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.: 14220
MEPA Analyst: Bill Gage
Phone: 617-626-1025

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: **EEL RIVER HEADWATERS RESTORATION PROJECT**		
Street: **Long Pond Road**		
Municipality: **Plymouth**	Watershed: **South Coastal**	
Universal Tranverse Mercator Coordinates:	Latitude: **41° 54' 39.60"N** Longitude: **70° 38' 45.60"W**	
Estimated commencement date: **Spring 2009**	Estimated completion date: **Spring 2011**	
Approximate cost: **$1.8 Million**	Status of project design: **75** %complete	
Proponent: **Town of Plymouth, Public Works, Environmental Management Division**		
Street: **11 Lincoln Street**		
Municipality: **Plymouth**	State: **MA**	Zip Code: **02360**
Name of Contact Person From Whom Copies of this ENF May Be Obtained: **Neal Price**		
Firm/Agency: **Horsley Witten Group, Inc.**	Street: **90 Route 6A**	
Municipality: **Sandwich**	State: **MA**	Zip Code: **02563**
Phone: **508-833-6600**	Fax: **508-833-3150**	E-mail: **nprice@horsleywitten.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):
Massachusetts Riverways Program: $95,000
Coastal Zone Management: $1.02 Million
Massachusetts Department of Environmental Protection: $580,000

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

List Local or Federal Permits and Approvals: **Section 404 Individual Permit, and National Pollutan Discharge Elimination System Permit**

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

The project is not expected to meet or exceed the thresholds for Rare Species, or Historical & Archeological Resources, but both the Natural Heritage & Endangered Species Program (NHESP), and the Massachusetts Historical Commission have been contacted and will be reviewing the project and the ENF application.

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

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage	159 acres		
New acres of land altered		47 acres	
Acres of impervious area	0	0	0
Square feet of new bordering vegetated wetlands alteration		+ 2 acres	
Square feet of new other wetland alteration		+ 12.5 acres	
Acres of new non-water dependent use of tidelands or waterways		N/A	
STRUCTURES			
Gross square footage	0	0	0
Number of housing units	0	0	0
Maximum height (in feet)	N/A	N/A	N/A
TRANSPORTATION			
Vehicle trips per day	N/A	N/A	N/A
Parking spaces	0	0	0
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

State Permits & Approvals

- ☒ Order of Conditions
- ☐ Superseding Order of Conditions
- ☐ Chapter 91 License
- ☒ 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:

MESA Project Review, NHESP (321 CMR 10.00)

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 **A portion of the site is located within Estimated Habitat of Rare Species, as illustrated in the NHESP map in Figure 7. According to NHESP, this refers to the following species:**

Species Name	Common Name	Name Category	MESA Category
Terrapene carolina	Eastern Box Turtle	Vertebrate Animal	SC
Notropis bifrenatus	Bridle Shiner	Vertebrate Animal	SC
Ophioglossum pusillum	Adder's-tongue Fern	Vascular Plant	T
Sphenopholis pensylvanica	Swamp Oats	Vascular Plant	T
Pseudemys rubriventris pop. 1	Northern Red-bellied Cooter	Vertebrate Animal	E**
Hemileuca maia	Barrens Buckmoth	Invertebrate Animal	SC

E = "Endangered"
T = "Threatened"
SC = "Special concern"
**also federally listed under the Endangered Species Act (ESA).

) ☐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 **MHC #PLY.Y, PLY.919, PLY.1087, 1088, PLY-HA-19, PLY-HA-16, 19-PL-138 and 19-PL-533**) ☐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*.)

Please refer to the attached Project Narrative for further detail than provided here and for figures illustrating the Project area and concept.

SITE DESCRIPTION

This Project area is owned by the Town of Plymouth and encompasses the Eel River headwaters from the uppermost section of the existing cranberry bog complex, across Long Pond Road, to a point just downstream of the Sawmill Pond dam (see locus map in Figure 1 in the Narrative). There are currently no trees in the Eel River cranberry bog complex, but it is very likely that the Eel River cranberry bog complex once contained Atlantic Cedars and Red Maples.

The most significant fish passage barrier within the Project boundary is the Sawmill Pond Dam, which impounds an estimated area of 1 acre. The impoundment has partially filled with fine sediment, and the dam has not had a functional use for many decades.

The Eel River flows into Plymouth Harbor at Manters Point. The stream has a groundwater

contributing area of about 15 square miles. Flood hydrology is heavily influenced by the soils in the area, which are largely glacial gravel and sand deposits and highly permeable. The drainage basin has the capacity to absorb a tremendous amount of rainfall largely muting the flood hydrology of the Eel River. This absorbed water contributes to a substantial groundwater aquifer, which maintains a stable low flow discharge year round.

PROPOSED PROJECT DESCRIPTION

The Eel River Headwaters Restoration Project began as part of the Town of Plymouth's efforts to improve the water quality and habitat in the stream and in Plymouth Harbor. Major elements of the restoration Project include: dam reconfiguration and fish passage restoration, 7,600 linear feet of natural stream and fish habitat restoration, 38 acres of bog conversion and wetland restoration to natural conditions with native vegetation plantings, 7 acres of net increase in riverfront area, and overall improved watershed hydrology. Project partners who have participated in funding and Project planning include the Town of Plymouth, Massachusetts , the Riverways Program, DEP, USFWS, NRCS, American Rivers, The Nature Conservancy, Massachusetts Corporate Wetlands Restoration Partnership, Massachusetts Office of Coastal Zone Management Wetland Restoration Program (CZM-WRP), the Massachusetts Bays Program, and the Eel River Watershed Association. The proposed project elements and lay-out are provided in Figures 5 and 6 of the Narrative.

