Notice of Intent

Invasive Control and Native Planting Plan
Countryside Elementary School, Newton, MA

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Project Narrative

January 2024

Project Goals

The Countryside Elementary School at 191 Dedham Street in Newton is due to be reconstructed in 2025. The new school will be a demonstration of sustainable practices. It will be fully electric, be heated and cooled with geothermal wells, and feature rain gardens, student gardens, and pollinator gardens. The adjacent stream channel could be an associated gem of ecological health, and an asset to future outdoor learning, but is currently overrun with invasive plant species. The City proposes to undertake invasive control and native planting in advance of the construction project to ensure that such improvements to native wildlife habitat will be well-established when the new school opens.

Site Description

The Countryside Elementary School is situated on an approximately 7.39-acre parcel that contains the school building, driveways, parking areas, athletic fields, basketball court, playground, walkways, and landscaping. An approximately 4-foot-high fence runs along the western property boundary along an intermittent stream that drains to South Meadow Brook (**Attachment A,** Figures 1 and 2).The majority of the site is located within Zone AE, "1% Annual Chance Flood Hazard" and Zone X, "0.2% Annual Chance Flood Hazard and Area of Minimal Flood Hazard" (**Attachment A,** Figures 3 and 3A). The elevation of flood zone AE is 112.4 feet.

The school property supports several wetland resource areas associated with South Meadow Brook and include Bordering Vegetated Wetland (BVW), Bordering Land Subject to Flooding (BLSF), Riverfront Area, and inland Bank. Wetland resources are protected and regulated under Massachusetts *Wetlands Protection Act* (M.G.L. Ch. 131 § 40) and its implementing Regulations (310 CMR 10.00). Figure 4 (**Attachment A**) depicts the limits of the wetland resource areas as shown on the MassGIS Massachusetts Department of Environmental Protection (MassDEP) wetlands data. Details and descriptions of the wetland resource areas are provided in the supporting documents submitted with the Abbreviated Notice of Resource Area Delineation (ANRAD) March 6, 2023 on file with the Conservation Commission. The Conservation Commission issued an Order of Resource Area Delineation (ORAD) on March 24, 2023 (MassDEP File #239-951), approving all resource areas on site (**Attachment B**).

According to the most recent version of the *Massachusetts Natural Heritage Atlas* (15th Edition, August 1, 2021), the site does not occur within areas of *Estimated Habitat of Rare Wildlife and Certified Vernal Pools* and/or *Priority Habitat of Rare Species* as designated by the Massachusetts Natural Heritage and Endangered Species Program (NHESP) (**Attachment A**, Figure 4).

Site Details

The subject portion of the site is a narrow swath of buffer zone to a very low-gradient intermittent stream (a channelized drainage swale that carries roadway runoff toward South Meadow Brook) and a small area of BVW in the northern part. Additionally, floodzone (BLSF) covers this swath of land. The swath, roughly 25 feet in width and 400 feet in length, is bounded on the west by the intermittent stream, and on the east by a narrow band of trees and predominantly invasive shrubs and vines, with a playing field beyond the band of invasives. A chain link fence separates the stream from the schoolgrounds.

A significant portion of the tree layer includes Norway maple (*Acer platanoides*) saplings. There are a few standing dead trees that pose a risk to the children that use the school's playing field. The shrub layer is dominated by multiflora rose (*Rosa multiflora*), European buckthorn (*Frangula alnus*), as well as occasional autumn olive (*Elaeagnus umbellata*). Japanese knotweed (*Fallopia japonica*), and Asian bittersweet (*Celastrus orbiculatus*) as well as winter creeper (*Euonymus fortuniei*) and grapevine (*Vitis* sp.) entangle the shrub and tree layers. The herb layer is dominated by garlic mustard (*Alliaria petiolata*). Native species observed along this swath along the stream bank include a few red maples (*Acer rubrum*), slippery elm (*Ulmus rubra*), and a gray birch (*Betula populifolia*), with a few silky dogwoods (*Cornus amomum*) are upgradient of the trees.

