Commonwealth of Massachusetts
Executive Office of Environmental Affairs ■ MEPA Office

ENF Environmental Notification Form

For Office Use Only
Executive Office of Environmental Affairs
EOEA No.: 13605
MEPA Analyst: Briony Angus
Phone: 617-626-1029

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: Habitat Enhancement in Massachusetts Bay		
Street: N/A		
Municipality: Marblehead or Boston	Watershed: Massachusetts Bay	
Universal Tranverse Mercator Coordinates: Site 6: approximately Easting 350870.22 Northing 4708808.75; Site 23: approx. Easting 342261.33, Northing 4688102.49; Site 29 approx. Easting 342893.99, Northing 4689628.13	Latitude/Longitude: Site 6: approximately 42.51778, -70.81572; Site 23: approx. 42.32918, -70.91455; Site 29: approx. 42.34343, -70.90703	
Estimated commencement date: Feb 1, 2006	Estimated completion date: April 30, 2006	
Approximate cost: 180,000	Status of project design: 95 %complete	
Proponent: Massachusetts Division of Marine Fisheries		
Street: 50A Portside Dr.		
Municipality: Pocasset	State:MA	Zip Code:02559
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Julie S. Barber		
Firm/Agency:N/A	Street:	
Municipality:	State:	Zip Code:
Phone:508-563-1779 ext.148	Fax:508-563-5482	E-mail:julie.barber@state.ma.us

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
☐Yes X No

Has this project been filed with MEPA before?
☐Yes (EOEA No._____) X No

Has any project on this site been filed with MEPA before?
☒Yes(EOEA No.12355 (Hubline)) No

Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:

a Single EIR? (see 301 CMR 11.06(8))	☐Yes	X No
a Special Review Procedure? (see 301CMR 11.09)	☐Yes	X No
a Waiver of mandatory EIR? (see 301 CMR 11.11)	☐Yes	X No
a Phase I Waiver? (see 301 CMR 11.11)	☐Yes	X 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):___No

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

List Local or Federal Permits and Approvals:
Received Order of Conditions from Boston (DEP File # 006-1035) and Marblehead (DEP File # 40-836)

Currently applying for: Category II Army Corps Permit, Chapter 91, and 401 Water Quality Certification

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

- ☐ Land
- ☐ Water
- ☐ Energy
- ☐ ACEC
- ☐ Rare Species
- ☐ Wastewater
- ☐ Air
- ☐ Regulations
- X Wetlands, Waterways, & Tidelands
- ☐ Transportation
- ☐ Solid & Hazardous Waste
- ☐ Historical & Archaeological Resources

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage	1.7		
New acres of land altered		0.59 (land under ocean)	
Acres of impervious area	0	0	0
Square feet of new bordering vegetated wetlands alteration		0	
Square feet of new other wetland alteration		25,833 (land under ocean – same site as above)	
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
GPD water withdrawal	N/A		N/A
GPD wastewater generation/ treatment	N/A		N/A
Length of water/sewer mains (in miles)	N/A		N/A

State Permits & Approvals

- X Order of Conditions
- ☐ Superseding Order of Conditions
- X Chapter 91 License
- X 401 Water Quality Certification
- ☐ MHD or MDC Access Permit
- ☐ Water Management Act Permit
- ☐ New Source Approval
- ☐ DEP or MWRA Sewer Connection/ Extension Permit
- ☐ Other Permits (*including Legislative Approvals*) – Specify:

401 Water Quality and Chapter 91 permits are in prep.

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_____) X No

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

☐Yes (Specify_____) X 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_____) X 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.*)

Massachusetts Division of Marine Fisheries (MADMF) proposes the placement of 0.59 acres of cobble and boulder rock in Massachusetts Bay to provide mitigation for perceived impacts from the construction of Algonquin Gas Transmission Company's natural gas pipeline (Hubline). Cobble and boulder habitat is critical to several life stages of commercially important species such as American lobster, winter flounder, sea scallops, sea urchins, Atlantic cod, and numerous other species of fish and invertebrates (Wahle and Steneck 1992; Tupper and Boutilier 1995; Johnson et al. 1999; Pappal et al. 2004). We propose installing six rectangular 0.09 acre plots arranged in three parallel arrays with three additional control plots marking areas where no fill will be installed (Figure 1). The entire footprint (including reef and control areas) is 1.7 acres, where the total fill area is 0.59 acres, and 0.29 acres will remain undisturbed as designated control areas. Thirty-two feet will separate reef plots or control plots on all dimensions, creating the 160*460 ft. footprint. Four rock sizes will be used in each reef plot: 2-4 inch cobble, 5-10 inch diameter cobble, 12-18 inch boulders and 19.5-30 inch boulders (size in diameter, Figure 2). Rocks will be separated by size, and arranged within each plot so that each rock size will contribute equally to the total area (refer to *Project Narrative*, Section 2.0 for further description).

Although the MADMF has applied for this permit with three potential sites, only **one** of these sites will actually furnish the reef. Therefore, these three sites also serve as possible alternatives. The final site will be selected after we collect data on natural larval supply at each site and consider how each site meets all other selection criteria.

