

Uniform Floodplain Management Policy for State Property

January 2024

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ARTICLE 1. STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE, AND OBJECTIVES.

SECTION A. STATUTORY AUTHORIZATION.

WHEREAS, the National Flood Insurance Program incorporated at 42 U.S.C. 4001-4128 authorizes the establishment of floodplain management regulations applicable to state-owned properties; and

WHEREAS, North Carolina's Uniform Floodplain Management Policy was established by Executive Order No. 31, issued by Governor James B. Hunt, Jr. in 1979, and was subsequently amended by Executive Order No. 123, 5 N.C. Reg. 724-736 (July 24, 1990), issued by Governor James G. Martin; and

WHEREAS, the Uniform Floodplain Management Policy provides for the sound management of state-owned properties as they relate to potential flood hazards; and

WHEREAS, the frequency and intensity of hurricanes and severe storms, riverine and estuarine flooding, saltwater intrusion, and rising ground water have greatly increased since 1990; and

WHEREAS, avoiding new construction within the floodplain where feasible and adopting resilient development policies and construction practices where construction within the floodplain cannot be avoided will reduce loss of critical state infrastructure and services during a flooding event; prevent costly repairs of damage from floodwaters; minimize the impact of floods on human safety, health, and welfare; and restore and protect the natural and beneficial values served by floodplains; and

WHEREAS, the 2020 North Carolina Climate Risk Assessment and Resilience Plan recommends that when state infrastructure components cannot feasibly be constructed outside the floodplain, the state evaluate the implication of increased risk associated with changes in climate patterns and adapt development policies and construction techniques to minimize the detrimental impacts related to increased levels of risk; and

WHEREAS, Executive Order 266 "Updating the North Carolina Uniform Floodplain Management Policy for State Construction" was issued by Governor Roy A. Cooper on July 25, 2022; and

WHEREAS, Executive Order 266 directed the Department of Administration ("NCDOA"), in consultation with the North Carolina Department of Environmental Quality ("NCDEQ"), the North Carolina Department of Transportation ("NCDOT"), and the North Carolina Department of Public Safety's Emergency Management Division ("NCEM") and the Office of Recovery and Resiliency ("NCORR"), and any other relevant state agencies, to update the North Carolina Uniform Floodplain Management Policy within eighteen months of the issuance of the executive order; and

WHEREAS, Executive Order 266 delegates the authority to update and replace the new Uniform Floodplain Management Policy to the Secretary of NCDOA; and

WHEREAS, pursuant to Article III of the North Carolina Constitution and N.C. Gen. Stat. §§ 143A-4 and 143B-4, the Governor is the chief executive officer of the state and is responsible for formulating and administering the policies of the executive branch of state government; and

WHEREAS, pursuant to N.C. Gen. Stat. § 147-12, the Governor has the authority and the duty to supervise the official conduct of all executive and ministerial officers.

NOW, THEREFORE, IT IS ORDERED:

The Uniform Floodplain Management Policy established by Executive Order Number 123, July 24, 1990, is hereby rescinded.

A new Uniform Floodplain Management Policy which accurately reflects all authority, responsibilities, and functions of State Agencies is hereby established.

NCDOA shall administer this Uniform Floodplain Management Policy for State Agencies. By agreement between the NCDOT and the NCDOA, the NCDOT shall work directly with the NCEM, the United States Department Transportation, and the Federal Emergency Management Agency ("FEMA") to apply appropriate standards and management to comply with the Uniform Floodplain Management Policy relevant to highway construction within floodplains.

SECTION B. OBJECTIVES.

The objectives of this policy are to: Protect human life, safety, and health; minimize expenditure of public money for costly flood control projects; minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public; minimize prolonged loss and interruption of State business; minimize damage to public facilities and infrastructure; reduce construction in the floodplain to the greatest extent feasible; minimize flood damage to state-owned assets, considering the impacts of sea level rise and climate change; support natural hydrologic conditions and the beneficial services provided by natural infrastructure; minimize damage to private and public property due to flooding; maintain the natural and beneficial function of floodplains; and help make flood insurance available to local communities through the State's participation in the National Flood Insurance Program.

ARTICLE 2. DEFINITIONS

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

“Agricultural Structure” means a structure used exclusively in connection with the production, harvesting, storage, raising, or drying of agricultural commodities and livestock. Agricultural structures are not used for human habitation, employment, or entertainment.

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

“Appeal” means a request for a review of the State Construction Office's interpretation of any provision of this policy.

“Area of Shallow Flooding” means a designated Zone AO or AH on a community's Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one (1) to three (3) 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)”.

“Area of Future-Conditions Flood Hazard” means the land area that would be inundated by the 1-percent-annual-chance (100- year) flood based on future-conditions hydrology.

“Base Flood” means the flood having a one (1) 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”.

“Basement” means any area of the building having its floor subgrade (below ground level) on all sides.

“Breakaway Wall” means any type of wall subject to flooding that is not required to provide structural support to a building or other structure and that is designed and constructed such that, under base flood or lesser flood conditions, it will collapse under specific lateral loads in such a way that (1) it allows the free passage of floodwaters, and (2) it does not damage the structure or supporting foundation system.

“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.

“Coastal Area Management Act (CAMA)” means North Carolina’s Coastal Area Management Act, this act, along with the Dredge and Fill Law and the Federal Coastal Zone Management Act, is managed through North Carolina Department of Environmental Quality (NCDEQ) Division of Coastal Management (DCM).

“Coastal A Zone (CAZ)” means an area within a Special Flood Hazard Area, landward of a V zone or landward of an open coast without mapped V zones. In a Coastal A Zone, the principal source of flooding must be astronomical tides, storm surges, seiches, or tsunamis, not riverine flooding. During the base flood conditions, the potential for wave heights shall be greater than or equal to 1.5 feet. Coastal A Zones are not normally designated on FIRMs. (see Limit of Moderate Wave Action (LiMWA))

“Coastal Barrier Resources System (CBRS)” consists of undeveloped portions of coastal and adjoining areas established by the Coastal Barrier Resources Act (CoBRA) of 1982, the Coastal Barrier Improvement Act (CBIA) of 1990, and subsequent revisions, and includes areas owned by Federal or State governments or private conservation organizations identified as Otherwise Protected Areas (OPA).

“Coastal Counties” means Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, and Washington counties.

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

“Design Flood” See “Regulatory Flood Protection Elevation.”

“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. This includes buildings, structures, and non-structural items, including (but not limited to) fill, bulkheads, piers, pools, docks, landings, ramps, and erosion control/stabilization measures.

“Digital Flood Insurance Rate Map (DFIRM)” means the digital official map of a community, issued by FEMA, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

“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 Special Flood Hazard Area, which may impede or alter the flow capacity of a floodplain.

“Exceptional Hardship” means a physical and topographical condition unique to the land itself and the intended function of the development, not at all related to or created by the personal circumstances of the Owner or the property’s inhabitants. The hardship shall not be shared by adjacent properties. The financial or health conditions of the Owner are not exceptional hardships.

“Existing building and existing structure” mean any building and/or structure for which the “start of construction” commenced before the effective date of the floodplain management regulations adopted by a community, dated February 1, 1979.

“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) is completed before the effective date of the floodplain management regulations adopted by a community, dated February 1, 1979.

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

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

“Flood Boundary and Floodway Map (FBFM)” means an official map of a community, issued by the FEMA, 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 FEMA, where the boundaries of the Special Flood Hazard Areas have been defined as Zone A.

“Flood Insurance Rate Map (FIRM)” means an official map of a community, issued by the FEMA, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated. (see also DFIRM)

“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 FEMA. 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”

“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.

“Floodplain” means any land area susceptible to being inundated by water from any source.

“Floodplain Development Permit” means any type of permit that is required in conformance with the provisions of this policy, prior to the commencement of any development activity.

“Floodplain Development Waiver Committee” is a three-person panel comprised of Department of Administration, Office of State Construction employees. Each panel member must be a licensed professional engineer or a registered architect.

“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 policy, building codes, health regulations, and other applications of police power. This term describes federal and state 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.

“Flood-resistant material” means any building product [material, component, or system] capable of withstanding direct and prolonged contact (minimum 72 hours) with floodwaters without sustaining damage that requires more than low-cost cosmetic repair. Any material that is water-soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber or naturally decay-resistant lumbers are acceptable flooring materials. Sheet-type flooring coverings that restrict evaporation from below and materials that are impervious, but dimensionally unstable are not acceptable. Materials that absorb or retain water excessively after submergence are not flood-resistant. Please refer to Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*, and available from the FEMA. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.

