



Spy Pond Edge Protection and Erosion Control Project

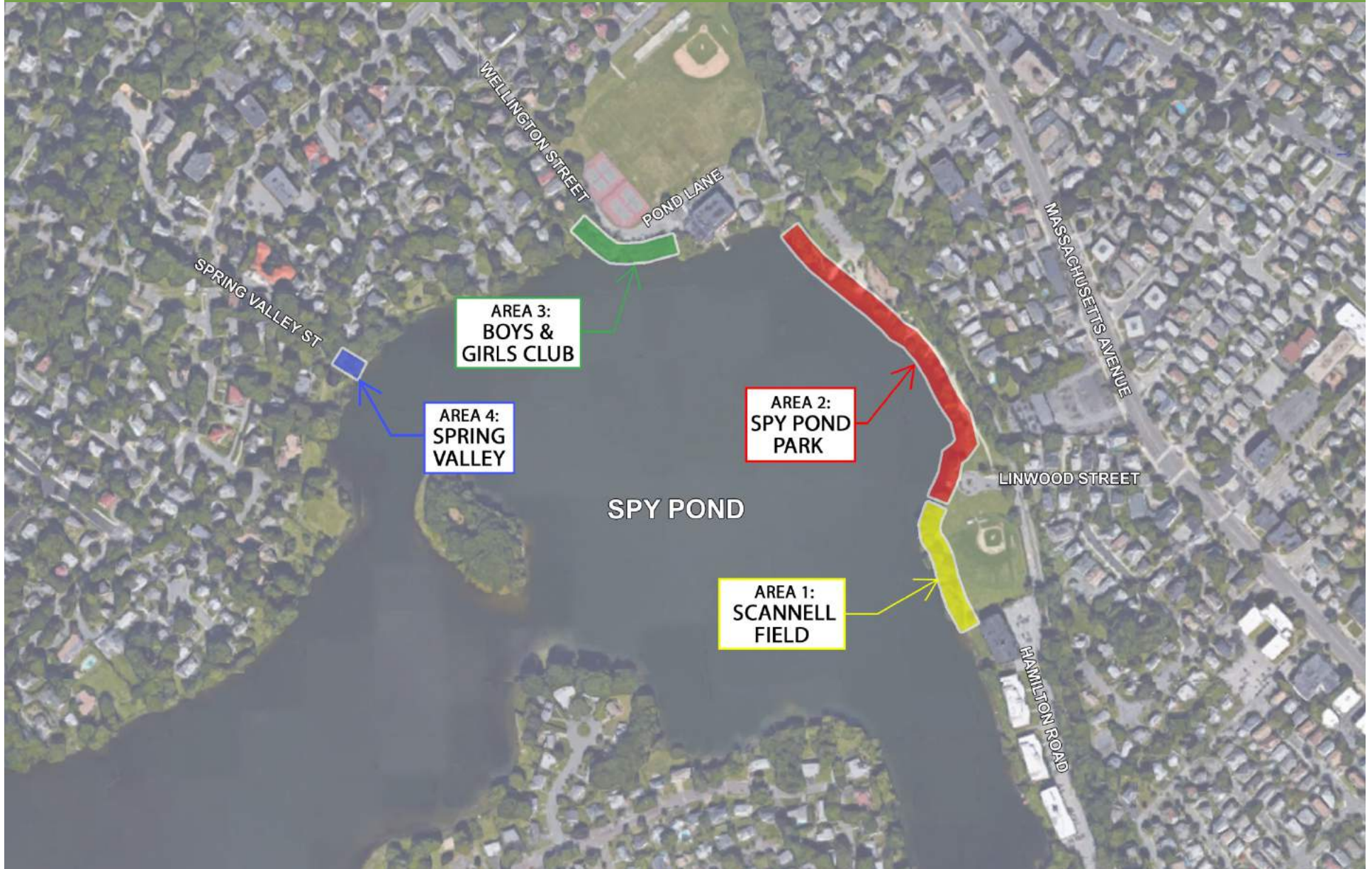
Town of Arlington, MA

Final Concept Plan

08 December 2016



Project Location



Project Goals

1. Preserve, stabilize & strengthen the pond's banks
2. Control bank erosion
3. Protect & enhance wildlife habitat
4. Control access to prevent unauthorized paths
5. Broaden & strengthen constituency groups
6. Increase quality & opportunity for water use
7. Promote stormwater infiltration along the shoreline
8. Implement environmental education

Site Activities

Activities

- Ball Playing
- Jogging & Walking
- Kayaking & Canoeing
- Fishing
- Picnicking & Gathering
- Children's Play
- Crew Team



Shoreline Categorization

STABLE

- Vegetated
- Uncompacted soils
- Controlled runoff
- Shallower slopes
- Controlled human use
- Hard or soft edge

VS.

UNSTABLE

- Loss of stabilizing vegetation
- Compacted soils
- Uncontrolled runoff
- Steep slopes
- Uncontrolled human use

Three Categories:

- Unstable
- Marginally Stable
- Stable

Scannell Field



Existing Shoreline Conditions










Scannell Field - Unstable

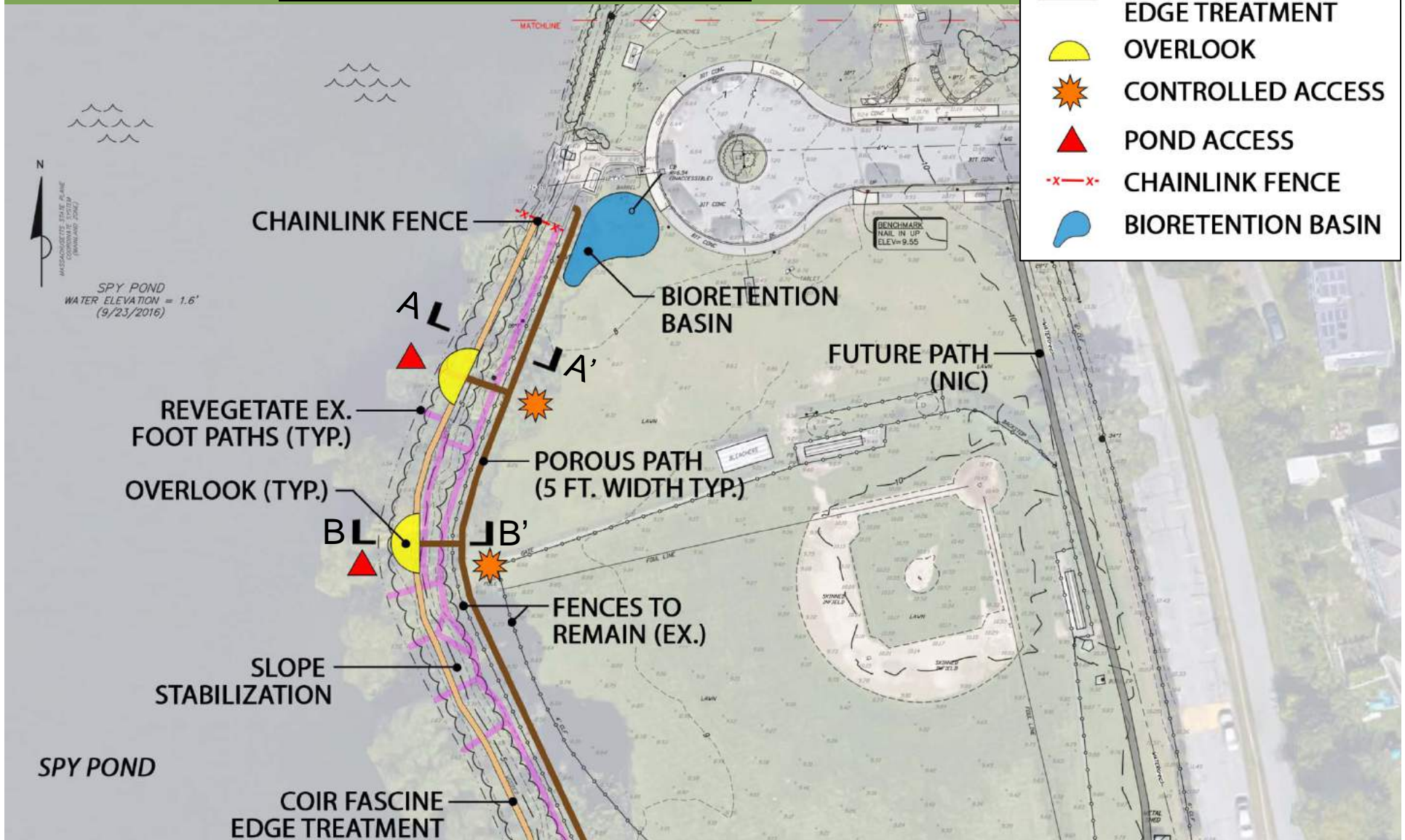
- Loss of stabilizing vegetation & soils
- Compacted soils
- Uncontrolled human use
- Steep slope
- Uncontrolled stormwater runoff



