



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

Michael F. Easley, Governor

James H. Gregson, Director

William G. Ross Jr., Secretary

May 1, 2008

**MEMORANDUM**

**CRC-08-23**

**TO:** Coastal Resources Commission

**FROM:** Bonnie Bendell

**SUBJECT:** Draft Amendments to the General Permit for Bulkheads and Riprap

At the March CRC meeting, staff presented draft rule changes for three (3) General Permits: Groins (15A NCAC 7H .1400), Marsh Enhancement Breakwaters (15A NCAC 7H .2100), and Riprap for Wetland Protection (15A NCAC 7H .2400). The CRC elected to send all three to public hearing. The intent of these changes to the estuarine shoreline stabilization rules are to be a “first step” in the “many-step process” to help encourage alternatives to vertical structures (i.e. bulkheads). The GP (15A NCAC 7H .1100) for placement of bulkheads and riprap was put on hold until issues raised by the Division of Water Quality (DWQ) were resolved.

The CHPP Steering Committee discussed the estuarine shoreline rules at their meeting on April 11<sup>th</sup> in Washington. DCM staff reviewed the CRC’s efforts to revise the estuarine shoreline stabilization rules. Dr. Carolyn Currin (NOAA Center for Coastal Fisheries and Habitat Research) presented a summary of recent studies on the response of fringing salt marshes to stone sills and oyster reefs, and provided an introduction to a recently-funded joint NOAA/NERR/DCM project to study the effects of different shoreline stabilization methods and the effects those methods have on different CHPP habitats. This new research project will support DCM’s efforts to develop and implement a sustainable estuarine shoreline stabilization policy for North Carolina.

After a great deal of discussion concerning shoreline stabilization techniques relative to shoreline types, an ad hoc committee was formed to discuss the topic further and present recommendations to the CHPP Steering Committee. The members of that committee will be Bob Emory (committee chair) (CRC), Chuck Bisette (CRC), Ted Tyndall (DCM), Bonnie Bendell (DCM), Jess Hawkins (MFC), Pete Peterson (EMC), and Al Hodge (DWQ). The committee will consider the North Carolina Biological and Physical Processes Work Group Recommendations for Appropriate Shoreline Stabilization for Specific Shoreline Types as well as incentives for non-vertical shoreline stabilization techniques. DCM staff will present an update of the ad hoc committee’s discussions and any CHPP Steering Committee recommendations at future CRC

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meetings. The minutes to the April 11<sup>th</sup> meeting of the CHPP Steering Committee are included as part of the meeting reference materials.

Attached is the latest draft of proposed changes to the GP for Bulkheads and Riprap (15A NCAC 7H .1100) for further consideration. This version of the proposed rule changes was presented at the September 2007 CRC meeting (I&S-07-18) and did not have any interagency objections to it. While the ad hoc committee formed by the CHPP Steering Committee discusses the “big picture” issues with bulkheads, staff feel that these proposed changes can be made to help encourage alternatives to the vertical structure in the mean time. As stated before, this will be a “single step” in the “many-step process.” Therefore, staff is recommending approval of the proposed changes (attached) for public hearing with one additional change, which is detailed below.

The following is a summary of all the proposed rule changes:

- *(NEW Change)* Permit fees for bulkheads have been changed from \$200 sited at or above normal high water or normal water level and \$400 sited below normal high water or normal water level to \$400 regardless of location.
- “Riprap” has been changed to “riprap revetment” to be consistent with other rules.
- On non-wetland shorelines, new bulkheads shall approximate normal high water or normal water level instead of an average of 2 feet with a maximum of 5 feet waterward of normal high water or normal water level.
- On non-wetland shorelines, new bulkheads on manmade shorelines shall not exceed an average of 2 feet with a maximum of 5 feet waterward of the normal high water or normal water level instead of an average of 5 feet with a maximum of 10 feet waterward of the normal high water or normal water level.
- On non-wetland shorelines, replacement bulkheads shall not exceed an average of 2 feet waterward of the original alignment instead of average of 2 feet with a maximum of 5 feet waterward of normal high water or normal water level.
- On non-wetland shorelines, riprap placement shall not exceed a maximum of 10 feet waterward of normal high water or normal water level instead of only 10 feet maximum when placed in front of a bulkhead
- Slope of riprap shall have a maximum flatness of 3H: 1V which is changed from a of 2H:1V. This was the number one request from the marine contractors meetings held February 2006.
- The additional changes are to be consistent with other rules, to correct ambiguous language, or due to rearranging of rules.

