

## SHORELINES – June 2004

### A Quick Review of the EI FEMA Renourishment Project

The time period available to construct beach nourishment projects each year is carefully honed to a 4 ½ - 5 ½ month period that relies upon the type of dredging equipment used for a particular project. This time period is commonly referred to as the “environmental window” and is designed to avoid and limit any potential adverse impacts to some of our favorite beach visitors including sea turtles, shorebirds, and a host of other “critters” that burrow along the shoreline. The environmental window is fairly consistent along the southeast Atlantic seaboard and there is a flurry of activity for project sponsors and contractors to undertake in an effort to squeeze all the beach work that needs to be completed in a given year. Project schedules are extremely tight and a delay in one project can have a trickle down effect for the entire region. Accordingly, project sponsors must be prepared for “on the fly changes” and to “expect the unexpected”. There is no better example of this type of “on the fly” flexibility than this year’s Emerald Isle (EI) FEMA Beach Renourishment Project that was completed in the last week of the environmental window available for the project (March 23<sup>rd</sup> – March 30<sup>th</sup>). Let’s briefly review some of the parameters of this project in terms of construction and funding.

**Overview** - The project scope was aimed to address erosion hot-spots identified in a post-Hurricane *Isabel* survey completed along the Phase II reach of the locally-funded Bogue Banks Restoration Project, otherwise known as the Eastern EI Restoration Project. A FEMA (Federal Emergency Management Agency) reimbursement claim that included the post-Hurricane *Isabel* survey and a FEMA beach maintenance plan prepared for the Eastern EI Project was filed by EI and approved. Weeks Marine was the low bidder for the project predominantly because the dredge pipe, buoyed pipelines, bulldozers, and dredges were all in the area as part of the Bogue Banks Outer Harbor Section 933 Project and a separate nourishment project located at our neighboring beaches of Carolina and Kure Beach. Weeks Marine utilized two hopper dredges (the *BE Lindholm* and the *RN Weeks*) to ensure that the project was completed before the April 1<sup>st</sup> environmental moratorium.

**Construction** - Beach quality sand was obtained via the two hopper dredges mentioned above from the ODMDS (Offshore Dredged Material Disposal Site), which is regularly used during annual maintenance dredging of the Morehead City Harbor. Analysis of sediments obtained from the ODMDS indicated that the quality of this borrow source was excellent and was substantiated by the recently completed Outer Harbor Section 933 Project, which utilized shoal material that would have otherwise been disposed at offshore disposal sites. The Project was divided into three components that included both berm (the dry sand beach) and dune construction. These three areas of construction are summarized below and depicted in the map included in this issue of *Shorelines*.

(1) “**Area 1**” – Berm construction along an approximate 5,500 foot reach located between 10<sup>th</sup> and 20<sup>th</sup> Streets.

(2) “**Area 2**” - Berm construction along an approximate 6,500 foot reach located between 25<sup>th</sup> and Carolyn Streets.

(3) “**Dune Construction**” – Includes a 1,000 linear foot corridor within Area 2 located between the Old EI Pier regional access and the “dogleg” 4-wheel drive ramp, encompassing the shoreline fronting Pier Point condominiums and the new South Shores development.

The total estimated fill volumes for the berm and dune portions of the project was 170,000 and 6,000 cubic yards (cy), respectively.

**Funding** – EI should be reimbursed by FEMA for all activities associated with berm construction (Areas 1 and 2) including the costs for dredging, beach construction, project management, and turtle trawling. The funding associated with dune construction will be borne solely by the Town of EI and provides an added measure of protection in the area while infilling a break in an otherwise continuous dune line that was constructed in 2003. The estimated FEMA reimbursement for berm construction is approximately \$1.9 million. The cost for dune construction that is municipally funded is \$60,000.

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Through some nifty project changes that all transpired several weeks before the project was constructed, EI was able to utilize the dredges in the area and stored shoal material from the Morehead City Harbor to address the erosion hot spots along the eastern corridor of the town's shoreline while providing beautiful sand just in time for this year's summer season.

