

Executive Summary of the Sand Management Plan and 2005 Agreement

July 29, 2011

The Wilmington Harbor Project necessitated the removal of large quantities of material (15.5 million cubic yards) from the navigation channel in the Cape Fear River. The Sand Management Plan was published in February 2000 by the US Army Corps of Engineers to address the dredging and disposal issues associated with the deepening and realignment of the Ocean Entrance Channels and the Inner Harbor Channels and the future maintenance of these harbor segments. The State of North Carolina sponsored the project.

The deepening of the channel from approx. 38' to 42' plus a 2' overdraft was to accommodate larger ships in the transport of goods to the Port of Wilmington. The realignment of the ocean entrance channel was not part of the initial 1996 project feasibility report. A Value Engineering Study conducted after the feasibility report, recommended moving the channel to significantly reduce construction costs by avoiding rock in the existing channel. The realignment swung the entrance channel closer to the Point of Bald Head's West and South beaches.

The project feasibility report also planned for disposing of all of the construction dredged material from this area of the channel out to sea. However, with the realignment of the channel into one of the existing disposal sites, capacity no longer existed to support the dumping of increased material from this project. Building a new disposal site would delay the project by a year, which was unacceptable to the State. The solution was to place up to 6 million cubic yards of sand on the beaches of Bald Head Island, Oak Island, Caswell, and Holden Beach allowing the project to proceed. Bald Head received 1.84 million cubic yards on South and West beaches in 2001 from the construction phase of the project.

Future dredging maintenance of these channel segments was predicted at 2 year intervals. The Plan called for the placement of beach quality sand on Bald Head in years 2 and 4 and Oak Island-Caswell Beach in year 6, with the placement repeating itself for the life of the project. As a result of the severe erosion on South Beach, which the Village believed was a direct result of the channel realignment, over-wash occurred in 2003 and a large portion of South Bald Head Wynd was lost just west of the Bald Head Island Club. The Village filed a Complaint and a Settlement Agreement was reached in 2005 with the Corps. Dredging was conducted by the Corps in the winter of 2004/2005 placing sand on South Beach and the Village, at its expense installed a groin field and a sand bag revetment wall in the spring of 2005 on South Beach. The installation of the groin field, required by the Corps, was intended to slow the non-natural rate of erosion and destruction of natural habitat.

Dredging did occur in 2007 but due to insufficient funding from the Federal Government, the Village and the State were required to pay a portion of this renourishment effort. The impact

of the deepened and realigned channel was far more severe than originally anticipated with the modeling used in 2000 to create the Sand Management Plan. Bald Head was not scheduled to receive sand again until 2011 (the 2009 dredging cycle would place sand on Oak Island-Caswell Beach.) By 2009, however, the non-natural erosion was so severe the Village, knowing they could not go more than 2 years without nourishment, was forced to enact an emergency strategy whereby BHI taxpayers purchased 1.8 million cubic yards of sand to re-nourish the beach, financed through \$17 million of General Obligation Bonds. This renourishment effort was completed in 2010. In approximately 18 months, 750,000 cubic yards of this sand (more than 40%) was gone resulting in the loss of 350' of beach and major dunes at the Point.

The long term average annual rate of erosion in the vicinity of the Point was 8 feet. The current rate in this vicinity (June - July, 2011) is 10 feet per week. Bald Head was scheduled per the Sand Management Plan to receive re-nourishment this winter (2011). However, the Corps did not receive funding for this dredging maintenance. Therefore, the earliest that Bald Head could receive sand from the Corps is mid-2012 however funding again looks dismal at best.

As a temporary measure, to stem the extreme rate of erosion occurring at the Point, the Village received approval from the State to extend groin #16. The BHI taxpayers are funding this emergency repair effort through an increase in the property tax rate. If the rate of erosion cannot be controlled in the area of the Point, a breach in the dunes could result in chronic saltwater flooding, loss of homes, and loss (or relocation) of Island infrastructure (power, water, sewer, and roads).

In the interim, the Village did file suit against the Corps to meet their contractual obligations of the Sand Management Plan and the 2005 Agreement. Recognizing this could take years to settle, the Village is also pursuing assistance from State and Federal legislators to fund the dredging activities related to re-nourishing Bald Head's beaches and the studies required by the Wilmington Harbor Project to find a long term solution to the shoaling of the navigation channel.

The following bathymetry survey (measurements of the depths of oceans, seas, or other large bodies of water) conducted on behalf of the Village shows the location of the channel prior to its relocation.

