

EXECUTIVE ORDER NUMBER 123
UNIFORM FLOODPLAIN MANAGEMENT POLICY

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, Governor James B. Hunt, Jr., established a Uniform Floodplain Management Policy for State agencies by Executive Order Number 31 signed on February 1, 1979, to provide for sound management of state-owned properties as they relate to potential flood hazards; and

WHEREAS, the federal regulations for floodplain management, 44 C.F.R. Chapter 1, Parts 59 through 77 (1989), were revised making Executive Order Number 31 outdated; and

WHEREAS, there is a substantial need to update the Uniform Flood Management Policy in accordance with the revisions made in 44 C.F.R. Chapter 1, Parts 59 through 77 (1989);

NOW, THEREFORE, **IT IS HEREBY ORDERED:**

Section 1. The Uniform Floodplain Management Policy established by Executive Order Number 31, February 1, 1979, is hereby rescinded.

Section 2. I hereby establish a new Uniform Floodplain Management Policy which accurately reflects all authority, responsibilities and functions of State agencies.

Section 3. The Department of Administration shall administer a Uniform Floodplain Management Policy for State Agencies. By agreement between the Department of Transportation and the Department of Administration, the Department of Transportation shall work directly with the Federal Department of Transportation and the Federal Emergency Management Agency to apply appropriate standards and management to comply with the Floodplain Management Policy relevant to highway construction within floodplains. This order 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 order in no way affects municipal or county zoning authority pursuant to General Statutes Chapter 160A, Article 19, Part 3 and Chapter 153A, Article 18, Part 3; however, in cases of conflict between Municipal and County Floodway Regulations pursuant to Chapter 143, Article 2, Part 6 and the provisions set forth in this order, the Department of Administration shall investigate the area of conflict and make appropriate determinations to comply with the intent of this order.

Section 4. To encourage State agencies to work within the existing statutes of the State of North Carolina to establish a Uniform Floodplain Management Policy, the following statutes and codes, and revisions thereto, though not repeated herein, are hereby incorporated by reference:

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| Property | A. Chapter 58, Section 193, Commissioner of Insurance - Required to Inspect State |
| | B. Chapter 113, Article 1, Estuarine Waters and State Owned Lakes |
| | C. Chapter 113A, Article 1, Environmental Policy Act |
| | D. Chapter 113A, Article 4, Sedimentation Pollution Control Act of 1973 |
| | E. Chapter 113A, Article 7, Coastal Area Management Act of 1974 |
| | F. Chapter 113A, Article 7A, Coastal and Estuarine Water Beach Access Program |
| | G. Chapter 113A, Article 9, Land Policy Act |
| | H. Chapter 143, Article 1, Executive Budget Act |
| | I. Chapter 143, Article 8, Public Building Contract |
| | J. Chapter 143, Article 36, Department of Administration |
| | K. Chapter 143, Article 21, Section 214.1 Water Quality Standards |
| | L. Chapter 143, Article 21, Section 215, Effluent Standards and Limitations |
| | M. Chapter 143, Article 21, Part 6, Floodway Regulations |
| | N. Chapter 143B, Article 9, Part 3, N.C. Capital Planning Commission |
| | O. Chapter 146, Articles 5, 6 and 7 Acquisition and Disposition of State Lands |

- P. Chapter 153A, Article 18, Part 3, County Zoning Authority
- Q. Chapter 160A, Article 19, Part 3, Local Zoning Authority
- R. North Carolina State Building Code 1978 Edition and amendments
- S. PL 92-500 Pollution Control Act of 1972
- T. 44 CFR Parts 59 - 76, NFIP and Related Regulations
- U. Title 16 USCS Chapter 33, Coastal Zone Management
- V. Title 33 USCS Chapter 15, Flood Control
- W. Title 42 USCS Chapter 50, Flood Insurance

Section 5. Definitions. It is not the intent of this order to create any new terms or phrases. The terms and phrases used herein shall be interpreted to conform with existing common usage, statutes, or other applicable regulations as follows:

1. "Appeal" means a request from a review of the local administrator's interpretation of any provision of this order.
2. "Addition (to an existing building)" means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.
3. "Area of shallow flooding" means a designated AO or VO Zone on a community's Flood Insurance Rate Map (FIRM) with base depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.
4. "Area of special flood hazard" is the land in the floodplain within a community subject to a one percent or greater chance of being equaled or exceeded in any given year.
5. "Base flood" means the flood having a one percent chance of being equaled or exceeded in any given year.
6. "Basement" means that lowest level or story which has its floor subgrade on all sides.
7. "Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system. A breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. A wall with loading resistance of more than 20 pounds per square foot requires a professional engineer or architect's certificate.
8. "Building" means any structure built for support, shelter, or enclosure for any occupancy or storage.
9. "Coastal High Hazard Area" means an area of special flood hazard 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.
10. "Development" off 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.
11. "Elevated Building" means a non-basement building (a) built, in the case of a building in Zones A1-A30, AE, A, A99, AO, AH, B, C, or X to have the top of the elevated floor, or in the case of a building in Zones V1-V30, VE, or V to have the bottom of the lowest horizontal structural member of the elevated floor above the ground by means of pilings, columns (posts and piers), shear walls parallel to the flow of water and, (b) adequately anchored so as not to impair the structural integrity of the building during a flood up to the magnitude of the base flood. In the case of Zones A1-A30, AE, A, A99, AO, AH, B, C, and X, "elevated building" also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters. In the case of Zones V1-V30, VE, or V, "elevated building" also includes a building otherwise meeting the definition of "elevated building", even though the area below is

enclosed by means of breakaway walls if the breakaway walls meet the standards of Section 8, Subsection E of this order.

12. "Existing manufactured home park or manufactured home subdivision" means a manufactured home part 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 this order.

13. "Expansion to an existing manufactured home part or subdivision" means the preparation of the additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete slabs).

14. "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

(B) the unusual and rapid accumulation of runoff of surface waters from any source.

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

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

17. "Flood Insurance Study" is the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, as well as the Flood Boundary Floodway Map and the water surface elevation of the base flood.

18. "Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

19. "Floor" means the top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

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

21. "Highest Adjacent Grade" means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of the structure.

22. "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 the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a State inventory of historic places; (d) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified (1) by an approved state program as determined by the Secretary of the Interior, or (2) directly by the Secretary of Interior in states without approved programs.

23. "Levee" means a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

24. "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 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 order.

25. "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".

26. "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.

27. "Mean Sea Level" means the average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the floodplain. For purposes of this order, the term is synonymous with National Geodetic Vertical Datum (NGVD).

28. "National Geodetic Vertical Datum (NGVD)" as corrected in 1929 is a vertical control used as a reference from establishing varying elevations within the floodplain.

29. "New construction" means structures for which the "start of construction" commenced on or after the effective date of this order and includes any subsequent improvements to such structures.

30. "New manufactured home part or subdivision" means a manufactured home part 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 slabs) is completed on or after the effective date of this order.

31. "Nonconforming building or use" means any legally existing building or use which fails to comply with the provisions of the order.

32. "Primary frontal dune" 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 over-topping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

33. "Recreational Vehicle" 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; and, (d) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping travel, or seasonal use.

34. "Reference feature" is the receding edge of a bluff or eroding frontal dune, or if such a feature is not present, the normal highwater line or the seaward line of permanent vegetation if highwater line cannot be identified.

35. "Remedy a violation" means to bring the structure or other development into compliance with State or local floodplain management regulations, or, if this is not possible, to reduce the 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 order or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

36. "60-year setback" means a distance equal to 60 times the average annual long term recession rate at a site, measured from the reference feature.

37. "Start of construction" [for other than new construction or substantial improvements under the Coastal Barrier Resources Act (P.L. 97-348)], includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the state of excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does

it include excavation for a basement, footings, piers or foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

38. "Structure" means, for floodplain management purposes, a walled and roofed building, a manufactured home, including a gas or liquid storage tank, or other man-made facilities or infrastructures that are principally above ground.

39. "Substantial damage" means damage of any origin sustained by a structure 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".

40. "Substantial improvement" means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either: (1) any project of improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or, (2) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

41. "Substantially improved existing manufactured home part or subdivision" means where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

42. "Variance" is a grant of relief to a person from the requirements of this order which permits construction in a manner otherwise prohibited by this order where specific enforcement would result in unnecessary hardship.

43. "Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 4 and 5 is presumed to be in violation until such time as the documentation is provided.

44. "Zone of imminent collapse" means an area subject to erosion adjacent to the shoreline of an ocean, bay or lake and within a distance equal to 10 feet plus 5 times the average annual long term erosion rate for the site, measured from the reference feature.

Section 6. Location of Regulatory Floodway and Floodplain Boundaries. Determination of boundaries for the regulatory floodway, the 100-year floodplain, and the coastal high hazard areas shall be established by using the latest hydrologic maps and engineering data obtainable.