“Floodway” means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

“Floodway encroachment analysis” means an engineering analysis of the impact that a proposed encroachment into a floodway or non-encroachment area is expected to have on the floodway boundaries and flood levels during the occurrence of the base flood discharge. The evaluation shall be prepared by a qualified North Carolina licensed engineer using standard engineering methods and hydraulic models meeting the minimum requirements of the National Flood Insurance Program.

“Freeboard” means the height added to the 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 or culvert openings, precipitation exceeding the base flood, and the hydrological effect of urbanization of the watershed. The BFE 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.

“High-water Mark” means a point, or series of points, delineating the maximum rise of water over land at a given property or development.

“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:

- (a) Listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;
- (b) Certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (c) Individually listed on a local inventory of historic landmarks in communities with a “Certified Local Government (CLG) Program”; or
- (d) Certified as contributing to the historical significance of a historic district designated by a community with a “Certified Local Government (CLG) Program.”

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

“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:

- (a) Letter of Map Amendment (LOMA): An official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA is based on technical data showing that a property had been inadvertently mapped as being in the floodplain, but is actually on natural high ground above the base flood elevation. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a Special Flood Hazard Area.
- (b) Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, Special Flood Hazard Area boundaries and floodway delineations, and other planimetric features.
- (c) Letter of Map Revision Based on Fill (LOMR-F): A determination that a structure or parcel of land has been elevated by fill above the BFE and is, therefore, no longer located within the Special Flood Hazard Area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community’s floodplain management regulations.
- (d) Conditional Letter of Map Revision (CLOMR): A formal review and comment as to whether a proposed project complies with the minimum NFIP requirements for such projects with respect to delineation of Special Flood Hazard Areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

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

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

“Limit of Moderate Wave Action (LiMWA)” means the boundary line given by FEMA on coastal map studies delineating the inland limit of Coastal A Zones (CAZ).

“Lowest Adjacent Grade (LAG)” means the lowest elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

“Lowest Floor” means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or 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 policy.

“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.

“Map Repository” means the location of the official flood hazard data to be applied for floodplain management. It is a central location in which flood data is stored and managed; in North Carolina, FEMA has recognized that the application of digital flood hazard data products have the same authority as hard copy products. Therefore, the NCEM’s Floodplain Mapping Program websites house current and historical flood hazard data. For effective flood

hazard data the NC FRIS website (<https://fris.nc.gov/fris/>) is the map repository, and for historical flood hazard data the FEMA Map Service Center website (<https://msc.fema.gov/portal/home>) or the NC Flood website (<https://flood.nc.gov/ncflood/>) serve as the map repository.

“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.

“Maximum Extent Technically Feasible” means the requirement is to be fully implemented, constrained only by the physical limitations of the site, practical considerations of engineering design, and reasonable considerations of financial costs and environmental impacts.

“Mean High Tide” means the average height of all the daily high tides recorded over an 18.6-year period or Tidal Epoch.

“Minimal Flood Hazard Area” means any land not identified as the Special Flood Hazard Area (SFHA) or Moderate Flood Hazard Area (MFHA).

“Moderate Flood Hazard Area (MFHA)” means the area between the one percent (1%) (or 100-year) flood and the 0.2-percent-annual-chance (or 500-year) flood, as determined in Article 3, Section B of this policy.

“Nature-based Infrastructure,” or “Nature-based Solutions” or “NBS” means sustainable planning, design, environmental management, and engineering practices that incorporate natural features or processes into the built environment to promote adaptation and resilience. Examples of nature-based infrastructure designed to reduce flooding and other water-related impacts to and from construction include, but are not limited to: land conservation; preservation of trees and other natural landscape features outside of the required footprint for construction; wetland restoration and protection; floodplain restoration; greenways; stormwater parks; living shorelines, including oyster reefs and dunes; green roofs; rainwater harvesting with cisterns; suspended and other permeable pavement for plazas, parking areas, and sidewalks; disconnecting impervious surfaces where such surfaces are used; rain gardens; bioretention areas; tree canopies and trenches; and vegetated swales.

“Non-coastal Counties” means all counties that are not coastal counties.

“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.

“Non-Encroachment Area (NEA)” means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

“Post-FIRM” means construction or other development for which the “start of construction” occurred on or after February 1, 1979, the effective date of the initial Flood Insurance Rate Map.

“Policy” shall mean the Uniform Floodplain Management Policy for State Property.

“Pre-FIRM” means construction or other development for which the “start of construction” occurred before February 1, 1979, the effective date of the initial Flood Insurance Rate Map.

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

“Principally Above Ground” means that at least 51% 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:

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

“Reference Level” is the top of the lowest floor for structures within Special Flood Hazard Areas designated as Zones A, AE, AH, AO, A99. The reference level is the bottom of the lowest horizontal structural member of the lowest floor for structures within Special Flood Hazard Areas designated as Zone VE.

“Regulatory Flood Protection Elevation” means:

1. In “Special Flood Hazard Areas” where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE plus:
 - a. Two (2) feet freeboard in non-coastal counties.
 - b. Four (4) feet freeboard in coastal counties where development activity is not located in the sea level rise inundation area.
 - c. Eight (8) feet freeboard in coastal counties where development activity is also located in the sea level rise inundation area.
2. In “Special Flood Hazard Areas” where no BFE has been established, this elevation shall be at least:
 - a. Two (2) feet above the highest adjacent grade in non-coastal counties.
 - b. Four (4) feet above the highest adjacent grade in coastal counties.
3. In “Moderate Flood Hazard Areas” where 500-year Flood Elevations have been determined, this elevation shall be the least stringent of the following:
 - a. Two (2) feet above the highest adjacent BFE.
 - b. The 500-year Flood Elevation.
4. In “Moderate Flood Hazard Areas” where no 500-year Flood Elevation has been established, this elevation shall be the least stringent of the following:
 - a. Two (2) feet above the highest adjacent BFE.
 - b. Two (2) feet above the highest adjacent grade.
5. In “Minimal Flood Hazard Areas”, this elevation shall be the most stringent of the following:
 - a. One (1) foot above the high-water mark when the proposed development activity is located on a site known to flood. Flooding in the Minimal Flood Hazard Area may be from any source and is not limited to riverine or coastal flooding.
 - b. One (1) foot above the theoretical high-water line when in the sea level rise inundation area.

“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 policy 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 derelict equipment, and including but not limited to vehicles, appliances, and related machinery.

“Sand Dunes” means naturally occurring accumulations of sand in ridges or mounds landward of the beach.

“Sea Level Rise Inundation Area” refers to areas expected to undergo prolonged or permanent inundation or

submergence based on a projected sea level rise of four (4) feet. The Sea Level Rise (SLR) projections are based on the National Oceanic and Atmospheric Administration Intermediate scenario curve for 2100, as outlined in the NOAA Global and Regional Sea Level Rise Scenarios for the United States Report, updated in 2022.

“Shear Wall” means walls used for structural support but not structurally joined or enclosed at the end (except by breakaway walls). Shear walls are parallel or nearly parallel to the flow of the water.

“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 (1%) or greater chance (or 100-year) of being flooded in any given year, as determined in Article 3, Section B of this policy.

“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.

“State Construction Office” is the agency or individual appointed to administer and enforce the Uniform Floodplain Management Policy for State Property.

“Structure” means a walled and roofed building, a manufactured home, 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 six (6) year period whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. See definition of “substantial improvement”. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

“Substantial Improvement” means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any six (6) year period for which the cost equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage”, regardless of the actual repair work performed. The term does not, however, include either:

- (a) Any correction of existing violations of state or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or
- (b) Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure and the alteration is approved by variance issued pursuant to Article 4 Section E of this policy.

“Technical Bulletin and Technical Fact Sheet” means a FEMA publication that provides guidance concerning the building performance standards of the NFIP, which are contained in Title 44 of the U.S. Code of Federal Regulations

at Section 60.3. The bulletins and fact sheets are intended for use primarily by State and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically as needed. The bulletins do not create regulations; rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.

“Temperature Controlled” means having the temperature regulated by a heating and/or cooling system, built-in or appliance.

“Variance” is a grant of relief from the requirements of this policy.