The City intends to restore the degraded buffer zone to the stream by removing and managing the invasive species and replanting the area with native trees and shrubs to re-establish a native plant community. This project is proposed at this time prior to the reconstruction of the elementary school to ensure the least amount of disruption to the stream buffer once the new school and grounds are installed, which may otherwise preclude the proposed buffer restoration work.

Project Details

To remove the invasive species dominating the vegetation within this swath and preclude resprouting, the City will manage the invasive species as noted below and in accordance with the standard management practices for each species as detailed in **Attachment C**:

- cut and paint the Norway maple saplings;
- cut and paint or blot the bittersweet and climbing spindle-tree vines;
- cut and paint or blot the multiflora rose, European buckthorn, and autumn olive;
- cut and stem inject the Japanese knotweed;
- hand pull the garlic mustard.

Following removal and treatment of invasive species, the City will plant native trees, shrubs, and herbaceous species to re-establish a native ecosystem along the stream corridor (Table 1).

Table 1. List of Proposed Plantings for Stream Corridor Restoration

TREES			
Quantity	Botanical Name	Common Name	size
5	*Acer rubrum*	Red Maple	1.5" - 2" caliper
2	*Betula nigra*	River Birch	4' – 6' clump
3	*Nyssa sylvatica*	Black Gum	1.5" - 2" caliper
4	*Quercus bicolor*	Swamp Oak	1.5" - 2" caliper
SHRUBS			
Quantity	Botanical Name	Common Name	size
7	*Clethra alnifolia*	Sweet Pepper Bush	18" – 2' #2 container
7	*Cornus amomum*	Silky Dogwood	2' - 3' #2 container
7	*Ilex verticillata*	Winterberry	2' – 3' #2 container
2	*Salix discolor*	Pussy Willow	2'-4' #3 container
7	*Viburnum acerifolium*	Maple Leaf Viburnum	15" -18" #3 container

The entire swath will be planted with a combination of native seed mixes with species designed to withstand both wetland and upland conditions, to retard regrowth of invasives and enhance species diversity within the buffer zone and , the City will spread a combination of seed mixes:

- New England Roadside Matrix Upland Seed Mix; and
- New England Roadside Matrix Wet Meadow Seed Mix.

Specifications of the proposed seed mixes are attached in **Attachment C**.

Details of the proposed invasives management and native plantings are provided in **Attachment D.**

Wetland Resource Area Performance Standard Compliance

The proposed project will occur within the buffer zone to inland Bank and BVW, as well as within BLSF. No removal of vegetation will occur within the BVW and only two Norway maple trees and one dead, leaning tree located just at the flagged bank limit will be removed by cutting just above grade (no grubbing) to ensure that there will be no impacts to the bank channel itself. Replacement of removed species throughout the stream corridor within the buffer zone and in BLSF. Compliance with the performance standards for work within this resource area is discussed below.

Bordering Land Subject to Flooding: 310 CMR 10.57(4)(a)

1. *Compensatory storage shall be provided for all flood storage volume that will be lost ...*

There will be no addition of fill and no change of grade. Invasive plants will be removed at the ground surface (i.e., there will be no grubbing). Native plants will be installed.

2. *Work shall not restrict flows so as to cause an increase in flood stage or velocity.*

There will be no addition of fill and no change of grade. Flow regimes within the intermittent stream will not be altered in any way.

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. …*

The area within the intermittent stream corridor should be providing wildlife habitat but is impaired by the dominance of invasive shrubs and saplings. This project is designed to restore native wildlife habitat by removing invasive species and planting native vegetation to restore wildlife habitat and a native food source.

Buffer Zone

Under the NOI process, 10.05(6)(a)(2) states: "*Within 21 days of the close of the public hearing, the conservation commission shall … make a determination that the area … is significant to one or more of the interests identified in M.G.L. c. 131, § 40, and shall issue an Order of Conditions for the protection of said interest(s)*."

The swath of land to be restored with native plants will be delimited with biodegradable straw wattles, so that no activity and no sedimentation will occur in the BVW or on the Bank of the intermittent stream.