When Federal Emergency Management Agency (FEMA) Flood Hazard Boundary (FHBM), Floodway, Flood Insurance Rate Maps (FIRM) or Flood Insurance Study Date are available, they shall be the primary source of such hydrologic data.

Section 7. Floodplain Development Permit and Certification Requirements. Application for a Floodplain Development Permit shall be made to the Department of Administration on forms furnished by them prior to any development activities. The Floodplain Development permit shall include, but not be limited to plans in duplicate drawn to scale showing: the nature, location, dimensions, and elevations of the area in question; existing or proposed structures; a copy of the Flood Hazard Boundary/Floodway or Flood Insurance Rate Map showing the site location and panel number, and the location of fill materials, storage areas and drainage facilities. Specifically, the following information is required:

A. Where base flood elevation data is provided in accordance with Section 8, Subsection L, the application for a Floodplain Development Permit within the Zone A on the Flood Insurance Rate Map shall show:

(1) the elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and

(2) if the structure has been floodproofed in accordance with Section 10 Subsection B, the elevation (in relation to mean sea level) to which the structure was floodproofed.

B. Where the base flood elevation data is not provided, the application for a development permit must show construction of the lowest floor at least two (2) feet above the highest adjacent grade.

C. Where any watercourse will be altered or relocated as a result of proposed development, the application for a development permit shall include: a description of the extent of watercourse alteration or relocation; an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located on both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation.

D. When a structure is floodproofed the applicant shall provide a certificate from a registered professional engineer or architect that the nonresidential floodproofed structure meets the flood-proofing criteria in Section 10, Subsection B.

E. A floor elevation or flood-proofing certification is required after the lowest floor is completed, or in instances where the structure is subject to the regulations applicable to Coastal High Hazard Areas, after placement of the horizontal structural members of the lowest floor. Within twenty-one (21) calendar days of the establishment of the lowest floor elevation, or flood-proofing by whatever constructions means, or upon placement of the horizontal structural members of the lowest floor, whichever is applicable, it shall be the duty of the permit holder to submit to the Department of Administration a certification of the elevation of the lowest floor, or floodproofed elevation, or the elevation of the bottom of the horizontal structural members of the lowest floor, whichever is applicable, as built, in relation to mean sea level. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When flood-proofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work done within the twenty-one (21) day calendar and prior to submission of the certification shall be at the permit holder's risk. The Department of Administration shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby shall be cause to issue a stop work order for the project.

F. Upon receipt of the permit applications, the Secretary of the Department of Administration or his/her designee will review the application with other departments, and will (1) deny the permit application; or (2) issue a temporary permit for further development of the project. If a temporary permit is issued, the applicant may proceed with development of detailed planning and specifications, such as plans and specifications to be submitted to the Department of Administration for periodic review.

G. Upon final approval of the detailed plans and specifications, the Department of Administration shall issue a permit for construction. In granting or denying permits, the Department shall be guided by the standards, limitation and requirements set forth in this order.

H. Certificate of Compliance. Before the facility is occupied, the owning agency shall issue or cause to be issued a certificate of compliance stating that the subject project complied with all of the provisions of this order. The certificate shall be prepared by a professional engineer, architect or land surveyor, or a combination thereof, if so required by the aforementioned statutes.

I. North Carolina Department of Insurance Approval. When the project is a structure normally covered by insurance, the development permit under Section 7, will not be issued until the project is approved by the Department of Insurance for full coverage.

J. Appeals, Adjustments, Amendments and Violations. Appeals, Adjustments, Amendments and Violations shall be considered and determined as provided in the aforementioned statutes and in accordance with the rules and regulations governing the Department of Administration adopted pursuant to the Administrative Procedures Act.

Section 8. Duties and Responsibilities of the Department of Administration. Duties of the Department of Administration shall include, but not be limited to:

- A. Review all development permits to assure that the permit requirements of the order have been satisfied.
- B. Advise permittee that additional federal or state permits may be required, and if specific federal or state permits are known, require that copies of such permits be provided and maintained on file with the development permit.
- C. Notify adjacent communities and the N.C. Department of Crime Control and Public Safety, Division of Emergency Management, and the State Coordinator's Office for the National Flood Insurance Program prior to any alteration or relocation of a watercourse and submit such notification to the Federal Emergency Management Agency.
- D. Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- E. Prevent encroachments within floodways unless the certification and flood hazard reduction provision of Sections 7 thru 11, are met.
- F. Obtain the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, in accordance with Section 7, Subsection E.
- G. Obtain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed, in accordance with Section 7, Subsection E.
- H. In Coastal Hazard Areas, certification shall be obtained from a registered professional engineer or architect that the structure is securely anchored to adequately anchored pilings or columns in order to withstand velocity waters and hurricane wave wash.
- I. In Coastal High Hazard Areas, review plan for adequacy of breakaway walls in accordance with Section 8, Subsection G, Paragraph 8.
- J. When flood-proofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with Section 10, Subsection B.
- K. Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), the Department of Administration shall make the necessary interpretation, upon recommendation by the Office of State Construction. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this order.
- L. When base flood elevation data has not been provided in accordance with Section 6, obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state or other source, including data developed pursuant to Section 12, Subsection D, in order to administer the provisions of this order.
- M. Make on site inspections in accordance with the aforementioned statutes.
- N. Serve notices of violations, issue stop work orders, revoke permits and take corrective actions in accordance with the aforementioned statutes.
- O. Maintain all records pertaining to the administration of this order and make these records available for public inspection.

Section 9. Provisions for Flood Hazard Reduction - General Standards. In all areas of special flood hazard the following provisions are required:

- A. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- B. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- C. All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages;

D. Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

E. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

F. New and replacement sanitary sewer systems shall be located and constructed to minimize infiltration of flood waters 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; and

H. Any alteration, repair, reconstruction or improvement to a structure which is in compliance with the provisions of this order, shall meet the requirements of "new construction" as contained in this order.

I. Non-conforming building or uses. Non-conforming buildings or uses may not be enlarged, replaced or rebuilt unless such enlargement, replacement or reconstruction is accomplished in conformance with the provisions of this order. Provided, however, nothing in this order shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this order and located totally or partially within the Floodway Zone, provided that the bulk of the building or structure below base flood elevation in the Floodway Zone is not increased and provided that such repair, reconstruction or replacement meets all the other requirements of this order. A structure abandoned for twelve (12) months or more cannot be reoccupied until it is improved and brought into compliance with this order.

Section 10. Provisions for Flood Hazard Reduction - Specific Standards. In all areas of special flood hazard where base flood elevation data has been provided, as set forth in Section 6 or Section 8, Subsection L, the following provisions are required:

A. Residential Construction. New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated no lower than two (2) feet above the base flood elevation. Should solid foundation perimeter walls be used to elevate the structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided.

B. Non-Residential Construction. New construction or substantial improvement of any commercial, industrial, or non-residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated no lower than two (2) feet above the level of the base flood elevation.

Structures located in A-Zones may be floodproofed in lieu of elevation provided that for:

(1) Dry Floodproofing. All areas of the structure below the required elevation are water tight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this Section are satisfied. Such certification shall be provided to the official as set forth in Section 7, Subsection E; or,

(2) Wet Floodproofing. A professional engineer or architect shall certify in accordance with Section 7, Subsection E, that the portions of any structure below the regulatory base flood elevation comply with alternate wet floodproofing methods that are acceptable to FEMA as variances to the essentially dry floodproofing measures required in Section 10, Subsection B (1) above. Provided said alternate methods comply with the standards set forth in the FEMA Technical Standards Bulletin (No. 85-1), and that such measures are adequate to withstand the flood depth pressures, velocities, impact and uplift forces and other factors associated with the Base Flood occurrence at the location of the structures and that attendant utility and sanitary facilities are floodproofed and that the requirements for the issuance of the Variance comply with Section 14 of this order.

C. Manufactured Homes.

(1) Manufactured homes that are placed or substantially improved on sites (a) outside a manufactured home part or subdivision; (b) in a new manufactured home part or subdivision; (c) in an expansion to an existing manufactured home part or subdivision; or, (d) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated no lower than two (2) feet above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(2) Manufactured homes that are to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the provisions of Section 10, Subsection C (1) of this ordinance must be elevated so that the lowest floor of the manufactured home is elevated no lower than two (2) feet above the base flood elevation, and be securely anchored to an adequate anchored foundation to resist flotation, collapse, and lateral movement.

(3) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. For the purpose of this requirement, manufactured homes must be anchored to resist flotation, collapse, or lateral movement in accordance with the Regulations for Mobile Homes and Modular Housing adopted by the Commissioner of Insurance pursuant to N.C.G.S. 143.143.15. Additionally, when the elevation would be met by an elevation of the chassis at least 36 inches or less above the grade at the sight, the chassis shall be supported by reinforced piers or other foundation elements of at least equivalent strength. When the elevation of the chassis is above 36 inches in height and engineering certification is required.

