

Notice of Intent
for
0 Fort Pond (Parcel No. U27-12-3) in Littleton, MA

DATE:
August 21, 2023

ADDRESSED TO:
Littleton Conservation Commission
37 Shattuck St,
Littleton, MA 01460

PREPARED BY:
Goddard Consulting LLC
291 Main Street, Suite 8
Northborough, MA 01532

PREPARED FOR:
David Harrington
223 Newtown Road
Acton, MA 01720

August 21, 2023
Littleton Conservation Commission
37 Shattuck St
Littleton, MA 01460

Re: Notice of Intent
0 Fort Pond (Parcel No. U27-12-3) in Littleton, MA 01460

Dear Littleton Conservation Commission,

Goddard Consulting, LLC (Goddard) is pleased to submit this Notice of Intent on behalf of the applicant David Harrington for the locus site known as 0 Fort Pond (Parcel No. U27-12-3) in Littleton, MA 01460. The applicant proposes to construct a 112 Sq. Ft. Aluminum Style Sure Step Dock, a 8x25' boat shed, a 5'x5' sitting area, and a 5-foot-wide wood chip path. The applicant seeks an Order of Conditions that would allow the work to proceed. This NOI application is a joint filing under the MA Wetlands Protection Act (WPA), Town of Littleton's Wetland Protection Bylaw, and the Public Waterfront Act (Chapter 91). Enclosed are the supporting documentation for the project for your review and approval.

A list of enclosed documents is as follows:

- Regulatory Compliance Narrative
- NOI Application (WPA Form 3)
- Wetlands Fee Transmittal Form
- Copy of Checks
- Wetland Border Report, Goddard Consulting, LLC, dated 1/25/2022
 - DEP Bordering Vegetated Wetland Delineation Field Data Form
 - NRCS Soil Map – Middlesex County, Massachusetts accessed 1/25/2023
 - FEMA Flood Zones on the Locus Site, Goddard Consulting, LLC, 1/18/2023
 - Orthophoto of the Locus Site, Goddard Consulting, LLC, 1/18/2023
 - USGS of the Locus Site, Goddard Consulting, LLC, 1/18/2023
- Certified Abutters List, Notification to Abutters Form, Affidavit of Service
- A Guide to Permitting Small, Pile-Supported Docks and Piers, Mass DEP, Bureau of Resource Protection, Wetlands/Waterways Program
- Dock Siting Plan in Littleton, Massachusetts dated 8/15/2023, prepared by Alfred M. Berry, P.L.S

Sincerely,
Goddard Consulting, LLC



Zoe Krouner
Wetland Scientist

Cc: MassDEP Central Regional Office, 8 New Bond Street, Worcester MA 01606
David Harrington, 223 Newtown Road, Acton MA 01720

Table of Contents

REGULATORY COMPLIANCE NARRATIVE

1.0	EXISTING CONDITIONS	1
2.0	PROPOSED PROJECT	1
3.0	REGULATORY COMPLIANCE WITH WETLANDS PROTECTION ACT & THE PUBLIC WATERFRONT ACT (CHAPTER 91 WATERWAYS LAW)	1
3.1	QUALIFICATIONS FOR SIMPLIFIED LICENSES (WW 06).....	2
3.2	SECTION III. DESIGN AND CONSTRUCTION STANDARDS FOR SMALL DOCKS, PIERS, AND RELATED STRUCTURES (A. WATERWAYS DESIGN STANDARDS).....	2
3.3	SECTION III. DESIGN AND CONSTRUCTION STANDARDS FOR SMALL DOCKS, PIERS, AND RELATED STRUCTURES (B. WETLANDS DESIGN STANDARDS).....	3
3.4	BUFFER ZONE (100-FOOT)	4
3.5	LAND UNDER WATERBODIES (LUW)	5
4.0	REGULATORY COMPLIANCE WITH LITTLETON WETLANDS PROTECTION BYLAW	5
4.1	WETLAND SETBACKS FOR NEW ACTIVITIES AND STRCUTURES	5
4.2	PERFORMANCE STANDARDS FOR WORK WITHIN THE BUFFER ZONE	6
5.0	ALTERNATIVES ANALYSIS	7
6.0	CONCLUSION	7

1.0 EXISTING CONDITIONS

The locus site, parcel number: U27-12-3, which includes parcels “F” and “C,” are two forested parcels within the Town of Littleton. Fort Pond is listed as a “Great Pond” under the Massachusetts Great Ponds List and is located directly west of Parcel “F.” The applicant owns 223 Newtown Road in Acton and there is an existing easement that allows access to the locus site.

