



**Environmental
 Notification Form**

<i>For Office Use Only</i> Executive Office of Environmental Affairs	
EOEA No.:	<u>13814</u>
MEPA Analyst:	<u>Bill GAGE</u>
Phone:	617-626- <u>1025</u>

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Proposed Dune Stabilization & Beach Nourishment		
Street: Round Cove Barrier Beach off the Wequassett Inn, 2171 Route 28		
Municipality: Harwich	Watershed: Cape Cod	
Universal Tranverse Mercator Coordinates:	Latitude: 041° 43' 19.6" N Longitude: 069° 59' 42.4" W	
Estimated commencement date:	Estimated completion date:	
Approximate cost:	Status of project design:	%complete
Proponent: Town of Harwich, Attn: Tom Leach, Harbormaster		
Street: PO Box 207		
Municipality: Harwich Port	State: MA	Zip Code: 02646
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Beth Hays		
Firm/Agency: Coastal Engineering Co., Inc.	Street: 260 Cranberry Hwy	
Municipality: Orleans	State: MA	Zip Code: 02653
Phone: 508-255-6511	Fax: 508-255-6700	E-mail: bhays@cecapecod.com

- Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
 Yes No
- Has this project been filed with MEPA before?
 Yes (EOEA No. _____) No
- Has any project on this site been filed with MEPA before?
 Yes (EOEA No. _____) No
- Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:
- a Single EIR? (see 301 CMR 11.06(8)) Yes No
 - a Special Review Procedure? (see 301CMR 11.09) Yes No
 - a Waiver of mandatory EIR? (see 301 CMR 11.11) Yes No
 - a Phase I Waiver? (see 301 CMR 11.11) Yes No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres): N/A

Are you requesting coordinated review with any other federal, state, regional, or local agency?
 Yes (Specify _____) No

List Local or Federal Permits and Approvals: Order of Conditions, Chapter 91 License, Water Quality Certification, Army Corps of Engineers Permit.

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- | | | |
|--|---------------------------------------|--|
| <input type="checkbox"/> Land | <input type="checkbox"/> Rare Species | <input type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input type="checkbox"/> Water | <input type="checkbox"/> Wastewater | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Air | <input type="checkbox"/> Solid & Hazardous Waste |
| <input checked="" type="checkbox"/> ACEC | <input type="checkbox"/> Regulations | <input type="checkbox"/> Historical & Archaeological Resources |

Summary of Project Size & Environmental Impacts Note: Barrier Beach only	Existing	Change	Total	State Permits & Approvals
LAND				<input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input checked="" type="checkbox"/> Chapter 91 License <input checked="" type="checkbox"/> 401 Water Quality Certification <input type="checkbox"/> MHD or MDC Access Permit <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input type="checkbox"/> Other Permits (including Legislative Approvals) – Specify: _____ _____ _____ _____ _____
Total site acreage	3.3±			
New acres of land altered		0.45±		
Acres of impervious area	0	0	0	
Square feet of new bordering vegetated wetlands alteration		0		
Square feet of new other wetland alteration		19,400±		
Acres of new non-water dependent use of tidelands or waterways		0		
STRUCTURES				
Gross square footage	N/A			
Number of housing units	N/A			
Maximum height (in feet)	N/A			
TRANSPORTATION				
Vehicle trips per day	N/A			
Parking spaces	N/A			
WATER/WASTEWATER				
Gallons/day (GPD) of water use	N/A			
GPD water withdrawal	N/A			
GPD wastewater generation/ treatment	N/A			
Length of water/sewer mains (in miles)	N/A			

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

- Yes (Specify _____) No

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

- Yes (Specify _____) No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

Yes (Specify _____) No

HISTORICAL / ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

Yes (Specify _____) No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

Yes (Specify _____) No

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

Yes (Specify: Pleasant Bay) No

PROJECT DESCRIPTION: The project description should include (a) a description of the project site, (b) a description of both on-site and off-site alternatives and the impacts associated with each alternative, and (c) potential on-site and off-site mitigation measures for each alternative (You may attach one additional page, if necessary.)

Project Description

This project proposes the re-establishment of a barrier beach which protects a salt pond inlet/harbor channel, wetlands vegetation and a municipal mooring field, located at Round Cove, in Pleasant Bay in East Harwich. The barrier beach has suffered from both easterly storm events and erosion from lack of sediment supply. Since the breach in the Chatham outer barrier beach, the tidal range has increased dramatically in Pleasant Bay. This increase in tidal range allows for higher seas and waves from northeasterly storms, which now regularly overtop, and roll the barrier beach into Round Cove. This causes sand deposition into the Cove outlet channel which is adversely affecting the navigability within the channel and also is adversely affecting the easterly portion of the mooring area which may result in a loss of moorings due to shoaling.

At the present time, it appears that the primary sediment source is from the updrift beaches. There is also a likely sediment contribution from the offshore shoals, and the sediment does not appear to deposit on the westerly shores, except during storm events. Unfortunately, such storm events overtop the barrier beach, diminishing dune building sediment supply and washing in into the Cove and towards the inlet channel. Should the Chatham breach heal, the tidal range within Pleasant Bay will reduce and an equilibrium may be re-established which will help in the naturally stabilization of the Round Cove barrier beach. However, this may not occur for several years. A historical source of sediment, which appears to be the only effective source at this time, is in the southerly direction from the northerly shoreline. However, the northerly shoreline is armored for several hundred feet, and provides little or no sediment for re-establishment of the barrier beach dune. This project proposes to artificially reinforce and stabilize the barrier beach dune, as well as provide a more direct sediment source for feeding the barrier beach.