These three final sites were selected after an intensive survey of 24 potential sites. All sites are within 1000ft. of the Hubline pathway in order to mitigate for the perceived impacts of the pipeline construction. Other site selection criteria considered included current, water quality, user conflicts, wave exposure, slope, substrate, existing habitat, existing species abundance and diversity, accessibility, and depth. For a thorough explanation of how each of these criteria were considered refer to Section 3 of the *Project Narrative*. Twelve of the 24 sites were considered in the final analysis where multiple criteria were considered in a ranking analysis. Top ranking sites were further surveyed and three final sites (6, 23, and 29) were determined.

Site #6 in Marblehead (Figure 3 and Figure 6) is located adjacent to Cat Island outside of the shipping channel. The primary substrate at this site consisted of pebble, granule and sand (Figure 4A). All three of these substrate types were targeted for potential reef installation because they support lower species diversity and abundance than cobble and boulder. The secondary substrate on this site again consisted of sand, pebble, and granule with a small percentage of cobble. We are not concerned with the small amount of cobble as secondary substrate because it was not found in densities high enough to create the interstitial space necessary to support high species abundance and diversity. The underlying substrate of sand and granule is considered strong enough to support the weight of a reef. No species on this site were recorded in abundances greater than 2-5 counts per 150 ft. transect. The only species seen of commercial concern were the sea scallop, rock crabs, and lobster, although only 2-5 individuals were counted in total for each species. There was a fair amount of drift algae (unattached to substrate) on the site, most likely as a result of a strong Nor'easter that hit the region a week before sampling. The species abundance and diversity on this site was lower than that of all other potential sites in the Marblehead region.

Site #23 in Boston (Figure 5 and Figure 6) is located just north of the Brewster Spit in Boston waters off Lovell Island. The primary substrate at this site is pebble and sand with a small percentage of shell shack (Figure 4B). The secondary substrate also met our criteria for site selection, consisting primarily of sand, shack and pebble with a small amount of cobble. Again, we are not concerned with the small amount of cobble as secondary substrate because it was not found in densities high enough to create the interstitial space necessary to support high species abundance and diversity. The underlying substrate of sand is considered strong enough to support the weight of the habitat enhancement area. Two species of non-commercially important invertebrates, the horse mussel (*Modilous modilous*) and hydroids were recorded in high abundance (100-200 individuals) along sections of our 150 ft. transect dives. Other species recorded in very low densities (no counts greater than 6-10 along 150 ft. transects) consisted of *Cancer sp.* crabs, razor clams, lobster, burrowing anemones, sea stars, moon snails, young-of-the-year sculpin, sea scallop, skates, spider crabs, and winter flounder. Algal coverage was <1% of all species noted on all transects. We recognize that it will be impossible to find sites for the habitat enhancement area that are completely devoid of marine life. Despite this site ranking in the middle range of species diversity when compared to other sites, the species abundance is so low that this site ranked higher in preference than other sites in Boston.

Site #29 in Boston (Figure 5 and Figure 6) is located just east of Lovell Island and just south of the Hypocrite Channel. The primary substrate here consists of sand and pebble and a small amount of granule. The secondary substrate is mostly pebble or sand with a small percentage of cobble and granule (Figure 4C). Again, the cobble recorded here was not found in densities high enough to create interstitial space and is, therefore, not capable of supporting high species abundance and diversity. The underlying substrate of sand is considered strong enough to support the weight of the reef. Site 29 was selected over the highest ranking site, Site 20, that had 0% coverage of boulder or cobble. Site 20, however, was too close to an area of archaeological concern for the MA Board of Underwater Archaeological Resources (BUAR). Although it contains more cobble, Site 29 still meets our site selection criteria and ranked second highest among all our final sites of consideration. Furthermore, Site 29 is beyond the BUAR's recommended seperation distance for avoidance of archaeologically significant areas. Site 29 is also located directly adjacent to an area where cobble fill was placed on top of the Hubline, an area considered to be highly impacted by the pipeline construction. When compared to other sites, Site 29 had one of the lowest recorded species abundance and diversity. Species that were noted in densities of 11-25 per 150 ft. transect included crabs (*Cancer sp.*) and sponges (*Isodictya palmata*). Species noted in low densities (1-10) included lobster, sea stars (*Henricia sp.*), young of the year sculpin, skates, burrowing anemones (*Cerianthus borealis*). Algal coverage was <1% for kelp and a thin diatom film was noted to be covering 25-50% of the pebble and sand substrate.

In addition to these three potential sites, each site has a marked "shifting" zone around it (Figure 3 and 5). This shifting zone will be utilized in case we discover an area of high productivity that our initial surveys did not record. This shifting area allows the DMF to move the site (which will still remain the same size at 0.59 acres of fill) in order to avoid areas of high productivity. No site will be shifted unless we encounter a previously unknown area of higher diversity within the current site boundaries.

It is unlikely that the habitat enhancement installation will have severe impacts to marine life because all three

sites have fairly low species abundance and diversity when compared to naturally existing cobble and boulder sites. It is likely, however, that some small invertebrates such as worms, hydroids, horse mussels (*Modilous modilous*), bryozoans, and sponges will be disturbed during the installation.

This proposed project is acting as partial mitigation for the perceived impacts of the Hubline installation in Massachusetts Bay. Pre-existing productive habitat has been avoided in the site selection process, and the reef installation will occur in an area where marine species diversity and abundance is quite low. We will not stage construction over any pre-existing productive habitat. Areas for anchoring will be determined using side-scan sonar or multibeam data from USGS and possibly divers to ensure that only sandy to pebbly areas are used as staging areas for the construction barges.