2.0 PROPOSED PROJECT

The applicant proposes to install a 112 Sq. Ft. Aluminum Style Sure Step Dock that extends ±22 linear feet into the pond, a 8'x25' foot boat shed, 5'x5' sitting area and 5-foot-wide woodchip path on parcel F and C.

The dock is proposed between wetland flags GCB2-GCB4 and consists of three sections: (1) 4'x8' Aluminum Cottage Style Ramp, (1) 4'x8' Aluminum Cottage Style Dock, and (1) 8'x6' Aluminum Cottage Style Dock. The 4" dock frame will sit on land (no posts) approximately 2-feet upgradient of the bank of the pond. There will be no bank impacts. The entire Sure Step dock system has a unique design and open web pattern that allows water and sunlight to pass through it in order to conserve the ecosystem. According to the manufacturer, the surface slots account for 34% of the panel area, allowing for maximum sunlight penetration without compromising strength. The average light availability under dock panel is 53% at 18" and 82% at 60". The dock is a stationary dock with no floats. There are 8 aluminum pilings with an outside diameter of 1.9". There are 8 foot plates attached to the bottom of each piling that will sit on the bottom of the pond. Two anchor posts twist in and out like an augur approximately 1-foot into the bed of the pond. The purpose of anchor posts is to tie up boats. All 3 sections of the dock and pilings are removable and will be removed annually before each winter.

The 8'x25' boat shed is proposed outside the 50-Foot Buffer Zone from the bank of the Fort Pond.

The 5'x5' sitting area is proposed adjacent to the bank of pond next to the woodchip path. The walking path extends from the edge of the bank on parcel “F” to the easement. Only small shrubs are proposed to be removed within the 5'x5' sitting area and within the 5' wide wood chip path. One tree is proposed to be removed to allow for the dock installation. Two trees are proposed to be planted within the 50-Foot Buffer Zone to mitigate for the removal. This section of the bank was chosen to have the least impacts on upland vegetation.

The dock, deck, woodchip path and sitting area are proposed within the Town of Littleton’s 50-Foot No Disturb Area and the 100-Foot Buffer Zone. The boat shed is proposed outside the 50-Foot No Disturb Area.

The proposed erosion control barrier (straw wattles) will clearly demarcate the limit of work and will prevent any loose soils from eroding into the pond.

3.0 REGULATORY COMPLIANCE WITH WETLANDS PROTECTION ACT & THE PUBLIC WATERFRONT ACT (CHAPTER 91 WATERWAYS LAW)

The proposed dock qualifies for a Simplified License (formerly Application BRP WW 06). Please see section 3.1 for a detailed analysis of the requirements for a simplified license with the projects associated qualifications.

This application may be qualified for a limited project described in 310 CMR 10.53 (3)(j) which contains three specific performance standards relating to protecting rare wildlife habitat, preserving adequate light to maintain existing (pre-construction) vegetation, and maintaining reasonably unobstructed flowage of water.

As stated in 310 CMR 10.53(3)(J), “The construction and maintenance of catwalks, footbridges, wharves, docks, piers, boathouses, boat shelters, duck blinds, skeet and trap shooting decks and observation decks; provided, however, that such structures are constructed on pilings or posts so as to permit the reasonably unobstructed flowage of water and adequate light to maintain vegetation.” Please see the following sections 3.2 and 3.3 for a complete analysis of the Waterways and Wetlands Design Standards with specific performance standards relating to protecting rare wildlife habitat, preserving adequate light to maintain existing (pre-construction) vegetation, and maintaining reasonably unobstructed flowage of water from the attached Guide to Permitting Small, Pile-Supported Docks and Piers.