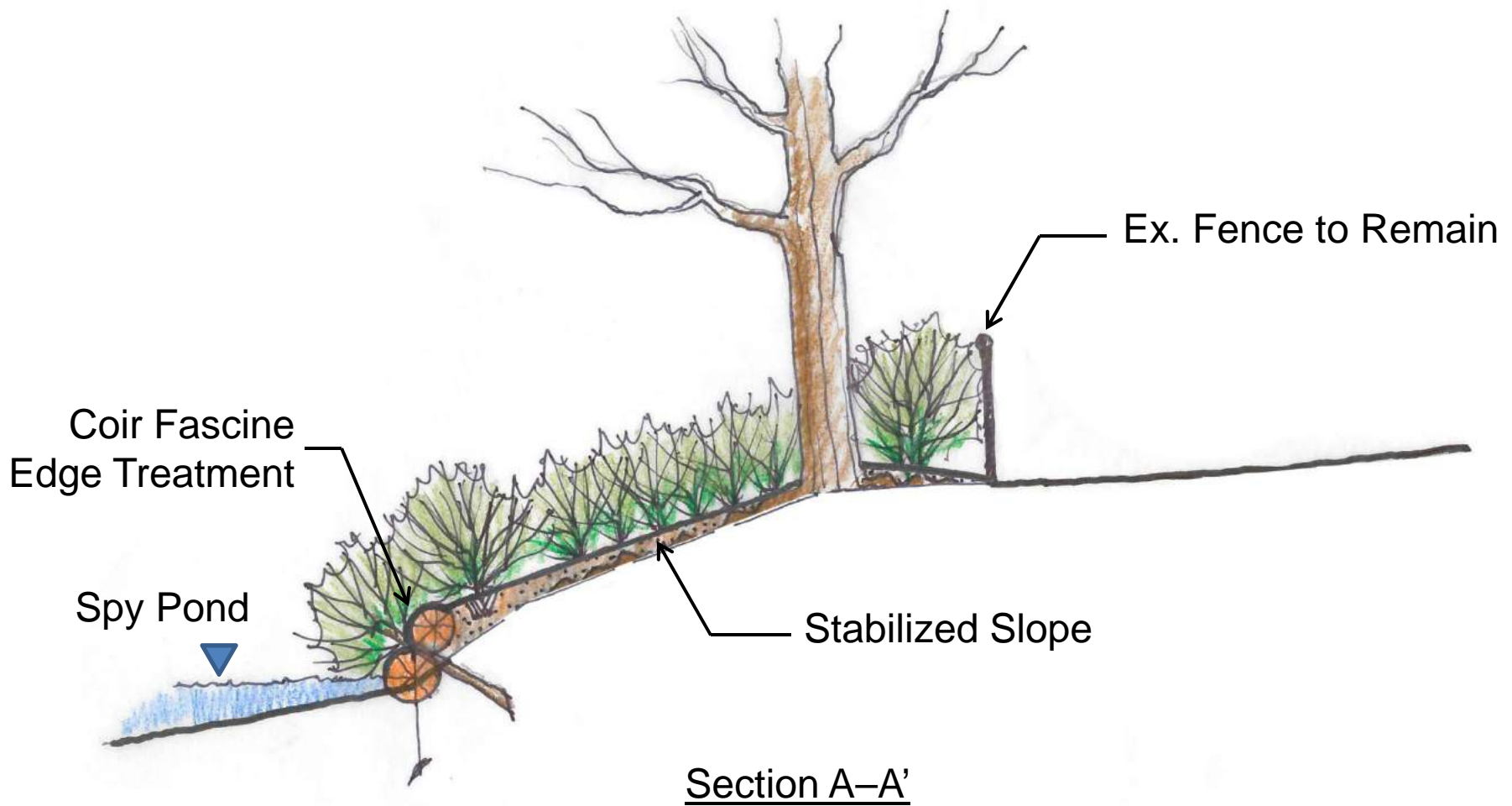
Preferred Concept Scannell Field

LEGEND

-  REVEGETATE EX. FOOT PATHS
-  POROUS PATH
-  POROUS PATH (NIC)
-  COIR FASCINE EDGE TREATMENT
-  OVERLOOK
-  CONTROLLED ACCESS
-  POND ACCESS
-  CHAINLINK FENCE
-  BIORETENTION BASIN