## CHPP Steering Committee Meeting

April 11, 2008

Washington, NC

Meeting Attendees: BJ Copeland (MFC), Jess Hawkins (MFC), Pete Peterson (EMC), Chuck Bissett (CRC), Bob Emory (CRC), Steve Wall (DENR), Louis Daniel (DMF), Jeanne Hardy (DMF), Scott Chappell (DMF), Anne Deaton (DMF), Michelle Duval (MFC), Trish Murphey (DMF), Patti Fowler (Shellfish Sanitation), Jim Gregson (DCM), Ted Tyndall (DCM), Bonnie Bendell (DCM), Steve Underwood (DCM), Mike Lopazanski (DCM), Rebecca Ellin (DCM-NERR), Coleen Sullins (DWQ), Bill Diuguid (DWQ), Al Hodge (DWQ), Melvin Shepard (CRC), Wayland Sermons (CRC), Jimmy Johnson (DENR), Bill Swartley (DFR), Maria Dunn (WRC), Tracy Skrabal (NCCF), Carolyn Currin (NOAA), Katherine McGlade (Duke University), Rep. Alice Underhill (NC House of Representatives)

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### Call to Order and Introductions:

Pete Peterson called the meeting to order at 10:05am. Introductions of all attendees took place. Chuck Bissett was named by Bob Emory as the second CRC voting member at this meeting. A permanent replacement to fill Courtney Hackney's seat on the Steering Committee has yet to be named. Some minor adjustments were made to the afternoon portion of the meeting agenda.

### CHPP Update

Jimmy Johnson gave a quick report on the status of the CHPP Implementation Plan publication. The MFC approved spending \$10,000 from the Commission's Conservation Fund to help get the report printed and distributed. Work on the publication is underway with help from several agencies and the NC Coastal Federation. Delivery of 100,000 copies should occur sometime around May 15<sup>th</sup>. Jimmy mentioned that he has given, or will be giving several CHPP presentations. Recently he spoke to the NCBIWA in Pine Knoll Shores. On April 16<sup>th</sup>, he will speak to Soil and Water district representatives from the 20 coastal counties at Hammocks Beach State Park.

### Implementation Updates:

CRC – Steve Underwood

- A comprehensive digital shoreline mapping process is in its initial stages. Currently a 'white paper' is being reviewed in house regarding the methodology to be used in the mapping process. DCM is working closely with several of ECU's geological survey personnel to determine erosion rates along the estuarine shoreline. In June, a small working group will be convened to finalize the methodology. The idea at this point is to delineate the shoreline, across the entire estuarine system, on a county by county basis.

Pete asked if some state hasn't already mapped their shoreline and why we didn't utilize what they had learned. Steve's response was that the uniqueness of NC's coastline and the lack of money caused DCM to initiate a new methodology. ECU was asked to participate in order to try and utilize anything done before by others that might be appropriate for NC. DCM is trying to use whatever is available wherever possible and practical. DCM is looking at an overall timeframe of 5 years for this project.

- Steve provided a handout of the Beach and Inlet Management Plan timeline. DCM is currently putting together a needs assessment utilizing input from local governments and a Coastal Services Center Fellow.

- Rebecca Ellin reported that the NERR had been awarded a CICEET Grant to study the effects of different shoreline stabilization methods and the effects those methods have on different CHPP habitats. They will have a couple of demonstration projects at one or two of the reserves.