“Violation” means the failure of a structure or other development to be fully compliant with this policy. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 4 and 5 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 1988 (or subsequent datums), of floods of various magnitudes and frequencies in the floodplains of 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.

ARTICLE 3. GENERAL PROVISIONS

SECTION A. LANDS TO WHICH THIS POLICY APPLIES

- (1) This policy shall apply to those lands as defined in Chapters 143 and 146 of the North Carolina General Statutes and including but not limited to public waterways, marshes, Estuarine waters, and to privately-owned land and improvements which are leased to the State of North Carolina or any of its agencies. This policy in no way affects municipal or county zoning authority pursuant to General Statutes Chapter 160D, Article 9, Part 2; however, in cases of conflict between local government floodway regulations pursuant to Chapter 143, Article 21, Part 6 and the provisions set forth in this policy, the Department of Administration shall investigate the area of conflict and make appropriate determinations to comply with the intent of this policy.

SECTION B. BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS AND MODERATE FLOOD HAZARD AREAS

- (1) The Special Flood Hazard Areas and Moderate Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its most current FIS and associated DFIRM panels, including any digital data developed as part of the FIS, which are adopted by reference and declared a part of this policy, and all revisions thereto.

SECTION C. ESTABLISHMENT OF FLOODPLAIN DEVELOPMENT PERMIT

- (1) No new development or substantial improvement is permitted within the floodplain except as follows:
 - (a) All development within the Minimal Flood Hazard Area.
 - (b) The development of buildings and structures within the Special Flood Hazard Area or Moderate Flood Hazard Area that are functionally dependent facilities. This includes appurtenances and infrastructure servicing such facilities.
 - (c) Site development within the Special Flood Hazard Area or Moderate Flood Hazard Area that provides either recreational or scenic access to water bodies or shoreline areas, or that needs to be within a flood zone for its purpose, such as site development that provides a flood mitigation benefit.
 - (d) The development of agricultural structures.
 - (e) Development in the Special Flood Hazard Area or Moderate Flood Hazard Area that is approved by the

Floodplain Development Waiver Committee. The approval process is as follows:

- i) The applicant shall submit a Floodplain Development Request and any supporting documents to the Department of Administration, State Construction Office as part of their earliest Design Review submittal.
 - ii) The Floodplain Development Waiver Committee shall consider the following in their review of the Floodplain Development Request and supporting documents:
 - 1) The type and size of the proposed development.
 - 2) The siting of the proposed development on the property in relation to the SFHA and MFHA.
 - 3) The development's contribution to the health, safety, and welfare of the public.
 - 4) Site composition: the amount of land within the SFHA and MFHA compared to the land available outside these areas.
 - 5) Site topography
 - 6) Subsurface conditions
 - 7) Site accessibility during a design flood event.
 - 8) Availability of alternative sites within 100-miles of the proposed site that are owned by the same Agency, meet the development's needs, and are subject to a lower risk of flooding.
 - 9) The potential flood risks to other adjacent properties (public and private) that may be induced by the presence of the proposed facility, and any plans the applicant has to minimize or mitigate those risks.
 - iii) The Floodplain Development Waiver Committee will approve or reject the Floodplain Development Request in writing within thirty (30) calendar days. A waiver will not be granted unless the applicant can demonstrate that there is no reasonable alternative siting location and that a denial of a waiver will result in significant loss of the benefits that the development was intended to achieve. Rejections may be appealed to the Appeal Board (see Article 4, Section E).
- (2) A Floodplain Development Permit shall be required in conformance with the provisions of this policy prior to the commencement of any development activities within the following areas:
- (a) Special Flood Hazard Areas determined in accordance with the provisions of Article 3, Section B of this policy.
 - (b) Moderate Flood Hazard Areas determined in accordance with the provisions of Article 3, Section B of this policy.
 - (c) Minimal Flood Hazard Areas determined in accordance with the provisions of Article 3, Section B of this policy when any of the following conditions apply:
 - i) The proposed development activity is located on a site known to flood. Flooding in the Minimal Flood Hazard Area may be from any source and is not limited to riverine or coastal flooding.
 - ii) The proposed development activity is a structure located within the sea level rise inundation area.
 - iii) The estimated total project cost exceeds 25-million dollars.

SECTION D. COMPLIANCE

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

SECTION E. ABROGATION AND GREATER RESTRICTIONS

- (1) This policy is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this policy and another conflict, whichever imposes the more stringent restrictions shall prevail.

SECTION F. INTERPRETATION.

- (1) In the interpretation and application of this policy, all provisions shall be:
 - (a) Considered as minimum requirements.
 - (b) Liberally construed in favor of the governing body.
 - (c) Deemed neither to limit nor repeal any other powers granted under State statutes.

SECTION G. WARNING AND DISCLAIMER OF LIABILITY

- (1) The degree of flood protection required by this policy 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 policy does not imply that land outside the Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damage. This policy shall not create liability on the part of the State of North Carolina or any officer or employee thereof for any flood damages that result from reliance on this policy, or any administrative decision lawfully made hereunder.

ARTICLE 4. ADMINISTRATION

SECTION A. DESIGNATION OF STATE CONSTRUCTION OFFICE

- (1) The Department of Administration's State Construction Office is hereby appointed to administer and implement the provisions of this policy. In instances where the State Construction Office receives assistance from others to complete tasks to administer and implement this policy, the State Construction Office shall be responsible for the coordination and the State of North Carolina's overall compliance with the National Flood Insurance Program and the provisions of this policy.

SECTION B. FLOODPLAIN DEVELOPMENT APPLICATION, PERMIT, AND CERTIFICATION REQUIREMENTS

- (1) **Application Requirements:** Application for a floodplain development permit shall be made to the State Construction Office prior to any development activities located within areas defined and authorized by Article 3, Section C of this policy. The following items shall be presented to the State Construction Office to apply for a floodplain development permit [Note that development activities submitted under Article 3, Section C(2)(c).iii alone are exempt from the following requirements except Subsection (k)]:
 - (a) A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:
 - i) 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.
 - ii) The boundary of the Special Flood Hazard Area and Moderate Flood Hazard Area as delineated on the FIRM or other flood map as determined in Article 3, Section B, or a statement that the entire lot is within the Special Flood Hazard Area or Moderate Flood Hazard Area.
 - iii) Flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Article 3, Section B.
 - iv) The boundary of the floodway(s) or non-encroachment area(s) as determined in Article 3, Section B.
 - v) The Base Flood Elevation (BFE) where provided as set forth in Article 3, Section B; Article 4, Section C; or Article 5, Section D.
 - vi) The old and new location of any watercourse that will be altered or relocated because of the proposed development.

- vii) The boundary and designation date of the Coastal Barrier Resource System (CBRS) area or Otherwise Protected Areas (OPA), if applicable.
- viii) The boundary of the sea level rise inundation area or a statement that the entire lot is within the sea level rise inundation area.
- (b) Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area, Moderate Flood Hazard Area, or Minimal Flood Hazard Areas defined by Article 3, Section C(2)(c), Subsections i and ii, including but not limited to:
 - i) Elevation in relation to NAVD 1988 (or subsequent datums) of the proposed reference level (including basement) of all structures.
 - ii) Elevation in relation to NAVD 1988 (or subsequent datums) to which any non-residential structure in Zones A, AE, AH, AO, A99 will be floodproofed.
 - iii) Elevation in relation to NAVD 1988 (or subsequent datums) to which any proposed utility systems will be elevated or floodproofed.
- (c) If floodproofing, a Floodproofing Certificate (FEMA Form FF-206-FY-22-153 or succeeding forms) with supporting data, an operational plan, and an inspection and maintenance plan that include, but are not limited to, installation, exercise, and maintenance of floodproofing measures.
- (d) A Foundation Plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this policy are met. These details include but are not limited to:
 - i) The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls); and
 - ii) Openings to facilitate automatic equalization of hydrostatic flood forces on walls in accordance with Article 5, Section B(1)(d).iv when solid foundation perimeter walls are used in Zones A, AE, AH, AO, A99.
 - iii) The following, in Coastal High Hazard Areas and Coastal A Zones, in accordance with the provisions of Article 5, Section B(1)(d).iv.7 and Article 5, Section G and Article 5, Section H:
 - 1) V-Zone Certification with accompanying plans and specifications verifying the engineered structure and any breakaway wall designs; In addition, prior to the Final Inspection for Owner Occupancy, a registered professional engineer or architect shall certify the finished construction is compliant with the design, specifications and plans for VE Zone construction.
 - 2) Plans for open wood latticework or insect screening, if applicable.
 - 3) Plans for non-structural fill, if applicable. If non-structural fill is proposed, it must be demonstrated through coastal engineering analysis that the proposed fill would not result in any increase in the BFE or otherwise cause adverse impacts by wave ramping and deflection on to the subject structure or adjacent properties.
- (e) Usage details of any enclosed areas below the lowest floor.
- (f) 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.
- (g) Certification that all other Local, State and Federal permits required prior to floodplain development permit issuance have been received.
- (h) Documentation for placement of recreational vehicles and/or temporary structures, when applicable, to ensure that the provisions of Article 5, Section B(1), subsections (f) and (g) of this policy are met.
- (i) 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.
- (j) When the project is a structure normally covered by insurance, the development permit under Article 4,

Section B, will not be issued until the project is approved by the Department of Insurance for full coverage.

