

TOWN OF NAGS HEAD — LOCAL EMERGENCY NOURISHMENT PROJECT

October 2006

Summary — The town of Nags Head has applied to the US Army Corps of Engineers and NC CAMA for a permit to nourish ten miles of oceanfront within the same boundaries as the federal Dare County Hurricane Protection and Beach Erosion Control Project (South Project Area).

The purpose of the locally sponsored project is to protect the Town's tax base and infrastructure and to restore a protective recreational beach until such time as the federal project can be implemented. Interim emergency projects such as this have been accomplished in numerous jurisdictions prior to execution of federal 50-year projects (eg, Myrtle Beach, Emerald Isle, Pine Knoll Shores, Pawleys Island, etc). The project budget is (~)\$32 million.

Project Description — The proposed project (Fig A) will consist of excavating by hydraulic dredge up to 4.6 million cubic yards of beach-quality sediment from ocean borrow area(s) situated ~2–3 miles offshore of the project area. Sediment will be pumped onto the beach between the toe of the existing dune and the low water line and shaped by bulldozers into a profile that closely matches the contours and elevations of the natural beach. Approximately 50 percent of the excavations will be deposited by run-out from the discharge point between mean low water and the outer bar (~500 ft offshore). Typical nourishment sections will add ~60–160 cubic yards per linear foot (cy/ft) of beach and **advance the shoreline 50 to 125 ft.**

Nourishment Areas — The work will be performed continuously, covering all or portions of each of four designated reaches according to the following plan (subject to local funding availability).

- **Reach 1** – Stations 500+00 to 790+00 – 5.5 miles – up to 1.74 million cubic yards*
- **Reach 2** – Stations 790+00 to 920+00 – 2.5 miles – up to 1.3 million cubic yards*
- **Reach 3** – Stations 920+00 to 1010+00 – 1.7 miles – up to 1.44 million cubic yards*
- **Reach 4** – Stations 1010+00 to 1025+00 – 0.3 miles – up to 120,000 cy*

[*Volumes per reach may be adjusted by ±15 percent according to conditions at the time of construction. Maximum overall volume will not exceed 4.6 million cubic yards.]

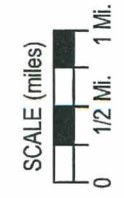
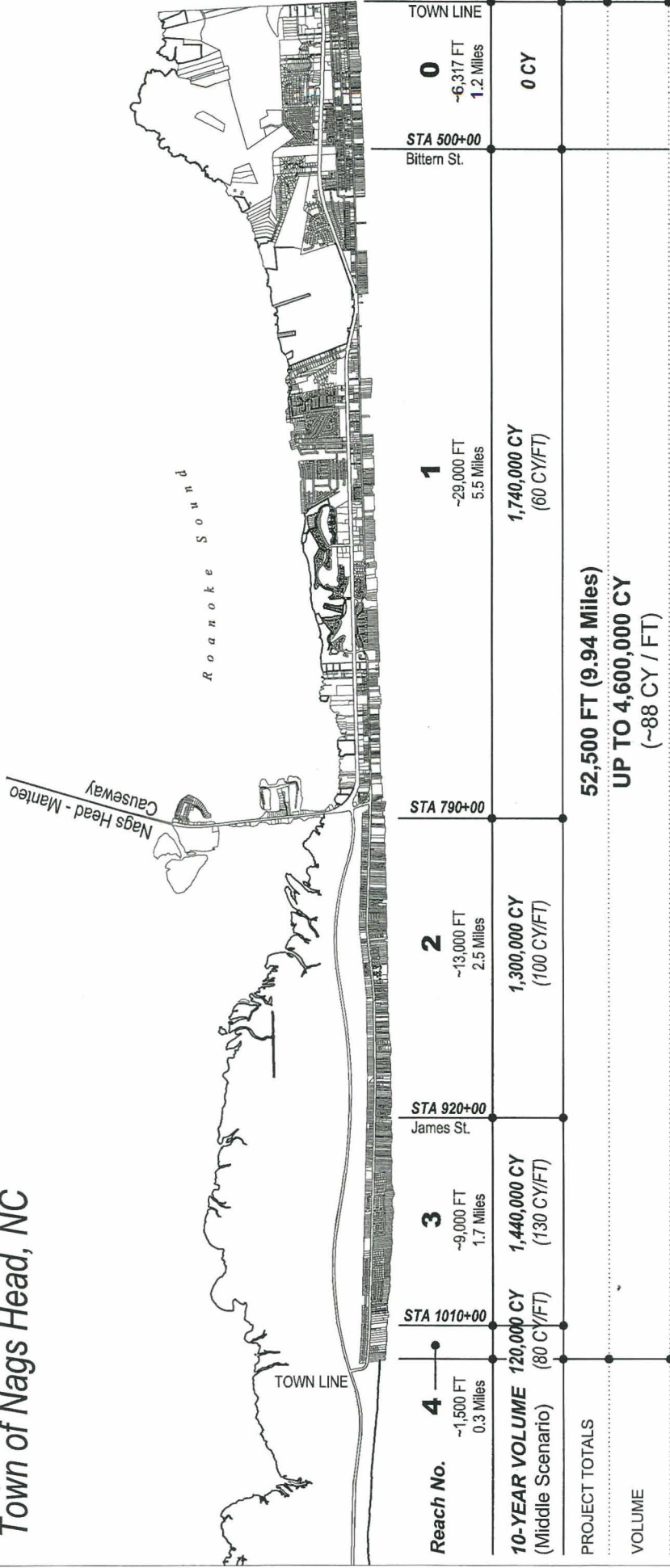
Borrow Areas — The proposed borrow areas are portions of offshore area S1, the boundary of which is designated by the USACE (2000) in the federal Dare County project. Several sub areas within S1 have been sampled and tested for sediment quality and were found to contain exceptionally good beach sand. Sediments have been confirmed over a 2–3 square-mile area within area S1 (~10 square miles) to a section thickness averaging ~8 ft. This yields potentially >20 million cubic yards of beach-quality sediment. Water depths in borrow areas are ~40–55 ft, well beyond the active beach zone in this setting.