DWQ – Coleen Sullins/Bill Diuguid

- Coleen reported that Tom Reeder has accepted the position as Deputy Director of the Division of Water Resources. Tom will begin his new duties around the first of May. However, Tom will continue to work with the coastal stormwater rules through the upcoming legislative session. Several committee members again acknowledged the tremendous job Tom has done in getting the stormwater rules to this point and it was noted by all, that he will be missed as a member of the CHPP Team.
- Bill Diuguid reported on the status of the coastal stormwater rules. They have been before the Rules Review Commission on two separate occasions and have been agreed to by the RRC. The rules now will be before the General Assembly in the upcoming short session as more than ten letters in opposition to the rules have been received. Bill described four scenarios:
  1. The rules can be left just as they are now proposed
  2. They can be sent back to DWQ for further financial analysis
  3. It may be proposed that the coastal stormwater rules “back off” to the Phase II level and exclude the wetlands portion of the proposed rules
  4. Completely rewrite the rules in a holistic manner statewide

There was a lot of discussion regarding the proposed coastal stormwater rules. Pete noted that the financial benefits of the rules have been ignored in all of the economic analysis. To date, only the costs of the rules have been reported, without any of the benefits. He wants to be sure that DENR emphasizes the fairness of the rules and the economic benefits of clean water. Pete also noted that many of the objections were based on a misrepresentation of the proposed rules and he questioned whether this was out of misunderstanding or if it was intentional. Pete reminded all present that stormwater rules were a top priority of the CHPP.

Jess Hawkins asked if there was a DENR/DWQ strategy in place to help educate the legislature and the public regarding the coastal stormwater rules. Coleen responded that the DWQ staff has met with Dare County mayors and numerous other local government representatives and remained available to meet with any interested group. She also noted that a brochure was done specifically to address the stormwater issue and it was available to help educate the general public. Coleen acknowledged that there appeared to be a “huge misinformation campaign” regarding the rules and asked for the help of those present to do all they can do to help set the record straight. There was discussion regarding the need for another handout correcting false misinformation and addressing frequently asked questions. DWQ agreed to work on this, and those present offered to help distribute once available.

Tracy Skrabal announced that there was to be a rally in Raleigh on June 4<sup>th</sup> regarding the coastal stormwater rules. The NCCF has chartered three buses and wanted to get at least 150 people to Raleigh that day to help lobby for the rules. Melvin Shepard reminded

everyone of the continuing closures of shellfish waters and he emphasized the failure of the current rules to protect the waters of the state. Melvin noted that section 143 of the stormwater legislation recognizes that shellfish waters are of primary importance. Patti Fowler noted that even the figures provided by DEH/Shellfish Sanitation were being misrepresented by those in opposition to the rules. Steve Wall noted that DENR was working with legislators every day to help clarify the rules and what is true and what is not true.

Melvin reminded the attendees that citizen contact was more influential than anything the agencies could accomplish with the General Assembly. BJ Copeland urged those in attendance to utilize local civic clubs as a means to help get the word out. All that needs to be done is to simply explain to them what the problem is and why it needs to be fixed. BJ also noted that the MFC's Habitat and Water Quality Committee was recommending to the MFC to send a letter to Senator Basnight and Representative Hackney in support of the rules. The committee decided, by consensus, to reconstruct the letter of support it sent to the EMC during the public hearing phase of the rules process and send it to Sen. Basnight and Rep. Hackney as quickly as possible.

