permitted within the SFHA of any parcel created after the date of enactment of this chapter, except upon successful demonstration of no rise and no adverse impact.
- (16) 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.
- (17) 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 shall apply.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09; Ord. No. [2015-29](#), § 01(Exh. A), 10-19-15)

Sec. 34-32. - Specific standards.

In all special flood hazard areas where base flood elevation (BFE) data has been provided, as set forth in section 34-7, or section 34-34, the following provisions, in addition to the provisions of section 34-31, are required:

- (1) *Residential construction.* New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in section 34-5 of this chapter.
- (2) *Nonresidential construction.* New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in section 34-5 of this chapter. Structures located in A, AE, AO, and A1-30 Zones may be floodproofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the regulatory flood protection elevation are 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. For AO Zones, the floodproofing elevation shall be in accordance with subsection 34-37(2). A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the administrator as set forth in subsection 34-22(c), along with the operational, maintenance and inspections plans.
- (3) *Manufactured homes.*
 - a. New and replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation, as defined in section 34-5 of this chapter.
 - b. Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by certified engineered foundation system, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the 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. When the elevation of the chassis is above 36 inches in height, an engineering certification is required.
 - c. All enclosures or skirting below the lowest floor shall meet the requirements of subsection 34-32(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 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. 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:
 - 1. A minimum of two flood openings on different sides of each enclosed area subject to flooding;
 - 2. 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;
 - 3. If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
 - 4. The bottom of all required flood openings shall be no higher than one foot above the adjacent grade;
 - 5. Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and
 - 6. 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) *Additions/improvements.*

- a. Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - 1. 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.
 - 2. 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 that are a substantial improvement with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.
- c. Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - 1. Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction.
 - 2. A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- d. 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 percent of the market value of the structure before the improvement or repair is started must comply with the standards for new construction. 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. 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:
 - 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.

2. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.
- (6) *Recreational vehicles.* Recreational vehicles shall either:
 - a. Be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its 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.
 - (7) *Temporary non-residential structures.* Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the administrator for review and written approval:
 - a. A specified time period for which the temporary use will be permitted. Time specified may not exceed three months, renewable up to one year;
 - b. The name, address, and phone number of the individual responsible for the removal of the temporary structure;
 - c. The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
 - d. A copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and
 - e. Designation, accompanied by documentation, of a location outside the special flood hazard area, to which the temporary structure will be moved.
 - (8) *Accessory structures.* When accessory structures (sheds, detached garages, etc.) are to be placed within a special flood hazard area, the following criteria shall be met:
 - a. Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);
 - b. Accessory structures shall not be temperature-controlled;
 - c. Accessory structures shall be designed to have low flood damage potential;
 - d. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
 - e. Accessory structures shall be firmly anchored in accordance with the provisions of subsection 34-31(1);
 - f. All service facilities such as electrical shall be installed in accordance with the provisions of subsection 34-31(4); and
 - g. Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below regulatory flood protection elevation in conformance with the provisions of subsection 34-32(4)c.
 - h. An accessory structure with a footprint less than 150 square feet, or that is a minimal investment (\$1,500.00) or less that satisfies the criteria outlined above does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required for all other accessory structures in accordance with subsection 34-22(c).
 - (9) *Public utilities.* For development of such utilities as necessary for the collection, treatment, and distribution of public water and wastewater within the special flood hazard area (Zone AE) the following criteria shall apply:

- a. The "no rise" requirement of this chapter shall be considered satisfied if the development demonstrates an increase in the base flood elevation of 0.05 feet or less.
- b. This does not exempt such development from complying with the "no rise" requirement as it relates to development within the floodway or nonencroachment area which requires demonstration that development 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 administrator prior to issuance of floodplain development permit.
- c. Such development must certify a determination of no adverse impact as defined below.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09; Ord. No. [2015-29](#), § 01(Exh. A), 10-19-15)

Sec. 34-33. - No adverse impact determination.