3.1 QUALIFICATIONS FOR SIMPLIFIED LICENSES (WW 06)

The proposed dock is eligible for a “Simplified Waterways License” (formerly Application BRP WW 06). Please see the following table for the requirements for a simplified license and with the projects associated qualifications.

Requirement for WW 06	Qualifications
<i>Consist of a dock, pier, and/or other small-scale structure that is an accessory to a residential use or serves as a noncommercial docking facility.</i>	This dock will be used by the homeowners of 223 Newtown Road in Acton. The dock is an accessory to residential use and serves as a noncommercial docking facility.
<i>Be pile supported (e.g., wooden or metal posts) or bottom anchored</i>	The proposed dock is supported by removable metal aluminum posts.
<i>Be no more than 600 square feet below the high water mark</i>	The dock sits \pm 1-foot above the pond water.
<i>Not be a marina (that is serving 10 or more vessels)</i>	The dock is for residential use and will not serve more than 10 vessels.
<i>Be “water dependent” (that is, needs to be in the water or along the shore)</i>	The dock will need to extend \pm 22 feet into the water to provide boating access the lake.
<i>Be consistent with an accepted resource management plan if it is within a designated Area of Critical Environmental Concern.</i>	This project site is not within a designated Area of Critical Environmental Concern.
<i>Meet the various waterways design and construction standards outlined in the attached document titled, “A guide to Permitting Small, Pile-Supported Docks and Piers.”</i>	Please see section 3.2 and 3.3 for a detailed analysis of compliance with the waterways and wetland design standards.

3.2 SECTION III. DESIGN AND CONSTRUCTION STANDARDS FOR SMALL DOCKS, PIERS, AND RELATED STRUCTURES (A. WATERWAYS DESIGN STANDARDS)

Standard	Compliance
<i>Exceed the minimum size necessary to achieve the intended water-related purposes</i>	The proposed dock extends \pm 22 feet into the water. This is an average length for a residential recreational dock.
<i>Extend beyond the length required to achieve safe berthing</i>	Safe berthing is defined as a minimum water depth of 18 inches. The dock extends \pm 22 feet into the water at an average water depth of approximately \pm 27 inches.
<i>Intrude into, or approach, navigational channels or extend seaward of any state's harbor lines</i>	The dock does not intrude or approach any navigational channels or extend seaward of any state harbor lines. This is an inland dock.
<i>Extend more than 25% of the distance across a water body</i>	The distance across Fort Pond is approximately 1,600 feet. The dock only extends out into the water \pm 22 feet.
<i>Impair the line of sights necessary for navigation</i>	The small inland dock will not impair the line of sights necessary for navigation.

<i>Interfere with access to adjoining areas by extending "substantially beyond the projection of existing structures adjacent to the site"</i>	The inland dock only extends ±22 feet into the water and will not interfere with any adjoining areas.
<i>Generate water-bourne traffic that would substantially interfere with other vessels</i>	The inland dock is relatively small and will not interfere with other vessels.
<i>Impair in any other substantial manner the ability of the public to swim or float freely upon the waterways</i>	The inland dock is relatively small and will not impair the ability to swim or float freely upon the waterways.
<i>Be set back less than 25-feet from the property lines where feasible</i>	The dock is between 13-17 feet from either property lines however there is no alternative for its position given the narrow site constraints.
<i>Be allowed in state-designated "Areas of Critical Environmental Concern" unless there is a resource management plan approved by the Massachusetts Executive Office of Environmental Affairs</i>	This dock is not proposed in an Area of Critical Environmental Concern.

