

## Description of Work

### **Notice of Intent Filing** 47 Spy Pond Lane (Lot 1/Lot A) Arlington, MA

#### EXISTING CONDITIONS

The lot consists of vacant land located within one hundred feet of Spy Pond. To date, an erosion control barrier has been installed above the Bank of Spy Pond, as well as along the 25 foot no disturb zone. Currently, the site is inactive, but has a dumpster and several stockpiles of earth situated approximately 75 feet from the Bank of the Pond. The following photos characterized this lot on February 17, 2020:





As can be seen in the photos, above, the stockpiles are loosely covered by a tarp, and located well above the future limit of work line. As shown below, the port-o-let for the site, as well as the aforementioned dumpster, are set on this site.



This Notice of Intent is filed under the Massachusetts Wetlands Protection Act, as the Superseding Order of Conditions issued by the Department of Environmental Protection for this project, lapsed in December of 2019. As a result of this permitting issue, work on the site has been at a standstill for several weeks.

## WETLANDS DELINEATION

### Wetland Resource Areas on the Lot

The wetlands on the property were delineated by Mary Trudeau in the early spring of 2016. Statutory wetlands on, or adjacent to, the property include Bank; Land Under Waterbody; and Bordering Land Subject to Flooding. There is no wetlands vegetation above the Bank of the waterbody on Lot 1, thus there are no Bordering Vegetated Wetlands on the lot. Jurisdictional buffer zones (and the Adjacent Upland Resource Area) have been calculated from the Bank of the waterbody. The wetlands delineation was affirmed in the Superseding Orders of Conditions issued for Lots 1/2 (A/B) in 2016, and through the issuance of Orders of Conditions issued by the Arlington Conservation Commission in 2019.



For the purposes of this filing, the mean annual high water level has been estimated at between elevations (3 and 4). This corresponds to the first discernable break in slope observed at this site. FEMA has determined the 100 year flood elevation to fall along the Bank of the Pond, but does not give a specific elevation on the maps for this site (attached). This delineation was also affirmed in the Superseding Order of Conditions previously issued for the property by DEP, under the Massachusetts Wetlands Protection Act, as well as the subsequent Orders of Conditions issued under the local Arlington wetlands protection bylaw.

## **WORK INCLUDED IN THE NOTICE OF INTENT**

### **Demolition and Reconstruction of a Paved Surface Associated With A Single Family Dwelling**

This work appears to have been substantially completed during the life of the Superseding Order of Conditions that had been issued for this lot in 2016, and expired in late December of 2019.

### **Construction of a new Single Family Home**

The proposed footprint is the same house footprint approved in the Orders of Conditions issued for this project, under the local wetlands bylaw, in 2019. Siting of the proposed house footprint was done with consideration of the existing zoning setbacks, as well as the Arlington Conservation Commissions local wetlands regulations. Extensive offsite and onsite mitigation was approved for this proposal in the Order of Conditions issued by the Conservation Commission under the local bylaw.

The proposed dwelling will be located more than seventy four (74') feet from the waterline, with the closest portion of the proposed deck set at a 71.4 feet from the pond.

## **MITIGATING MEASURES**

Restoration of the 0 to 25 foot Adjacent Upland Resource Area to a naturalized condition:

With the exception of plantings to restore naturalized conditions within the lowest sections of the jurisdictional buffer zone, the application does not include any changes within twenty five feet of the Bank resource area, and proposes no intrusion of the dwelling, or infiltration system, into the 25 to 50 foot buffer zone/Adjacent Upland Resource Area. The application includes a restoration plan designed to remove lawn areas, and restore a woody, thicket type vegetation to the 0 to 25 foot Adjacent Upland Resource Area. This plan includes the planting of a variety of native, woody shrubs within the 0 to 25 foot buffer zone, leaving only an 8 foot wide foot path open between the 25 foot buffer zone line and the waterbody.

Shrubs will be planted at 6'-10' foot centers, and will consist of the following varieties of woody plants:

- (10) Arrowwood(*Viburnum recognitum*) (3' - 4' height)(6' foot on center)
- (10) Sweet Pepperbush (*Clethra alnifolia*) (3' – 4'height) (6' on center)
- (10) Silky Dogwood (*Cornus amomum*) (3' – 4' height) (8' on center)
- (3) Shadbush (Aronia *intermedia*) (3' - 5' height) (6' – 8' on center)

- (5) Witch Hazel (*Hamamelis virginiana*) (4-6' height) (10-12' on center)
- (30) Lowbush Blueberry (*Vaccinium angustifolia*) (1-2' height) (2-3 foot on center)

Shrubs will be planted in groups of like plants, with the Lowbush Blueberry set just above the Bank of the Pond. The area will not be mowed, and will be allowed to regenerate as a thicket type buffer above the Bank of Spy Pond. This planting plan has been reviewed by the NHESP program and a letter issued stating that the plan as proposed will not result in a taking of a protected species.

