

Commonwealth of Massachusetts
 Executive Office of Energy and Environmental Affairs
 Massachusetts Environmental Policy Act (MEPA) Office

Environmental Notification Form

For Office Use Only

EEA#: 15971

MEPA Analyst: Anne Canaday

The information requested on this form must be completed in order to submit a document electronically for review under the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Manhan River Restoration Project		
Street Address: 281 College Highway		
Municipality: Southampton	Watershed: Manhan	
Universal Transverse Mercator Coordinates: 687332.45 E, 4676390.87 N	Latitude: 42.2173 °N Longitude: -72.7304 °W	
Estimated commencement date: TBD	Estimated completion date: TBD	
Project Type: River restoration	Status of project design: 40% complete	
Proponent: Glenn West		
Street Address: 281 College Highway		
Municipality: Southampton	State: MA	Zip Code: 01073
Name of Contact Person: Nick Wildman		
Firm/Agency: MA Dept. of Fish & Game	Street Address: 251 Causeway Street	
Municipality: Boston	State: MA	Zip Code: 02114
Phone: 617-626-1527	Fax:	E-mail: nick.wildman@mass.gov

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
 Yes No *Alteration of a jurisdictional dam.*

If this is an Expanded Environmental Notification Form (ENF) (see 301 CMR 11.05(7)) or a Notice of Project Change (NPC), are you 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
 (Note: Greenhouse Gas Emissions analysis must be included in the Expanded ENF.)

Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?
Wetlands, Waterways, and Tidelands

Which State Agency Permits will the project require?
MA DEP- 401 Water Quality Cert. & Ch. 91 Dredge Permit

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:
MA Fish & Game, Div. of Ecological Restoration- \$60,000

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage	3.67		
New acres of land altered		1.78	
Acres of impervious area	1.14	0	1.14
Square feet of new bordering vegetated wetlands alteration			
Square feet of new other wetland alteration			
Acres of new non-water dependent use of tidelands or waterways			
STRUCTURES			
Gross square footage	NA	NA	NA
Number of housing units	NA	NA	NA
Maximum height (feet)	NA	NA	NA
TRANSPORTATION			
Vehicle trips per day	NA	NA	NA
Parking spaces	NA	NA	NA
WASTEWATER			
Water Use (Gallons per day)	NA	NA	NA
Water withdrawal (GPD)	NA	NA	NA
Wastewater generation/treatment (GPD)	NA	NA	NA
Length of water mains (miles)	0.31	0.0	0.31
Length of sewer mains (miles)	NA	NA	NA
Has this project been filed with MEPA before? <input type="checkbox"/> Yes (EEA # _____) <input checked="" type="checkbox"/> No			
Has any project on this site been filed with MEPA before? <input type="checkbox"/> Yes (EEA # _____) <input checked="" type="checkbox"/> No			

GENERAL PROJECT INFORMATION – all proponents must fill out this section

PROJECT DESCRIPTION:

Describe the existing conditions and land uses on the project site: _____

The Manhan River rises in the hills of Montgomery and Southampton and joins with the Connecticut River in Easthampton. Over the centuries, the Manhan was used to transport people, goods, and lumber. The river also provided power for numerous industrial uses dating to the colonial period (grist and saw mills) as well as for industrial uses. According to the Massachusetts Division of Fisheries and Wildlife, the river provides critical habitat for a number of resident and migratory fish including wild Eastern brook trout (*Salvelinus fontinalis*), American eel (*Anguilla rostrata*), and Atlantic salmon (*Salmo salar*). According to recent surveys by the Massachusetts Natural Heritage and Endangered Species Program, the river is also home to important freshwater mussel species such as creeper (*Strophitus undulata*), eastern pearlshell (*Margaritifera margaritifera*), and triangle floater (*Elasmidonta undulata*).

The project site is located on College Highway (Route 10) near Moose Brook Road in Southampton. This section of town is considered the Lockville Historic Area due to numerous features related to the former Hampden and Hampshire Canal. The site is dominated by a former mill building partially founded on the right (looking downstream) abutment of the Lyman Pond Dam (see photos within Attachment F). The left bank is dominated by the Lyman Sheet Metal facility. The Lyman Pond Dam is located approximately 280 feet downstream of the College Highway bridge and 175 upstream of an unused railroad bridge. Approximately 25 feet upstream of the college Highway bridge, a water main, owned by the Town of Southampton, crosses the river less than one foot below the sediment.

