

NFIP Coastal Regulations – 1968 to Present

The U.S. Congress created the National Flood Insurance Program (NFIP) in 1968 when it passed the National Flood Insurance Act. The NFIP, which is administered by the Federal Emergency Management Agency (FEMA), is a voluntary program whose goals are to reduce the loss of life and damage caused by flooding, to help victims recover from floods, and to promote an equitable distribution of costs among those who are protected by flood insurance and the general public. Below are the sections from the Code of Federal Regulations that address NFIP coastal issues.

- Part 59 – General provisions, definitions, and program description
 - Special Flood Hazard Area (SFHA)— Areas subject to 1% or greater annual chance of flooding in a given year. Includes Zone A, AE, AO, and V (commonly referred to as the 100-year floodplain). The 0.2% annual chance floodplain (500-year floodplain) is NOT an SFHA.
 - Coastal High Hazard Area (V Zone) — SFHA extending from offshore to inland limit of primary frontal dune along the open coast and any other area subject to high velocity wave action from storms or seismic sources.
- Part 60 —Land Management and Use:
 - Criteria for floodplain management ordinances for coastal hazard areas with detailed analyses (Zones VE and AE) are located in subsection 60.3(e)
- Part 65 — Identification and Mapping of Special Hazard Areas
 - Map revisions — Letter actions (65.5 and 65.6)
 - Coastal Levees (65.10)
 - Primary Frontal Dunes (65.11)
- Part 72 — Procedures and Fees for Processing Map Changes:
 - Fee schedule and payment procedures
 - Fee required for map actions including coastal structures
 - No fee for map actions based on more detailed information

V Zone Requirements (from Part 59)

- Siting:
 - Landward of the reach of mean high tide.
 - Restrictions on alteration of sand dunes, mangrove stands
- Elevation:
 - On pilings or columns
 - Bottom of lowest horizontal structural member of the lowest floor at/above BFE
- Foundation:
 - Piling/column foundations and buildings anchored to resist the combined effects of wind, wave action and water inundation
 - Erosion control structures may not be attached to building or foundation
- Use of Fill:
 - Not allowed for structural support of buildings
- Space Below BFE:
 - Used only for parking, access, storage
 - Free of obstructions or enclosed only by non-supporting materials (e.g., insect screening, open lattice, breakaway walls)
 - Specific requirements for breakaway walls

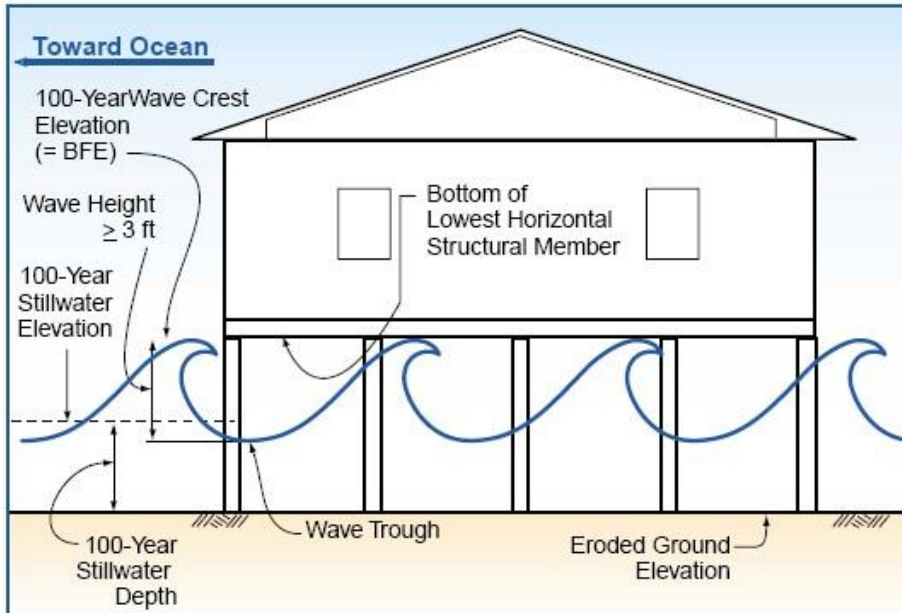


Figure 1 – NFIP Minimum V Zone Requirements (*Coastal Construction Manual, page 6-13*)

SEE ALSO:

FEMA Technical Bulletin 4-93: *Elevator Installation for Buildings Located in Special Flood Hazard Areas*

FEMA Technical Bulletin 5-08: *Free-of-Obstruction Requirements for Buildings Located in Coastal High Hazard Areas in accordance with the National Flood Insurance Program*

FEMA Technical Bulletin 8-96: *Corrosion Protection for Metal Connectors in Coastal Areas for Structures Located in Special Flood Hazard Areas*

FEMA Technical Bulletin 9-08: *Design and Construction Guidance for Breakaway Walls Below Elevated Buildings Located in Coastal High Hazard Areas.*

These and other technical bulletins can be found at:
<http://www.fema.gov/plan/prevent/floodplain/techbul.shtm>

Coastal Zone Management Act (CZMA) – 1972

The U.S. Congress recognized the importance of meeting the challenge of continued development pressures in coastal areas by passing the CZMA in 1972. The Act, administered by National Oceanic and Atmospheric Administration’s (NOAA) Office of Ocean and Coastal Resource Management (OCRM), provides for management of the nation's coastal resources, including the Great Lakes, and balances economic development with environmental conservation.