#### DMF – Anne Deaton

- The Strategic Habitat Area work continues in the Albemarle region. The SHA Region 1 Group has met several times and is about ready to make recommendations identifying areas as Strategic Habitat Areas. The workgroup continues to look at major alteration factors and they are making final modifications to the maps and its inputs. Anne noted that it is time to form a “management workgroup”. She suggested using the CHPP Team with a few additional people who are most familiar with the area. This group needs to look at the regulatory needs as well as the financial needs of acquisition and restoration.
- APNEP and DMF are currently waiting for the photographs from the SAV mapping project. DMF has a technician ready to begin delineating the photographs. APNEP may be able to provide some additional funds for more help in this phase of the work. It is anticipated that this will take about 12-18 months for completion.
- The mapping of the estuarine shell bottom continues. DMF estimates it will take another 3 or more years to complete this work.
- Anne noted that the WRC approved the Anadromous Fish Spawning Area rules at its last meeting. An interagency workgroup should be formed to discuss what additional protection is needed in these newly designated areas.
- Louis Daniel reported that the MFC and WRC had agreed that the Coastal Recreational Fishing License Fund would provide funds for a new 30 acre oyster sanctuary in Pamlico Sound. They also had agreed to buy a shallow draft barge primarily so that shell could be placed in the shallow shoreline waters along the western side of the Pamlico Sound.
- The oyster hatchery concept has evolved again and will be an item discussed by the legislature this summer. Currently it is being proposed that instead of three hatcheries there will now be one centrally located facility. The operation of the hatchery will be the responsibility of the DMF instead of the aquariums under the anticipated new proposal. (?? I know this is true but didn't recall him saying it at this meeting)

#### DENR – Steve Wall

- The General Assembly will return to Raleigh for its short session in mid May. They hope to adjourn by the end of July. The major DENR initiatives for this short session are: the coastal stormwater rules, a drought package and the Figure 8 terminal groin issue. The Governor's budget will probably be released just prior to the legislature convening. CHPP items in the DENR budget request to the Governor include: a BIMP Coordinator (DCM), a Wetlands Specialist (DCM) and 3 Permit Reviewers (DMF).
- Steve noted that the EMC has formed a Renewable Energy Committee. The first issue they will begin to look into is wind energy. The first meeting of the committee will be on May 7<sup>th</sup>. Both Tom Ellis and Pete Peterson are on this committee.

#### DEH/Shellfish Sanitation – Patti Fowler

- Shellfish Sanitation is beginning to expand its shoreline survey work. They have completed their surveys of the shellfish areas and now will begin detailed surveys of shorelines not associated with shellfish areas. They plan to start a workgroup to discuss how to design additional shoreline surveys to enhance compliance with existing rules, per the CHPP recommendation.

#### Estuarine Shoreline Stabilization:

Bonnie Bendell, from DCM, and Carolyn Currin, from NOAA, gave power point presentations regarding the estuarine shoreline issue. Bonnie's presentation summarized the recommendations found in DCM's Shoreline Stabilization Work Group Report. She looked at the suitability of different types of stabilization methods on specific shoreline types. Bonnie also noted that DCM held Marine Contractor workshops. Comments from contractors included 1) they would much prefer to avoid the major permit process if possible; 2) sills were good but not a guarantee that they will work; 3) homeowners were scared of hazards associated with riprap; 4) modifications to bulkhead rules such as moving back doesn't impact their business, but removing the option completely does. Carolyn's presentation was on specific projects she was working on, regarding the effects on estuarine habitat by different types of stabilization methods. She looked at sediment accretion and stem density behind sills vs. in natural marsh, and compared the edge vs. interior of marsh vegetation. Negative aspects of sills are that they appear to have higher accretion rates and take up a greater footprint of shallow soft bottom. However, they can provide more protection for wetland habitat in the long run than bulkheads and have less erosion impacts to adjacent property than bulkheads.

#### Bulkhead/Buffer Rule:

After lunch, Pete opened a discussion regarding the proposed bulkhead rules by DCM and the compromise between DCM and DWQ regarding those rules. Jim Gregson related to the committee the outcome of the joint meeting between the staffs of DCM and DWQ. It was decided that DCM and the CRC would move forward with the General Permit for stabilization method other than vertical structures. Jim will send a policy memo to his field staff regarding the General Permits and how they are to be approached with regards to placement and mean high water. Only projects under the major permit with specific justification as to why may be placed waterward of MHW. The justification must demonstrate a significant need such as a high erosion rate.