The Lyman Pond Dam serves no useful purpose in its current state and has no fish passage facilities. It exists as a total barrier to the upstream movement of fish, except American eel. The dam is also a liability and public safety risk. The Massachusetts Office of Dam Safety lists it as a Significant (Class II) Hazard in Unsafe condition. In 2016, the owner of the dam drew down the impoundment to lessen hydraulic pressure on the structure and cut holes in the dam to divert high flows from the building on river right. Despite these alterations, the dam still elevates flood flows on the upstream side. In addition, it may be that a sudden, catastrophic failure of the dam could negatively impact the Town water line by causing bed scour and exposing the pipe to aid and debris moving downstream. As such, removal of the dam and relocation of the water line are a priority for both owners.

Describe the proposed project and its programmatic and physical elements: _____

NOTE: The project description should summarize both the project's direct and indirect impacts (including construction period impacts) in terms of their magnitude, geographic extent, duration and frequency, and reversibility, as applicable. It should also discuss the infrastructure requirements of the project and the capacity of the municipal and/or regional infrastructure to sustain these requirements into the future.

The goals of the Manhan River Restoration Project are to restore natural riverine ecological functions of the Manhan River and to increase the climate resiliency of adjacent infrastructure (including the College Highway bridge, the municipal waterline, and the former mill building on river right) in such a way as to reduce operation and maintenance burden. Technical partners for this project include the private dam owner, the Town of Southampton Water Department, the Massachusetts Division of Ecological Restoration (DER), American Rivers, The Nature Conservancy (TNC), and the US Fish and Wildlife Service (USFWS).

The main components of the project are the removal of the full vertical extent of the Lyman Pond Dam spillway,

relocation of the municipal water line, and protection of adjacent infrastructure. This project takes advantage of lessons learned from over 25 other dam removals completed by DER and partners since 2000.

1. Water line relocation- To eliminate the risk to the shallow water service line just upstream of the College Highway bridge and greatly reduce the current maintenance burden for this line, it will be replaced with a new line running under college highway and under the bridge. The current design for the bridge incorporates bays on both the upstream and downstream sides that were intended to house the water line when the bridge was replaced in 2005. The new water line will extend for some distance from the bridge in either direction (see Attachment C). One lane of travel will remain open during all work and traffic will be directed by police detail. All paving will be replaced as required by the Massachusetts Department of Transportation according to terms of their (anticipated) Access Permit.

Once the new water line has been tested and brought online, the former water line will be removed from the riverbed and both cut ends capped and filled.

2. Dam removal- In order to eliminate the threat of dam failure and to restore ecological processes, approximately 80 linear feet of the dam's concrete spillway will be removed as shown in the plans in Attachment D. Prior to commencing this work, qualified technicians will sweep the upstream and downstream reaches of the river to collect and relocate sensitive mussel species, per guidance from the Natural Heritage and Endangered Species Program. All necessary erosion and sediment controls will be installed around the work area and the staging locations.

Construction crews will access the river from either side and remove the dam in a controlled manner with all concrete and man-made debris removed from the site. The flow of the Manhan River will be diverted around the immediate active work area. Fish and wildlife will be precluded from the work area using appropriate fencing. Recent laboratory testing has confirmed that the sediment impoundment behind the dam is clean (see Appendix A). However, a portion of this material will be mechanically removed and reused as appropriate in keeping with state and local permitting. As shown on the design plans, the left- and right- most bays of the dam will be kept in place to stabilize the abutments supporting the building (on right) and upland areas (on right).

All graded portions of the work area will be seeded with appropriate native species. Similarly, all access and staging locations will be returned to their original state and stabilized with appropriate vegetation.

3. Infrastructure protection- Hydraulic analysis has been performed to evaluate the potential changes to scour effects at the College Highway bridge and the former mill building on river right. Because of the dam's configuration and the construction of the downstream rail bridge, no changes downstream are anticipated, but will be monitored during and after construction.

In order to protect the former mill building, riprap will be used to create a stable bank that begins upstream of the building where the river begins to bend to the left and continues down just beyond the downstream end of the building (see Attachment D). This rock will be sized by the design engineers to withstand predictable flood flows and will include a cover of topsoil to support riparian vegetation where sunlight is sufficient.