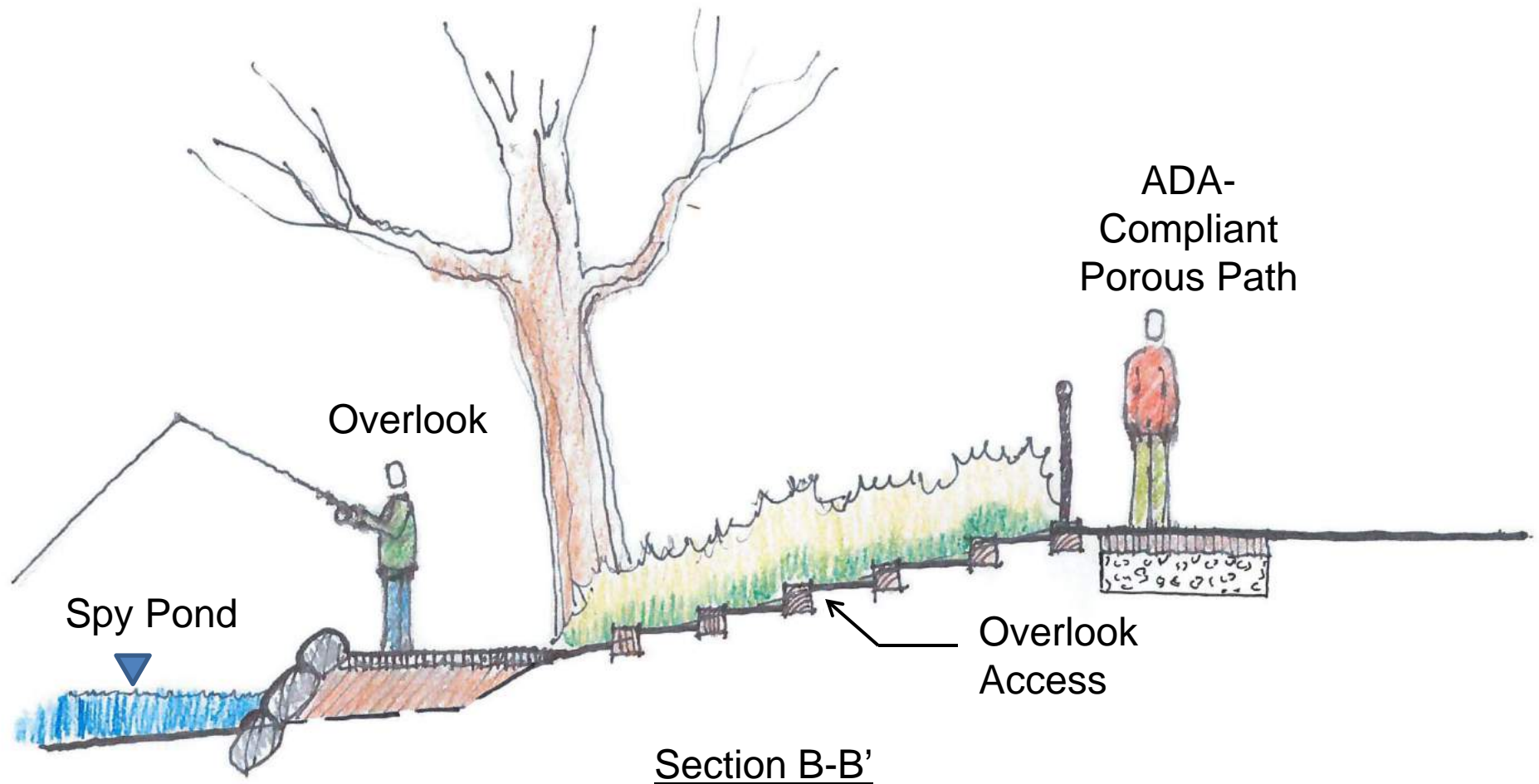


Preferred Concept Scannell Field

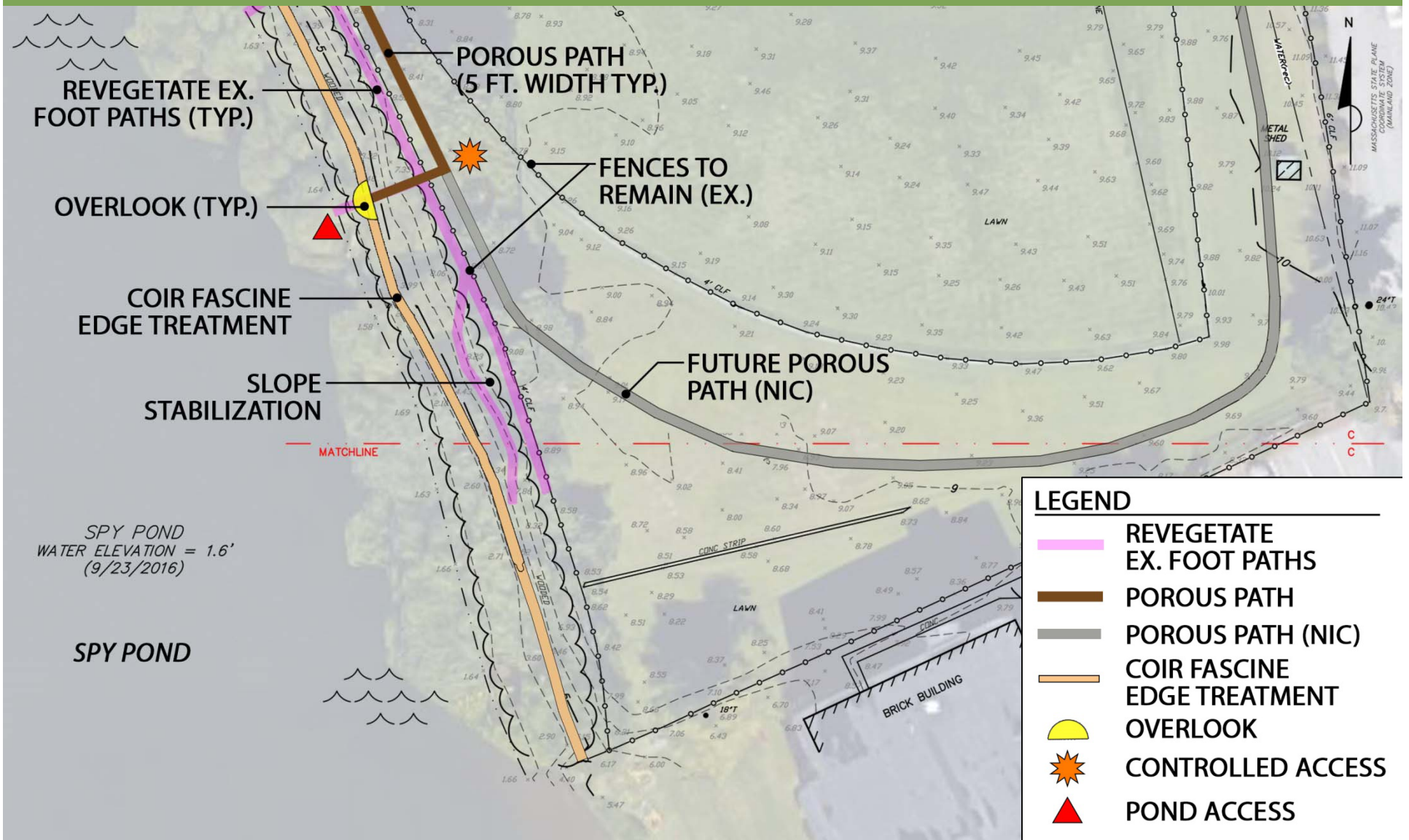


Preferred Concept

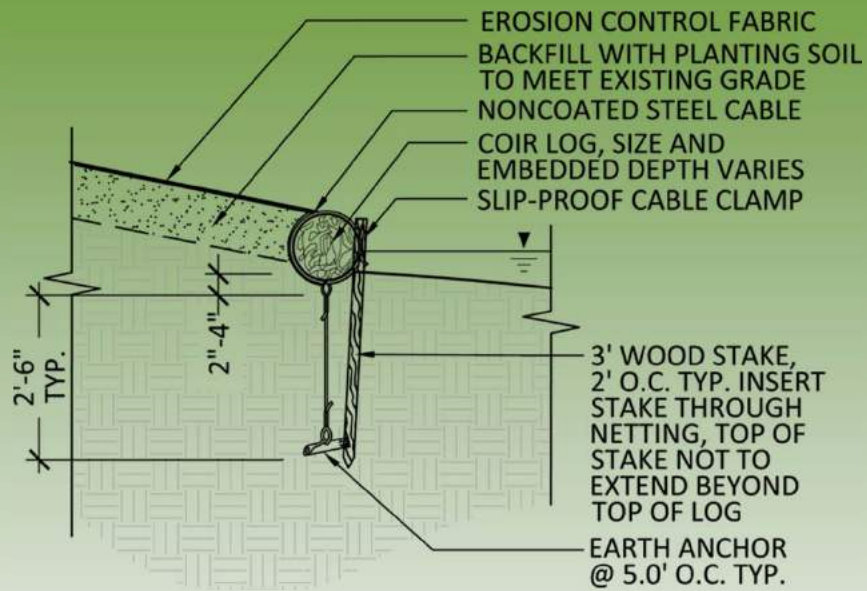
Scannell Field



Preferred Concept Scannell Field



Coir Fascines