The CZMA outlines two national programs, the National Coastal Zone Management Program and the National Estuarine Research Reserve System. The coastal programs aim to balance competing land and water issues in the coastal zone, while estuarine reserves serve as field laboratories to arrive at a greater understanding of estuaries and how humans impact them. The overall program objectives of CZMA remain balanced to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

Coastal Area Management Act (CAMA) – 1974

This Article establishes a cooperative program of coastal area management between the state of North Carolina and local governments. Local government shall have the initiative for planning. The State shall establish areas of environmental concern. With regard to planning, State government shall act primarily in a supportive standard-setting and review capacity, except where local governments do not elect to exercise their initiative. Enforcement shall be a concurrent State-local responsibility (Section 113A-101).

Goals of CAMA as stated in Section 113A-102 are as follows:

- To provide a management system capable of preserving and managing the natural ecological conditions of the estuarine system, the barrier dune system, and the beaches, so as to safeguard and perpetuate their natural productivity and their biological, economic and esthetic values;
- To insure that the development or preservation of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water for development, use, or preservation based on ecological considerations;
- To insure the orderly and balanced use and preservation of our coastal resources on behalf of the people of North Carolina and the nation;
- To establish policies, guidelines and standards for:
 - Protection, preservation, and conservation of natural resources including but not limited to water use, scenic vistas, and fish and wildlife; and management of transitional or intensely developed areas and areas especially suited to intensive use or development, as well as areas of significant natural value;
 - The economic development of the coastal area, including but not limited to construction, location and design of industries, port facilities, commercial establishments and other developments;
 - Recreation and tourist facilities and parklands;
 - Transportation and circulation patterns for the coastal area including major thoroughfares, transportation routes, navigation channels and harbors, and other public utilities and facilities;
 - Preservation and enhancement of the historic, cultural, and scientific aspects of the coastal area;
 - Protection of present common-law and statutory public rights in the lands and waters of the coastal area; and
 - Any other purposes deemed necessary or appropriate to effectuate the policy of this article.

Section 113A-113 of CAMA outlines the designated areas of environmental concern and includes areas such as coastal wetlands, estuarine waters, renewable resource areas, fragile or historic areas, waterways to which the public may have rights of access, natural hazard areas, Primary Nursery Areas, etc.

This legislation is applicable to all 20 coastal counties and all municipalities located within these 20 counties. The NC Division of Coastal Management, under the direction of the Coastal Resources Commission, in cooperation with local governments in the 20-county coastal area has developed a program of permit review and coordination within these areas of environmental concern. Each county has a local permit officer (LPO) on staff to assist its residents with the CAMA rules. As a rule of thumb, any development along the oceanfront or estuarine shoreline is impacted by CAMA regulations. Depending on the scope of development, either a minor or a major CAMA permit may be necessary before commencing work.

Oceanfront Permits

- Any development along the oceanfront is affected by CAMA regulations and depending upon the scope of the construction either a minor CAMA permit or a major CAMA permit will be necessary.
- Any residential structure less than 5,000 square feet in area is required to obtain a minor CAMA permit before commencing construction. The CAMA regulations also dictate where on the lot a structure and its associated appurtenances may be located. On the oceanfront, any principal use structure must be located on the lot landward of the first line of stable natural vegetation. This line is established by a survey of the property and is staked by CAMA officials. Once this line is established the annual erosion rates adopted by the State are applied to the lot and measured from the vegetation line. Generally, the setback measurements are 30 times the applicable annual erosion rate. For example, if the annual erosion for a lot is 6 feet per year, then the structure must be located landward 180 feet from the first line of stable natural vegetation. Minor CAMA permits are also required for dune overwalks, decks and beach bulldozing. The LPO is available to assist residents with the necessary permit application process.
- For residential structures larger than 5,000 square feet and commercial structures the annual erosion rate is twice the erosion setback line used for smaller structures of less than 5,000 square feet.

Estuarine Permits

- The estuarine shoreline area of environmental concern (AEC) as defined by the CAMA regulations is the area which extends from the estuarine mean high water level to 75 feet landward.
- Along the estuarine shoreline minor CAMA permits are required for structures such as piers, boat moorings and bulkheads located along the estuarine shoreline. There are very specific guidelines that determine the size and scope of these types of structures that vary from location to location. The LPO should always be consulted prior to construction of these types of land uses.
- For residential construction along the estuarine shoreline, there are applicable CAMA rules governing lot coverage.