Engineers have inspected the College Highway (Route 10) bridge and reviewed the as-built design plans for the original bridge, as well as its replacement, constructed in 2005 (see Appendix B). Because the new abutments are set behind the original concrete and stone abutments and well back from the river, these are not deemed to be scour critical under the proposed, dam removal conditions. These results have been shared with Mass DOT. Further analysis will be performed to confirm definitively that no additional protection is needed at the bridge. Any proposed stabilization (likely riprap placement) will be permitted

as required through filings with local, state, and federal regulatory agencies.

Describe the on-site project alternatives (and alternative off-site locations, if applicable), considered by the proponent, including at least one feasible alternative that is allowed under current zoning, and the reasons(s) that they were not selected as the preferred alternative:

The goals of the Manhan River Restoration Project are to restore natural riverine ecological functions of the Manhan River and to increase the climate resiliency of adjacent infrastructure (including the College Highway bridge, the municipal waterline, and the former mill building on river right) in such a way as to reduce operation and maintenance burden. As such, there are no off-site locations that might meet these goals. The following alternatives were evaluated against the project goals:

Alternative 1- No Action

In this alternative, the dam would be allowed to remain in place and the municipal waterline would remain in the bed of the river upstream of the College Highway crossing. No protection would be implemented for the historic former mill building on the right abutment or any other infrastructure at the site. This alternative would result in no clearing of existing vegetation, dredging or filling of wetland resources.

The result of this alternative would be continued blockage of fish and wildlife movement in the river. Erosive forces of the river would continue to threaten the historic mill building, the municipal water line, and the College Highway bridge. Because of its low elevation, the water line would continue to require periodic maintenance ("blow off"). All adjacent infrastructure would be under threat of potential dam failure.

Because this alternative meets none of the project goals, it was not selected.

Alternative 2- Rock ramp

In this alternative, the dam would be allowed to remain, but fish passage would be provided by constructing a rock ramp or nature-like fishway on the downstream side of the dam. This would require clearing large portions of the downstream vegetation to access the river, including the bordering vegetated wetland on river left below the dam. Constructing the rock ramp would require the installation of many hundreds, if not thousands of cubic yards of rock resulting in extensive short-term and long-term impact to the river and adjacent resource areas. In this alternative, the municipal waterline would be left in place in the bed of the river upstream of Route 10 continuing a maintenance burden for the town.

Rock ramps and nature-like fishways of all kinds are designed to pass certain species of fish under certain conditions. Their performance is limited by flows above or below their design targets and for species with undocumented or poorly-documented passage requirements. They are engineered structures that do not allow for the natural movement of water, fish, wildlife, or sediment that are critical to the natural ecological functions of a river. As such, this alternative would require a more restrictive review from local, state, and federal regulators. Rock ramps and nature-like fishways also require periodic inspection and maintenance, unlike a free-flowing river. Finally, construction of a rock ramp or other nature-like fishway would be out of character with the historic nature of this area of Southampton.

This alternative would provide some alleviation of failure risk for the dam and would provide some amount of fish passage. However, because it does not restore the full range of riverine ecological processes and would require additional operation and maintenance of the Town and for the dam owner, this alternative was not chosen.

Alternative 3- Dam repair

In this alternative, the Lyman Pond Dam would be repaired and upgraded to meet contemporary guidelines for

safety from the MA Office of Dam Safety regulations (302 CMR 10). Spillway capacity would be enhanced and some kind of fishway (likely a Denil ladder) would be installed to meet regulatory requirements relative to diadromous fish passage. As a result, the dam impoundment would refill. Presumably, this project could be undertaken by experienced engineers and contractors, but would not likely involve the proactive input of experienced federal/state resource agency staff and NGO specialists.

This alternative would require expansion and modification of the spillway design to meet contemporary Dam Safety standards. That, along with gaining access to the dam for the work would result in similar temporary impacts to wetland resource areas (Bank, Land Under Water, Riverfront Area) as the dam removal alternative. The dam would continue to require operation and maintenance and the municipal water line (if left in the river bed upstream of College Highway) would continue to be a maintenance concern for the Town. Presumably, the reconstructed dam would be much more robust than the current condition, but like any piece of infrastructure would be under threat from catastrophic storms resulting from climate change.