Stormwater Management

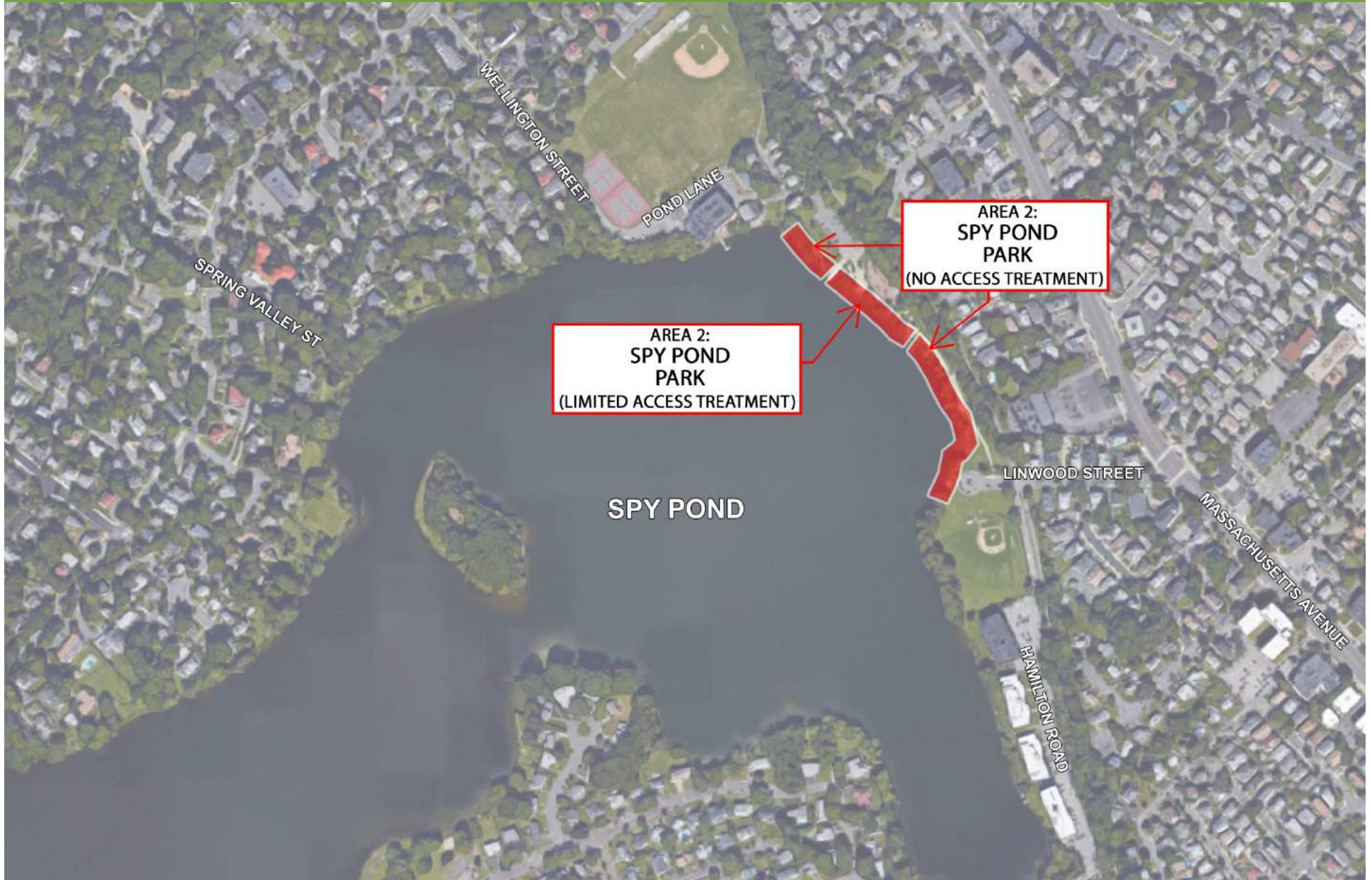
Porous Pavement



Bioretention Basin



Spy Pond Park



Existing Shoreline Conditions

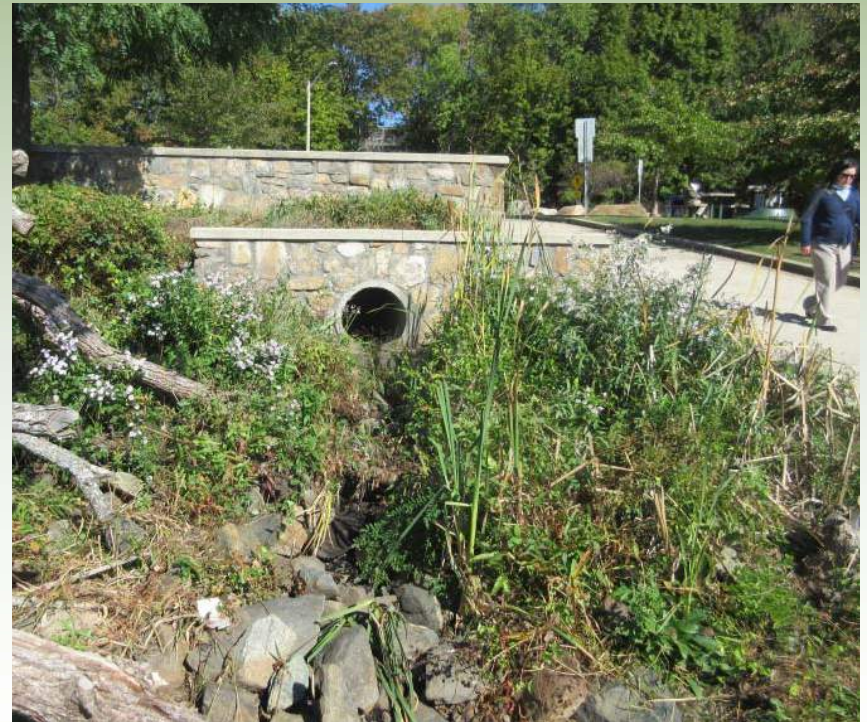
Spy Pond Park – Marginally Stable

- Scattered loss of vegetation
