

Commonwealth of Massachusetts
Executive Office of Environmental Affairs ■ MEPA Office

ENF

Environmental Notification Form

For Office Use Only
Executive Office of Environmental Affairs
 EOE No.: 13054
 MEPA Analyst: Arthur Popsley
 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: Campus Core Redevelopment		
Street: 360 Woods Hole Road, Woods Hole, MA		
Municipality: Falmouth	Watershed:	
Universal Transverse Mercator Coordinates: Zone 19; easting (m) 362500, northing (m) 4599000	Latitude: 34°47'51" Longitude: -70°59'57"	
Estimated commencement date: Fall/2003	Estimated completion date: Fall 2004	
Approximate cost: \$30,000,000	Status of project design: 75% complete	
Proponent: Woods Hole Oceanographic Institution		
Street: 86 Water Street, Woods Hole		
Municipality: Falmouth	State: MA	Zip Code: 02543
Name of Contact Person From Whom Copies of this ENF May Be Obtained: David M Beecy, PE		
Firm/Agency: Holmes and McGrath, Inc	Street: 362 Gifford Street	
Municipality: Falmouth	State: MA	Zip Code: 02540
Phone: (508) 548-3564	Fax: (508) 548-9672	E-mail: dbeecy@holmesandmcgrath.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 301 CMR 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:

- Town of Falmouth Board of Health Disposal Works Permit
- Town of Falmouth Building Permit
- Department of Environmental Protection for Groundwater Discharge permit (2)
- MassHighway Access permit
- Cape Cod Commission Exemption being sought pursuant to section 12k of the Cape Cod Commission Act

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 checked="" 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 type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input type="checkbox"/> Chapter 91 License <input type="checkbox"/> 401 Water Quality Certification <input checked="" 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: • DEP Groundwater Discharge Permit required (2)
Total site acreage	123.60 ac			
New acres of land altered		3.8 ac		
Acres of impervious area	14.6 ac	2.6 ac	17.2 ac	
Square feet of new bordering vegetated wetlands alteration		0		
Square feet of new other wetland alteration		0		
Acres of new non-water dependent use of tidelands or waterways		0		
STRUCTURES				
Gross square footage	319,455	81,865 sq ft	401,320 sq ft	
Number of housing units	N/A	N/A	N/A	
Maximum height (in feet)	4 stories	58'-6"	58'-6"	
TRANSPORTATION				
Vehicle trips per day	2,800	320	3,120	
Parking spaces	559	(34)	525	
WATER/WASTEWATER				
Gallons/day (GPD) of water use – <i>average day flows provided</i>	32,000 +/- gpd	8,300 gpd	40,300 gpd	
GPD water withdrawal	N/A	N/A	N/A	

Summary of Project Size & Environmental Impacts	Existing	Change	Total
GPD wastewater generation/treatment			
Sanitary Wastewater *	25,300 gpd	7,200 gpd	32,500 gpd
Process/Industrial WW *	16,180 gpd	10,930 gpd	27,110 gpd
Cooling Tower	3,000 gpd	2,430 gpd	5,430 gpd
Non-Contact Cooling Water (water recycled in future)	13,000 gpd	(13,000 gpd)	0 gpd
Length of water/sewer mains (in miles)	Individual septic systems	4,800 +/- linear feet	4,800 +/- linear feet

* Peak/Design flow data provided

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 – see attached Plan for location of two Vernal Pools* on the site) No

* development is outside the 350-foot vernal pool buffer as established in the Cape Cod Commissions' RPP, section 2.4.1.5. Additionally, site topography prevents the discharge of storm water run-off, associated with the Campus development, from discharging into existing vernal pools.

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.)

Project Description

The Woods Hole Oceanographic Institutions; Quissett Campus contains approximately 12 main building structures consisting of research laboratories and administrative support facilities located on a 123.6-acre site. The lab buildings support research scientists who study and investigate oceanographic phenomenon including tracking ocean currents, examining the earth's crust beneath the seafloor as well as examining all facets of marine life. As part of the research, the scientists analyze and dissect portions of the sea floor and marine life in the laboratories, which results in a wastewater effluent containing sea floor corings, beaker washings and low concentrations of Volatile Organic Compounds (VOC's). This effluent is conveyed in an isolated collection system to a process, wastewater treatment facility where the impurities

are removed to a level of concentration that meets the Department of Environmental Protection's (DEP) criteria for groundwater disposal. The existing buildings are currently serviced by individual septic systems consisting of conventional Title V components or cesspools with overflow capabilities.

The owner of the site is currently in the process of redevelopment of the campus that will provide two new building structures a Biogeochemistry Research Laboratory (BGC) and Marine Research Facility (MRF); additions to the existing McLean laboratory; and a small addition to the energy plant as well as associated parking, drainage, wastewater treatment facility, landscape and pedestrian walkway improvements. Construction will be located primarily within the core or developed portion of the Quissett Campus and constitutes redevelopment of previously disturbed areas.

Sanitary flows associated with the 12 existing building structures total 25,300 gallons per day (gpd). Proposed buildings and additions will produce approximately 5,100 gallons per day of additional sewage. These flow estimates have been calculated using the DEP, Title V regulations. The total sanitary flow from the site will equal 30,400, which results in the application of a Groundwater Discharge Permit (GWDP) from the DEP. The proposed wastewater treatment facility has been designed to accommodate 32,500 gpd of sewage (2,100 gpd in capacity will be allotted for future consideration). A sewer collection system will also be required to convey sewage from existing and proposed buildings to the treatment facility. The addition of an advanced wastewater treatment facility will reduce the Nitrogen loading on the site by approximately 53% from what currently exists. The length of the proposed collection system is approximately 4,800 feet and is predominately located within existing pedestrian traveled paths and paved areas, which will minimize disturbance to surrounding fragmented forested areas. After treatment, the sanitary wastewater will be discharged into a subsurface soil absorption system designed to receive only sanitary wastewater and located beneath an existing baseball field.