- (k) When the implementation of nature-based infrastructure is a requirement of this policy, the applicant shall submit:
- i) A brief narrative identifying the NBS components implemented. The narrative shall also identify any NBS systems that were considered but not included and explain why they were deemed infeasible.
 - ii) Scaled site plan showing the project area, existing structures, and proposed nature-based solution features, with flood hazard areas delineated in accordance with FIRM or statement that entire site is within a SFHA or MFHA.
 - iii) Design plans and/or technical specifications outlining specific materials, construction methods, and details of NBS components.
 - iv) Plans outlining erosion and sediment control measures to be implemented during construction.
 - v) Planting and seeding plans showing types and quantities of native vegetation to be used.
 - vi) An executed stormwater management permit from NCDEQ or the delegated jurisdiction when applicable. The stormwater management permit application form shall include the following language “This project is subject to the State of North Carolina’s Uniform Floodplain Management Policy. Stormwater runoff will be treated using the volume matching requirements set forth in the NCDEQ Stormwater Design Manual.”
 - vii) Upon request, applicant may be required to provide an engineering analysis and/or calculations demonstrating compliance with the volume matching requirements set forth in the NCDEQ Stormwater Design Manual.

(2) **Permit Requirements:** The floodplain development permit shall include, but not be limited to:

- (a) A complete description of all the development to be permitted under the floodplain development permit (e.g. building, structure, garage, pool, septic, bulkhead, cabana, pier, bridge, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials, etc.).
- (b) The Special Flood Hazard Area and/or Moderate Flood Hazard Area determination for the proposed development in accordance with available data specified in Article 3, Section B OR the Minimal Flood Hazard Area condition triggering permitting as specified in Article 3, Section C(2)(c).
- (c) The Regulatory Flood Protection Elevation required for the reference level and all attendant utilities.
- (d) The Regulatory Flood Protection Elevation required for the protection of all public utilities.
- (e) All certification submittal requirements with timelines.
- (f) A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse unless the requirements of Article 5, Section F have been met.
- (g) The flood openings requirements.
- (h) Limitations of below BFE enclosure uses (if applicable). (i.e., parking, building access and limited storage only).
- (i) A statement, that all materials below BFE/RFPE must be flood resistant materials.
- (j) A statement, if in Zone VE, that there shall be no alteration of sand dunes which would increase potential flood damage.
- (k) A statement, if in Zone VE, that there shall be no fill used for structural support.

(3) **Certification Requirements:**

- (a) **Elevation Certificates:** Within twenty-one (21) calendar days of establishment of the reference level elevation, it shall be the duty of the permit holder to submit to the State Construction Office a certification of the elevation of the reference level, in relation to NAVD 1988 (or subsequent datums).

Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by the same. Any work done within the twenty-one (21) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The State Construction Office shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being permitted to proceed. Failure to submit the certification or failure to make required corrections shall be cause to issue a stop-work order for the project.

A final Finished Construction Elevation Certificate (FEMA Form FF-206-FY-22-152) or succeeding forms) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

(b) Floodproofing Certificate:

- i) If non-residential floodproofing is used to meet the Regulatory Flood Protection Elevation requirements, a Floodproofing Certificate (FEMA Form FF-206-FY-22-153 or succeeding forms), 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 State Construction Office a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988 (or subsequent datums). Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The State Construction Office 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 Final Inspection for Owner Occupancy form.
 - ii) A final Finished Construction Floodproofing Certificate (FEMA Form FF-206-FY-22-153 or succeeding forms), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the issuance of a Certificate of Compliance/Occupancy. It shall be the duty of the permit holder to submit to the State Construction Office a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988 (or subsequent datums). Floodproofing certificate shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The State Construction Office shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to Certificate of Occupancy. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit. Failure to construct in accordance with the certified design shall be cause to deny a Final Inspection for Owner Occupancy form.
- (c) If a manufactured home is placed within Zones A, AE, AH, AO, A99 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 Article 5, Section B(1)(c).ii.
 - (d) 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.
 - (e) Certification Exemptions. The following structures, if located within Zones A, AE, AH, AO, A99, or Moderate Flood Hazard Area are exempt from the elevation/floodproofing certification requirements

specified in items (a) and (b) of this subsection:

- i) Recreational vehicles meeting requirements of Article 5, Section B(1)(f).i.
 - ii) Temporary structures meeting requirements of Article 5, Section B(1)(g).
 - iii) Accessory structures that are 150 square feet or less or \$5,000 or less and meeting requirements of Article 5, Section B(1)(h).
- (f) A V-Zone Certification with accompanying design plans and specifications is required prior to issuance of a floodplain development permit within Coastal High Hazard Areas, including Coastal A Zones. It shall be the duty of the permit applicant to submit to the State Construction Office said certification to ensure the design standards of this policy are met. A registered professional engineer or architect shall develop or review the structural design, plans, and specifications for construction and certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of this policy. This certification is not a substitute for an Elevation Certificate. In addition, prior to the Certificate of Compliance/Occupancy issuance, a registered professional engineer or architect shall certify the finished construction is compliant with the design, specifications and plans for VE Zone construction.
- (4) **Determinations for existing buildings and structures:** For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the State Construction Office shall:
- (a) Evaluate the market value, as submitted by the applicant, before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made. At their sole discretion, the State Construction Office may require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser.
 - (b) Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure.
 - (c) Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage.
 - (d) Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the NC Building Code and this policy is required.

SECTION C. DUTIES AND RESPONSIBILITIES OF THE STATE CONSTRUCTION OFFICE

- (1) The State Construction Office shall perform, but not be limited to, the following duties:
- (a) Reduce construction in the floodplain to the greatest extent feasible.
 - (b) Review all floodplain development applications and issue permits for all proposed development within Special Flood Hazard Areas, Moderate Flood Hazard Areas, and applicable Minimal Flood Hazard Areas to assure that the requirements of this policy have been satisfied.
 - (c) 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.
 - (d) Notify adjacent communities and the North Carolina Department of 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).
 - (e) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the

flood-carrying capacity is maintained.

- (f) Prevent encroachments into floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Article 5, Section F are met.
- (g) Obtain actual elevation (in relation to NAVD 1988 or subsequent datums) of the reference level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with the provisions of Article 4, Section B(3).
- (h) Obtain actual elevation (in relation to NAVD 1988 or subsequent datums) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with the provisions of Article 4, Section B(3).
- (i) Obtain actual elevation (in relation to NAVD 1988 or subsequent datums) of all public utilities in accordance with the provisions of Article 4, Section B(3).
- (j) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the provisions of Article 4, Section B(3) and Article 5, Section B(1)(b).
- (k) Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas, Moderate 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.
- (l) When BFE data has not been provided in accordance with the provisions of Article 3, Section B, obtain, review, and reasonably utilize any BFE data, along with floodway data or non-encroachment area data available from a federal, state, or other source, including data developed pursuant to Article 5, Section D(1)(b).iii, in order to administer the provisions of this policy.
- (m) When BFE data is provided but no floodway or non-encroachment area data has been provided in accordance with the provisions of Article 3, Section B, obtain, review, and reasonably utilize any floodway data or non-encroachment area data available from a federal, state, or other source to administer the provisions of this policy.
- (n) 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 BFE, advise the property owner of the option to apply for a Letter of Map Amendment (LOMA) from FEMA. However, if the property is to be removed from the V Zone it must not be located seaward of the landward toe of the primary frontal dune. Maintain a copy of the LOMA issued by FEMA in the floodplain development permit file.
- (o) Permanently maintain all records that pertain to the administration of this policy and make these records available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.
- (p) Make on-site inspections of work in progress. As the work pursuant to a floodplain development permit progresses, the State Construction Office 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 policy and the terms of the permit. In exercising this power, the State Construction Office 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.
- (q) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this policy, the State Construction Office may order the work to be immediately stopped. The stop-work order shall be in writing and directed to: 1) the person doing or in charge of the work; 2) the Owner; and 3) the Designer of Record. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.
- (r) Revoke floodplain development permits as required. The State Construction Office 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.

