

Fiscal Analysis

Proposed Changes to Definition of Land Forms
Minimum Growing Season for Planted Vegetation
15A NCAC 07H .0305(5)

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Summary

Agency	DEQ, Division of Coastal Management (DCM) Coastal Resources Commission (CRC)
Title of the Proposed Rules	15A NCAC 07H .0305(5) Description of Landforms – Vegetation Line
Description of the Proposed Rules	Rule 07H .0305(5) is amended to require a minimum of two growing seasons before planted vegetation can be used for oceanfront setback determinations for the siting of oceanfront development.
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Authority	G.S. 113A-107; 113A-113(b)(6); 113A-124
Necessity	The Coastal Resources Commission proposes to amend its administrative rules in order to require a minimum of two growing season before planted vegetation can be used for oceanfront setback determinations which will increase consistency in making these determination for property owners and agency staff.
Impact Summary	State government: Yes Local government: Yes Private citizens: Yes Substantial impact: No

Introduction and Purpose

The vegetation line is used as the reference line by the Division of Coastal Management (DCM) field staff and Local Permit Officers (LPOs) in making oceanfront setback determinations for proposed development within the Ocean Hazard Area of Environmental Concern (AEC) 15A NCAC 7H .0300. The location of the first line of stable and natural vegetation is determined by visual observation of plant composition and density according to 15A NCAC 7H .0305(5).

In recent years, DCM has found that in order to obtain a more favorable determination, oceanfront property owners have attempted to re-establish vegetation through aggressive planting, fertilizing, and watering regimes which can result in a vegetation line significantly oceanward than the adjacent areas. While the planting of vegetation for stabilization of dunes and other areas should be and is encouraged, DCM staff and LPOs have questioned the timing of when these newly planted areas are appropriate to use for oceanfront setback determinations given that they can be influenced by number and intensity of storms and other environmental factors.

The Coastal Resources Commission's management objective for the Ocean Hazard Area of Environmental Concern is to minimize the loss of life and property to destructive forces of the Atlantic Ocean shoreline by the proper location and design of structures and to achieve a balance between the financial, safety and social factors associated with development in this area. Aggressive vegetation management during the first growing season and prior to effects on vegetation through any storm events may increase the risk of damage to the structure through inappropriately sited development based on an artificially supported first line of vegetation.

Staff consulted with Dr. Zachary Long with UNC-W who specializes in dune ecology and Mr. Steve Mercer with Coastal Transplants, Inc. who has extensive agricultural and horticultural experience in constructing and planting dune systems along the North Carolina coast. Dr Long and Mr. Mercer generally agreed that, based on their experiences with oceanfront property owners and beach communities, at least two growing seasons are needed for dune planted grasses to establish. Division staff have also found that 16-18 months are needed before planted vegetation can be considered natural and stable based on the criteria of 15A NCAC 7H .0305(5). DCM staff and LPOs typically receive approximately 20-80 requests per year for oceanfront setback determinations associated with planted vegetation depending on the number/severity of storms and erosion events. Requiring a minimum of two years before making such determinations will provide the regulated public with a degree of certainty regarding when the planted vegetation will meet the "stable and natural" criteria, reduce the burden of making repeated determinations on the same property by DCM and LPOs, and incrementally reduce the risk of improperly sited development due to aggressive planting, watering and fertilization regimes in a single growing season. The Commission is therefore proposing a two-year minimum post-planting growth requirement to 15A NCAC 7H .0305(5).

DCM anticipates the effective date of these rule amendments to be August 1, 2023.