Al Hodge noted that many residents were currently getting permits for bulkheads for the primary purpose of decimating the buffer. Al also noted the difficulties in dealing with the inconsistencies between DCM's rules and the rules of DWQ. Everyone agreed that DWQ needed to address how to determine if an erosion problem exists and how severe. Bob Emory informed the committee

that the more desirable stabilization methods are oftentimes harder to get permitted through DCM than bulkheads. The CRC is working to remove those disincentives. Tracy Skrabal stated that the CRC must look at rule changes in order to get vertical structures out of the general permit category. Carolyn Currin suggested putting the bulkhead rules on the table and start the process of getting them out of the general permits. Bonnie Bendell stated that there was current proposed legislation in Maryland that would require homeowners to utilize living shoreline stabilization options if possible before they could use other hardened structures.

It was agreed upon that Pete would form a subgroup of the committee to address these issues and bring to the CHPP Steering Committee a list of available options. Included in their report will be whether or not it requires a change in policy or a change in rule. The members of the subgroup will be: Bob Emory (chair), Pete Peterson, Jess Hawkins, Ted Tyndall, Al Hodge, Bonnie Bendell, and Chuck Bissett. Bob will also call on any others that the group feels need to be a part of the discussion. Others mentioned were: Tracey Skrabal, Carolyn Currin and Spencer Rogers. Coleen mentioned that the divisions need to sit down together and determine how to make these things happen. It was also noted that this could be used to inform and educate the public with regards to better alternatives to hardened structures. Anne reminded the group that Carolyn's and Rebecca's CICEET grant has a large public outreach component to it and that should be utilized within this effort as well.

DCM and DWQ have an agreement on how to issue bulkheads when in a Neuse or Tar-Pamlico river basin where buffer rules apply. DCM will give a BMP sheet to the applicant that explains what they can do in the buffer to install a bulkhead and what BMPs they can select. If they sign it, it will be attached to the GP and DCM will send copy to DWQ. However, they can not force an applicant to sign it. Ted Tyndall and Al Hodge will be working on this.

### Minutes

Jess Hawkins made a motion that the minutes from the January meeting be approved as written. The motion was seconded by BJ Copeland and passed without corrections or dissent.

### Endocrine Disruptors

A committee to look at endocrine disruptors has been formed since the last CHPP Steering Committee meeting. The members of the Emerging Contaminants Workgroup are: BJ Copeland (NC Marine Fisheries Commission - Chair), Mary Giorgino and Jerad Bales (USGS), Sara Mirabilio (Sea Grant), Connie Brower (DWQ), Barbara Grimes (DEH), Bob Roer (UNC-W), Larry Gabriel (Dept. of Ag), Damian Shea (NCSU), Pat McClellan-Green (NCSU), Lynn Henry (DMF), Katy West and Anne Deaton (DMF staff support).

The first meeting of the workgroup was held on March 10<sup>th</sup>. The initial action will be to develop a working white paper. The group heard a report from the USGS regarding their sampling protocol for contaminants in all 50 states. They have 3 sampling sites in NC. They reported that 47% of all sites sampled had elevated levels of pharmaceuticals. There is currently a graduate student at UNC-CH who is working on how to remove pharmaceuticals from the water. The student has two methods already approved. Duke University and NCSU have been working on the effects of pharmaceuticals on specific fisheries, most notably the blue crab. Their next meeting will be on May 7<sup>th</sup> in Washington.

### Responsibilities of CHPP Steering Committee Members

Pete concluded the meeting by leading a discussion regarding the role and responsibilities of the members of the CSC. He noted that the purpose of the CSC is to discuss issues we can move forward with that will facilitate ecosystem protection and enhancement. CSC members, being more informed on these issues, need to clarify and support CHPP initiatives to their fellow commission members. It was asked that there be a specific time set aside at each CSC meeting to discuss any concerns, disagreements and alerts among the membership. It was noted with regard to the SAV issue that Robin Smith has been asked to attend the next CRC meeting and lead discussion regarding the need for interagency cooperation and the roles of each agency specified in the CAMA legislation.