- (s) Make periodic inspections throughout the Special Flood Hazard Areas and Moderate Flood Hazard Areas overlapping State property. The State Construction Office's Facilities Condition Assessment Program ("FCAP") personnel shall have a right, upon presentation of proper credentials, to enter any State owned property or structure at any reasonable hour for the purposes of inspection or other enforcement action.
- (t) Follow through with corrective procedures of Article 4, Section D.
- (u) Review, provide input, and make recommendations for variance requests.
- (v) Maintain a current map repository to include, but not limited to, historical and effective FIS Report, historical and effective FIRM and other official flood maps and studies adopted in accordance with the provisions of Article 3, Section B of this policy, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.
- (w) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-Fs) and Letters of Map Revision (LOMRs).

SECTION D. CORRECTIVE PROCEDURES

- (1) Violations to be corrected: When the State Construction Office finds violations of applicable state and local laws, the State Construction Office shall notify the building owner of the violation. The owner shall immediately remedy each of the violations of law cited in such notification.
- (2) Actions in Event of Failure to Take Corrective Action: If the owner fails to take prompt corrective action, the State Construction Office shall give the owner written notice stating:
 - (a) That the building or property is in violation of the floodplain management regulations.
 - (b) That a hearing will be held before the State Construction Office at a designated place and time, not later than ten (10) days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter.
 - (c) Following the hearing, the State Construction Office may issue an order to alter, vacate, or demolish the building; or to remove fill as applicable.
- (3) Order to Take Corrective Action: If, upon a hearing held pursuant to the notice prescribed above, the State Construction Office shall find that the building or development is in violation of the Uniform Flood Management Policy for State Property, the State Construction Office shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, but not less than sixty (60) calendar days. Where the State Construction Office 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.
- (4) Appeal: Any owner who has received an order to take corrective action may appeal the order to the Appeal Board (defined in Article 4, Section E(1)) by giving written notice of appeal within ten (10) days following issuance of the final order. In the absence of an appeal, the order of the State Construction Office shall be final. The Appeal Board shall hear an appeal within forty-five (45) calendar days, modify and affirm, or revoke the order.

SECTION E. VARIANCE PROCEDURES

- (1) The Department of Administration, Director of the State Construction Office; Department of Insurance, Deputy Commissioner of Risk Management; Department of Public Safety - North Carolina Division of Emergency Management, NFIP State Coordinator; Department of Public Safety - North Carolina Office of Recovery and Resiliency, Chief Resilience Officer; and the Secretary of the Department of Administration (or, in all cases, their designee), hereinafter referred to as the "Appeal Board", shall hear and decide requests for variances from the requirements of this policy.
- (2) Any person aggrieved by the decision of the Appeal Board may appeal such decision to the Court, as provided in

Chapter 7A of the North Carolina General Statutes.

- (3) Variances may be issued for:
- (a) The repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure.
 - (b) Functionally dependent facilities if determined to meet the definition as stated in Article 2 of this policy, provided provisions of Article 4, Section E(9)(b), (c), and (e) have been satisfied, and such facilities are protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.
 - (c) Any other type of development provided it meets the requirements of this Section.
- (4) In passing upon variances, the Appeal Board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this policy, and:
- (a) The danger that materials may be swept onto other lands to the injury of others.
 - (b) The danger to life and property due to flooding or erosion damage.
 - (c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
 - (d) The importance of the services provided by the proposed facility to the State.
 - (e) The necessity to the facility of a waterfront location as defined under Article 2 of this policy as a functionally dependent facility, where applicable.
 - (f) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.
 - (g) The compatibility of the proposed use with existing and anticipated development.
 - (h) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area.
 - (i) The safety of access to the property in times of flood for ordinary and emergency vehicles.
 - (j) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site.
 - (k) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.
- (5) A written report addressing each of the above factors shall be submitted with the application for a variance.
- (6) Upon consideration of the factors listed above and the purposes of this policy, the Appeal Board may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this policy.
- (7) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and that such construction below the base flood elevation increases risk to life and property, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. Such notification shall be maintained with a record of all variance actions.
- (8) The State Construction Office shall maintain the records of all appeal actions and report any variances to the FEMA and the North Carolina Division of Emergency Management, NFIP State Coordinator upon request.
- (9) Conditions for Variances:
- (a) Variances shall not be issued when the variance will make the structure in violation of other federal or state laws, or applicable regulations or policies.
 - (b) Variances shall not be issued within any designated floodway or non-encroachment area if the variance

would result in any increase in flood levels during the base flood discharge.

- (c) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (d) Variances shall only be issued prior to development permit approval.
 - (e) Variances shall only be issued upon:
 - i) A showing of good and sufficient cause.
 - ii) A determination that failure to grant the variance would result in exceptional hardship.
 - iii) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or policies.
- (10) A variance may be issued for solid waste disposal facilities or sites, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located in Special Flood Hazard Areas provided that all of the following conditions are met.
- (a) The use serves a critical need in the community.
 - (b) No feasible location exists for the use outside the Special Flood Hazard Area.
 - (c) The reference level of any structure is elevated or floodproofed to at least the Regulatory Flood Protection Elevation.
 - (d) The use complies with all other applicable federal, state and local laws.
 - (e) The Department of Administration's State Construction Office has notified the Secretary of the North Carolina Department of Public Safety of its intention to grant a variance at least thirty (30) calendar days prior to granting the variance.

ARTICLE 5. PROVISIONS FOR FLOOD HAZARD REDUCTION

SECTION A. GENERAL STANDARDS

- (1) In all Special Flood Hazard Areas, Moderate Flood Hazard Areas, and Minimal Flood Hazard Areas identified by Article 3, Sections C(2)(c), Subsections i and ii, the following provisions are required:
- (a) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.
 - (b) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage in accordance with the FEMA Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*.
 - (c) All development shall be constructed by methods and practices that minimize flood damage.
 - (d) All new electrical, heating, ventilation, air-conditioning, plumbing, duct systems, and other building utility systems, equipment, and service facilities must be located at or above the Regulatory Flood Protection Elevation (RFPE) or specially designed to prevent water from entering or accumulating within the components and installed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation. Utility systems, equipment, and service facilities include, but are not limited to, HVAC equipment, water softener units, bath/kitchen plumbing fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, water heaters, fuel tanks, and electric outlets/switches.
 - i) Replacements part of a substantial improvement must also meet the above provisions.
 - ii) Replacements that are for maintenance and not part of a substantial improvement, may be installed at the original location provided the addition and/or improvements comply with the standards for new construction consistent with the code and requirements for the original structure.

- (e) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- (f) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into flood waters.
- (g) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (h) Nothing in this policy shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this policy 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 policy.
- (i) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Article 4, Section E(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 or Moderate 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 Article 4, Section B(3).
- (j) Development within the SFHA shall consider incorporating nature-based infrastructure into the site improvement plan. Development within the MFHA shall incorporate NBS as outlined below:
 - i) Development activities shall incorporate nature-based infrastructure to reduce the risk posed by flooding and storm surge to the proposed construction as well as to reduce the potential impacts caused by stormwater runoff from the proposed construction to the maximum extent technically feasible (METF).
 - ii) Development activities, including substantial improvements / repairs shall design, install, operate, and maintain stormwater systems in compliance with the requirements for volume matching for new development as set forth in the North Carolina Department of Environmental Quality (NCDEQ) Stormwater Design Manual. Alternate Design Methodologies (ADM) achieving equivalent results may be proposed by the applicant. Approval of ADM by the State Construction Office and NCDEQ is required.
 - iii) Projects subject to NCDOT's NPDES stormwater permit number NCS000250 are exempted from Article 5, Sections (A)(1)(j), Parts i) and ii) but shall comply with such permit and the NCDOT Guidelines for Drainage Studies and Hydraulic Design. In complying with the applicable NPDES permit, such projects shall incorporate nature-based infrastructure for stormwater management to the METF. All development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- (k) All development proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- (l) All 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.
- (m) When a structure is partially located in a Special Flood Hazard Area or Moderate Flood Hazard Area, the entire structure shall meet the requirements for new construction and substantial improvements.
- (n) When a structure is in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest BFE shall apply.
- (o) Buildings and structures that are in more than one flood hazard area shall comply with the provisions associated with the most restrictive flood hazard area.