(4) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This Plan shall be filed with and approved by the Department of Administration and the Department of Crime Control and Public Safety.

D. Recreational Vehicles. A recreational vehicle is ready for highway use if it is on wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions. Recreation vehicles placed on sites shall either:

- (1) be on site for fewer than 180 consecutive days,
- (2) be fully licensed and ready for highway use, or
- (3) meet the requirements of Section 7, 9 and 10 (subsection C).

E. Elevated Buildings. New construction or substantial improvements of elevated buildings that include fully enclosed areas that are usable solely for the parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to preclude finished living space and be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.

(1) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following criteria:

- (a) provide a minimum of two (2) openings having a net area of not less than one square inch for every square foot of enclosed area subject to flooding;
- (b) the bottom of all openings shall be no higher than one foot above grade; and,
- (c) openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.

(2) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairwell or elevator).

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

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

(1) All applicants must submit to the local administrator a plan for the removal of such structure(s) in the event of a hurricane or flash flood notification. The plan must include the following information:

- (a) the name, address and phone number of the individual responsible for the removal of the temporary structure;
- (b) the time frame prior to the event at which a structure will be removed;
- (c) a copy of the contract or other suitable instrument with a trucking company to insure the availability of removal equipment when needed; and
- (d) designation, accompanied by documentation, of a location outside the floodplain to which the temporary structure will be moved.

(2) The above information shall be submitted in writing to the local administrator for review and written approval.

G. Accessory Structure. When accessory structures (sheds, detached garages, etc.) with a value of \$3,000 or less, are to be placed in the floodplain the following criteria shall be met:

- (1) Accessory structures shall not be used for human habitation;
- (2) Accessory structures shall be designed to have low flood damage potential;
- (3) Accessory structures shall be firmly anchored in accordance with Section 9, Subsection A; and
- (4) Service facilities such as electrical and heating equipment shall be elevated in accordance with Section 9, Subsection D.

H. Floodways. Located within areas of special flood hazard established in Section 6, are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of flood waters which carry debris and potential projectiles and has erosion potential. The following provisions shall apply within such areas:

(1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(2) If Section 10, Subsection F, Paragraph 1, is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sections 9 thru 13 of this order.

(3) No manufactured homes shall be permitted except in existing manufactured home parks or subdivisions. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided that the anchoring standards of Section 9, Subsection B and the elevation standards of Section 8 (C) are met.

I. Coastal High Hazard Areas (V-Zones). Located within the areas of special flood hazard established in Section 6, are areas designated as coastal high hazard areas. These areas have special flood hazards associated with wave wash. The following provisions shall apply within such areas:

(1) All buildings or structures shall be located landward of the first line of stable natural vegetation and comply with all applicable CAMA setback requirements.

(2) All buildings or structures shall be elevated so that the bottom of the lowest supporting horizontal member (excluding pilings or columns) is located no lower than two (2) feet above the base flood elevation level, with all space below the lowest supporting member open so as not to impede the flow of water. Open lattice work or decorative screening may be permitted for aesthetic purposes only and must be designed to wash away in the event of abnormal wave action and in accordance with Section 10, Subsection G, Paragraph 8.

(3) All buildings or structures shall be securely anchored on pilings or columns.

(4) All pilings and columns and the attached structures shall be anchored to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components. The anchoring and support system shall be designed with wind and water loading values which equal or exceed the 100 year mean recurrence interval (one percent annual chance flood).

(5) A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions contained in Section 10, Subsection G, Paragraphs (2), (3) and (4) of this order.

(6) There shall be no fill used as structural support. Non-compacted fill may be used around the perimeter of a building for landscaping/aesthetic purposes provided the fill will wash out from storm surge, (thereby rendering the building free of obstruction prior to generating excessive loading forces, ramping effects, or wave deflection. The Department of Administration shall approve design plans for landscaping/aesthetic fill only after the applicant has provided an analysis by an engineer, architect, and/or soil scientist which demonstrates that the following factors have been fully considered:

(a) particle composition of fill material does not have a tendency for excessive natural compaction;

(b) volume and distribution of fill will not cause wave deflection to adjacent properties; and

(c) slope of fill will not not cause wave run-up or ramping.

(7) There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.

