



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

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January 5, 2007

MEMORANDUM

I&S 07-05

TO: CRC Implementation and Standards Committee
FROM: Jeffrey Warren, PhD
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SUBJECT: Oceanfront Setbacks Draft Rule Language

The adequacy of current setback factors for oceanfront development was discussed at length in front of the CRC and the I&S Committee during the latter half of 2006 (memoranda CRC 06-04, I&S 06-22, and I&S 06-28). During these discussions, DCM staff re-introduced the recommendation from the CRC Science Panel made in May 1999 (memorandum CRC-838) that larger setbacks should be considered for larger structures as well as placing potential limits on building sizes on higher risk lots (the size of "large structures" and the variables defining "higher risk lots" were not addressed in the recommendation). The Science Panel still supported this general position when polled in November 2006.

DCM staff defined two major issues to be addressed to develop a foundation for potential policy changes. First, because single-family structures remain exempt from the larger setbacks defined by existing rules, would it be more appropriate to determine setbacks solely on building size and not use (e.g., single family, multi family, commercial)? Second, noting an increase in high-density and large-scale development, should a greater setback be considered for extremely large commercial structures such as condo towers and hotels. The Committee agreed that draft rule language developed by staff, at least for the time being, should consider development setbacks based on the size of the structure and not usage. Further, a setback factor higher than 60 (the current maximum) might be appropriate for extremely large-scale development.

In the attached draft rule language, development setbacks are based on total square footage regardless of whether the structure is single-family, multi-family, or commercial. (Current rules provide an exemption for single-family, regardless of size, to be set back 30 times the erosion rate.) In the attached proposal, the minimum setback factor remains 30 times the erosion rate for all structures less than 5,000 square feet but, as it does with existing policy, jumps to 60 times the erosion rate for structures greater than 5,000 square feet. The setback increases from 60 to 90 in increments of 5 as total square footage increases, and the maximum setback becomes 90 for structures greater than or equal to 100,000 square feet. It should be noted that the setback factors for larger structures (i.e., >5,000 sq ft) are not reduced for areas with higher shoreline erosion rates. (Current rules require commercial and multi-family structures >5,000 sq ft to be setback 60 times the erosion rate until the rate reaches 3.5 feet per year, at which point the setback becomes 30 times the erosion rate plus 105 feet). Finally, development such as roads, parking lots, and other public infrastructure such as utilities continue to have the same setback factors under current policy (i.e., setback factor of 30 if total area <5,000 sq ft and setback factor of 60 if total area 5,000 sq ft or greater).

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A summary of the proposed setback factors and how they relate to total square footage is presented below. Figure 1 compares these setbacks factors based on erosion rates between two and six feet per year.

- Total floor area greater than or equal to 5,000 square feet but less than 10,000 square feet shall require a minimum setback factor of 60 times the shoreline erosion rate;
- Total floor area greater than or equal to 10,000 square feet but less than 20,000 square feet shall require a minimum setback factor of 65 times the shoreline erosion rate;
- Total floor area greater than or equal to 20,000 square feet but less than 40,000 square feet shall require a minimum setback factor of 70 times the shoreline erosion rate;
- Total floor area greater than or equal to 40,000 square feet but less than 60,000 square feet shall require a minimum setback factor of 75 times the shoreline erosion rate;
- Total floor area greater than or equal to 60,000 square feet but less than 80,000 square feet shall require a minimum setback factor of 80 times the shoreline erosion rate;
- Total floor area greater than or equal to 80,000 square feet but less than 100,000 square feet shall require a minimum setback factor of 85 times the shoreline erosion rate;
- Total floor area greater than or equal to 100,000 square feet shall require a minimum setback factor of 90 times the shoreline erosion rate.
- Infrastructure such as utilities, roads, parking lots, and bridges with a total area less than 5,000 square feet shall require a minimum setback factor of 30 times the shoreline erosion rate and a minimum setback factor of 60 times the shoreline erosion rate if such development is greater than or equal to 5,000 square feet.

TOTAL SQUARE FOOTAGE	SETBACK FACTOR	SETBACK DISTANCE BASED ON EROSION RATE				
		2 ft/yr	3 ft/yr	4 ft/yr	5 ft/yr	6 ft/yr
less than 5,000 sq ft	30	60'	90'	120'	150'	180'
5,000 to 9,999 sq ft	60	120'	180'	240'	300'	360'
10,000 to 19,999 sq ft	65	130'	195'	260'	325'	390'
20,000 to 39,999 sq ft	70	140'	210'	280'	350'	420'
40,000 to 59,999 sq ft	75	150'	225'	300'	375'	450'
60,000 to 79,999 sq ft	80	160'	240'	320'	400'	480'
80,000 to 99,000 sq ft	85	170'	255'	340'	425'	510'
100,000 sq ft or greater	90	180'	270'	360'	450'	540'

Figure 1. Tabulated breakdown of proposed setback factors based on square footage. The multiplication of this factor (left hand side of table) by annual erosion rates (upper portion of table) provide an example of hypothetical setback distances from the vegetation line (or other appropriate measurement line) as outlined in the attached draft rule language.

If the policies set forth here are acceptable to the I&S Committee, DCM staff would like to present this policy proposal to the oceanfront municipalities (citizens as well as elected and appointed officials), and other groups where appropriate, for stakeholder input. A summary of this dialog, along with additional research done by DCM staff, could then be presented to the Committee later this year at either their March or May meeting.

15A21 NCAC 07H .0306 GENERAL USE STANDARDS FOR OCEAN HAZARD AREAS

(a) In order to protect life and property, all development not otherwise specifically exempted or allowed by law or elsewhere in these Rules shall be located according to whichever of the following rules is applicable.