- (a) After examination of the National Flood Insurance Program standards for floodplain development, the City Council of the City of Brevard has made the judgment that due to its geographic location, topography and the extensive riverine floodplain systems within its jurisdiction that the minimum standards of the National Flood Insurance Program are not wholly sufficient to protect its citizens and their properties from the effects of flooding, especially in situations where flooding possibly could be exacerbated by development that would otherwise be allowable under the minimum standards of the National Flood Insurance Program, and that additional protections must be employed to protect the lives and property within the jurisdiction of the City of Brevard.
- (b) No structure or land shall be located, extended, converted, altered, or developed in any way within the special flood hazard area, nor shall any floodplain development permit be issued except as otherwise provided in this chapter, until the administrator makes a determination that the project would not increase danger to life or property and would have no adverse impact based upon the affirmative findings that:
 - (1) The granting of the floodplain development permit will not create a danger that fill, construction materials or other debris or construction spoils may be swept onto properties upstream from, downstream from, or adjacent to the project area, or increase erosion and sedimentation; and
 - (2) The granting of the floodplain development permit will result in no rise in the base flood elevation as defined by this chapter; and
 - (3) The granting of the floodplain development permit will not result in increased flood peaks, increased flood stages, or increased flood velocities during the base flood discharge; and
 - (4) The granting of the floodplain development permit will not increase or alter the width or extent of the floodway or special flood hazard area except within the property or properties upon which the floodplain development is located or the property of a consenting owner, where such property is protected from future development by means of a conservation easement or other, similar restriction that is acceptable to the administrator; and
 - (5) The granting of the floodplain development permit will not increase the susceptibility of any property to flooding during the base flood except the property or properties upon which the floodplain development is located or the property of a consenting owner, where such property is protected from future development by means of a conservation easement or other, similar restriction that is acceptable to the administrator; and
 - (6) The granting of the floodplain development permit will not increase the susceptibility of existing or proposed structure to flooding during the base flood; and
 - (7) The granting of the floodplain development permit will not detrimentally impact the functionality or level of service of any street, bridge or culvert, or public utility during the base flood; and

- (8) The granting of the floodplain development permit will not reduce the effective base flood storage volume of the floodplain; [and]
 - (9) The granting of the floodplain development permit will not increase the susceptibility of any critical facility to flooding, nor detrimentally impact access thereto during the base flood; and
 - (10) The granting of the floodplain development permit will not otherwise increase the probability of flooding or property damage and thereby create a danger to life and property, or otherwise create conditions that are injurious to the public health, safety, and welfare, or detrimental to the value of adjoining property and associated uses; and
 - (11) The use, structure, or other activity that is the subject of the floodplain development permit will comply with all other requirements and specifications of Brevard City Code.
- (c) The burden of proof shall lie with the applicant, who shall be required to present evidence to substantiate any affirmative finding. The administrator shall maintain records containing specific evidence to substantiate any affirmative finding.
 - (d) Property owners and any tenant or lessee thereof, who may be adversely impacted by the proposed floodplain development, shall be provided an opportunity to comment, in writing, upon such development or to provide information or evidence pertaining to a potential adverse impact. The administrator shall provide notification of the proposed floodplain development by means of first class mail to the owners of all properties lying within or adjacent to the special flood hazard area whose properties lie within the geographic scope of the hydraulic and hydrologic evaluation that is required by subsection (e)(5), below, or subsection 34-22(c)(2). The applicant shall be required to respond, in writing, to any claim of adverse impact by an affected property owner or tenant or lessee thereof.
 - (e) In order to evaluate development proposals in the context of the required findings, the following, minimum information is required for presentation to the administrator:
 - (1) A narrative, written in non-technical language, which explains how no adverse impact is being accomplished with respect to the proposed project.
 - (2) No rise certification documentation by a professional engineer is required to show that proposed encroachment into the special flood hazard area will cause no rise in the water surface elevation of the 100-year base flood as defined in this chapter.
 - (3) No adverse impact certification documentation by a professional engineer is required to show that the proposed encroachment into the special flood hazard area will create no adverse impact upon any other property owner.
 - (4) Other information as may be required by the administrator in order to evaluate the proposed floodplain development permit in the context of the required findings that are set forth in subsection 34-33(b), above.
 - (5) All data and conclusions shall be demonstrated using the most current hydraulic and hydrological models employed by the Federal Emergency Management Agency (hereafter, FEMA) or North Carolina Emergency Management's Office of Geospatial and Technology Management (hereafter, NCEM GTMO) for the purposes of flood risk assessment and mapping. If there is no model available for the basin or watercourse affected by proposed development, a full hydraulic and hydrological model shall be developed by a professional engineer and approved by the administrator and/or FEMA/NCEM GTMO as appropriate.
 - (6) Hydraulic and hydrologic conditions shall be evaluated within the project area, as well as upstream and downstream of the project area along the channel to the point where water surface profiles consistently meet the existing conditions as defined in the effective model. The administrator shall have the authority to determine the reach and scope of any hydraulic and hydrologic evaluation.
 - (7) The developer or property owner of any development project that causes an increase in the base flood elevation or a change in the geographic extent of the special flood hazard area or