CAMA Major Permits

- The scope of certain activities within CAMA areas of environmental concern (AECs) triggers the major permit process. Some activities that require a CAMA major permit include excavation or filling of wetlands, dredging activities, marina construction, and beach nourishment activities. The CAMA major permit application process is much more detailed

and complicated than the minor permit application process. All CAMA major permit applications are reviewed by 21 State agencies for consistency with Division goals. The entire process involves a minimum 90-day review period and sometimes may take years before permit conditions are resolved and a major permit is issued by the Division of Coastal Management.

- Local permit officers are not involved in the review process of major permit applications. Such applications are administered by the regional DCM offices located in Elizabeth City, Washington, Morehead City and Wilmington, NC.

North Carolina State Building Code (2009)

The 2009 North Carolina State Building Code (NCBC) is based off of the 2006 International Building Code with amendments for North Carolina. The NCBC outlines "model code regulations that safeguard the public health and safety in all communities" by "addressing the design and installation of building systems through requirements emphasizing performance" (NCBC, v). Below is a summary of the NCBC sections dealing with construction in areas subject to high velocity wave action (i.e., coastal flood hazard areas), which are consistent with NFIP standards.

- 1403.6 – Electrical, mechanical and plumbing system components shall not be mounted on or penetrate through exterior walls that are designed to break away under flood loads.
- 1603.1.6 – Design documents must include the proposed elevation of the bottom of the lowest horizontal structural member of the lowest floor, including the basement.
- 1612.4 – Design and construction shall be in accordance with American Society of Civil Engineers (ASCE) 24 *Flood Resistant Design and Construction*.
- 1614 – Structures in coastal high hazard areas and ocean hazard areas must utilize the appropriate corrosion-resistant materials for their level of exposure. A table is included that specifies the approved materials.
- Chapter 36 – Outlines the minimum standards for the design, construction, and maintenance of piers, bulkheads, and waterway structures.
- Appendix G – Outlines practices for flood-resistant construction.
 - G103.7 – Engineering analysis demonstrating no increased potential for flood damage for any alteration of sand dunes and mangrove stands in areas subject to high velocity wave action.
 - G301.2 – Tentative and final subdivision plats shall show the flood hazard areas, floodways, areas subject to high velocity waves, and design flood elevations.
 - G401.2 – Development or land disturbing activity shall only be authorized landward of the reach of mean high tide. The use of fill for structural support of buildings is prohibited.
 - G601.1 – The placement of recreational vehicles shall not be authorized in areas subject to high velocity wave action.

Coastal Barrier Resources Act (CBRA) – 1982

Congress recognized that the coastal areas along the Atlantic and Gulf coasts "contain resources of extraordinary scenic, scientific, recreational, natural, historic, archeological, cultural, and economic importance" (p. 1) and that these areas could be damaged permanently due to development if not properly protected. The CBRA was enacted in 1982 to establish a Coastal Barrier Resource System (CBRS) to "minimize the loss of human life, wasteful expenditure of Federal revenues, and the damage to fish, wildlife, and other natural resources . . . by restricting future Federal expenditures and financial assistance which

have the effect of encouraging development” (p. 1-2) in these sensitive areas. The act outlines how the CBRS should be identified and mapped, and how these maps should be maintained. It also limits Federal expenditures for projects within the CBRS to things such as limited energy resource exploration/extraction, existing channel maintenance, maintenance of existing infrastructure, military activities essential to national security, Coast Guard activities, etc. The CBRA also made flood insurance coverage unavailable through the NFIP for any new or substantially improved structure within the CBRS.

Coastal Barrier Improvement Act (CBIA) – 1990

The CBIA reauthorized the CBRA, added new areas to the CBRS in Puerto Rico, the U.S. Virgin Islands, the Great Lakes, and expanded the existing CBRS along the Atlantic and Gulf coasts. “The CBIA also designated a new category of lands called “otherwise protected areas” (OPAs). OPAs are based on areas established under Federal, state, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes. Most of the land within OPAs is publicly held for conservation or recreational purposes; however, OPAs can contain private land held for conservation purposes, as well as private properties not held for conservation that are inholdings. The only Federal spending prohibition within OPAs is Federal flood insurance.”

For Further Information:

Federal Emergency Management Agency. 2005. *Coastal Construction Manual*, FEMA 55CD (3rd edition).

International Code Council. *2009 North Carolina Building Code*.

National Oceanic and Atmospheric Administration. *About Coastal Zone Management Act*. Retrieved from http://coastalmanagement.noaa.gov/czm/czm_act.html on 8/05/2010.

U.S. Fish and Wildlife Conservation. Retrieved from <http://www.fws.gov/habitatconservation/cbra4.html> on 8/10/2010.

http://coastalmanagement.noaa.gov/czm/czm_act.html (accessed 8/05/2010)

<http://www.co.dare.nc.us/depts/Planning/cama.htm> (accessed 8/5/2010)

<http://www.fema.gov/>

<http://www.floodsmart.gov/floodsmart/>

<http://www.fws.gov/>

<http://www.fws.gov/habitatconservation/cbra4.html> (accessed 8/10/2010)

<http://www.ncfloodmaps.com/>

<http://www.noaa.gov/>