#### Construction of a Free Standing, Un-Mortared Stone Wall 25 Feet from the Bank of Spy Pond:

The applicant will construct a free standing, field stone wall, with a height of at least 2.5 feet along the 25 foot buffer zone. The wall will begin 2 feet to the south of the northern property line, and run southerly to the edge of the 8 ' foot wide pedestrian walkway straddling the property line between Lots 1 and 2. The wall will function primarily as a demarcation of the newly restored 0-25 foot Adjacent Upland Area, but will be constructed with small voids and openings to enhance wildlife habitat.

#### Use of Retaining Walls to Minimize Grading and Filling on Site:

Retaining walls are proposed perpendicular to the proposed dwelling to minimize grading changes on the property. The retaining walls will be engineered block walls, designed to allow for grade changes without adding fill materials to the lot.

#### Relocation of Existing Dock

The project locus currently has a small wooden dock, currently located on the northern bank of the pond on Lot 1. The applicant agrees to pursue a waterways license modification to relocate the dock to run perpendicular to the property line between lots 1 and 2. The dock will be aligned with the proposed walking path, proposed as straddling the lot line between the lots.

#### Storm Water Management Mitigation

##### On-Site:

The proposed site plan includes full mitigation for the increased surface water flows and impervious surfaces on the site. The proposal includes a subsurface infiltration system designed to capture and infiltrate roof runoff, via a closed gutter system. This mitigation is proposed to be located outside of the 0 to 50 foot buffer zone, and provides both infiltration through the inherent recharge capacity, as well as a reduction in both peak flows and volume of overland storm water flows resulting from the proposed development. The infiltration system, has been conservatively over sized, and will result in reduced rates and volumes of stormwater runoff, when compared to the existing conditions on site as well as the proposed conditions. (The oversized system was designed and sized to accommodate the original foot print of the home proposed for this lot, and has not been reduced in size for the currently proposed footprint. This results in approximately 28 percent excess capacity within the system for each of the design storm events.) The oversizing of this system also fully mitigates for the proposed additional impervious surfaces proposed in this Notice of Intent filing.

## Off-Site

While traditional mitigation relates directly to the proposed impact of a project, Seaver Construction is proposing to retrofit a Vortechincs 2000 water quality treatment unit into the Town of Arlington's storm water drainage system. This improvement will benefit the resource area, ie Spy Pond, and will mitigate for the sediment generated by 1.55 acres of impervious surface located in the Spy Pond watershed. This decision to proposed off site mitigation reflected the extensive on site mitigation currently proposed, and the inability to provide additional meaningful on site mitigation for the proposed redevelopment. The Vortechincs unit is a proprietary storm water treatment device with a proven, superior record of sediment removal from storm water flows. This unit is proposed as a "holistic" mitigation for the increased impervious surface proposed through the development of Lot 1. While it does not directly mitigate for work on Lot 1, it provides mitigation to the waterbody below Lot 1, improving the quality of the resource area.

Through discussions with the Town Engineer, the project Engineer, the Conservation Commission as well as representatives from Vortechincs, this system was determined to be capable of treating road runoff discharged from a 1.55 acre watershed of impervious surfaces located within Pond View and Princeton Roads. The structure will provide removal of suspended solids, improving the result discharges to Spy Pond.

The estimate cost of the storm water unit is \$16,338 delivered to the site. The cost of installation is estimated to bring the value of the mitigation to \$25,000 to \$30,000 dollars. Seaver Construction is requesting that the Commission allow the previously offered gift of \$5000 dollars be applied to expenditures over \$25,000, with any residual funds donated back to the Commission for use in environmental protection.

### Construction of a Permeable Driveway:

Seaver Construction has agreed to install a permable driveway surface between Spy Pond Lane and the new garage entrance. While this work is non jurisdictional as the driveway is located more than one hundred feet from Spy Pond, the driveway is within the watershed of Spy Pond. The infiltration and recharge area associated with this type of surface is generally considered an environmental benefit.

### Installation and Maintenance of Erosion and Sedimentation Controls

Prior to any construction on the site, the limit of work line will be created through the use of a staked line of siltation control fencing set with a row of 12 inch diameter filter soxx filled with composted wood mulch. The controls will be used to insulate the various work areas from the down gradient wetlands, and will be maintained throughout the construction process. It is expected that a filter soxx will be set along the 25 foot buffer zone. As work areas vary during the construction, additional check dams and barriers may need to be added to protect recently graded areas. A detail of the installation has been included in the site plans for the project.

Stockpile areas will be established above the jurisdictional buffer zone. While the proposed foundation work will result in temporary or short term stockpiles of earth materials, the applicant will have erosion controls between stockpiles and the remnants of the existing grassed lawn area between the work area and the vegetated wetlands. Stockpiles will be bounded by staked straw bales or wattles, and excess soil materials will be hauled from the site. The surface of the work

area will be loamed, planted and/or hydro seeded at the completion of the construction, and erosion controls maintained throughout the winter months.