



**Environmental  
Notification Form**

*For Office Use Only*  
*Executive Office of Environmental Affairs*

EOEA No.: 14470  
MEPA Analyst: Nick Zambors  
Phone: 617-626-1030

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: Reconstruction of Lower Van Horn Reservoir Dam		
Street: Cunningham Street		
Municipality: Springfield	Watershed: Connecticut	
Universal Transverse Mercator Coordinates: Easting 898553, Northing 4666519	Latitude: 42N 7' 29.64" Longitude: 72W 35' 52.80"	
Estimated commencement date: 04/2010	Estimated completion date: 12/2010	
Approximate cost: \$1,280,000	Status of project design: 75 %complete	
Proponent: City of Springfield Department of Capital Asset Constructiton		
Street: 200 Trafton Road		
Municipality: Springfield	State: MA	Zip Code: 01108
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Anja Ryan		
Firm/Agency: Baystate Environmental Consultants, Inc., A GZA Company	Street: 296 North Main Street	
Municipality: East Longmeadow	State: MA	Zip Code: 01028
Phone: (413) 525-3822	Fax: (413) 525-8348	E-mail: arian@b-e-c.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): NONE

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

List Local or Federal Permits and Approvals: Wetlands Permit, Springfield Conservation Commission; MA DEP 401 Water Quality Permit; US ACOE 404 permit-PGPII

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
<b>LAND</b>				<input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input 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>  MA DCR- Chapter 253 Dam Safety Permit
Total site acreage	30.5±			
New acres of land altered		3.7		
Acres of impervious area	0.0	0.6	0.6	
Square feet of new bordering vegetated wetlands alteration		9,500±		
Square feet of new other wetland alteration		38,000±		
Acres of new non-water dependent use of tidelands or waterways		0		
<b>STRUCTURES</b>				
Gross square footage	0	0	0	
Number of housing units	0	0	0	
Maximum height (in feet)	0	0	0	
<b>TRANSPORTATION</b>				
Vehicle trips per day	0	0	0	
Parking spaces	0	0	0	
<b>WATER/WASTEWATER</b>				
Gallons/day (GPD) of water use	0	0	0	
GPD water withdrawal	0	0	0	
GPD wastewater generation/treatment	0	0	0	
Length of water/sewer mains (in miles)	0	0	0	

**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 \_\_\_\_\_ )  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 purpose of the Project is to repair the Lower Van Horn Reservoir Dam (NID No. MA 00571), in accordance with Massachusetts dam safety regulations and accepted engineering practices. Rehabilitation of the dam is necessary to reduce the risk to downstream life and property. The dam is located in the City of Springfield and is owned and operated by the City's Department of Parks, Buildings and Recreation Management. The dam is classified as a LARGE-sized earthen embankment with a HIGH hazard potential. The dam dates back to 1848 and was originally used by the Springfield Aqueduct Company to provide water supply and/or fire protection. Today, the dam and the reservoir's primary uses are flood control and recreation. An Emergency Action Plan was prepared for the structure (BEC 2007) and proved to be critical in estimating the downstream flood inundation area which would result from dam failure. Consequences of dam failure are estimated to be severe, considering that Baystate Medical Center is immediately downstream of the dam and within the projected area of inundation.

A 2006 Phase I Inspection and Evaluation of Lower Van Horn Reservoir Dam rated the dam to be in POOR condition and structurally deficient, and affirmed the structure's HIGH hazard potential. The dam appears to have received little to no maintenance since 1957, at which time the current outlet works were constructed. This is evident by the extent of mature tree and shrub growth that covers the entire embankment structure. Other identified deficiencies include eroded footpaths from the dam crest on both the upstream and downstream slopes, an erosion gully and failed piping and concrete channel lining associated with the upstream Upper Van Horn Reservoir, debris at the primary spillway, debris in the stilling basin, animal burrows on the slopes, and the complete lack of vehicular and/or maintenance access to both the intake and outlet structures.

Subsequent to the 2006 inspection, the City received a Notice of Non-Compliance and Dam Safety Order from the MA Office of Dam Safety (ODS), dated November 13, 2007 (see Attachment I). The Order required the completion of a Phase II Engineering Evaluation and Alternatives Analysis for the dam, and a schedule for implementation of the preferred alternative for addressing the deficiencies.

The Massachusetts Office of Dam Safety's Policy on Trees on Dams (see Attachment I) requires that "earth embankment dams be maintained free of the existence of trees and woody growth" and "be maintained with a healthy uniform cover of desirable vegetation such as an appropriate variety of grasses." It is also recommended that "the area at least 20 feet downstream from the entire downstream toe of earth embankment dams be maintained free of trees and woody growth. This is necessary to prevent root systems from growing into the dam embankment causing damage to this area of the dam." The rehabilitation of Lower Van Horn Reservoir Dam project proposes to adhere to the ODS tree policy and will clear and grub all woody vegetation on the slopes and 20 feet downstream and will establish grass cover. The proposed rehabilitation will also include re-structuring and re-grading of the earthen embankment in order to create mow-able and maintainable slopes, strengthen the earthen embankment, and to allow for access to the intake and outlet structures. Repairs to the pipe culvert that runs through the dam to the spillway are necessary, and the low level outlet will be rehabilitated.

Additional proposed site work includes construction of fencing, guardrails, gates, signage, removal of animal burrows, and improvement of maintenance and operational access. The proposed work will bring the Lower Van Horn Reservoir Dam into compliance with the dam safety regulations (302 CMR 10.00).

Alternatives for the rehabilitation of the Lower Van Horn Reservoir Dam were explored in the Phase II Engineering Evaluation and Alternatives Analysis for the dam (BEC, Sept. 2008). The dam breach alternative was considered but was ultimately rejected because of the important flood control function of the dam and reservoir. The preferred alternative for rehabilitation of the dam is mostly limited to work within the existing footprint of the dam. However, adding fill to the downstream slope is necessary to provide the required factors of safety concerning slope stability and seepage control. The drain line associated with the Upper dam will be extended to facilitate access and maintenance. These actions will result in the filling of existing wetlands that are in close proximity of the toe of slope. Additionally, a 20-foot wide area beyond the new toe of slope will be established for maintenance access and to comply with the ODS's "Policy on Trees on Dams" (see Attachment I). Efforts were made to avoid the wetland areas as much as possible. The area of filled or converted wetlands will be replicated at an off-site location to be determined.

Overall, impacts to resource areas cannot be avoided as they exist on and adjacent to the existing dam which is in need of repair. No other alternative exists that would allow for the dam repair without causing some impact to wetland resource areas. No permanent loss of resource areas are anticipated with the proposed work. Construction-phase sediment and erosion controls will be installed and maintained to minimize the potential for secondary impacts beyond the limit of work.

**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:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Footprint of buildings	<u>0</u>	<u>0</u>	<u>0</u>
Roadways, parking, and other paved areas	<u>0</u>	<u>0.6</u>	<u>0.6</u>
Other altered areas (describe)			
<b>Pervious Areas of the Dam</b>	<u>3.7</u>	<u>-0.6</u>	<u>3.1</u>
Undeveloped areas	<u>0</u>	<u>0</u>	<u>0</u>

B. Has any part of the project site been in active agricultural use in the last three years?  
 \_\_\_ Yes  X  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  X  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  X  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  X  No; if yes, does the project involve the release or modification of such restriction? \_\_\_ Yes  X  No; if yes, describe:

F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A? \_\_\_ Yes  X  No; if yes, describe:

G. Does the project require approval of a new urban renewal plan or a major modification of an