Description of the Current and Proposed Rules

The Commission's current rule in 15A NCAC 7H.0305(5) describes the natural and man-made features that are found within the Ocean Hazard AEC. This includes the ocean beaches, the nearshore area, primary dunes, frontal dunes, the vegetation line, and the "pre-project" vegetation line (formerly the Static Line). 7H .0305(5) describes the vegetation line as:

"...the first line of stable and natural vegetation, which shall be used as the reference point for measuring oceanfront setbacks. This line represents the boundary between the normal dry-sand beach, which is subject to constant flux due to waves, tides, storms and wind, and the more stable upland areas. The vegetation line is generally located at or immediately oceanward of the seaward toe of the frontal dune or erosion escarpment. The Division of Coastal Management or Local Permit Officer shall determine the location of the stable and natural vegetation line based on visual observations of plant composition and density."

With regard to planted vegetation, the rule states:

"If the vegetation has been planted, it may be considered stable when the majority of the plant stems are from continuous rhizomes rather than planted individual rooted sets. Planted vegetation may be considered natural when the majority of the plants are mature and additional species native to the

region have been recruited, providing stem and rhizome densities that are similar to adjacent areas that are naturally occurring. In areas where there is no stable and natural vegetation present, this line may be established by interpolation between the nearest adjacent stable natural vegetation by on-ground observations or by aerial photographic interpretation.”

The CRC is proposing the following amendment to 15A NCAC 7H .0305(5) Vegetation Line.

In areas where there is no stable and natural vegetation present, this line may be established by interpolation between the nearest adjacent stable natural vegetation by on-ground observations or by aerial photographic interpretation. Planted vegetation must survive a minimum of two years from the date of planting before being assessed by the Division of Coastal Management or Local permit Officer as stable and natural vegetation.

Anticipated Impacts

Private Property Owners

DCM staff and Local Permitting Officers currently receive approximately 20-80 requests per year for oceanfront setback delineations associated with planted vegetation depending upon storms and erosion events. The majority of these requests are from private property owners. These are often multiple requests (as many as three requests in a growing season) for the same properties.

Requiring a minimum of two years before making such determinations will provide the regulated public with a degree of certainty regarding when the planted vegetation will be most likely to meet the “stable and natural” criteria.

As compared to how the existing rule is implemented, the proposed rule change is not expected to have an appreciable impact on the timing, location, or likelihood that structures will get built. Rather, the main impact of the rule change for private property owners is that it will provide predictability and clearer expectations as to how long it will take, at a minimum, to meet the “stable and natural” criteria. This should provide an incremental benefit to property owners in terms of planning the timelines for construction. The greatest factor determining whether planted vegetation can meet the “stable and natural” criteria will continue to be the frequency and severity of storms and other erosion events in any given year.

It should be noted that the proposed rule changes will not affect implementation of local government construction ordinances which typically have structure setback distances that are measured from points of reference and can potentially limit size or placement of a proposed structure on a lot.

Avoiding improper siting of structures provides property owners and the greater public with benefits associated with avoided damage to life and property. DCM currently enforces the existing rules such that improper siting is avoided. As such, it is possible, but relatively unlikely, that the proposed two-year minimum growing season will reduce appreciably the risk of structures being improperly sited in the future when compared to the enforcement of the existing rules.

Department of Transportation

Pursuant to G.S. 150B-21.4, the agency reports that the proposed amendments to 7H.0305(5) will not significantly affect environmental permitting for the NC Department of Transportation

(NCDOT). No cost or benefit applicable to NCDOT is anticipated as a result of these rule amendments as NCDOT does not typically construct facilities associated with planted vegetation.

Local Government

Local governments participating in the Local Permitting Officer Program may see a staff time savings benefit through a reduced burden of making repeated oceanfront setback determinations on the same property. DCM staff and Local Permitting Officers currently receive approximately 20-80 requests per year for oceanfront setback delineations associated with planted vegetation depending upon storms and erosion events. There are often several requests for these determinations for the same property. Adopting the two-year minimum timeframe should reduce the number of these determination requests. DCM estimates the number of requests could decrease by as much as one-third in a given year. If each determination request takes about 30 minutes of local staff time, the total time potentially saved each year is about 3.5 to 13.5 hours (7 to 27 requests x 30 min). This number will be highly variable based on storms and erosion events in a given year.