Type of Construction Equipment — The anticipated optimal equipment for excavations will be ocean-certified, self-contained hopper dredges. Such equipment typically excavates shallow trenches (~2-3 ft of section) in each pass (leaving narrow undisturbed areas at the margin of each cut), then travels to a buoyed pipeline anchored close to shore. Discharge to the beach is via submerged pipeline across the surf zone, then by way of shore-based pipe positioned along the dry beach. Only a small portion of borrow area S1 will be required to provide up to 4.6 million cubic yards of beach quality material.

Schedule — The optimal schedule will be approximately six months during warm-weather periods including summer because of safety and cost considerations. Plans call for strict environmental monitoring for any periods that overlap important environmental windows (eg, turtle nesting periods).

Nags Head Emergency Beach Restoration Project

Town of Nags Head, NC



Fran Harris

From: Carolyn Morris [morris@townofnagshead.net]

Sent: Monday, October 09, 2006 8:21 AM

To: Fran Harris

Subject: Town of Nags Head local emergency beach nourishment project - info for Board pkgs

Town of Nags Head local emergency beach nourishment project:

The Nags Head Emergency Beach Nourishment Project entails the dredging and placement of up to 4.5 million cubic yards of sand from a borrow area located 1-4 miles off Nags Head. No federal funds are involved. The sand is to be placed on the beach from about 6,000 feet south of the KDH/NH Town line to the southern corporate limits at milepost 21.

The Nags Head Board-appointed beach nourishment finance committee developed 4 options for funding the project - all include 25% Dare County contribution, 25% raised from town wide tax increase (projected to be 5.6 cents/\$100) and 15% from an assessment district or districts that abut the project area.

On Monday, July 17, 2006 the Dare County Board voted 4 - 3 in support of the Nags Head emergency project, up to \$8 million dollars, with 3 conditions: 1) full presentation by Mayor/Coastal Science Engineering (CSE), 2) permits in hand, and 3) financing/referendum in order.

The presentation by Nags Head Mayor Renée Cahoon and CSE consultant Tim Kana on Monday, October 16, 2006 will satisfy condition #1. No specific action is required by the Dare County Board on October 16th.