Laboratory effluent referred to herein as process-wastewater (or in DEP's terms is known as industrial wastewater), is a by-product of examinations and investigations conducted by research scientists who study and investigate oceanographic phenomenon including tracking ocean currents, examining the earth's crust beneath the seafloor as well as examining all facets of marine life. This effluent is composed of soil coring sedimentation, beaker washings and low concentrations of VOC's typically found in a wet chemistry laboratory. Existing process wastewater flows are currently generated in three laboratories on the Campus - Clark, Fye and McLean, but are treated and disposed of in two separate locations. Flows from the Clark and Fye labs total 13,430 gpd, and conveyed through a treatment facility and discharged into a subsurface disposal field located beneath an existing baseball field. Flows from the McLean laboratory total 2,750 gpd, and conveyed through a treatment facility and discharged into a subsurface disposal field located in a cleared area to the north of the McLean building. Treatment processes conform to DEP policies and consist of physical and chemical treatment for pH adjustment, particulate filtration and carbon absorption. In addition to the process wastewater flow, Quissett Campus also conveys flow from Cooling Tower blow-down into subsurface disposal fields located adjacent to the Central Energy plant. This effluent is related to seasonal air conditioning usage and classified by the DEP as an industrial wastewater. The average daily flow of cooling tower blow-down has been calculated to be approximately 3,000 gallons.

Construction of two new buildings and additions to the McLean laboratory will result in an increase of 10,930 gpd of process wastewater, and 2,430 gpd of cooling tower blow-down, which will be conveyed to the existing Clark treatment facility for treatment and disposal. As part of the Campus redevelopment, the existing McLean treatment facility will be abandoned and this flow will also be conveyed to the Clark treatment facility. The consolidation of the existing treatment facilities, including new flow generation and cooling tower blow-down, will result in the treatment of approximately 32,540 gallons per day of process wastewater and result in an application to the DEP for a Groundwater Discharge permit. The Clark treatment facility will be expanded to accommodate the increase in flow. Discharge from the treatment facility will be conveyed into a subsurface absorption system located beneath the existing baseball field that is dedicated to receive only process and cooling tower blow-down.

Sanitary Sewer Collection System Alternatives

On-site alternatives to constructing 4,800 linear feet of sewer include maintaining Title V septic system for existing and proposed buildings or a no-build scenario where no construction will occur on the Campus. The DEP considers Quissett Campus a single site and requires a Groundwater Discharge Permit (GWDP) for any site exceeding 10,000 gpd of sanitary flow. The GWDP requires advanced methods of wastewater treatment to address concerns involving nitrogen, Biological Oxygen Demand and Total Suspended

Solids. Individual treatment facilities can be installed on each septic system to address these concerns, which will reduce the length of collection system piping required. However, implementing this alternative would require approximately 15 of these facilities and considered a financial hardship due to the monthly expenses associated with perpetual monitoring, reporting and maintaining all 15 facilities, in accordance with the DEP regulations.

Off-site alternatives involve a connection into the Town's sanitary force main for conveyance to the municipal treatment facility. However, a similar sanitary collection system would be required to consolidate building effluent into a proposed pump station in lieu of a wastewater treatment facility. The Town will not allow this connection to occur due to the physical connection required to their force main. A defective connection into the force main will result in a shut down of the pumping operation and the potential for considerable sewage back up into the collection system serviced by the Town's pump station.

Process Wastewater Disposal Alternatives

On-site alternatives associated with subsurface disposal of approximately 32,540 gpd of process wastewater include installing double-wall, watertight holding tanks to collect daily flow volumes or a no-build scenario where no construction will occur on the Campus. If implemented, holding tanks would be pumped out routinely and the contents transported to the municipal treatment facility for disposal. However, the financial liability associated with installing an underground tank of this magnitude combined with the cost involved with pumping and transporting this volume perpetually on a daily or routine basis would be unreasonable.

Off-site alternatives for subsurface disposal of process wastewater would be similar to the off-site alternative provided for the sanitary sewer collection system. As in the sanitary sewer collection system alternative identified above, the Town will not entertain a connection into their force main due to concerns involving the physical connection; therefore, this alternative does not appear to be an option.

NOTE: All flow rates provided in the Project Description section above are representative of Peak design flows, which typically exceed average anticipated flow values.

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 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:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Footprint of buildings	160,000 sq ft	50,000 sq ft	210,000 sq ft
Roadways, parking, and other paved areas	478,500 sq ft	62,300 sq ft	540,800 sq ft
Other altered areas (describe) – areas impacted by plantings/lawn	714,700 sq ft	52,700 sq ft	767,400 sq ft
Undeveloped areas	92.5 ac	(3.8) ac	88.7 ac

B. Has any part of the project site been in active agricultural use in the last three years?
 Yes No; if yes, how many acres of land in agricultural use (with agricultural soils) will be converted to nonagricultural use?

C. Is any part of the project site currently or proposed to be in active forestry use?
 Yes No; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a DEM-approved forest management plan:

D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97? Yes No; if yes, describe:

E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction? Yes No;