

Commonwealth of Massachusetts
Executive Office of Environmental
Affairs MEPA Office

ENF Environmental
Notification Form

<i>For Office Use Only</i>	
<i>Executive Office of Environmental Affairs</i>	
EOEA No.:	12759
MEPA Analyst:	LEANDREA DAMES
Phone: 617-626-	1028

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: Dartmouth Cowyard Salt Marsh Restoration Project		
Street: Little River Road, approx. 500' south of Little River Bridge		
Municipality: Dartmouth, Bristol County	Watershed: Buzzard's Bay	
Universal Transverse Mercator Coordinates:	Latitude: 41° 32' 02" N	
	Longitude: 70° 58' 06" W	
Estimated commencement date: Fall 2002	Estimated completion date: Fall 2002	
Approximate cost: \$130,000.00	Status of project design: 100% complete	
Proponent: Dartmouth Natural Resources Trust		
Street: 404 Elm Street / PO Box P-17		
Municipality: Dartmouth	State: MA	Zip Code: 02748
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Stephen McCracken, Land Manager		
Firm/Agency: Dartmouth Natural Resources Trust	Street: PO Box P-17	
Municipality: Dartmouth	State: MA	Zip Code: 02748
Phone: (508) 991-2289	Fax:	E-mail: Stephen@dnrt.org

- 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)) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| a Special Review Procedure? (see 301CMR 11.09) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| a Waiver of mandatory EIR? (see 301 CMR 11.11) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| a Phase I Waiver? (see 301 CMR 11.11) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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): EOEA Massachusetts Wetland Restoration Program (\$24,000)

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/Certificate of Compliance (Dartmouth Conservation Commission); Programmatic General Permit (US Army Corps of Engineers)

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 checked="" 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 type="checkbox"/> ACEC | <input type="checkbox"/> Regulations | <input type="checkbox"/> Historical & Archaeological Resources |

Summary of Project Size & Environmental Impacts	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 checked="" type="checkbox"/> Other Permits <i>(including Legislative Approvals) – Specify:</i> CZM Consistency Determination _____ _____ _____ _____ _____ _____
Total site acreage	+/- 16 ac			
New acres of land altered		0		
Acres of impervious area	0	0	0	
Square feet of new bordering vegetated wetlands alteration		0		
Square feet of new other wetland alteration		1,870		
Acres of new non-water dependent use of tidelands or waterways		0		
STRUCTURES				
Gross square footage	n/a	n/a	n/a	
Number of housing units	n/a	n/a	n/a	
Maximum height (in feet)	n/a	n/a	n/a	
TRANSPORTATION				
Vehicle trips per day	n/a	n/a	n/a	
Parking spaces	n/a	n/a	n/a	
WATER/WASTEWATER				
Gallons/day (GPD) of water use	n/a	n/a	n/a	
GPD water withdrawal	n/a	n/a	n/a	
GPD wastewater generation/ treatment	n/a	n/a	n/a	
Length of water/sewer mains (in miles)	n/a	n/a	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 - Estimated Habitat of Rare Species and Priority Site of Rare Species, as described in latest Natural Heritage Atlas) 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 _____) 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.)

The Cow Yard Salt Marsh (the "Marsh") occupies a total of approximately 16 acres, divided into two cells - an eastern cell and a western cell - by a road connecting the Little River Road to residences adjacent to the Marsh in Dartmouth. Freshwater flows into the eastern (upgradient) cell of the Marsh from Teal Pond, and saltwater flows into the western ("downgradient") cell of the Marsh through an existing 192' long, 19" x 30" elliptical concrete arch culvert from Buzzard's Bay (the culvert is identified as DA08 on the attached diagrams). Saltwater flows from the western cell to the eastern cell through two 2' x 3' box culverts (identified as DA06 and DA07).

The vegetation in the Marsh is consistent with the locations and quantity of fresh- and saltwater inundation, and is composed of tidal and manmade creeks and mosquito ditches, high and low marsh, and pans. The vegetation zones are generally determined by elevation in relation to tidal inundation and salinity levels, and portions of the 16-acre marsh have been colonized by common reed (*Phragmites australis*). Overall DA08 is the primary control over the Marsh, controlling tidal inundation throughout the Marsh.

DA08 runs from Buzzard's Bay to the Marsh over a section of coastal beach, and then briefly crosses under a narrow driveway that leads to several private residences, before connecting to the Marsh at an existing concrete headwall.

Observations and data collected on tidal elevations in 2001 confirmed that DA08 poses a moderate to significant tidal restriction on the Marsh - DA08 is simply too small to supply the Marsh with a suitable volume of tidal water. This results in low flow velocities and consequent sediment deposits within the Marsh that further exacerbate the restriction on water entering and leaving the Marsh.

The major components of the Restoration Plan designed by environmental consultant Earth Tech are based on successful elements of similar salt marsh restoration projects. Other projects involving the restoration of tidal hydrology in salt marshes have focused on the improvement of tidal flow through the replacement of undersized tidal structures. Improving the tidal exchange will increase hydrologic interaction and salinities entering the Marsh - this will encourage native salt-tolerant marsh species and discourage the growth of invasive non-native *Phragmites australis*. Improving the tidal exchange to the marsh will enhance the ability of the 16-acre marsh to provide a variety of functions, including fisheries and wildlife habitat and water quality functions.

Three culvert configurations were analyzed by Earth Tech as potential replacements for DA08. Criteria for alternatives analysis included (1) the ability to increase flows

into the Marsh during the normal tidal cycle, (2) minimizing increased incremental flooding to adjacent developments during peak events, (3) maintaining an acceptable visual profile along the existing beach, and (4) reasonable efficiency and economy. Three alternative culvert designs were analyzed: 4' (w) x 3' (h) concrete ellipse; 4' x 2' concrete box; and 4' x 3' concrete box. Based on modeling conducted by Earth Tech (see attached diagram), the 4' x 3' concrete box culvert was selected to replace the existing culvert. This size culvert best satisfies the restoration criteria described above.

The potential impacts to wetland resource areas as a result of this restoration project are as follows: Construction will temporarily disturb approximately 1,310 square feet (sf) of Coastal Beach and 700 sf of Buffer Zone, which will be restored to current grade and revegetated. Additionally, approximately 560 sf of Coastal Beach will be permanently altered by the placement of stone riprap to protect the Beach from erosive tidal forces. No dredging or filling will take place in the Marsh. Erosion and sediment controls will be installed to protect downgradient resource areas during construction.

The Dartmouth Conservation Commission has visited the site and is supportive of the Restoration Project. This project is being conducted with the assistance of the Executive Office of Environmental Affairs' Massachusetts Wetlands Restoration Program (MWRP) and the Buzzard's Bay Project. This is a Coastal America project and is supported by each of the Coastal America partners.