

## Background (Littleton)

The proposed project includes the construction of a new water supply well for the Littleton Electric Light & Water Departments (LELWD), connection of the new water supply well to a WTP in Littleton via a raw water transmission main, construction of a finished water main from the LELWD system, and the construction of a new access road to bring a treated water supply to the Town of Boxborough.

This project is the result of careful coordination and planning among the two municipalities of Littleton and Boxborough, the Massachusetts Department of Environmental Protection (MassDEP) and Massachusetts Department of Transportation (MassDOT), and is the direct result of the MassDOT Snow and Ice Control Program identifying the impacts of sodium and chloride contamination to water supplies from the application and storage of road salt. In the 2017 Environmental Status and Planning Report by MassDOT, the Boxborough Executive Center office building was identified as the highest maximum sodium concentration for a public water system located within 0.5 miles of a MassDOT roadway.

***While this project description gives an overview of the project in its entirety, this submission is only seeking approval for the portion of work occurring in Littleton, which includes the construction of the water supply well, access road to well and raw water main. The remainder of the finished water main will be permitted with the Town of Boxborough Conservation Commission.***

## Site Description

### ***Boxborough***

Much of the project work is installation of water main which will occur in the existing roadway along the proposed route of the finished water main. Affected roadways include Beaver Brook Road, Swanson Road and Codman Hill Road.

### ***Littleton***

The location of the new water supply well is located on a parcel that lies within a valley between higher elevation residential neighborhoods to the northwest and Route 495 to the southeast. Monarch Drive, Taylor Street and MA Route 2 border the parcel along the southeast, east, and north boundaries, respectively. Entrance to the site is located through a commercial access point at 151 Taylor Street.

Within the property boundaries are wetlands and Beaver Brook, a small stream that runs the length of the northwestern portion of the parcel, flowing southwest to northeast. Beaver Brook is approximately 1,014 feet northwest of the proposed well location. The confluence of Beaver Brook with an unnamed tributary from Black Pond is approximately 1,505 feet downstream from the parcel, which continues on as Beaver Brook. Beaver Brook flows northeast which eventually drains into Forge Pond. The proposed Zone II of the new water supply well extends upgradient of the well to the drainage basin divides and to the till/stratified drift boundaries.

The raw water main will be installed through naturally wooded area and below Beaver Brook. A access road will be constructed to the well.

## Scope of Work

### ***Boxborough***

The project will include a finished water main from the existing Littleton water main at Nancy's Way near the Boxborough Town Line, progressing south along Beaver Brook Road and Swanson Road and

terminating at the existing Codman Hill Condominiums PWS located at 276 Codman Hill Road in Boxborough, Massachusetts.

Trenches in pavement shall have the traveled way surface cut in a straight line. Pipe trenches shall be made as narrow as practicable (about 5' in width). Excavation shall only be between these cuts. The pipe shall be installed with a minimum of 5'-0" of cover, unless specifically indicated otherwise on the plans or required by the Engineer. Prior to backfilling, the Contractor shall compact the exposed natural subgrade. Where specified and required by the Engineer and after placement of the gravel subbase, the Contractor shall place temporary bituminous pavement above the trench, between the edges of the existing pavement. The temporary pavement shall be repaired as necessary to maintain the surface of the pavement until replaced by permanent pavement. All water pumped or drained from the work shall be disposed of in a manner that will not result in undue interference with other work or damage to adjacent properties, pavements and other surfaces, buildings, structures, and utilities.

### ***Littleton***

The LELWD is proposing to construct and develop a new water supply well at 153 Taylor. The new well is expected to supply approximately 0.5 million gallons per day (mgd). The LELWD is currently constructing a new 3 MGD water treatment plant (WTP) at 15 Whitcomb Avenue under a separate project to treat for per- and polyfluoroalkyl substances (PFAS) found in their existing raw water sources. Under this proposed project, raw water from the proposed new well will be pumped to the WTP and will provide additional water to the existing customers of Littleton. Work under this project includes a new finished water main extending from the proposed WTP along road to the Littleton border, existing Littleton water main in Whitcomb Avenue and continuing south approximately 4.5 miles to the Codman Hill Condominiums (PWS #2037001) in Boxborough.