- Compacted soils
- Uncontrolled human use

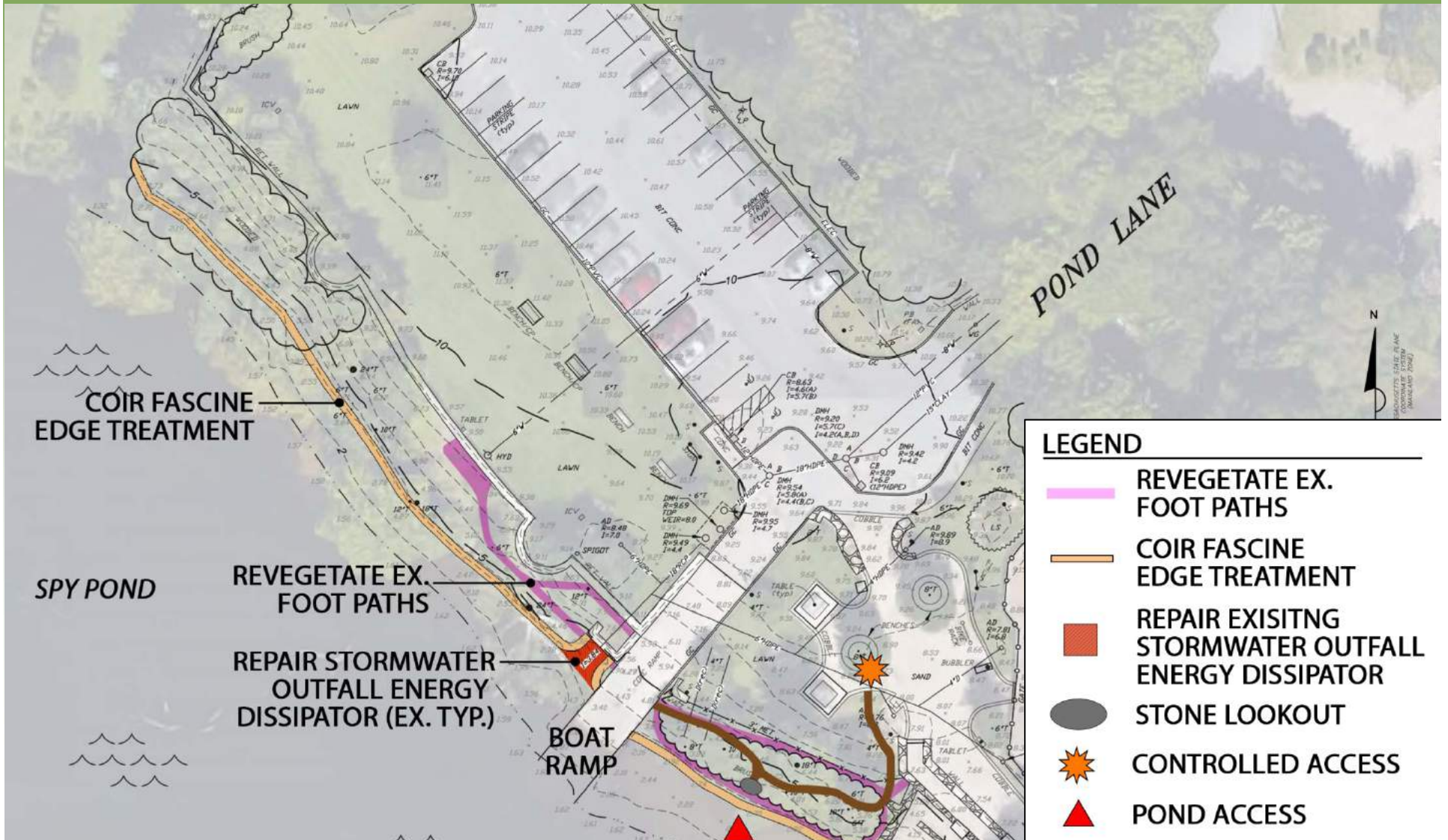


Existing Shoreline Conditions

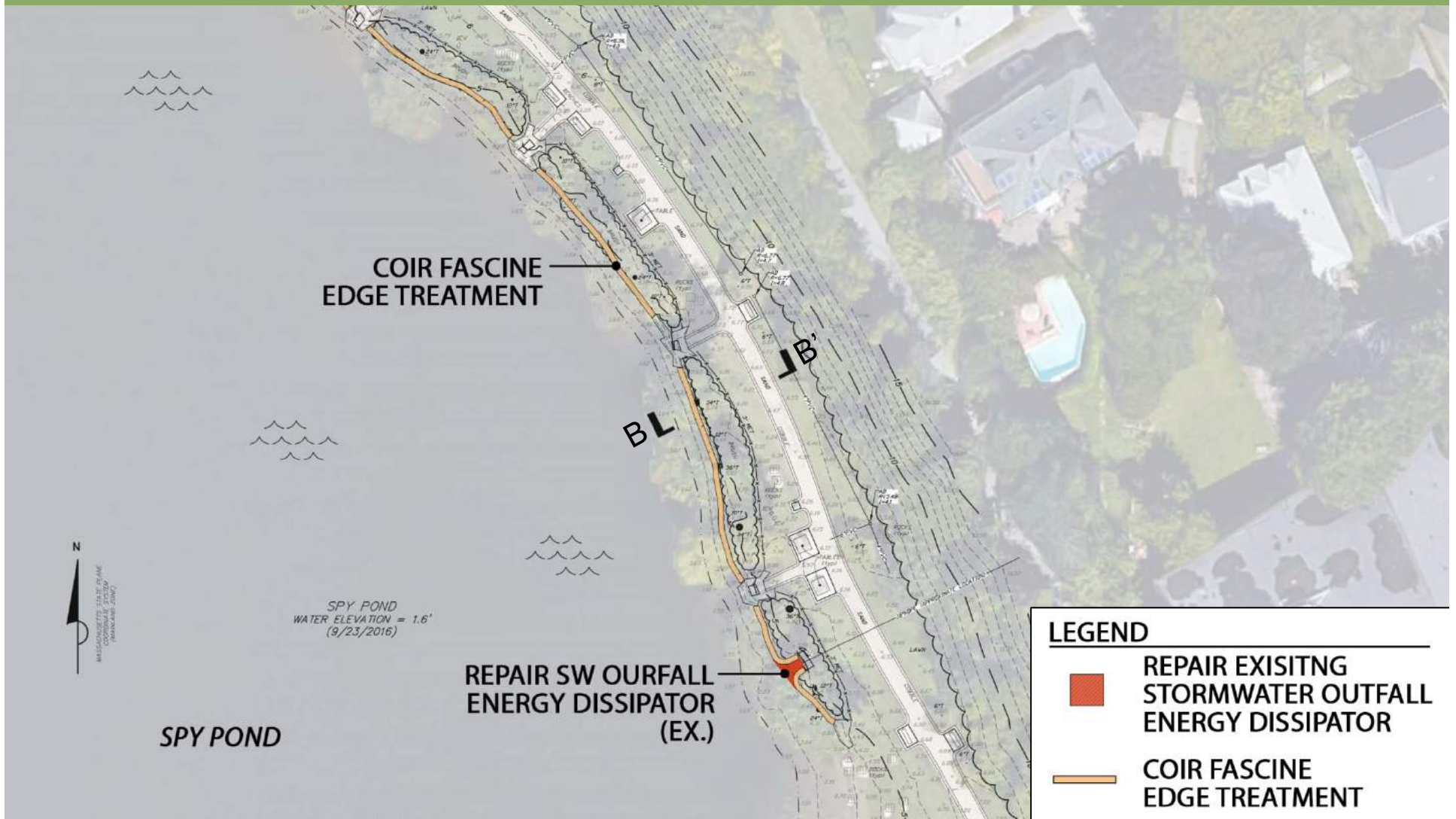
Spy Pond Park – Marginally Stable



Preferred Concept Spy Pond Park (No Access Treatment)