The proposed project involves the re-establishment and reinforcement of the existing barrier beach. Several options are explored including the placement of a sand filled geotube to serve as a dune core stabilizing the elevation and position of the barrier beach. The option includes the placement of a reinforced dune core that will be then covered with compatible sand and vegetated with American Beach Grass (see attached project photographs). Additionally a feeder source of sediment will be placed and maintained along the beach, above mean high water, to the immediate north of the barrier beach. Considerations and mitigations have been incorporated in the design to mitigate for potential adverse impacts to adjacent resource areas (see attached Resource Area Analysis by Woods Hole Group).

The sand necessary for this project would come from two sources. The primary source of sand for the geotubes, dune cover and beach nourishment feeder source, would be from dredge material from the maintenance dredging of the entrance channel to Round Cove (dredge permits enclosed, new permit applied for). Estimated quantities of material necessary are approximately 1150 cubic yards for the barrier beach dune restoration and 220 cubic yards for the "feeder source nourishment". Samples of the dredge material show the sediment to be virtually free of fines, and well suitable for dune restoration and beach nourishment (sediment sampling results enclosed). The current permit identifies the disposal site to be the East Harwich Bay Road beach, located south of the locus. This project would include the barrier beach as an alternate disposal site for the dredge material. The currently filed dredge permit identifies the Round Cove barrier beach as

a de-watering site for the upcoming maintenance dredging. Those permit plans state that the dredge material will be directly hydraulically pumped into geotubes, located on the Round Cove barrier beach, for de-watering, and ultimate disposal at the Bay Road beach. Should this project be approved, the de-watered geotubes would remain in place on the barrier beach, overlaid with a covering of sand and vegetated. Additional material, necessary for the cover and feeder beach nourishment, will be provided from an off-site sand source, found suitable for compatibility of grain size distribution.

Specifically, the proposed project includes the placement of parallel rows of sand filled geotubes, each approximately 10' wide and 3' high and approximately 290' in length, which would span from the existing vegetated area to the north, at the landward end of the barrier beach, to the vegetated area to the south at the commencement of the elevated vegetated landform adjacent to the entrance channel (see attached photos). The ends of the tubes would be set deeper into the ground to prevent end effects that may cause a breach at the ends. The barrier beach dune would then be shaped with added sand, then vegetated with American Beach Grass. The final elevation and shape of the dune would prevent overtopping, except in extreme storm conditions, however, the solid core would maintain the position of the dune, as well as minimize the amount of sand potentially washing into the Cove. Following a storm event that results in overtopping, the dune would be re-established from either dredge material deposition from the channel entrance, or compatible material from an off site source. Additionally a depressed area of beach grass at the southern end would be filled with sand to match the adjacent grade, in order to minimize the probability of a breach at that area. The area would be replanted with American Beach Grass.

The re-establishment of the barrier beach dune with the dredge material from Round Cove has conceptually been supported by the Pleasant Bay Resource Management Alliance (see letter from Alliance enclosed). The proposed project follows the suggestion of the Alliance with design consideration for enhanced dune stabilization and feeder source material.

Alternative Analysis

Do Nothing – If nothing were done, the barrier beach would continue to diminish causing instability and sediment into the important mooring area, adversely affecting adjacent wetland resource areas.

Re-establish Dune without a Core – Re-establishing the dune without the inclusion of a core would merely provide additional sediment to be washed into Round Cove. Until such time as the Chatham breach heals, the tidal surge due to easterly storm events will continue to undermine the barrier beach, and therefore, continue to roll the dune into the Cove.

Provide Feeder Source Nourishment without Restoration of the Dune – This alternative would be an attempt to leave the barrier beach as it is, but to supply feeder nourishment material along the northerly beaches. This alternative would not be capable of performing a “natural” restoration of the barrier beach dune, by itself. The feeder material is important to maintain a healthy barrier beach, but the quantities necessary to “naturally” re-establish the barrier beach would be far in excess of the estimated 1150 cubic yards and such quantities placed on the northerly beaches may have adverse affects to the beaches and resources in that vicinity.

Re-establish Dune with Coir Core – This alternative is similar to the preferred option as it proposes to re-establish the dune, however, utilizing anchored coir fiber rolls for a core base. The advantages of this alternative would be the biodegradable nature of the coir rolls. The disadvantages to this alternative are the coir rolls proven inability to withstand wave forces in such an exposed situation. Coir rolls have shown to have a limited ability in velocity zones to withstand wave attack, provided that they are backed by a coastal bank. Without the support backing of a coastal bank, the fiber rolls would most likely be destroyed in the first semi-significant storm event. This alternative must be disregarded, as it has no probability for success.

Proposed Project -- Preferred Alternative- Re-establish Dune with Geotube Core – As described in the above project discussion, the placement of a dune core is fundamental to the success and elimination of potential adverse affects. With the assistance of the man-made core, the barrier beach would then be able to continue its primary functions, as outlined in 310 CMR 10.29 and the projects meets the performance standards outlined for the resource area. The proposed project also includes the updrift placement of feeder source nourishment for dune restoration. The proponent acknowledges concerns regarding the placement of a reinforced core and is willing to work with the Regulatory Agencies to develop a solution that will yield the necessary results.