Work involved with this project will also include the construction of a 1,200-foot± access road, with approximately 800-feet constructed of gravel and 400-feet of asphalt, a well building, a raw water main, and stormwater management infrastructure. Other work will include grading, landscaping, and utilities in support of the well building.

### **Regulatory Review**

Environmental impacts associated with this project are provided below.

Permit specific discussions are provided, below, for the Massachusetts Environmental Policy Act, Massachusetts Endangered Species Act, and Notice of Intent applications under the Massachusetts Wetlands Protection Act.

### **MA Endangered Species Act (MESA, 321 CMR 10.0)**

The portion of the work occurring in Boxborough is considered exempt under 321 CMR 10.14(10): installation of utility lines. However, other portions of the overall project are not exempt, and therefore a MESA filing has been filed separately and can be found using reference number 23-4202.

### **Massachusetts Environmental Policy Act (MEPA, 301 CMR 11.0)**

The purpose of MEPA and 301 CMR 11.00 is to provide meaningful opportunities for public review of the potential environmental impacts of a project for which a permit is required from an agency of the Commonwealth, and to assist agencies of the Commonwealth in using all feasible means to avoid

damage to the environment or, to the extent damage to the environment cannot be avoided, to minimize and mitigate damage to the environment to the maximum extent practicable. MEPA's review is intended to inform the participating agencies of the project, to maximize Consistency between agency actions, and to facilitate coordination of all environmental and development review and permitting processes of the Commonwealth. The MEPA process provides an opportunity for the project proponent to identify required agency actions and to describe and analyze how the project will comply with applicable regulatory standards and requirements. Through review of the MEPA documents, each participating agency can comment on aspects of the project or issues regarding its agency action that require additional description or analysis. There are twelve MEPA review threshold categories contained in the Act covering the following topics of Land, State Listed Species, Wetlands, Waterways and Tidelands, Water, Wastewater, Transportation, Energy, Air, Solid and Hazardous Waste, Historical and Archaeological Resources, Areas of Critical Concern, and Regulations. In addition to triggering a threshold, a state action (i.e., state funding or state permitting) is necessary to trigger MEPA review. The following MEPA threshold is triggered for this project under the Wetlands, Waterways and Tidelands:

11.03 (3)(b)(f) alteration of ½ or more acres of any other wetlands. (floodzone, riverfront area)

In addition, this project triggers a MEPA threshold related to Water:

11.03 (4)(b)(1) New withdrawal or Expansion in withdrawal of 100,000 or more gpd from a water source that requires new construction for the withdrawal.

Construction of more than 5 miles of water main.

#### *Environmental Justice Communities Discussion*

Per 301 CMR 11.00, MEPA requires all Environmental Justice (EJ) communities within a mile of the project location be identified and notified. Using the MEPA EJ community mapper, a map was generated to identify all communities within a mile. It is required to notify all local community-based organizations and tribal organizations with an Environmental Justice Screening form via an e-mail list provided by the MEPA-EJ Director; the screening form was sent out on 4/24/2023. Additionally, a notification was posted in the Boston Herald on 4/25/2023. As of 6/22/2023, no comments from the surrounding Environmental Justice Communities have been received.

A public meeting was held on January 19, 2023 to describe the project and provide opportunity for questions and answers from municipal and state officials.

#### *Climate Resiliency Discussion*

Per 301 CMR 11.05(5) MEPA updated requirements, an RMAAT climate resilience design standards tool was used to generate a report on the projects to address climate risk.