- ~~(1) If neither a primary nor frontal dune exists in the AEC on or landward of the lot on which the development is proposed, the development shall be landward of the erosion setback line. The erosion setback line shall be set at a distance of 30 times the long-term annual erosion rate from the first line of stable natural vegetation or measurement line, where applicable. In areas where the rate is less than two feet per year, the setback line shall be 60 feet from the vegetation line or measurement line, where applicable.~~
- (1) The ocean hazard setback line shall be measured in a landward direction from either the vegetation line, the static vegetation line, the alternative vegetation line, or the measurement line. The ocean hazard setback line for all buildings with a total floor area of less than 5,000 square feet, and other structures with a total area less than 5,000 square feet, shall be set at a distance of 30 times the shoreline erosion rate as determined in Rule .0304 of this Section. The total floor area calculation of a building shall include the outside wall dimensions of the structure, plus all roof-covered porches, multiplied by the number of floors/stories. Because larger structures located immediately along the Atlantic Ocean present an increased risk of loss of life and property, increased potential for eventual loss or damage to the public beach area and other important natural features along the oceanfront, increased potential for higher public costs for federal flood insurance, erosion control, storm protection, disaster relief and provision of public services such as water and sewer, and increased difficulty and expense of relocation in the event of future shoreline loss, the oceanfront setback of structures shall be related to the total floor area of that structure. The ocean hazard setback line for all buildings with a total floor area greater than or equal to 5,000 square feet, and other structures with a total area greater than or equal to 5,000 square feet, shall conform to the following setback conditions:
- (A) Total floor area greater than or equal to 5,000 square feet but less than 10,000 square feet shall require a minimum setback factor of 60 times the shoreline erosion rate;
- (B) Total floor area greater than or equal to 10,000 square feet but less than 20,000 square feet shall require a minimum setback factor of 65 times the shoreline erosion rate;
- (C) Total floor area greater than or equal to 20,000 square feet but less than 40,000 square feet shall require a minimum setback factor of 70 times the shoreline erosion rate;
- (D) Total floor area greater than or equal to 40,000 square feet but less than 60,000 square feet shall require a minimum setback factor of 75 times the shoreline erosion rate;
- (E) Total floor area greater than or equal to 60,000 square feet but less than 80,000 square feet shall require a minimum setback factor of 80 times the shoreline erosion rate;
- (F) Total floor area greater than or equal to 80,000 square feet but less than 100,000 square feet shall require a minimum setback factor of 85 times the shoreline erosion rate;
- (G) Total floor area greater than or equal to 100,000 square feet shall require a minimum setback factor of 90 times the shoreline erosion rate;
- (H) Infrastructure such as utilities, roads, parking lots, and bridges with a total area of 5,000 square feet or greater shall require a minimum setback factor of 60 times the shoreline erosion rate.
- (2) If a primary dune exists in the AEC on or landward of the lot on which the development is proposed, the development shall be landward of the crest of the primary dune or the long-term erosion setback line, whichever is farthest from the first line of stable natural vegetation or measurement line, where applicable. For existing lots, however, where setting the development landward of the crest of the primary dune would preclude any practical use of the lot, development may be located seaward of the primary dune. In such cases, the development shall be located landward of the long-term erosion setback line and shall not be located on or in front of a frontal dune. The words "existing lots" in this Rule shall mean a lot or tract of land which, as of June 1, 1979, is specifically described in a recorded plat and which cannot be enlarged by combining the lot or tract of land with a contiguous lot(s) or tract(s) of land under the same ownership.
- (3) If no primary dune exists, but a frontal dune does exist in the AEC on or landward of the lot on which the development is proposed, the development shall be set landward of the frontal dune or landward of the long-term erosion setback line, whichever is farthest from the first line of stable natural vegetation or measurement line, where applicable.
- ~~(4) Because large structures located immediately along the Atlantic Ocean present increased risk of loss of life and property, increased potential for eventual loss or damage to the public beach area~~

~~and other important natural features along the oceanfront, increased potential for higher public costs for federal flood insurance, erosion control, storm protection, disaster relief and provision of public services such as water and sewer, and increased difficulty and expense of relocation in the event of future shoreline loss, a greater oceanfront setback is required for these structures than is the case with smaller structures. Therefore, in addition to meeting the criteria in this Rule for setback landward of the primary or frontal dune or both the primary and frontal dunes, for all multi-family residential structures (including motels, hotels, condominiums and motelminiums) of more than 5,000 square feet total floor area, and for any non-residential structure with a total area of more than 5,000 square feet, the erosion setback line shall be twice the erosion setback as established in Subparagraph (a)(1) of this Rule, provided that in no case shall this distance be less than 120 feet. In areas where the rate is more than 3.5 feet per year, this setback line shall be set at a distance of 30 times the long-term annual erosion rate plus 105 feet.~~

- ~~(4) If neither a primary nor frontal dune exist in the AEC on or landward of the lot on which development is proposed, the development shall be landward of the erosion setback line.~~
- (5) Structural additions or increases in the footprint or total floor area of a building or structure represent expansions to the principal structure and both shall meet the setback requirements established in Paragraph (a) of this Rule and Rule .0309(a) of this Section. The enclosure of existing roof covered porches shall be exempt from this requirement if the footprint is not expanded, modifications to existing foundations are not required and the existing porch is located landward of the vegetation line or measurement line which ever is applicable. New development landward of the applicable setback may be cosmetically, but shall not be structurally, attached to an existing structure that does not conform with current setback requirements.
- (6) Established common-law and statutory public rights of access to and use of public trust lands and waters in ocean hazard areas shall not be eliminated or restricted. Development shall not encroach upon public accessways nor shall it limit the intended use of the accessways.