This alternative does not meet the project goals related to restoring the ecological functions of the Manhan River. While a fish ladder could be designed to pass some species under some flows, fish passage (and transfer of freshwater mussel larvae) would be much less than if the dam were removed. Any dam repair design would require similar short-term impacts to removal and a new dam would create additional ecological impacts downstream by entraining critical sediment load and creating a n impoundment that would result in solar heating of the water.

Because it does not meet the project goals for ecological restoration or for increased climate change resiliency, this alternative was not chosen.

Alternative 4- Dam removal and infrastructure protection

In this alternative the full vertical extent of the dam would be removed in accordance with state and federal guidance on dam removal and under direction of experienced engineers, contractors, agency staff and NGOs. In addition to removing the dam, the municipal water line will be relocated to the underside of the College Highway bridge, taking advantage of existing support for it there. Additional erosion protection will be placed along the right bank (looking downstream) and at other scour-critical locations in the project area.

This alternative allows for the full restoration of riverine ecological processes related to the free movement of water, sediment, nutrients, fish, and wildlife. Such restoration is critical to ecological resiliency in the face of climate change effects. This alternative increases the climate change resiliency of this part of Southamptton by protecting critical water supply infrastructure, eliminating threatening scour along buildings and infrastructure, and eliminating the threat of catastrophic dam breach. This alternative will eliminate or vastly reduce operation and maintenance burdens on the Town and the dam owner. As part of this work, documentation of historical resources will be completed and appropriate measures taken to ensure honoring that history through compliance with Section 106 of the Historic Preservation Act and relevant Massachusetts statute.

Dam removal has been implemented to successfully meet identical goals at nearly 60 other sites in Massachusetts. Because it meets all the stated goals of the project, this alternative has been chosen.

Summarize the mitigation measures proposed to offset the impacts of the preferred alternative:

The proposed project is a proactive ecological restoration project with climate change resilience benefits. All temporary and permanent impacts have been minimized in order to restore ecological processes with very minimal long-term operations and maintenance. All elements of the proposed project have been developed by qualified and experienced restoration professionals to meet the stated goals of the proponent. No mitigation is proposed.

Greenhouse Gas Analysis-

The Manhan River Restoration Project is required to follow Greenhouse Gas Emission Policy and Protocol as it exceeds a MEPA threshold requiring an Environmental Impact Report (or a waiver of an EIR). Emissions will be limited to the operation of construction equipment on-site and there will be no long-term effects as a result. Emissions will only take place during the construction phase of the project. The project will result in the ecological restoration of the site, the removal of a dam, and channel improvements; therefore, the project qualifies for a de minimis exemption since all three of those activities are provided as examples of projects that typically qualify for a de minimis exemption according to the Greenhouse Gas Emission Policy and Protocol.

If the project is proposed to be constructed in phases, please describe each phase:

The project will be constructed in two phases. First, the waterline relocation will be completed under contract by the Town of Southamptton so that it is not compromised by any changes in hydraulics from the dam removal. Following completion of the water line relocation, the dam will be removed as per the design plans and specifications. All work will be timed to comply with regulatory time-of-year restrictions and, as much as possible, to take advantage of low-flow periods. The dam removal work will be phased so that river flow is directed away from the work area using best practices implemented on dozens of other Massachusetts dam removal projects.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN:

Is the project within or adjacent to an Area of Critical Environmental Concern?

Yes (Specify _____)

No

if yes, does the ACEC have an approved Resource Management Plan? ___ Yes ___ No;

If yes, describe how the project complies with this plan.

Will there be stormwater runoff or discharge to the designated ACEC? ___ Yes ___ No;

If yes, describe and assess the potential impacts of such stormwater runoff/discharge to the designated ACEC.

RARE SPECIES:

Does the project site include Estimated and/or Priority Habitat of State-Listed Rare Species? (see http://www.mass.gov/dfwele/dfw/nhESP/regulatory_review/priority_habitat/priority_habitat_home.htm)

Yes (Specify: *Just upstream and downstream*) 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: *Within the Lockville Historic District*) No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic

or archaeological resources? Yes (Specify _____) No

WATER RESOURCES:

Is there an Outstanding Resource Water (ORW) on or within a half-mile radius of the project site? ___ Yes

No;

if yes, identify the ORW and its location. _____

Are there any impaired water bodies on or within a half-mile radius of the project site? ___ Yes No; if yes, identify the water body and pollutant(s) causing the impairment: _____

Is the project within a medium or high stress basin, as established by the Massachusetts