

Revised July 15th, 2014
May 22, 2013

Wetland Replication Plan

12 Summer Street – Lot #2

Acton, Massachusetts

Submitted to:

Acton Conservation Commission
472 Main Street
Acton, MA 01720

Prepared for:

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Introduction

In order to mitigate the proposed impacts to wetland resource areas, the following Wetland Replication Plan is proposed. It is proposed to fully restore the wetland function and value incurred by the proposed filling of two small areas of Bordering Vegetated Wetland (BVW) resource area totaling 1,538 s.f. Refer to “*Notice of Intent Plan*” prepared by R. Wilson Associates, dated 7/11/14, for proposed alteration and replication locations.

Approximately 3,340 s.f. of BVW will be created as mitigation for the permanent alteration of 1,538 s.f. of BVW, along with approximately 1,762 s.f. of in-place restoration of the existing foot path within wetland and any temporary alteration from haybales. The BVW replication area is located adjacent to wetland flags #A48 to A56, at the 190-foot existing contour line. No net loss of BVW is proposed, rather a total of 1,802 s.f. of additional BVW will be created as a result of this project.

Existing Conditions

The overall wetland system in the vicinity of the replication area consists of forested wetland, with numerous medium-sized red maples forming a dense tree canopy. There are pockets of shallow standing water interspersed among the maples, and numerous hummocks covered with tussock sedge (Photo 1).



Photo 1- Forested wetland habitat in BVW near replication area.

At the wetland edge, the habitat transitions from standing pockets of water to dry land, with tussock sedge becoming more sparse, some skunk cabbage, small arrowwood and glossy buckthorn shrubs, and poison ivy ground cover (Photo 2). Further north, the vegetation at the wetland edge consists of Canada mayflower, cinnamon fern, and some silky dogwood shrubs.



Photo 2 - Wetland habitat at BVW border, near flag #A49.

The replication area itself consists of small white pine and oak trees near wetland flags #A48-A56 (Photo 3).



Photo 3 - Habitat in southern portion of replication area, facing BVW.

An existing trail runs through the eastern portions of the area (Photo 4).



Photo 4 - Existing foot trail within replication area, facing north.

Planting Plan (see attached plan)

The goal of the replication area is to mimic the existing vegetation, soils, and wetland functions of the adjacent BVW. Therefore, the plan calls for the planting of red maple trees, silky dogwood and arrowwood shrubs, and clumps of tussock sedge and boneset ground cover. The area is designed to accommodate temporary flooding in early spring, but will remain dry most of the year. The existing trail will be re-routed outside of the area to the east.

General Installation and Monitoring Procedures

- **Supervision:** All work within the replication area shall be supervised by a qualified wetlands scientist/consultant.
- **Timing:** In order to optimize planting conditions, fall construction is preferred. The optimal time of year for plant installation is September to mid-October.

Step 1: Survey. Field stake limits of replication area.

Step 2: Erosion control. Install new erosion control barrier along western boundary of replication area to prevent any alteration to adjacent BVW.

Step 3: Vegetation Removal. Remove trees, shrubs and herbaceous vegetation (including stumps) from within replication area, with care being taken not to allow any debris beyond the erosion control barrier. Some existing red maple trees will remain in the wetland replication area as determined by the supervising wetland scientist.

Step 4: Excavation. An excavator shall remove all upland soil up to the edge of the erosion control barrier within the replication area to at least 12 inches below finish grade elevation (190' +/-) or where natural muck or wetland soils are observed and the wetland scientist determines that a suitable depth has been reached. The site contractor shall work from the wetland side and move upgradient.

Step 5: Final Grading. Upon removal of all soil, suitable hydric soils shall be graded up from the existing haybale and silt fence edge to the edge of the replication area. The final grade for the replication area shall be 189-190' +/- . A minimum of 6 inches of topsoil shall be placed and shall be stabilized by an organic mulch tackifier. The soils are to be inspected and approved by the wetland scientist prior to installation.