The Massachusetts Wetlands Protection Act (310 CMR 10.00)

The Massachusetts Wetlands Protection Act (MGL c.131 § 40) (WPA) and implementing regulations (310 CMR 10.00) is a state statute administered locally. While a Notice of Intent (NOI) submission would be reviewed by the local Conservation Commissions (Littleton, Boxborough, Harvard), this permit is being discussed under this state review discussion because of the state regulations that govern the WPA submissions. Jurisdiction under the WPA would occur for proposed removal, fill, dredge and/or

alteration of a wetland resource protected under the WPA. The WPA requires the preparation of a NOI for work within a wetland resource area, work within 100-feet of certain resource areas and/or within the 100-year flood plain. The general performance standards for work or activities occurring within each wetland resource are identified in the WPA. Resource areas impacted by the proposed work include the following:

- Bordering Land Subject to Flooding (B.L.S.F)
- Riverfront Area

In addition, work will occur within the 100' Wetlands Buffer Zone. It is anticipated that there will be 58,931 sf of work within the buffer zone.

Adherence to the Wetlands Protection Act performance standards for BLSF and Riverfront Area presented below.

Bordering Land Subject to Flooding

Per 310 CMR 10.57 BLSF Performance Standards of as follows:

1. Compensatory storage shall be provided for all flood storage volume that will be lost as the result of a proposed project within Bordering Land Subject to Flooding, when in the judgment of the issuing authority said loss will cause an increase or will contribute incrementally to an increase in the horizontal extent and level of flood waters during peak flows. Compensatory storage shall mean a volume not previously used for flood storage and shall be incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Further, with respect to waterways, such compensatory volume shall be provided within the same reach of the river, stream, or creek.

**Approximately 352 cubic yards (CY) of compensatory storage will be provided as part of this project. This will appropriately compensate for the flood storage that will be lost from the permanent impacts to BLSF. See below compensatory storage table.**

ELEVATIONS	VOLUME OF FILL (CY)	VOLUME OF CUT PROVIDED (CY)
222-223	0.0	0.0
223-224	1.4	4.3
224-225	1.7	115.4
225-226	8.9	90.6
226-227	1.8	141.7

2. Work within Bordering Land Subject to Flooding, including that work required to provide the above-specified compensatory storage, shall not restrict flows so as to cause an increase in flood stage or velocity.

**The work within BLSF will not restrict flows that cause an increase in flood stage or velocity. Compensatory storage will be provided to ensure flood stage and velocity does not increase following project completion.**

3. Work in those portions of bordering land subject to flooding found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions. Except for work which would adversely affect vernal pool habitat a project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold, or altering vernal pool habitat, may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.

**Some portions of the work within BLSF also fall within National Heritage and Endangered Species (NHESP) Estimated and Priority Habitat. Communication with MassWildlife regarding compliance with the Massachusetts Endangered Species Act (MESA) is ongoing and will be resolved prior to commencement of work.**

Riverfront Area (Redevelopment Standards)

- (a) At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40. When a lot is previously developed but no portion of the riverfront area is degraded, the requirements of 310 CMR 10.58(4) shall be met.

**While this work will not result in an improvement, the majority of work within the riverfront area is occurring on degraded area (paved road). The portions that are not occurring within degraded area will be temporary in nature, as directional drilling is being utilized for those portions of the work that are within undisturbed riverfront area.**

- (b) Stormwater management is provided according to standards established by the Department.

**The MA Stormwater Standards are being met. Please see Appendix C for Stormwater Report.**

- (c) Within 200 foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25 foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).

**Work will occur closer to the river than existing conditions. However, the majority of work is occurring in paved roadway. Portions within undisturbed riverfront area are temporary in nature, and the riverfront will be returned to existing condition following construction.**

- (d) Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).

**There will be no expansion of existing structures within the riverfront area. Proposed work within the riverfront is occurring in paved roadway. Portions within undisturbed riverfront area are**

**temporary in nature, and the riverfront will be returned to existing condition following construction.**

- (e) The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).

**The majority of this work is occurring in previously degraded area (roadway). The areas that are not within degraded area (forest) are temporary in nature. Thus, no new degraded area is anticipated within the riverfront area as part of this project.**

- (f) When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Restoration shall include: 1. removal of all debris, but retaining any trees or other mature vegetation; 2. grading to a topography which reduces runoff and increases infiltration; 3. coverage by topsoil at a depth consistent with natural conditions at the site; and 4. seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site;

**During construction, the top 12" of soil and vegetation will be set to the side. Following construction, the work area within undisturbed riverfront will be backfilled with that material and debris will be removed.**