SECTION B. FLOODPLAINS WITH ESTABLISHED BASE FLOOD ELEVATIONS

(1) In all Special Flood Hazard Areas and Moderate Flood Hazard Areas where BFE data has been provided, as set forth in Article 3, Section B, or Article 5, Section D, the following provisions, in addition to the provisions of Article 5, Section A, are required:

- (a) 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 (RFPE), as defined in Article 2 of this policy.
- (b) Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Article 2 of this policy. Structures located in Zones A, AE, AH, AO, A99 may be floodproofed to the Regulatory Flood Protection Elevation (RFPE) 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 Article 5, Section I(1)(b). A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the State Construction Office as set forth in Article 4, Section B(3), along with the operational plan and the inspection and maintenance plan.
- (c) Manufactured Homes.
 - i) 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 (RFPE), as defined in Article 2 of this policy.
 - ii) 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 thirty-six (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 thirty-six (36) inches in height, an engineering certification is required.
 - iii) All enclosures or skirting below the lowest floor shall meet the requirements of Article 5, Section B(1)(d).
 - iv) 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 State Construction Office and the local Emergency Management Coordinator.
- (d) Elevated Buildings. Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor or below the lowest horizontal structural member in VE zones:
 - i) 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.
 - ii) Shall not be temperature-controlled or conditioned.
 - iii) Shall be constructed entirely of flood resistant materials at least to the Regulatory Flood Protection Elevation.
 - iv) Shall include 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 (1) 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 (1) foot above the higher of the interior or exterior 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.
- 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.
- 7) Shall, in Coastal High Hazard Areas (Zone VE), meet the requirements of Article 5, Section G.

(e) Additions/Improvements.

- i) 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 damage and must not be any more non-conforming than the existing structure.
 - 2) A substantial improvement, with modifications/rehabilitations/improvements to the existing structure or the common wall is structurally modified more than installing a doorway, both the existing structure and the addition must comply with the standards for new construction.
- ii) Additions to pre-FIRM or post-FIRM structures, except in Coastal A and VE zones, that are a substantial improvement with no modifications/rehabilitations/improvements 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.
- iii) 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 consistent with the code and requirements for the original structure.
 - 2) A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- iv) Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during a six (6) 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 six (6) year period begins on the date of the first improvement or repair of that building or structure subsequent to the effective date of this policy. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred. 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.
- (f) Recreational Vehicles. Recreational vehicles shall either:
- i) Temporary Placement
 - 1) Be on site for fewer than 180 consecutive days; or
 - 2) 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.)
 - ii) Permanent Placement. Recreational vehicles that do not meet the limitations of Temporary Placement shall meet all the requirements for new construction.
 - iii) Placement of recreational vehicles in Coastal High Hazard Areas, Coastal A Zones, and floodways is prohibited by the NC Building Code; Appendix G.
- (g) Temporary Non-Residential Structures. Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the State Construction Office 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 State Construction Office for review and written approval:
- i) A specified time period for which the temporary use will be permitted. Time specified must be less than one-hundred and eighty (180) days, in a three-hundred and sixty (360) day period;
 - ii) The name, address, and phone number of the individual responsible for the removal of the temporary structure;
 - iii) The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
 - iv) A copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and
 - v) Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.
- (h) Accessory Structures. When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area or Moderate Flood Hazard Area, the following criteria shall be met:
- i) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas).
 - ii) Accessory structures shall not be temperature-controlled.
 - iii) Accessory structures shall be designed to have low flood damage potential.
 - iv) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters.
 - v) Accessory structures shall be firmly anchored in accordance with the provisions of Article 5, Section A(1).
 - vi) Accessory structures, regardless of the size or cost, shall not be placed below elevated buildings in V and VE Zones.
 - vii) All service facilities such as electrical shall be installed in accordance with the provisions of Article 5, Section A(1).
 - viii) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided

below Regulatory Flood Protection Elevation in conformance with the provisions of Article 5, Section B(1)(d).

- ix) Elevation or floodproofing certifications are required for all other accessory structures in accordance with Article 4, Section B(3) unless exempted by Article 4, Section B(3)(e).
- (i) Tanks. When gas and liquid storage tanks are to be placed within a Special Flood Hazard Area or Moderate Flood Hazard Area, the following criteria shall be met:
 - i) Underground tanks. Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty.
 - ii) Above-ground tanks, elevated. Above-ground tanks in flood hazard areas shall be elevated to or above the Regulatory Flood Protection Elevation on a supporting structure that is designed to prevent flotation, collapse or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area.
 - iii) Above-ground tanks, not elevated. Above-ground fuel tanks that do not meet the elevation requirements of Article 5, Section B(1)(b) of this policy shall not be permitted in Coastal A, V or VE Zones. Fuel tanks may be permitted in other flood hazard areas, and septic tanks may be permitted in any flood-hazard area, provided the tanks are designed, constructed, installed, and anchored to resist all flood-related and other loads, including the effects of buoyancy, during conditions of the design flood and without release of contents in the floodwaters or infiltration by floodwaters into the tanks. Tanks shall be designed, constructed, installed, and anchored to resist the potential buoyant and other flood forces acting on an empty tank during design flood conditions.
 - iv) Tank inlets and vents. Tank inlets, fill openings, outlets and vents shall be:
 - 1) At or above the Regulatory Flood Protection Elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood.
 - 2) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the design flood.
- (j) Other Development:
 - i) Fences in regulated floodways and NEAs that have the potential to block the passage of floodwaters, such as stockade fences and wire mesh fences, shall meet the limitations of Article 5, Section F of this policy.
 - ii) Retaining walls, sidewalks and driveways in regulated floodways and NEAs. Retaining walls and sidewalks and driveways that involve the placement of fill in regulated floodways shall meet the limitations of Article 5, Section F of this policy.
 - iii) Roads and watercourse crossings outside of NCDOT's Right of Way or Easement in regulated floodways and NEAs. Roads and watercourse crossings, including roads, bridges, culverts, low-water crossings and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other side, that encroach into regulated floodways or NEA, and are outside of NCDOT's Right of Way or Easement shall meet the limitations of Article 5, Section F of this policy..
 - iv) Commercial storage facilities are not considered "limited storage" as noted in this policy and shall be protected to the Regulatory Flood Protection Elevation as required for commercial structures.

SECTION C. DEVELOPMENT WITHIN MINIMAL FLOOD HAZARD AREAS

- (1) In Minimal Flood Hazard Areas identified by Article 3, Sections C(2)(c), Subsections i or ii, the following provisions are required:
 - (a) 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 (RFPE), as defined in Article 2 of this policy.

- (b) Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Article 2 of this policy. Alternatively, structures may be floodproofed to the Regulatory Flood Protection Elevation (RFPE) 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. A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the State Construction Office as set forth in Article 4, Section B(3), along with the operational plan and the inspection and maintenance plan.
- (c) Manufactured Homes.
 - i) 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 (RFPE), as defined in Article 2 of this policy.
 - ii) 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 thirty-six (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 thirty-six (36) inches in height, an engineering certification is required.
 - iii) All enclosures or skirting below the lowest floor shall meet the requirements of Article 5, Section B(1)(d).
 - iv) 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 State Construction Office and the local Emergency Management Coordinator.
- (d) Elevated Buildings. Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:
 - i) 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.
 - ii) Shall not be temperature-controlled or conditioned.
 - iii) Shall be constructed entirely of flood resistant materials at least to the Regulatory Flood Protection Elevation.
 - iv) Shall include 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 (1) 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 (1) foot above the higher of the interior or exterior 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.
- 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.

(e) Additions/Improvements.