floodway shall be responsible for revisions to the flood insurance rate maps, which shall be approved by FEMA, in accordance with 44 CFR 70. The developer or property owner shall be responsible for preparing and recording appropriate legal documents in which all property owners affected by the increased flood elevations or change to the geographic extent of the special flood hazard area or floodway have consented to the impacts upon their property, including development restrictions approved by the administrator. Prior to approval of any project, the developer shall conditional letter of map revision (CLOMR) first to the City of Brevard for review and approval and then to North Carolina Emergency Management for review. A letter of map revision (LOMR) must be obtained and new flood insurance rate maps produced and presented to the administrator within six months of completion of the proposed encroachment. The applicant shall enter into a written agreement with the city and provide financial security that is sufficient to cover all costs associated with completion of the LOMR and FIRMs. Such agreement and security shall be provided in accordance with the improvement guarantee requirements and procedures which are set forth in Chapter 16 of the City of Brevard Unified Development Ordinance.

- (f) The administrator, for the further protection of the neighboring properties and the public welfare, may impose appropriate conditions and safeguards upon any floodplain development permit which it may grant pursuant to the provisions of this subsection. Any floodplain development permit granted may be revoked by the administrator should any conditions and safeguards imposed be violated.
- (g) Exemptions. The following projects are potentially exempt, as determined by the administrator, from the specific requirements of subsection 34-33(b), above:
 - (1) Agricultural structures such as barns, feed-waste storage structures, greenhouses, and similar structures that are not insurable through the National Flood Insurance Program, provided that such structures comply with subsection 34-32(8) of this chapter.
 - (2) Non-substantial improvements as defined in this chapter.
 - (3) Minor projects clearly having negligible impact, such as street resurfacing and rehabilitation, certain utility infrastructure and appurtenances (e.g. hydrants, poles, manholes, underground pipes), and minor water quality features.
 - (4) Development pursuant to approved site-specific development plans and floodplain development permits which are still in force on the effective date of this chapter are not required to meet no rise criteria unless such was previously a requirement of the approving authority.
 - (5) Fill sufficient to permit the establishment of no more than one single-family dwelling unit on parcels the boundaries of which were on record in the Transylvania County Register of Deeds prior to the enactment of this chapter. The approving authority shall have the right to impose such conditions and make such allowances as are necessary to limit the volume of fill placed for this purpose, including but not limited to modifications to required setbacks, which are set forth in Chapter 2 of the City of Brevard Unified Development Ordinance, by as much as 20 percent in order to minimize necessary fill.
 - (6) Stream bank, stream channel, wetland restoration, soil stabilization, or other surface water protection and restoration projects of the North Carolina Cooperative Extension Service, Transylvania County Soil and Water Conservation Service, USDA Natural Resources Conservation Service, Transylvania County, the City of Brevard, the North Carolina Forest Service, or a cooperating organization or entity. This exemption does not include the impoundment, levying, straightening or channelization of any watercourse.
- (h) The administrator shall have the right to require any proposed development project or other activity to which these exemptions may apply to provide adequate engineering to assure the goals of section 34-33 of this chapter are met, up to and including if necessary demonstration of no adverse impact as in outlined in subsection 34-33(b).

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-34. - Standards for floodplains without established base flood elevations.