The next meeting will be held on August 4<sup>th</sup>, unless an urgent need to meet arises.

The meeting adjourned at 2:45pm.

DRAFT

**SECTION .1100 - GENERAL PERMIT FOR CONSTRUCTION OF BULKHEADS AND ~~THE PLACEMENT OF RIPRAP~~ REVETMENTS FOR SHORELINE PROTECTION IN ESTUARINE AND PUBLIC TRUST WATERS AND OCEAN HAZARD AREAS**

**15A NCAC 07H .1101 PURPOSE**

A permit under this Section shall allow the construction of bulkheads and ~~the placement of riprap~~ revetments for shoreline protection in the public trust waters and estuarine waters AECs according to authority provided in Subchapter 07J .1100 and according to the Rules in this Section. This permit shall not apply to shoreline protection along the oceanfront or to waters and shorelines adjacent to the Ocean Hazard AEC with the exception of those shorelines that feature characteristics of the Estuarine Shoreline AEC. Such features include the presence of wetland vegetation, lower wave energy and lower erosion rates than the adjoining Ocean Erodible Area.

*History Note:* Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124;  
Eff. March 1, 1984;  
Amended Eff. April 1, 2003.

**15A NCAC 07H .1102 APPROVAL PROCEDURES**

(a) An applicant for a General Permit under this Subchapter shall contact the Division of Coastal Management and request approval for development. The applicant shall provide information on site location, dimensions of the project area, and ~~his~~ the applicant's name and address.

(b) The applicant shall provide:

- (1) confirmation that a written statement has been obtained signed by the adjacent riparian property owners indicating that they have no objections to the proposed work; or
- (2) confirmation that the adjacent riparian property owners have been notified by certified mail of the proposed work. The notice shall instruct adjacent property owners to provide written comments on the proposed development to the Division of Coastal Management within ten (10) days of receipt of the notice, and, indicate that no response shall be interpreted as no objection. The Division of Coastal Management ~~DCM-staff~~ shall review all comments and determine, based on their relevance to the potential impacts of the proposed project, if the proposed project can be approved by a General Permit. If the Division of Coastal Management ~~DCM-staff~~ determines that the project exceeds the guidelines established by the General Permit Process, DCM shall notify the applicant that ~~he must submit~~ an application for a major development permit shall be required.

(c) No work shall begin until an on-site meeting is held with the applicant and a Division of Coastal Management representative so that the proposed ~~bulkhead~~ alignment may be ~~appropriately~~ marked. Written authorization to proceed with the proposed development shall be issued if the Division representative finds that the application meets all the requirements of this Subchapter. Construction of the bulkhead or riprap ~~revetment structure~~ shall be completed within 120 days of the issuance of the general authorization or the authorization shall expire and it shall be necessary to re-examine the alignment to determine if the general authorization may be reissued.

*History Note:* Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124;  
Eff. March 1, 1984;  
Amended Eff. October 1, 2007; September 1, 2006; January 1, 1990; December 1, 1987.

**15A NCAC 07H .1103 PERMIT FEE**

The applicant shall pay a permit fee of two hundred dollars (\$200.00) for riprap revetments ~~and bulkhead structures~~ sited at or above normal high water or normal water level, or a permit fee of four hundred dollars (\$400.00) for ~~bulkhead and~~ riprap revetments structures sited below normal high water or normal water level. The applicant shall pay a permit fee of four hundred dollars (\$400.00) for bulkheads. Permit fees shall be paid by check or money order payable to the Department.

*History Note:* Authority G.S. 113A-107; 113A-113(b); 113A-118.1; 113A-119; 113-119.1; 113A-124;  
Eff. March 1, 1984;  
Amended Eff. September 1, 2006; August 1, 2000; March 1, 1991.