- i) 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, with modifications/rehabilitations/improvements to the existing structure or the common wall is structurally modified more than installing a doorway, both the existing structure and the addition must comply with the standards for new construction.
 - ii) Additions to pre-FIRM or post-FIRM structures that are a substantial improvement with no modifications/rehabilitations/improvements 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.
 - iii) 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 consistent with the code and requirements for the original structure.
 - 2) A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
 - iv) Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during a six (6) 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 six (6) year period begins on the date of the first improvement or repair of that building or structure subsequent to the effective date of this policy. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred. 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.
- (2) In addition to the Article 5, Section C requirements listed above, the following provisions are required in all Minimal Flood Hazard Areas identified by Article 3, Sections C(2)(c):
- (a) Development activities shall incorporate nature-based infrastructure to reduce the risk posed by flooding and storm surge to the proposed construction as well as to reduce the potential impacts caused by

stormwater runoff from the proposed construction to the maximum extent technically feasible (METF).

- (b) Development activities, including substantial improvements / repairs shall design, install, operate, and maintain stormwater systems in compliance with the requirements for volume matching for new development as set forth in the North Carolina Department of Environmental Quality (NCDEQ) Stormwater Design Manual. Alternate Design Methodologies (ADM) achieving equivalent results may be proposed by the applicant. Approval of ADM by the State Construction Office and NCDEQ is required.
- (c) Projects subject to NCDOT's NPDES stormwater permit number NCS000250 are exempted from Article 5, Sections (C)(2)(a) and (b) but shall comply with such permit and the NCDOT Guidelines for Drainage Studies and Hydraulic Design. In complying with the applicable NPDES permit, such projects shall incorporate nature-based infrastructure for stormwater management to the METF.

SECTION D. FLOODPLAINS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS

(1) Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Article 3, Section B, where no BFE data has been provided by FEMA, the following provisions, in addition to the provisions of Article 5, Section A, shall apply:

- (a) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from top of bank or five times the width of the stream, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (b) The BFE used in determining the Regulatory Flood Protection Elevation shall be determined based on the following criteria:
 - i) When BFE data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this policy and shall be elevated or floodproofed in accordance with standards in Article 5, Sections A and B.
 - ii) When floodway or non-encroachment data is available from a Federal, State, or other source, all new construction and substantial improvements within floodway and non-encroachment areas shall also comply with the requirements of Article 5, Sections B and F.
 - iii) All subdivision, manufactured home park and other development proposals shall provide BFE data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such BFE data shall be adopted by reference in accordance with Article 3, Section B and utilized in implementing this policy.
 - iv) When 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 Article 2. All other applicable provisions of Article 5, Section B shall also apply.

SECTION E. STANDARDS FOR RIVERINE FLOODPLAINS WITH BASE FLOOD ELEVATIONS BUT WITHOUT ESTABLISHED FLOODWAYS OR NON-ENCROACHMENT AREAS

(1) 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:

- (a) Standards of Article 5, Sections A and B.
- (b) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any

point.

SECTION F. FLOODWAYS AND NON-ENCROACHMENT AREAS

- (1) Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Article 3, Section B. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Article 5, Sections A and B, shall apply to all development within such areas:
 - (a) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless:
 - i) It is demonstrated that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood discharge, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the State Construction Office prior to issuance of floodplain development permit; or
 - ii) A Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained within six months of completion of the proposed encroachment.
 - (b) If Article 5, Section F(1)(a) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this policy.
 - (c) Manufactured homes may be permitted provided the following provisions are met:
 - i) The anchoring and the elevation standards of Article 5, Section B(1)(c).
 - ii) The encroachment standards of Article 5, Section F(1)(a).
 - (d) Placement of recreational vehicles in the floodway or non-encroachment area is prohibited.

SECTION G. COASTAL HIGH HAZARD AREA (ZONE VE)

- (1) Coastal High Hazard Areas are Special Flood Hazard Areas established in Article 3, Section B, and designated as Zones VE. These areas have special flood hazards associated with high velocity waters from storm surges or seismic activity and, therefore, all new construction and substantial improvements shall meet the following provisions in addition to the provisions of Article 5, Sections A and B:
 - (a) All new construction and substantial improvements shall:
 - i) Be located landward of the reach of mean high tide.
 - ii) Comply with all applicable CAMA setback requirements.
 - (b) All new construction and substantial improvements shall be elevated so that the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings or columns) is no lower than the Regulatory Flood Protection Elevation. Floodproofing shall not be utilized on any structures in Coastal High Hazard Areas to satisfy the Regulatory Flood Protection Elevation requirements.
 - (c) All new construction and substantial improvements shall have the space below the bottom of the lowest horizontal structural member of the lowest floor either be free of obstruction or constructed with breakaway walls, open wood latticework or insect screening, provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action without causing damage to the elevated portion of the building or supporting foundation system or otherwise jeopardizing the structural integrity of the building. The following design specifications shall be met:
 - i) Material shall consist of open wood or plastic lattice having at least 40 percent of its area open, or
 - ii) Insect screening; or
 - iii) Breakaway walls shall meet the following design specifications:

- 1) Breakaway walls shall have flood openings that allow for the automatic entry and exit of floodwaters to minimize damage caused by hydrostatic loads, per Article 5, Section B(1)(d).iv. Flood openings shall also meet the requirements of the NC Building Code and NC Residential Code and
 - 2) Design safe loading resistance shall be not less than 10 nor more than 20 pounds per square foot; or
 - 3) Breakaway walls that exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by State or local codes) shall be certified by a registered professional engineer or architect that the breakaway wall will collapse from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). The water loading values used shall be those associated with the base flood. The wind loading values used shall be those required by the North Carolina State Building Code.
- (d) All new construction and substantial improvements shall be securely anchored to pile or column foundations. All pilings and columns and the structure attached thereto shall be anchored to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.
- i) Water loading values used shall be those associated with the base flood.
 - ii) Wind loading values used shall be those required by the current edition of the North Carolina State Building Code.
- (e) For concrete pads, including patios, decks, parking pads, walkways, driveways, pool decks, etc. the following is required:
- i) Shall be structurally independent of the primary structural foundation system of the structure and shall not adversely affect structures through redirection of floodwaters or debris; and
 - ii) Shall be constructed to breakaway cleanly during design flood conditions, shall be frangible, and shall not produce debris capable of causing damage to any structure. (The installation of concrete in small segments (approximately 4 feet x 4 feet) that will easily break up during the base flood event, or score concrete in 4 feet x 4 feet maximum segments is acceptable to meet this standard); and
 - iii) Reinforcing, including welded wire fabric, shall not be used in order to minimize the potential for concreted pads being a source of debris; and
 - iv) Pad thickness shall not exceed 4 inches; or
 - v) Provide a Design Professional's certification stating the design and method of construction to be used meet the applicable criteria of this section.
- (f) For swimming pools and spas, the following is required:
- i) Be designed to withstand all flood-related loads and load combinations.
 - ii) Be elevated so that the lowest horizontal structural member is elevated above the RFPE; or
 - iii) Be designed and constructed to break away during design flood conditions without producing debris capable of causing damage to any structure; or
 - iv) Be sited to remain in the ground during design flood conditions without obstructing flow that results in damage to any structure.
 - v) Registered design professionals must certify to local officials that a pool or spa beneath or near a VE Zone building will not be subject to flotation or displacement that will damage building foundations or elevated portions of the building or any nearby buildings during a coastal flood.
 - vi) Pool equipment shall be located above the RFPE whenever practicable. Pool equipment shall not be

located beneath an elevated structure.