The valley shape in the Sawmill Pond reach dictates the methodologies used for dam reconfiguration and restoration. The floodplain is narrow and steep valley walls confine the Project area; exactly the attributes that make the site an attractive dam location. Based on data collected to date, dam reconfiguration will proceed with the following general sequence: partial drawdown; sediment removal; structure reconfiguration; and restoration around the dam.

The stream through Bog 1 will include a transitional riffle pool channel before entering the steep cascading pool section of the restored impoundment. Bog 1 therefore creates many possibilities for fish habitat restoration, including large woody debris placement, riffle pool construction, and streamside vegetation. Restoration of Bog 1 will involve the following steps: establish grade controls; rough grading; and channel construction.

Bogs 2 through 7 will be restored to a series of sloped peatlands, each drained by a meandering segment of a contiguous restored portion of Eel River, as well as smaller feeder tributaries. Channel bottom grade controls are proposed to be raised roughly 1-3 feet between each bog, thus raising the groundwater and saturating the riparian soils to create the desired wetland hydrology. Bog restoration will also include White Cedar and Red Maple swamp restoration.

Both the Long Pond Road and The Nature Conservancy (TNC) driveway crossings will be replaced with wider openings. These crossings are currently causing significant disruption of geomorphic processes, are acting as improperly located grade controls, and are impeding fish passage.

ALTERNATIVES ANALYSIS

We believe that there is no practical alternative to the Project activities as currently proposed that will further minimize adverse impacts to the wetland resource areas while meeting the Project's restoration goals. We further believe that all Project alternatives considered, including the No-Action alternative, will result in impact to the resource areas. The Project as currently proposed minimizes these impacts, incorporates a substantial restoration component, and is financially feasible. It is a mitigation project in and of itself.

Alternative 1 (Preferred): Dam Reconfiguration; Natural Stream Flow, Wetlands and Vegetation Restoration; and Flow Restrictions Removal. The Town of Plymouth recognizes that large scale restoration opportunities on the East Coast are rare, particularly because of the density of development and associated watershed impacts. In the case of the Eel River, the watershed is only marginally developed and has surficial geology that promotes groundwater infiltration. This Project attempts to restore the upper Eel River to a facsimile of that found prior to European settlement. Given its

proximity to an urban area, this Project represents a unique opportunity for large scale reclamation nestled within an already highly disturbed area. In addition, by restoring natural wetlands, this Project will restore ecological health and increase species diversity, including native trees, plants, and fish, and with careful long-term monitoring will strive to avoid potential invasion of aggressive, non-native species. The stream channel will be shaded, thus providing shelter from heat in the summer and/or predators.

Alternative 2: Dam Reconfiguration, No Stream / Wetland Restoration. Reconfiguration of the dam structure will result in the following benefits to the Eel River: (i) fish passage restoration; (ii) restoration of 1,100 ft of cobble, boulder stream; (iii) coldwater habitat restoration opportunities; (iv) Decreased stream temperature; (v) increased diversity of intolerant taxa (fish, mussels, macroinvertebrates); (vi) restoration of historic geomorphology ; and (vii) removal of excess nutrients from the ecosystem. Without stream and wetland restoration, however, the stream would remain wide and open, with little shade or shelter for fish and other aquatic species. There is currently very little habitat complexity in either the wetland or the stream, and this would remain so for years because of the low stream power. It would be a missed opportunity if this effort were not augmented to create an example of a large-scale ecosystem restoration.

Alternative 3: Stream / Wetland Restoration, No Dam Reconfiguration. While restoring the wetlands and the stream to a more natural state would have a clear benefit to the resource areas, keeping the dam in place would cause continued degradation of the downstream resource areas, and maintain the existing barrier to fish passage.

Alternative 4: No-Action Alternative. The No-Action alternative in this case would eliminate the cost of restoration and would allow Project partners to focus their attention on other projects. This initial cost savings may however be the only positive aspect of no action. The No-Action alternative would allow the existing flow restrictions to remain. While implementing the No-Action alternative would mean that there would be no alterations to the wetland resource areas associated with channel restoration and dam reconfiguration, it would also potentially encourage proliferation of invasive species. Invasive species can create monoculture conditions, thereby further reducing species diversity and ecological health. In addition, the Town and the NRCS, as well as many other groups, have invested time and effort to set aside this abandoned cranberry complex for future restoration. Abandoned cranberry bogs could become an important model for wetland and stream ecosystem restoration around the country, and the Eel River represents an excellent opportunity to break new ground in many aspects of this restoration model. If no action is taken, opportunities for environmental education and public interaction will be lost. Natural wetland restoration is the primary goal of this proposed Project; the No-Action alternative would not serve the Project purpose.

PRESERVATION OF RESOURCE AREA INTERESTS

This Project will require temporary alterations to Bank, Land Under Waterbodies and Waterways, Bordering Vegetated Wetlands, Land Subject to Flooding, and Riverfront Area, but will result in a net benefit for all these resources. Please refer to the Project Narrative for further information on the preservation of resource area interests.

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1)
___ Yes **X No**; if yes, specify each threshold:

II. Impacts and Permits

A. Describe, in acres, the current and proposed character of the project site, as follows:

	Existing	Change	Total
Footprint of buildings	**0**	**0**	**0**
Roadways, parking, and other paved areas	**0**	**0**	**0**
Other altered areas **(wetlands)**	**36.5**	**+1.7**	**38.2**