## 15A NCAC 07H .1104 GENERAL CONDITIONS

- (a) This permit authorizes only the construction of bulkheads and ~~the placement of~~ riprap revetments conforming to the standards herein.
- (b) Individuals shall allow authorized representatives of the Department of Environment, ~~Health,~~ and Natural Resources to make periodic inspections at any time deemed necessary in order to ensure ~~be sure~~ that the activity being performed under authority of this general permit is in accordance with the terms and conditions prescribed herein.
- (c) There shall be no ~~significant~~ interference with the navigation or use of the waters by the public by the existence of the bulkhead or the riprap revetment authorized herein. Bulkheads and riprap revetments authorized in this Rule shall not interfere with the established or traditional rights of navigation of the waters by the public.
- (d) This permit shall ~~will~~ not be applicable to proposed construction where the ~~Department~~ Division of Coastal Management has determined, based on an initial review of the application, that notice and review pursuant to G.S. 113A-119 is necessary because there are unresolved questions concerning the proposed activity's impact on adjoining properties or on water quality; air quality; coastal wetlands; cultural or historic sites; wildlife; fisheries resources; or public trust rights.
- (e) This permit shall ~~does~~ not eliminate the need to obtain any other required state, local, or federal authorization.
- (f) Development carried out under this permit shall ~~must~~ be consistent with all local requirements, AEC rules, and local land use plans current at the time of authorization.

*History Note:* Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124;  
Eff. March 1, 1984;  
Amended Eff. May 1, 1990; December 1, 1987;  
RRC Objection due to ambiguity Eff. May 19, 1994;  
Amended Eff. August 1, 1998; July 1, 1994.

## 15A NCAC 07H .1105 SPECIFIC CONDITIONS

- ~~(a) This general permit is applicable only along shorelines void of wetland vegetation including marsh grass and wooded swamp, or where all construction is to be accomplished landward of such vegetation.~~
- ~~(b) Bulkheads and riprap material shall be positioned as follows:~~
- ~~(1) Bulkheads shall be positioned so as not to exceed more than an average distance of 2 feet waterward of the normal high water mark, or the normal water level contour, whichever is applicable. In no case shall the bulkhead be positioned more than 5 feet waterward of the normal high water or normal water level contour at any point along its alignment.~~
- ~~(2) Riprap shall be positioned so as not to exceed a maximum of 5 feet waterward of the mean high water mark or normal water level contour at any point along its alignment. Where there is an existing bulkhead structure, riprap shall be allowed to extend a maximum of 10 feet offshore. This location standard shall take into consideration the height of the area to be protected (i.e. bulkhead height, water depth) and the alignment shall allow for a slope no flatter than 2 feet horizontal per 1 foot vertical and no steeper than 1½ feet horizontal per 1 foot vertical.~~
- ~~(c) Along shorelines within upland basins, canals, and ditches, bulkheads or riprap material must be positioned so as not to exceed more than an average distance of 5 feet waterward of the normal high water mark or the normal water level contour, whichever is applicable. In no case shall the bulkhead or riprap be positioned more than 10 feet waterward of the normal high water or normal water level contour at any point along its alignment. For the purpose of these Rules, the Atlantic Intracoastal Waterway (AIWW) is considered a natural shoreline and development shall occur as described in 7H .1105(b).~~
- ~~(d) Construction authorized by this general permit shall be limited to a maximum shoreline length of 500 feet.~~
- ~~(e) All backfill material shall be obtained from an upland source.~~
- ~~(f) The bulkhead shall be constructed, or the riprap shall be in place prior to any backfilling activities.~~
- ~~(g) The bulkhead or riprap shall be structurally tight so as to prevent seepage of backfill materials through the structure.~~
- ~~(h) Riprap material shall be free from loose dirt or any other pollutant. It shall be of a size sufficient to prevent its movement from the site by wave or current action.~~

~~(i) Riprap material shall consist of clean rock or masonry materials such as but not limited to granite or broken concrete. Materials such as tires, car bodies, scrap metal, paper products, tree limbs, wood debris, organic material or similar material, are not considered riprap.~~