- (g) All elevators, vertical platform lifts, chair lifts, etc., the following is required:
 - i) Elevator enclosures must be designed to resist hydrodynamic and hydrostatic forces as well as erosion, scour, and waves.
 - ii) Utility equipment in Coastal High Hazard Areas (VE Zones) must not be mounted on, pass through, or be located along breakaway walls.
 - iii) The cab, machine/equipment room, hydraulic pump, hydraulic reservoir, counterweight and roller guides, hoist cable, limit switches, electric hoist motor, electrical junction box, circuit panel, and electrical control panel are all required to be above RFPE. When this equipment cannot be located above the RFPE, it must be constructed using flood damage-resistant components.
 - iv) Elevator shafts/enclosures that extend below the RFPE shall be constructed of reinforced concrete walls and located on the landward side of the building to provide increased protection from flood damage. Drainage must be provided for the elevator pit.
 - v) Flood damage-resistant materials shall be used inside and outside the elevator cab. Use only stainless-steel doors and door frames below the BFE. Grouting in of door frames and sills is recommended.
 - vi) If an elevator is designed to provide access to areas below the BFE, it shall be equipped with a float switch system that will activate during a flood and send the elevator cab to a floor above the RFPE.
- (h) Accessory structures, regardless of size or cost, shall not be permitted below elevated structures.
- (i) A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions of Article 4, Section B and Article 5, Section G(1)(c) and (d), on the current version of the North Carolina V-Zone Certification form or equivalent local version. In addition, prior to the Certificate of Compliance/Occupancy issuance, a registered professional engineer or architect shall certify the finished construction is compliant with the design, specifications and plans for VE Zone construction.
- (j) Fill/Grading
 - i) Minor grading and the placement of minor quantities of nonstructural fill may be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios and walkways.
 - ii) The fill material must be similar and consistent with the natural soils in the area.
 - iii) The placement of site-compatible, non-structural fill under or around an elevated building is limited to two (2) feet. Fill greater than two (2) feet must include an analysis prepared by a qualified registered design professional demonstrating no harmful diversion of floodwaters or wave runup and wave reflection that would increase damage to adjacent elevated buildings and structures.
 - iv) Nonstructural fill with finished slopes that are steeper than five (5) units horizontal to one (1) unit vertical shall be permitted only if an analysis prepared by a qualified registered design professional demonstrates no harmful diversion of floodwaters or wave runup and wave reflection that would increase damage to adjacent elevated buildings and structures.
- (k) There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.
- (l) Placement of recreational vehicles in Coastal High Hazard Areas is prohibited.
- (m) A deck that is structurally attached to a building or structure shall have the bottom of the lowest horizontal structural member at or above the Regulatory Flood Protection Elevation and any supporting members that extend below the Regulatory Flood Protection Elevation shall comply with the foundation requirements that apply to the building or structure, which shall be designed to accommodate any increased

loads resulting from the attached deck. The increased loads must be considered in the design of the primary structure and included in the V-Zone Certification required under Article 4, Section B, (3)(f).

- (n) A deck or patio that is located below the Regulatory Flood Protection Elevation shall be structurally independent from buildings or structures and their foundation systems, and shall be designed and constructed either to remain intact and in place during design flood conditions or to break apart into small pieces to minimize debris during flooding that is capable of causing structural damage to the building or structure or to adjacent buildings and structures.
- (o) In Coastal High Hazard Areas, development activities other than buildings and structures shall be permitted only if also authorized by the appropriate state or local authority; if located outside the footprint of, and not structurally attached to, buildings and structures; and if analyses prepared by qualified registered design professionals demonstrate no harmful diversion of floodwaters or wave runup and wave reflection that would increase damage to adjacent buildings and structures. Such other development activities include but are not limited to:
 - i) Bulkheads, seawalls, retaining walls, revetments, and similar erosion control structures.
 - ii) Solid fences and privacy walls, and fences prone to trapping debris, unless designed and constructed to fail under flood conditions less than the design flood or otherwise function to avoid obstruction of floodwaters.
 - iii) Docks, piers, and similar structures.

SECTION H. STANDARDS FOR COASTAL A ZONES (ZONE CAZ) LiMWA

- (1) Structures in CAZs shall be designed and constructed to meet V Zone requirements, including requirements for breakaway walls. NFIP regulations also require flood openings in walls surrounding enclosures below elevated buildings in CAZs.
 - (a) All new construction and substantial improvements shall be elevated so that the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings or columns) is no lower than the Regulatory Flood Protection Elevation. Floodproofing shall not be utilized on any structures in Coastal A Zones to satisfy the Regulatory Flood Protection Elevation requirements. Exception: Stem wall foundations supporting a floor system above and backfilled with soil or gravel to the underside of the floor system, shall be permitted in Coastal A-Zones provided the foundations are designed to account for wave action, debris impact, erosion, and local scour. Where soils are susceptible to erosion and local scour, stem wall foundations shall have deep footings to account for the loss of soil.
 - (b) Except as noted above regarding stem wall foundations, all new construction and substantial improvements shall have the space below the bottom of the lowest horizontal structural member of the lowest floor either be free of obstruction or constructed with breakaway walls, open wood latticework or insect screening, provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action without causing damage to the elevated portion of the building or supporting foundation system or otherwise jeopardizing the structural integrity of the building. The following design specifications shall be met:
 - i) Material shall consist of open wood or plastic lattice having at least 40 percent of its area open, or
 - ii) Insect screening; or
 - iii) Breakaway walls shall meet the following design specifications:
 - 1) Breakaway walls shall have 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 design criteria in Article 5, Section B(1)(d).iv; flood openings shall also meet the requirements of the NC Building Code and NC Residential Code; and
 - 2) Design safe loading resistance shall be not less than 10 nor more than 20 pounds per square foot; or
 - 3) Breakaway walls that exceed a design safe loading resistance of 20 pounds per square foot

(either by design or when so required by State or local codes) shall be certified by a registered professional engineer or architect that the breakaway wall will collapse from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). The water loading values used shall be those associated with the base flood. The wind loading values used shall be those required by the North Carolina State Building Code.

- (c) Concrete pads, including patios, decks, parking pads, walkways, driveways, etc. must meet the provisions of Article 5, Section G(1)(e).
- (d) All new construction and substantial improvements shall meet the provisions of Article 5, Section G(1)(c).
- (e) A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions of Article 4, Section B and Article 5, Section G(1)(c) and (d), on the current version of the North Carolina V-Zone Certification form or a locally developed V-Zone Certification form.
- (f) Placement of recreational vehicles in Coastal A Zones is prohibited.
- (g) Fill/Grading must meet the provisions of Article 5, Section G(1)(j).
- (h) Decks and patios must meet the provisions of Article 5 Section G(1)(m) and (n).
- (i) In Coastal High Hazard Areas, development activities other than buildings and structures must meet the provisions of Article 5, Section G(1)(o).

SECTION I. STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AO).

- (1) Located within the Special Flood Hazard Areas established in Article 3, Section B, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to Article 5, Sections A and B, all new construction and substantial improvements shall meet the following requirements:
 - (a) The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of four (4) feet, above the highest adjacent grade; or at least four (4) feet above the highest adjacent grade if no depth number is specified.
 - (b) Non-residential structures may, in lieu of elevation, be floodproofed to the same level as required in Article 5, Section G(1) so that the structure, together with attendant utility and sanitary facilities, below that level shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required in accordance with Article 4, Section B(3) and Article 5, Section B(1)(b).
 - (c) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

SECTION J. STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AH).

- (1) Located within the Special Flood Hazard Areas established in Article 3, Section B, are areas designated as shallow flooding areas. These areas are subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are one (1) to three (3) feet. Base flood elevations are derived from detailed hydraulic analyses are shown in this zone. In addition to Article 5, Sections A and B, all new construction and

substantial improvements shall meet the following requirements:

- (a) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

ARTICLE 6. LEGAL STATUS PROVISIONS.

SECTION A. EFFECT ON RIGHTS AND LIABILITIES UNDER THE EXISTING FLOOD DAMAGE PREVENTION POLICY.

This policy in part comes forward by re-enactment of some of the provisions of the Uniform Floodplain Management Policy for State Property enacted on July 24, 1990 as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this policy shall not affect any action, suit or proceeding instituted or pending. All provisions of the Uniform Floodplain Management Policy for State Property of the State of North Carolina enacted on July 24, 1990, as amended, which are not reenacted herein are repealed.

The date of the initial Uniform Floodplain Management Policy for State Property for the State of North Carolina is February 1, 1979.

SECTION B. EFFECT UPON OUTSTANDING FLOODPLAIN DEVELOPMENT PERMITS.

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

SECTION C. SEVERABILITY.

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

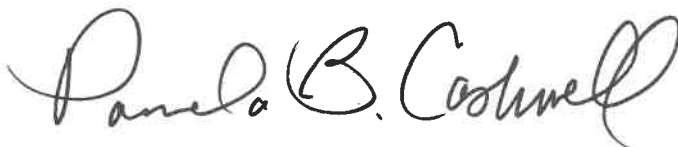
SECTION D. EFFECTIVE DATE.

This policy shall become effective January 25, 2024.

SECTION E. ADOPTION CERTIFICATION.

Pursuant to EO226 issued on July 25, 2022, I hereby certify that this is a true and correct copy of the Uniform Floodplain Management Policy for State Property as adopted by the Department of Administration of the State of North Carolina, Secretary of NCDOA, on the 24th day of January, 2024.

Signed this the 24th day of January, 2024.



Pamela B. Cashwell, Secretary of the North Carolina Department of Administration