(8) Lattice work or decorative screening shall be allowed below the base flood elevation provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action, without damage to the structural integrity of the building on which they are to be used and provided the following design specifications are met:

(a) no solid walls shall be allowed;

(b) material shall consist of wood or mesh screening only;

(c) design safe loading resistance of each wall shall be not less than 10 nor more than 20 pounds per square foot; or

(d) if more than 20 pounds per square foot, a registered professional engineer or architect shall certify that the design wall collapse would result from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components during the base flood event. Maximum wind and water loading values to be used in this determination shall each have one percent chance of being equalled or exceeded in any given year (100-year mean recurrence interval).

(9) If aesthetic lattice work or screening is utilized such enclosed space shall not be designed to be used for human habitation, but shall be designed to be used only for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises.

(10) Prior to construction, plans for any structures that will have lattice work or decorative screening must be submitted to the Department of Administration for approval.

(11) Any alteration, repair, reconstruction or improvement to a structure shall not enclose the space below the lowest floor except with lattice work or decorative screening, as provided for in Section 10, Subsection G, Paragraph (8) and (9).

(12) No manufactured homes shall be permitted except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of Section 9, Subsection (B) and the elevation standard of Section 10, Subsection C are met.

Section 11. Standard for Streams Without Established Base Flood Elevations and/or Floodways. Located within the areas of special flood hazard established in Section 6 are small streams where the Federal Emergency Management Agency has not provided base flood data and where floodways have not been identified. The following provisions shall apply within such areas:

A. No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of thirty feet from the top of bank, 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. If Section 11, Subsection A is satisfied and base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard provisions of Section 9 thru 13 and shall be elevated or floodproofed in accordance with elevations established in accordance with Section 8, Subsection L. When base flood elevation data is not available from a federal, state or other source, the lowest floor, including basement, shall be elevated at least two (2) feet above the highest adjacent grade.

Section 12. Standard for Subdivision Proposals.

A. All subdivision proposals shall be consistent with the need to minimize flood damage;

B. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;

C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards; and,

D. Base flood elevation data shall be provided for subdivision proposals and other proposed development which is greater than the lesser of fifty lots or five acres.

Section 13. Standard for Areas of Shallow Flooding (AO Zones). Located within the areas of special flood hazard established in Section 6 are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one to three feet (1 - 3 feet) where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. The following provisions shall apply within such areas:

A. All new construction and substantial improvements of non-residential structures shall:

(1) have a lowest floor, including basement, elevated in the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated at least two (2) feet above the highest adjacent grade; or,

(2) be completely floodproofed together with attendant utility and sanitary facilities or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

Section 14. Variance Procedures.

A. The Department of Administration, Office of State Construction, the Department of Insurance, the North Carolina Division of Emergency Management, NFIP State Coordinator, and the Secretary of the Department of Administration, hereafter referred to as the appeal board, shall hear and must concur on requests for variances from the requirements of this order.

B. Any person aggrieved by the decision of the appeal board or any taxpayer may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.

C. Variances may be issued for 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 the variance is the minimum necessary to preserve the historic character and design of the structure.

D. Variances may only be granted for Historic Structures and for wet Floodproofing of Non-Residential Structures. No variances may be granted for Residential construction.

E. In passing upon such applications, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this order, and:

(1) the danger that materials may be swept onto other lands to the injury of others;

(2) the danger to life and property due to flooding or erosion damage;

- (3) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- (4) the importance of the services provided by the proposed facility to the community;
- (5) the necessity to the facility of a waterfront location, where applicable;
- (6) the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- (7) the compatibility of the proposed use with existing and anticipated development;
- (8) the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- (9) the safety of access to the property in times of flood for ordinary and emergency vehicles;
- (10) the expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,
- (11) the costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

F. Upon consideration of all the factors listed above and the purposes of this order, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this order.

G. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

H. Conditions for Variances:

- (1) Variances may not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.
- (2) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (3) Variances shall only be issued upon (i) a showing of good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship; and, (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
- (4) 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 a written statement 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.
- (5) The local administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

Section 15. The Department of Insurance and the Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator's Office of the National Flood Insurance Program shall assist in jointly administering the provisions of this order under applicable statutory provisions.

Section 16. Abrogation and Greater Restrictions. This order is not intended to repeal, abrogate, or impair any existing easements, covenants or deed restrictions. However, where this order and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

Section 17. This order shall become effective immediately. Done in Raleigh, North Carolina this the 24th day of July, 1990.