~~(j) The bulkhead shall be solid and constructed of treated wood, concrete slabs, metal sheet piles or other suitable materials approved by department personnel. No excavation is permitted except for that which may be required for the construction of the bulkhead wall, riprap, deadmen cables, etc. This permit does not authorize any excavation waterward of the approved alignment.~~

~~(k) Bulkheads or riprap shall not extend beyond established alignments nor restrict the original width of the canal or basin.~~

~~(l) If one contiguous acre or more of property is to be excavated or filled, an erosion and sedimentation control plan shall be filed with the Division of Land Resources, Land Quality Section, or appropriate local government having jurisdiction. This plan shall be approved prior to commencing the land disturbing activity.~~

(a) Along shorelines void of wetland vegetation:

(1) New bulkheads shall have an average approximation of normal high water or normal water level. The bulkhead position shall not exceed a distance of 5 feet waterward of normal high water or normal water level at any point along its alignment.

(2) New bulkheads or riprap revetments on shorelines within manmade upland basins, canals, and ditches, shall be positioned so as not to exceed an average distance of two (2) feet and maximum distance of five (5) feet waterward of normal high water or normal water level.

(3) When replacing an existing bulkhead, the new alignment shall be positioned so as not to exceed a maximum distance of two (2) feet waterward of the current bulkhead alignment. To tie into a like structure on the adjacent property, replacement bulkhead position shall not exceed a maximum distance of five (5) feet waterward of the current bulkhead alignment. When replacing a bulkhead where lands landward of the bulkhead were lost in the last year, bulkheads shall be positioned a maximum of two (2) feet waterward of the original/existing alignment.

(4) Riprap revetments shall be positioned so as not to exceed a maximum distance of 10 feet waterward of the normal high water or normal water level at any point along its alignment

(b) Along shorelines with wetland vegetation, bulkheads and riprap revetments shall be positioned so that all construction is to be accomplished landward of such vegetation.

(c) Bulkheads shall be constructed of vinyl, or steel sheet pile, concrete, stone, timber, or other suitable materials approved by the Division of Coastal Management.

(d) Riprap revetments shall be constructed of granite, marl, concrete without exposed rebar, or other suitable materials approved by the Division of Coastal Management.

(e) Revetment material shall be free from loose dirt or other pollutants

(f) Revetment material shall be of sufficient size to prevent movement from the site by wave action or currents.

(g) Construction design for riprap revetments shall take into consideration the height of the area to be protected (i.e. bulkhead height, escarpment height, water depth) and the alignment shall allow for a slope no flatter than three (3) feet horizontal per one (1) foot vertical and no steeper than 1 ½ feet horizontal per one (1) foot vertical.

(h) All backfill material shall be obtained from an upland source pursuant to 15A NCAC 07H .0208. The bulkhead or riprap revetment shall be constructed prior to any backfilling activities and shall be structurally tight so as to prevent seepage of backfill materials through the structure.

(i) No excavation, grading or fill shall be permitted except for that which may be required for the construction of the bulkhead and/or riprap revetment. This permit shall not authorize any excavation waterward of the approved alignment.

(j) Runoff from construction shall not visibly increase the amount of suspended sediments in adjacent waters. Appropriate sedimentation and erosion control devices, measures or structures shall be implemented to ensure that eroded materials do not enter adjacent wetlands, watercourses and property (e.g. silt fence, diversion swales or berms, sand fence, etc.).

(k) If one contiguous acre or more of property is to be excavated or filled, an erosion and sedimentation control plan shall be filed with the Division of Land Resources, Land Quality Section, or appropriate local

government having jurisdiction. This plan shall be approved prior to commencing the land-disturbing activity.

(l) For the purpose of these Rules, the Atlantic Intracoastal Waterway (AIWW) is considered a natural shoreline.

(m) Construction authorized by this general permit shall be limited to a maximum shoreline length of 500 feet.

*History Note: Authority G.S. 113A-107(a); 113A-107(b); 113A-113(b); 113A-118.1; 113A-124; Eff. March 1, 1984; Amended Eff. April 1, 2005; December 1, 1991; January 1, 1989; December 1, 1987.*