Although impossible to predict, there may also be a benefit of reduced public expenditures associated with improperly sited development, as well as impacts to the public access and use along ocean shorelines. DCM and LPOs currently enforce the existing rules such that improper siting is avoided. As such, it is possible, but relatively unlikely, that the proposed two-year minimum growing season will reduce appreciably the risk of structures being improperly sited in the future when compared to the enforcement of the existing rules.

Division of Coastal Management

The Division of Coastal Management (DCM) does not anticipate that the proposed action will significantly increase operating cost over what is currently required for permitting, inspecting, and ensuring compliance oceanfront setbacks. The DCM also does not anticipate any significant changes in permitting receipts due to the proposed action as there is no additional permit fee associated requesting a stable and natural vegetation determination for oceanfront setback purposes. However, the Division does expect a staff time savings associated with the proposed amendments that will decrease the number of stable and natural vegetation determination requests by approximately one-third. DCM staff and Local Permitting Officers currently receive approximately 20-80 requests per year for oceanfront setback delineations associated with planted vegetation depending upon storms and erosion events. There are often several requests for these determinations for the same property. Adopting the two-year minimum timeframe should reduce the number of these determination requests. DCM estimates the number of requests could decrease by as much as one-third. If each determination request takes about 30 minutes of DCM staff time, the total staff time potentially saved each year is about 3.5 to 13.5 hours (7 to 27 requests x 30 minutes). This number will be highly variable based on storms and erosion events in a given year.

COST/BENEFIT SUMMARY

Requiring a minimum of two years before making a stable and natural vegetation determination for

planted vegetation will provide the regulated public with a degree of certainty regarding when the planted vegetation will meet the “stable and natural” criteria. The Division of Coastal Management and Local governments participating in the Local Permitting Officer Program are likely to realize a staff time savings benefit through a reduced burden on staff of making repeated oceanfront setback determinations on the same property. There may also be a relatively unlikely, but possible, benefit of reduced public expenditures from avoided damage to life and property as well as impacts to public access and use along ocean shorelines due to improperly sited development.

Proposed amendments to NCAC 7H .0305(5) – Minimum Growing Seasons for Planted Vegetation

15A NCAC 07H .0305 DEFINITION AND DESCRIPTION OF LANDFORMS

This Rule describes natural and man-made features that are found within the ocean hazard area of environmental concern.

