

SHORELINES – December 2004
As presented to the Island Review Magazine.

The Brandt Island Pump-Out/Section 933 Project

After a couple years of study, a lawsuit between two dredging companies, and what seemed like non-stop on-again/off-again appropriation news from Washington, D.C., the Federal funding required for Phase II of the Morehead City Harbor Section 933 Project, or "The Pump-Out Phase", was secured in early October. This sand management/beach nourishment project should begin November 7, 2004, or shortly thereafter, and conclude by April 30, 2005. Approximately 3,200,000 cubic yards, or the equivalent of 213,000 dump trucks loads of stored and actively maintained shoal material from the Inner Harbor reach of the Morehead City Harbor will be placed along an approximate 9.5 mile stretch of Bogue Banks encompassing Fort Macon, Atlantic Beach, and Pine Knoll Shores. The schematic included with this edition of *Shorelines* depicts the Harbor and beach nourishment reaches.

As a quick summary, the recently-secured Federal appropriation will enable shoal material (sand) that is initially dredged from the Inner Harbor and temporarily stored in Brandt Island to be placed in two zones located along Bogue Banks. One zone is referred to as the "Base Plan" and encompasses the shorelines of Fort Macon and Atlantic Beach (~26,000 feet excluding a 1,000 foot buffer at each pier). Beach nourishment in this area is a 100% cost to the Federal government and was previously appropriated by Congress and the President.

The second zone is a Federal/non-Federal cost-shared area encompassing a majority of the Pine Knoll Shores shoreline (~26,000 feet). This second zone simply constitutes Phase II of the Section 933 Project and is a Federal/non-Federal cost-shared initiative. The maintenance material that is required to be dredged from the Inner Harbor in winter 2004-05 will also be pumped directly to the beach rather than stored in Brandt Island.

All of this scheduled activity will now enable the sand pumped-out of Brandt Island to dovetail where last year's project was completed (Phase I of the Section 933 Project).

Dredged material from the Outer Harbor, which is normally dumped offshore on an annual basis, was placed along the shorelines of Indian Beach/Salter Path and the westernmost tip of Pine Knoll Shores earlier this year (2004). The incremental cost to place the Outer Harbor shoal material on the beach simply constituted Phase I of the Section 933 Project.

The dredging contract for this year's Project has been awarded to *Bean Stuyvesant* and the cutterhead-suction dredge, the *Meridian*, will be used to pump the sand from Brandt Island to the Base Plan and Section 933 zones of the beach. *Marinex Construction* has been subcontracted by *Bean Stuyvesant* to complete the Inner Harbor maintenance work for 2004-05. A cutterhead-suction dredge utilizes a crane placed on a barge-type vessel that positions the cutterhead, which looks like a gigantic drill bit, along the seafloor. The cutterhead agitates the sandy bottom, and the resulting slurry of sediment and water is subsequently suctioned into a long tube transitioning into a pipeline that can be extended to a beach or disposal area.

An underground sleeve helps connect the pipeline extending from Brandt Island to the beach. The sleeve runs underneath Hwy 58 and towards the shore along Commerce Way in Atlantic Beach. From this point, the pipeline will run eastward to complete the Fort Macon section of the project, then westward into Atlantic Beach and the Section 933 zone of Pine Knoll Shores. Booster pumps are required for the western leg of the pipeline extension because the distance associated with completing this reach overwhelms the capacity of the

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pumps located on the dredge. Without booster pumps, the transferal of sand from Brandt Island to the beach would become a slow and inefficient process. Once the slurry of sand and water begins reaching the shore, the material is bulldozed into general construction specifications for subsequent grading into final contours, tilled, and opened for recreational use.

The Shore Protection Office Section 933 Project website is www.protectthebeach.com/usaceshoreprotect933.htm and includes the latest facts, figures, and weekly Pump-Out Phase project updates. Once again, it is important to recognize that the key to the success we are experiencing was, and will continue to be, a direct function of local support. Thanks again for all your efforts!