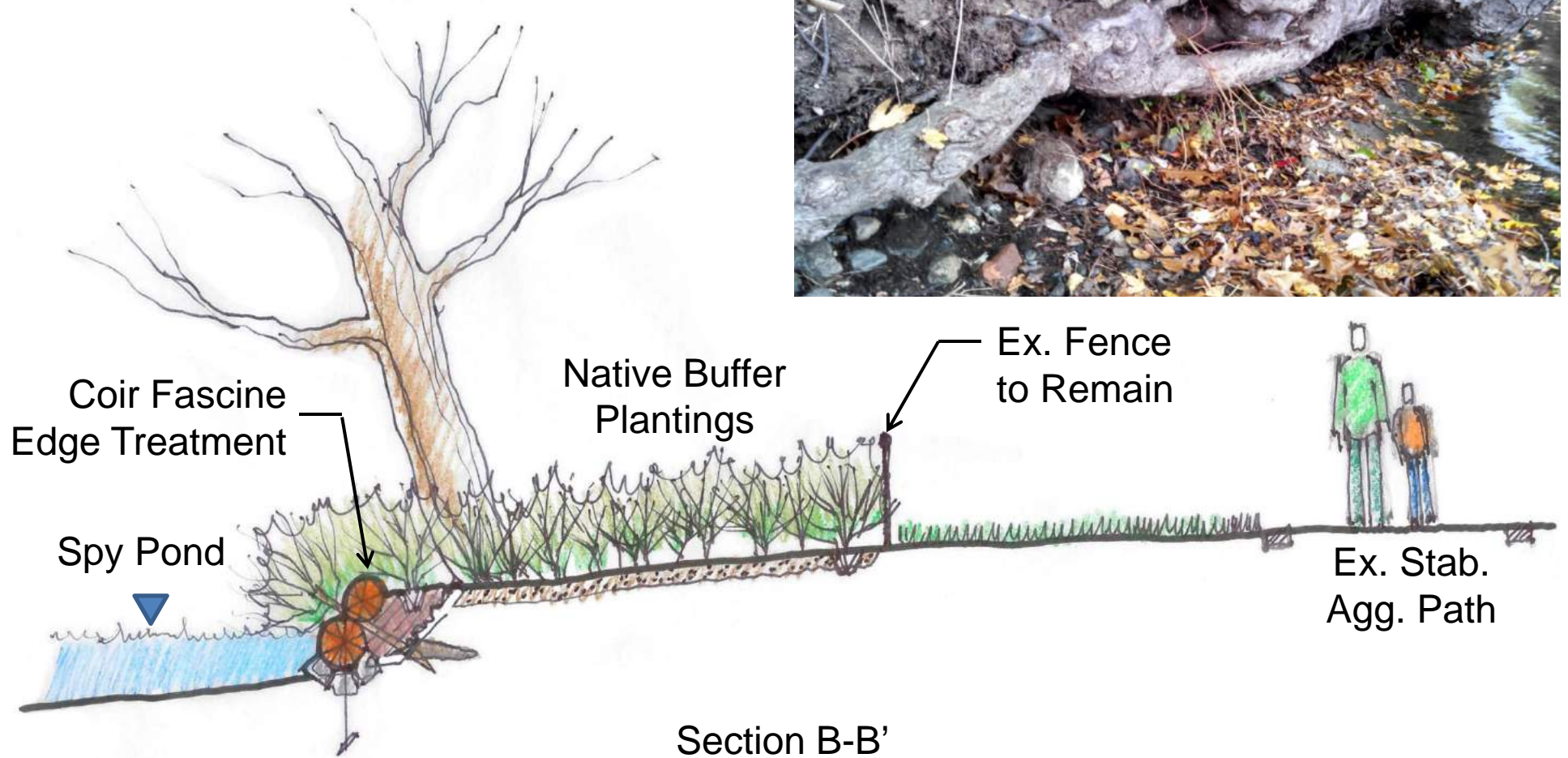


Preferred Concept Spy Pond Park (No Access Treatment)



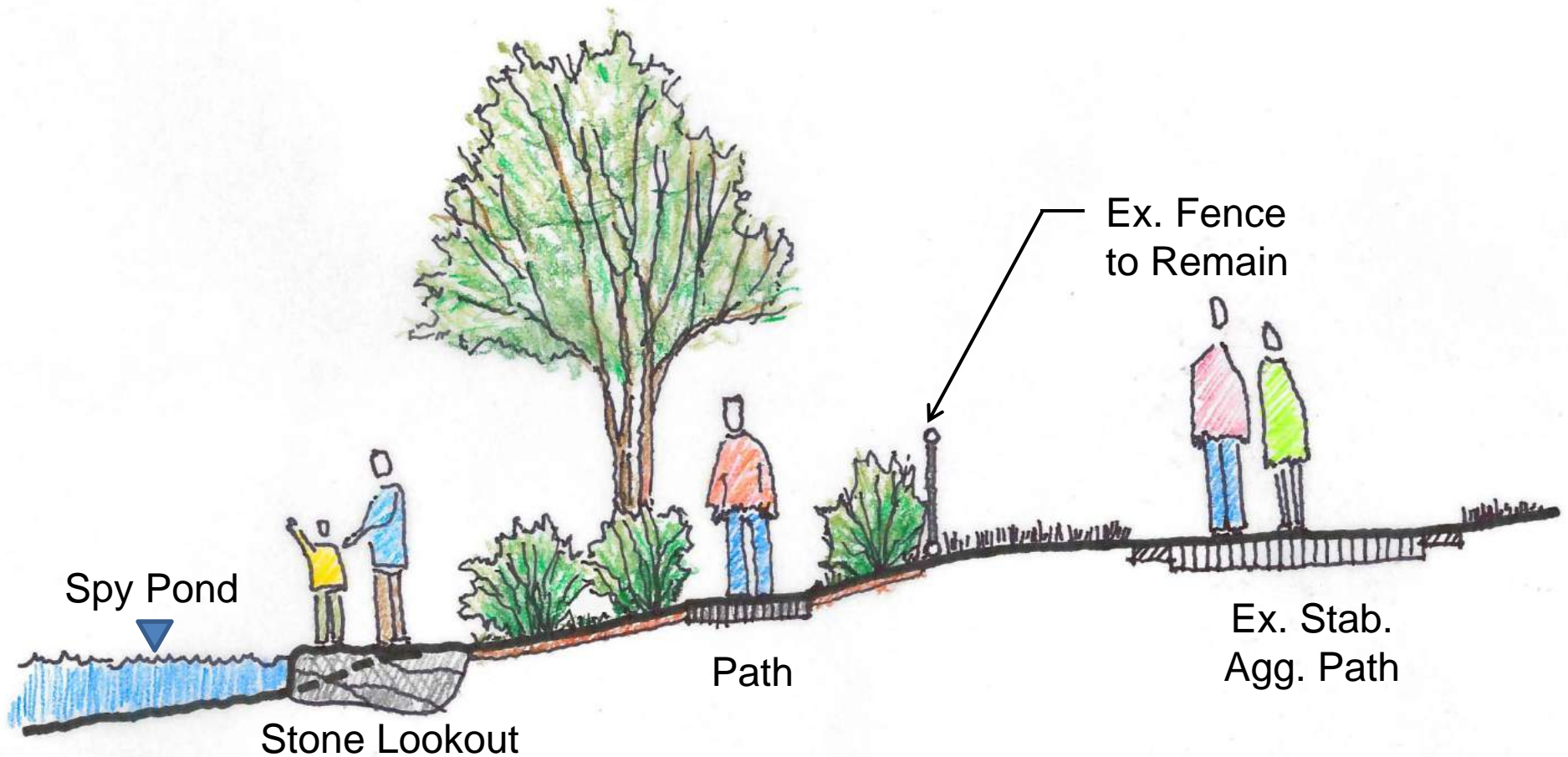
Preferred Concept

Spy Pond Park (No Access Treatment)



Preferred Concept

Spy Pond Park (Limited Access Treatment)



Section A-A'

Educational Signage - Examples

Permanent



Temporary



Fresh Pond Reservation
Protecting the Cambridge Water Supply since 1889

Stream C Woodland Restoration

Area Features

- Native woodland wildlife habitat
- Wildlife nesting area
- Vegetated buffer

To protect this habitat for all to enjoy

- Stay on roadway
- Keep dogs out

Thank you for helping us protect the ecological functions of these water supply lands and their natural beauty.

Cambridge Water Board
City of Cambridge Water Department
200 Fresh Pond Parkway
www.cambridgema.gov/water

David Kaplan, Watershed Manager
617-349-4799
dkaplan@cambridgema.gov

Black's Nook Site Improvements

The Fresh Pond Reservation Master Plan identifies reconstruction and stabilization of the degraded shoreline of Black's Nook as a very high priority. In response, this restoration project aims to increase wildlife habitat value and water quality by fostering native wetland and woodland plant communities and stabilizing the shoreline with native vegetation, log logs, and erosion control matting. In order to enhance the use of the pond as a natural resource study area for children, the plan includes a redesigned woodland trail using porous pavement, observation platforms, and an elevated wooden path. A created vernal pond will also provide important breeding habitat for amphibians and invertebrates. By widening paths and improving the Concord Avenue entrance, this project will allow for universal accessibility while also preserving the sense of wildness that makes Black's Nook unique.

Construction Schedule: Site improvements begin in the Fall 2010 and will be completed by Summer 2011.

Black locust timber observation platforms.

Plant community-based woodland and wetland restoration.

Shoreline restoration and plant community-based woodland and wetland restoration.

Wooded trail surfacing using porous pavement.