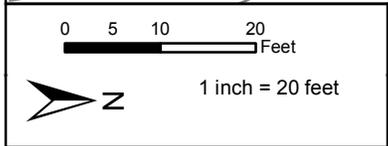
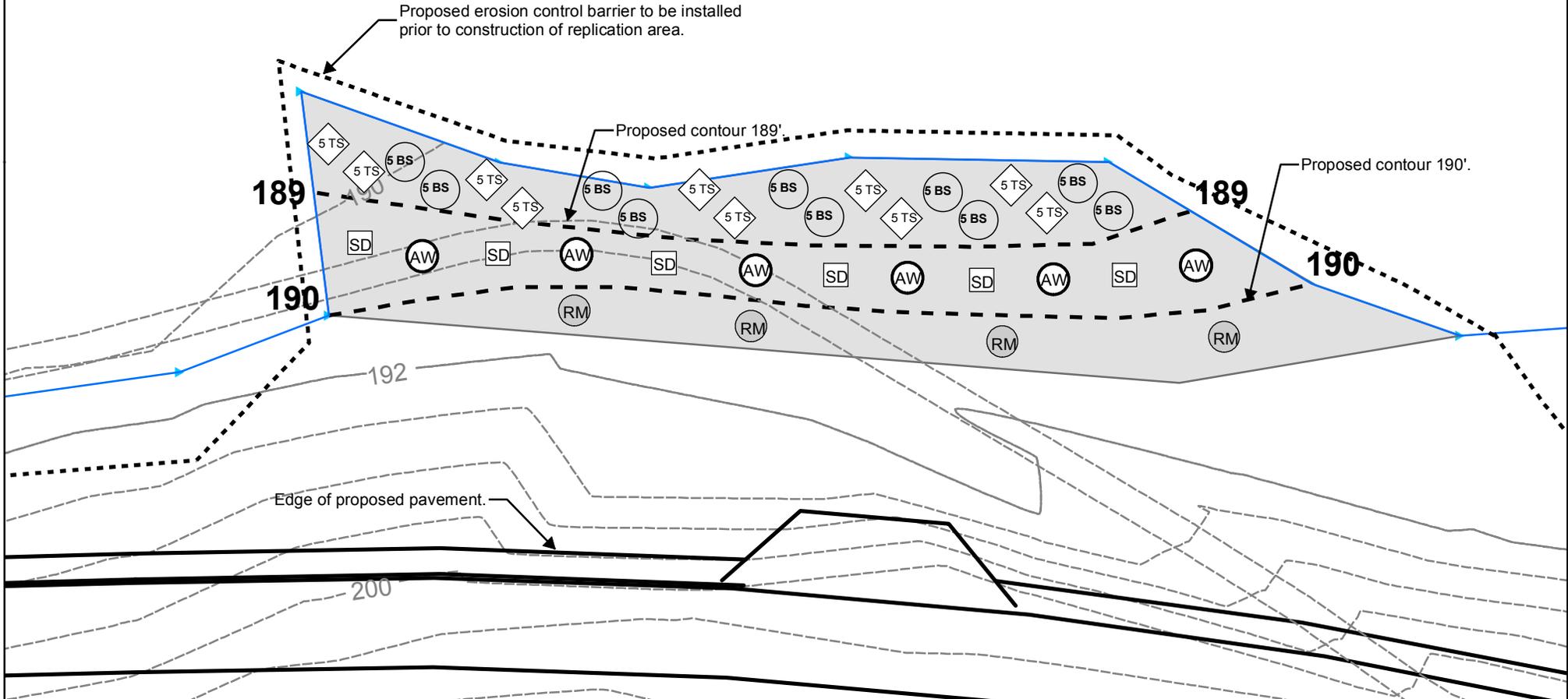
Step 6: Planting. The following planting schedule is proposed. Precise citing of plants may be modified by wetland scientist in the field prior to installation.

- 4 red maple trees (*Acer rubrum*) – 4-6' tall
- 6 silky dogwood (*Cornus amomum*) - >18" tall
- 6 arrowwood (*Viburnum dentatum* or *recognitum*) - >18" tall
- 50 tussock sedge (*Carex stricta*) - 2" plugs
- 50 Boneset (*Eupatorium perfoliatum*)- 2" plugs
- Native mulch shall be spread throughout the replication area upon completion of plantings.

Step 7: Monitoring and Reporting. Monitoring for two full growing seasons shall occur with annual reporting to the Acton Conservation Commission. Monitoring will include documentation of success or failure of the replication area. Success will be measured by the replication standards in the Wetlands Protection Act, specifically, suitable wetland soils, wetland hydrology, and 75% cover of wetland vegetation after two seasons. Where plant mortality or other indicator of failure is evident, the wetland scientist will recommend steps to correct. A soil, plant (with % coverage), and wildlife inventory will be submitted with each inspection report.

- Erosion Control Barrier
- Wetland Line
- - - Existing Trail
- Proposed Driveway
- - - Proposed Contour
- Replication Area

Plant Species Details				
#	CODE	TYPE	COMMON NAME	SCIENTIFIC NAME
4	RM	TREE	Red Maple	<i>Acer rubrum</i>
6	SD	SHRUB	Silky Dogwood	<i>Cornus amomum</i>
6	AW	SHRUB	Arrowwood	<i>Viburnum dentatum</i>
50	TS	HERBACEOUS	Tussock Sedge	<i>Carex stricta</i>
50	BS	HERBACEOUS	Boneset	<i>Eupatorium perfoliatum</i>



Engineering Data Source: R. Wilson Associates
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