Within the special flood hazard areas designated as approximate Zone A and established in section 34-7, where no base flood elevation (BFE) data has been provided by FEMA, the following provisions, in addition to the provisions of section 34-31, shall apply:

- (1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of 50 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 chapter and shall be elevated or floodproofed in accordance with standards in sections 34-31 and 34-32, and shall comply with all other applicable requirements of this chapter.
 - b. When floodway or nonencroachment area data is available from a federal, state, or other source, all new construction and substantial improvements within floodway areas shall also comply with the requirements of sections 34-32 and 34-36, and shall comply with all other applicable requirements of this chapter.
 - c. All subdivision, manufactured home park and other development proposals shall provide base flood elevation (BFE) data if development is greater than five acres or has more than 50 lots/manufactured home sites. Such base flood elevation (BFE) data shall be adopted by reference in accordance with section 34-7 and utilized in implementing this chapter, and shall comply with all other applicable requirements of this chapter.
 - 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 floodproofed (nonresidential) to or above the regulatory flood protection elevation, as defined in section 34-5. All other applicable provisions of section 34-32 shall also apply.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09; Ord. No. [2015-29](#), § 01(Exh. A), 10-19-15)

Sec. 34-35. - Standards for riverine floodplains with BFE, but without established floodways or non-encroachment areas.

Along rivers and streams where 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 34-31 and 34-32; 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 at any point within the community; and
- (3) All other applicable requirements of this chapter.

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-36. - Floodways and non-encroachment areas.

Areas designated as floodways or non-encroachment areas are located within the special flood hazard areas established in section 34-7. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in sections 34-31 and 34-32, 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 is demonstrated that the proposed encroachment would not result in any increase ("no rise" as defined in this chapter) 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 administrator prior to issuance of floodplain development permit; and
 - b. A no adverse impact certification can be attained pursuant to section 34-33 of this chapter; and
 - c. The developer or property owner of any development project that causes an increase in the base flood elevation or a change in the geographic extent of the special flood hazard area or floodway shall be responsible for revisions to the flood insurance rate maps, which shall be approved by FEMA, in accordance with 44 CFR 70. The developer or property owner shall be responsible for preparing and recording appropriate legal documents in which all property owners affected by the increased flood elevations or change to the geographic extent of the special flood hazard area or floodway have consented to the impacts upon their property, including development restrictions approved by the administrator. Prior to approval of any project, the developer shall conditional letter of map revision (CLOMR) first to the City of Brevard for review and approval and then to North Carolina Emergency Management for review. A letter of map revision (LOMR) must be obtained and new flood insurance rate maps produced and presented to the administrator within six months of completion of the proposed encroachment. The applicant shall enter into a written agreement with the city and provide financial security that is sufficient to cover all costs associated with completion of the LOMR and FIRMs. Such agreement and security shall be provided in accordance with the improvement guarantee requirements and procedures which are set forth in Chapter 16 of the City of Brevard Unified Development Ordinance.
- (2) Floodway development activities shall be limited to critical transportation or pedestrian infrastructure for which there is no other feasible location, utility installations or other public improvements for which there is no other feasible location, channel crossings necessary for property access for which there is no other feasible location, and stream bank, stream channel, or wetland restoration, soil stabilization, or other surface water protection and restoration projects of the North Carolina Cooperative Extension Service, Transylvania County Soil and Water Conservation Service, USDA Natural Resources Conservation Service, Transylvania County, the City of Brevard, the North Carolina Forest Service, or a cooperating organization or entity approved by the administrator. No fill or other development activity shall be permitted within the floodway.
- (3) If subsection 34-36(1) is satisfied, all development shall comply with all other applicable provisions of this chapter.
- (4) 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 subsection 34-32(3); and
 - b. The no encroachment standard of subsection 34-36(1).

(Ord. No. 20-09, § 5(Exh. C), 9-21-09)

Sec. 34-37. - Standards for areas of shallow flooding (Zone AO).

Located within the special flood hazard areas established in section 34-7, 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 section 34-31, all new construction and substantial improvements of all structures shall have the reference level elevated to:

- (1) 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
- (2) At least two feet above the highest adjacent grade plus a freeboard of three feet if no depth number is specified.

All new construction and substantial improvements of all non-residential structures may, in lieu of elevation, floodproof to the same depths as listed above so that any space 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 subsection 34-22(c) and subsection 34-32(2).

(Ord. No. 15-10, § 1, 8-16-2010)