Concord Avenue entrance improvements.

To receive updates on current project work, email us at fpr@cambridgema.gov

Plant Establishment



Goose Exclusion Fence



Establishment Fence

Boys & Girls Club



Existing Shoreline Conditions

Boys & Girls Club - Unstable



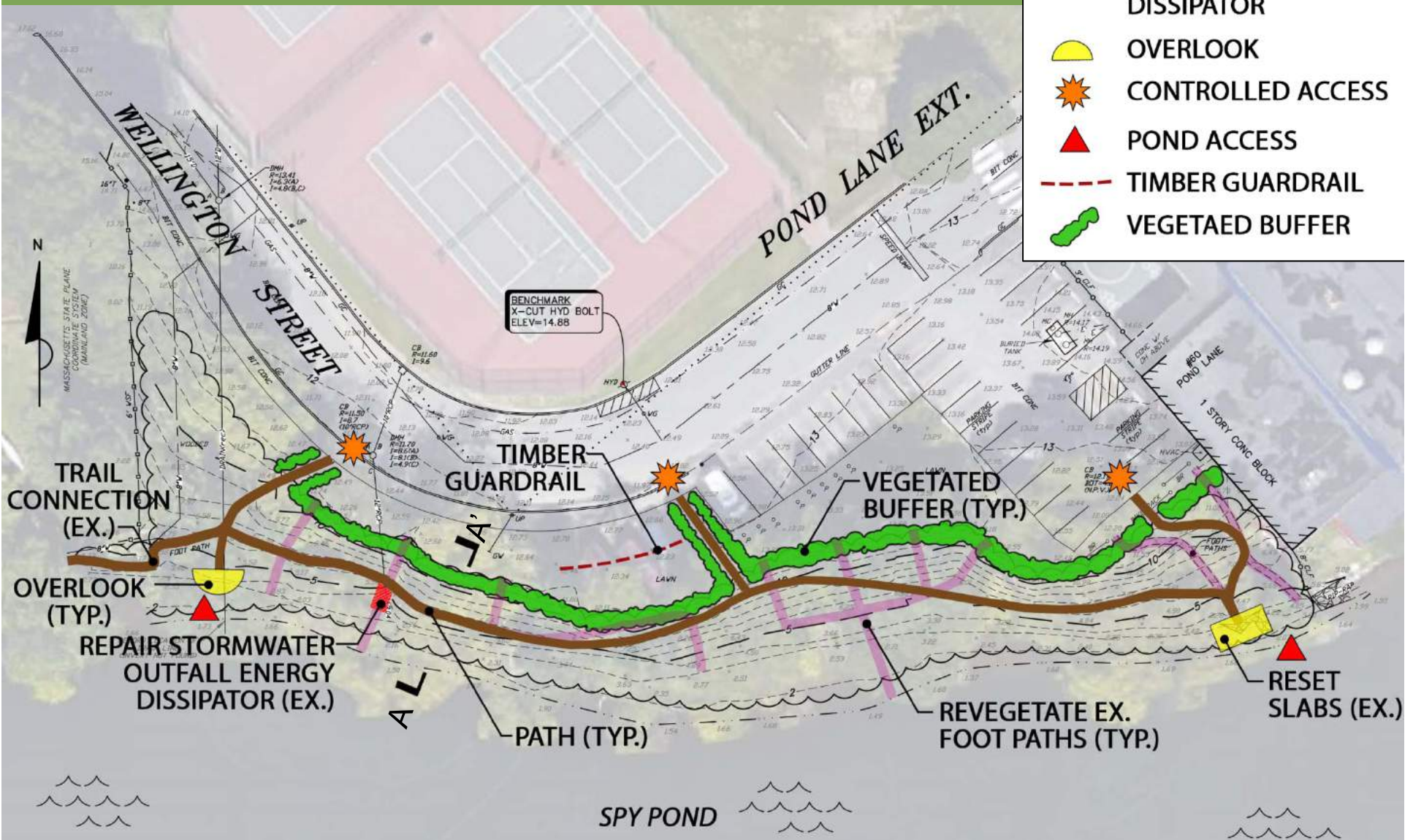
- Loss of stabilizing vegetation
- Compacted soils
- Uncontrolled human use
- Steep slope



Preferred Concept Boys & Girls Club

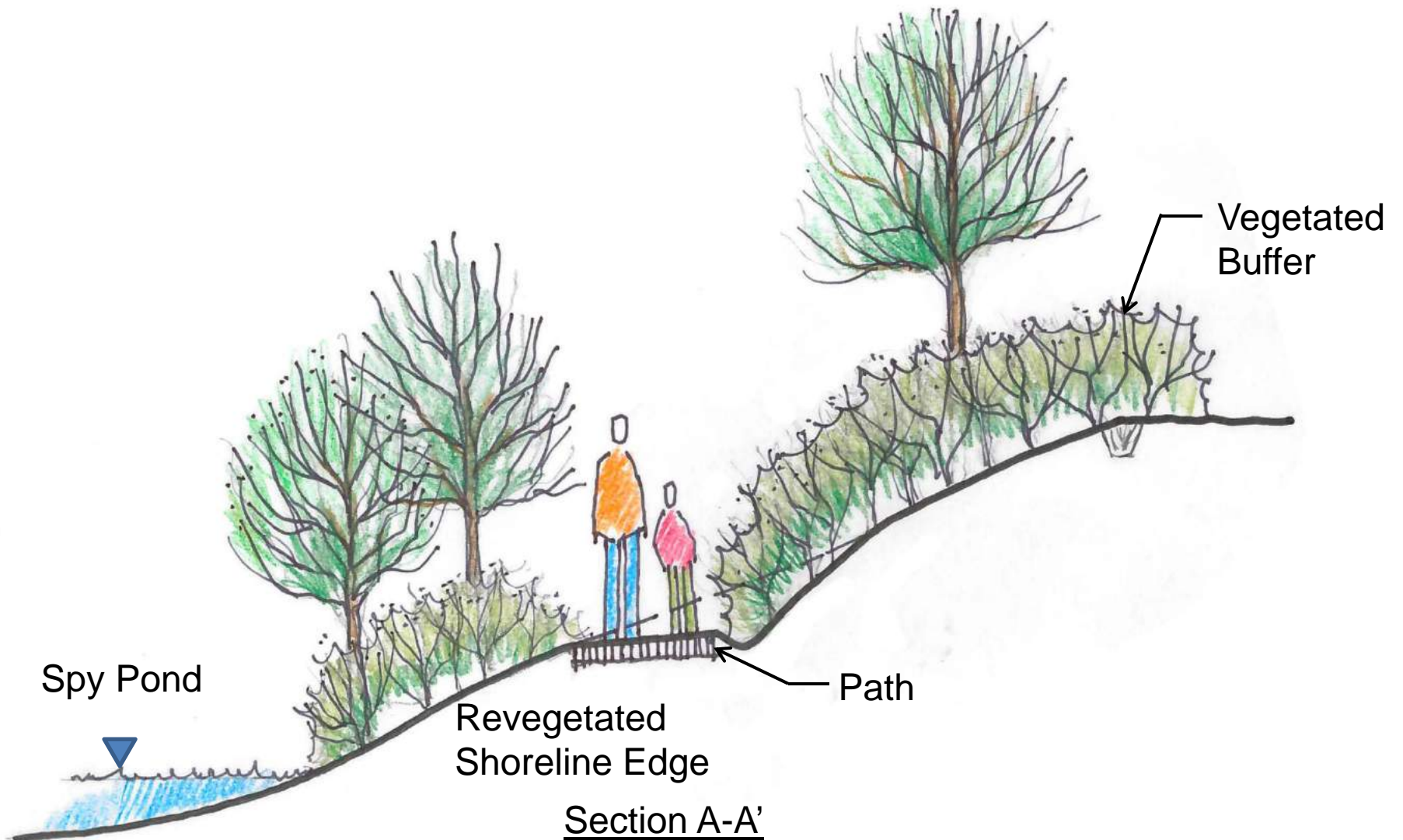
LEGEND

-  REVEGETATE EX. FOOT PATHS
-  PATH
-  REPAIR STORMWATER OUTFALL ENERGY DISSIPATOR
-  OVERLOOK
-  CONTROLLED ACCESS
-  POND ACCESS
-  TIMBER GUARDRAIL
-  VEGETATED BUFFER