- (1) Ocean Beaches. Ocean beaches are lands consisting of unconsolidated soil materials that extend from the mean low water line landward to a point where either:
 - (a) the growth of vegetation occurs; or
 - (b) a distinct change in slope or elevation alters the configuration of the landform, whichever is farther landward.
- (2) Nearshore. The nearshore is the portion of the beach seaward of mean low water that is characterized by dynamic changes both in space and time as a result of storms.
- (3) Primary Dunes. Primary dunes are the first mounds of sand located landward of the ocean beaches having an elevation equal to the mean flood level (in a storm having a one percent chance of being equaled or exceeded in any given year) for the area plus six feet. Primary dunes extend landward to the lowest elevation in the depression behind that same mound of sand commonly referred to as the "dune trough".
- (4) Frontal Dunes. The frontal dune is the first mound of sand located landward of ocean beaches that has stable and natural vegetation present.
- (5) Vegetation Line. The vegetation line refers to the first line of stable and natural vegetation, which shall be used as the reference point for measuring oceanfront setbacks. This line represents the boundary between the normal dry-sand beach, which is subject to constant flux due to waves, tides, storms and wind, and the more stable upland areas. The vegetation line is generally located at or immediately oceanward of the seaward toe of the frontal dune or erosion escarpment. The Division of Coastal Management or Local Permit Officer shall determine the location of the stable and natural vegetation line based on visual observations of plant composition and density. If the vegetation has been planted, it may be considered stable when the majority of the plant stems are from continuous rhizomes rather than planted individual rooted sets. Planted vegetation may be considered natural when the majority of the plants are mature and additional species native to the region have been recruited, providing stem and rhizome densities that are similar to adjacent areas that are naturally occurring. In areas where there is no stable and natural vegetation present, this line may be established by interpolation between the nearest adjacent stable natural vegetation by on-ground observations or by aerial photographic interpretation. Planted vegetation must survive a minimum of two years from the date of planting before being assess by the Division of Coastal Management or Local permit Officer as stable and natural vegetation.
- (6) Pre-project Vegetation Line. In areas within the boundaries of a large-scale beach fill project, the vegetation line that existed within one year prior to the onset of project construction shall be defined as the "pre-project vegetation line". The "onset of project construction" shall be defined as the date sediment placement begins, with the exception of projects completed prior to the original effective date of this Rule, in which case the award of the contract date will be considered the onset of construction. A pre-project vegetation line shall be established in coordination with the Division of Coastal Management using on-ground observation and survey or aerial imagery for all areas of oceanfront that undergo a large-scale beach fill project. Once a pre-project vegetation line is established, and after the onset of project construction, this line shall be used as the reference point for measuring oceanfront setbacks in all locations where it is landward of the vegetation line. In all locations where the vegetation line as defined in this Rule is landward of the pre-project vegetation line, the vegetation line shall be used as the reference point for measuring oceanfront setbacks. A pre-project vegetation line shall not be established where a pre-project vegetation line is already in place, including those established by the Division of Coastal Management prior to the effective date of this Rule. A record of all pre-project vegetation lines, including those established by the Division of Coastal Management prior to the effective date of this Rule, shall be maintained by the Division of Coastal Management for determining development standards as set forth in Rule .0306 of this Section. Because the impact of Hurricane Floyd in September 1999 caused significant portions of the vegetation line in the Town of Oak Island and the Town of Ocean Isle Beach to be relocated landward of its pre-storm position, the pre-project line for areas landward of the beach fill construction in the Town of Oak Island and the Town of Ocean Isle Beach, the onset of which occurred in 2000, shall be defined by the general trend of the vegetation line established by the Division of Coastal Management from June 1998 aerial orthophotography.

- (7) Beach Fill. Beach fill refers to the placement of sediment along the oceanfront shoreline. Sediment used solely to establish or strengthen dunes shall not be considered a beach fill project under this Rule. A "large-scale beach fill project" shall be defined as any volume of sediment greater than 300,000 cubic yards or any storm protection project constructed by the U.S. Army Corps of Engineers.
- (8) Erosion Escarpment. The normal vertical drop in the beach profile caused from high tide or storm tide erosion.
- (9) Measurement Line. The line from which the ocean hazard setback as described in Rule .0306(a) of this Section is measured in the unvegetated beach area of environmental concern as described in Rule .0304(3) of this Section. In areas designated pursuant to Rule .0304(3)(b) of this Section, the Division of Coastal Management shall establish a measurement line by:
 - (a) determining the average distance the pre-storm vegetation line receded at the closest vegetated site adjacent to the area designated by the Commission as the unvegetated beach AEC; and
 - (b) mapping a line equal to the average recession determination in Part (a) of this Subparagraph, measured in a landward direction from the first line of stable and natural vegetation line on the most recent pre-storm aerial photography in the area designated as an unvegetated beach AEC.

*History Note: Authority G.S. 113A-107; 113A-113(b)(6); 113A-124;
 Eff. September 9, 1977;
 Amended Eff. December 1, 1992; September 1, 1986; December 1, 1985; February 2, 1981;
 Temporary Amendment Eff. October 10, 1996;
 Amended Eff. January 1, 1997;
 Temporary Amendment Eff. October 10, 1996 Expired on July 29, 1997;
 Temporary Amendment Eff. October 22, 1997;
 Amended Eff. April 1, 2020; April 1, 2016; April 1, 2008; August 1, 2002; August 1, 1998;
 Readopted Eff. December 1, 2020;
 Amended Eff. August 1, 2022.*