



SHORELINES – November 2009

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Terminal Groin Update – New Feasibility & Advisability Study

Most coastal North Carolinians are aware of the regulatory rules and statutory law, passed in 1985 and 2003, respectively forbidding the use of erosion control hard structures along the State's 325 miles of oceanfront (i.e., jetties, groins, seawalls, and breakwaters). Upon closer inspection however, most of the State's more acute erosion issues can actually be found along inlet shorelines rather than the open coast. This is substantiated by reviewing the State's sandbag records, which are allowed as a shore-parallel "temporary" erosion control structure.

Without diving into the nuisances of sandbag regulations, in general, permits have traditionally been awarded for 2 or 5 years, or until 2008 if a community where the sandbag was located was pursuing a beach nourishment project. Variances for permit extensions can and are routinely approved by the Coastal Resources Commission. The N.C Division of Coastal Management estimates that out of the roughly 370 sandbag structures that are permitted, an estimated 150 are non-compliant. The term non-compliant means that sandbags are exposed and their permits have expired. The remaining compliant sandbags are either buried or have permits/variances that are active. Most of the sandbag structures in the State (either compliant or non-compliant) are located along the inlet shorelines, and last year the Division of Coastal Management conducted a detailed cataloguing effort and began to initiate the removal of non-compliant sandbags.

For this and other reasons, a lively debate began to surface regarding "long-term" options for shoreline management, especially along inlet shorelines. Presently beach nourishment, inlet relocation, or structural retreat are the only available options; and each has their shortcoming. Beach nourishment along inlet shorelines is volatile because the nourishment sand tends to migrate swiftly back into the inlet. Inlet relocation is expensive and involves a time consuming permitting process, and the removal/relocation of homes and infrastructure associated with structural retreat is very difficult to fairly implement. Hence a movement came afoot to allow another management option in the mix - terminal groins – a hard structure currently banned in the State. Adversaries to this movement swiftly highlighted the deleterious effects of hard structures, including the loss of the public beach.

In the 2007 State General Assembly biennial long session, terminal groin legislation was introduced and passed in the Senate (Senate Bill 599) but never was considered by the House in either the 2007 long or 2008 short session. A terminal groin is essentially a morphing of a jetty and a groin – ideally a terminal groin will impound only enough sand to straighten the shoreline adjacent to a tidal inlet. Any additional sand would move either over, around, or through the groin toward an inlet. A jetty on the other hand is a navigational structure designed to preclude as much sand as possible from shoaling an inlet. And conversely, a groin usually refers to a permeable or impermeable shore perpendicular structure designed to trap sand and extends from the dry sandy beach and into the ocean. So again, a terminal groin is a morph of a jetty and a traditional sand trap groin.



Terminal groin legislation was again introduced in the General Assembly's 2009 long session (Senate Bill 832); and again passed the Senate but stalled in the House. However a very important substitute piece of legislation was enacted into law – **SL 2009-479**, and contains the following provisions.

(1) Sandbag Removal Moratorium – As mentioned above, in 2008, coastal regulations expired that allowed sandbags to remain in-place if a community was pursuing a beach nourishment project. In theory, many of these sandbags should have been removed by now, but they have not. SL 2009-479 essentially allows these sandbags to legally remain in-place, again if a community is pursuing a beach nourishment or now, an inlet relocation project.

(2) Terminal Groin Feasibility & Advisability Study – Rather than voting directly “yay” or “nay” for or against terminal groins, the General Assembly mandated the Coastal Resources Commission to conduct a feasibility and advisability study and present a report to the Environmental Review Commission and the General Assembly by April 1, 2010. The Environmental Review Commission is a joint legislative study committee. SL 2009-479 also stipulates some of the subjects the study must address; including a review of the effectiveness of terminal groins constructed in North Carolina and other states, a cost analysis, environmental impact analysis, a review of engineering techniques and technological advances that minimizes impacts, and other items. The engineering firm of Moffatt & Nichol has been retained to conduct the study, however any policy conclusions included in the final report will be developed and articulated by the Coastal Resources Commission.

So what's next after the Feasibility & Advisability Study? That's a good question and the answer will likely be predicated on whether the study report and its conclusions are favorable or not to terminal groins. If the technical data supports policy elements that are favorable to terminal groins, then it would likely be difficult for the General Assembly to vote against terminal groin legislation. One would think the opposite would hold true as well - if the report is negative towards terminal groins, then passing legislation to an effect otherwise seems very unlikely. In the interim, the N.C. Division of Coastal Management has developed a terminal groin study website at <http://dcm2.enr.state.nc.us/CRC/tgs/terminal%20groin%20study.html>, and includes a copy of the enacting legislation, the contracted scope of work, public comment and other useful information. This is a great way to stay informed on this potential change to a very deep-rooted aspect of North Carolina coastal policy.



The structure at the east end of Ft. Macon State Park on Bogue Banks is considered as one of two "terminal groins" in the State. The other is situated along the north end of Pea Island on the Outer Banks, and helps protect the Bonner Bridge over Oregon Inlet.