Preferred Concept

Boys & Girls Club



Shoreline path during
construction (1996)



Three years later



Spring Valley Street



Existing Shoreline Conditions

Spring Valley Road – Unstable



- Loss of stabilization
- Steep slope
- Uncontrolled stormwater runoff
- Human use

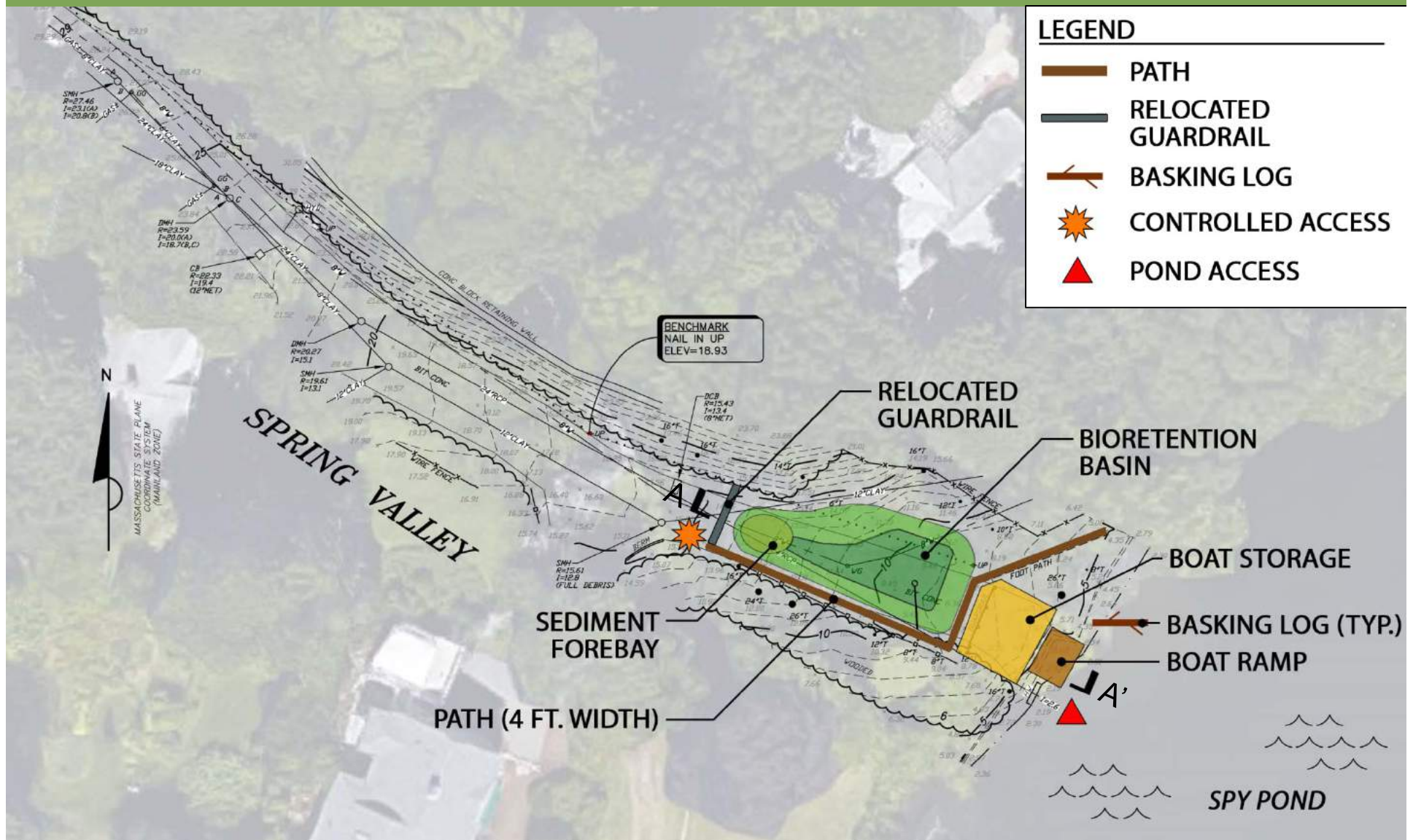


Existing Shoreline Conditions

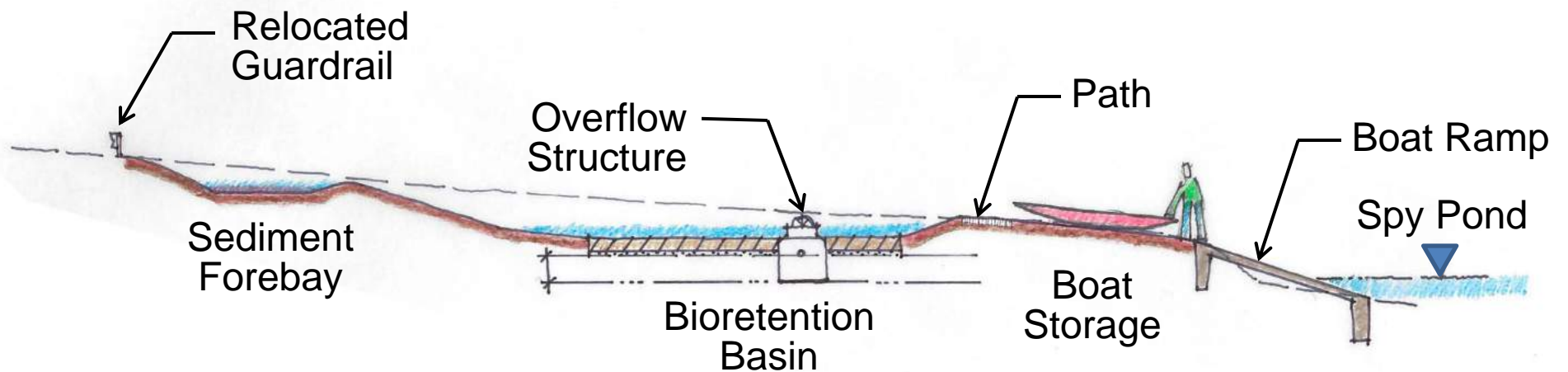
Spring Valley Road – Unstable



Preferred Concept Spring Valley Street



Preferred Concept Spring Valley Street



Section A-A'

Shoreline Planting

High Marsh Herbaceous Plants



Left to Right: *Eupatorium maculatum*, *Eupatorium perfoliatum*, *Juncus canadensis*, *Juncus effusus*



Left to Right: *Carex stipata*, *Carex vulpinoidea*, *Caltha palustris*



Left to Right: *Hibiscus moscheutos*, *Scirpus cyperinus*, *Leersia oryzoides*

Shoreline Planting

Native Shrubs (Low to Medium)



Left to Right: *Spiraea tomentosa*, *Cornus sericea*, *Rosa palustris*



Left to Right: *Rhus aromatica*, *Clethra alnifolia*, *Photinia pyrifolia*

Shoreline Planting

Native Shrubs (Tall)



Left to Right: *Cornus amomum*, *Ilex verticillata*, *Cephalanthus occidentalis*



Left to Right: *Alnus rugosa*, *Vaccinium corymbosum*, *Salix discolor*