3.3 SECTION III. DESIGN AND CONSTRUCTION STANDARDS FOR SMALL DOCKS, PIERS, AND RELATED STRUCTURES (B. WETLANDS DESIGN STANDARDS)

Wetland Standards Applying to both Inland and Coastal Areas

Standard	Compliance
<i>Protecting rare species habitat</i> <i>No project may be permitted to have any adverse impact on specified habitat of rare animal species.</i>	There are no mapped estimated or priority habitats on the locus site.
<i>Maintaining proper water circulation</i> <i>Providing that adequate spacing between pilings allows reasonably unimpeded water flow. Wooden pilings should be spaced no closer than twenty (20) times the diameter of the piling.... Any cross or transverse bracing must be placed above the elevation of the high-water mark.</i>	The proposed pilings are aluminum-pilings with an outside diameter of 1.9 inches. Only two sets of pilings are approximately 24 inches from each other. The remaining aluminum pilings are spaced greater than 74". The pilings will not impede water flow. There are no proposed cross or transverse bracings.
<i>Maintaining adequate light to preserve the productivity of wetlands vegetation and eelgrass beds</i> <i>Pile supported piers constructed in inland and certain coastal wetland resource areas (salt marsh, salt ponds, and those portions of Land under Ocean containing eelgrass) need to be constructed in a manner as to have no adverse effect on plant productivity. This requirement is met by avoiding such vegetation where possible; placing the pier decking at an adequate height above the high watermark, limiting pier length and width; providing spacing between deck planking and orientating the pier as close as possible to a north-south orientation.</i>	The proposed inland dock and pilings are easily removable and will be removed annually prior to winter. The dock is proposed approximately 1-foot above the surface water in order to egress from a boat. The surface slots throughout the entire dock account for 34% of the panel area, allowing for maximum sunlight penetration without compromising strength. The average light availability under dock panel is 53% at 18" and 82% at 60".
<i>Avoidance</i> <i>Keeping these differences between inland and tidal waters in mind, the first step in citing a pier is to determine if a location is available that will avoid or minimize putting the pier over wetlands vegetation. Avoidance is especially critical over existing or historically present eel grass beds and in Land Containing Shellfish</i>	There are no Bordering Vegetated Wetlands on the project site therefore the proposed dock for the inland pond will not negatively affect any wetlands vegetation. There are no eel grass beds and Land Containing Shellfish as this is an inland pond.

<u>Pier height</u> <i>Higher peers allow for better light penetration to underlying vegetation and assist in preventing storm damage. The waterways regulations require a 5 foot minimum height above mean high watermark for pier decking in great ponds and coastal tidelands to provide for unobstructed lateral passage under the pier note this requirement may be waived if alternative measures are taken to provide for public pedestrian access over or around the pier constructing the decking at least five feet above the mean high water slash ordinary high water slash annual high water also serves to minimize adverse shading impacts on vegetation.</i>	The entire Sure Step dock system has a unique design and open web pattern that allows water and sunlight to pass through it in order to conserve the ecosystem. The surface slots throughout the entire dock account for 34% of the panel area, allowing for maximum sunlight penetration without compromising strength. The average light availability under dock panel is 53% at 18" and 82% at 60".
<u>Float height</u> <i>Floats should be located at the end of the pier in deeper water. The bottom of the float or pier should be at least 18 inches from the bottom (measured atordinary high water or annual high water for inland wetland resource areas).</i>	No floats are proposed. The deepest water depth is ± 2.5 feet and the dock sits on 4 foot pilings resulting in ± 1.75 feet (21 inches) between the bottom of the dock and ordinary high water mark.
<u>Pier length</u> <i>Shorter piers produce less adverse shading effects on vegetation than longer piers. The waterways regulations require the peer to be no longer than the distance necessary to reach navigable water depths.</i>	The proposed dock extends out ± 22 linear feet. This is a typical dock length to be able to tie a boat and comfortably egress from a boat.
<u>Pier width</u> <i>Narrower peers provide less adverse shading effects on plant productivity than wider piers... typical small docks and Piers in Massachusetts are 3 feet wide.</i>	There are 3 dock sections: (1) 4'x8' Aluminum Cottage Style Ramp, (1) 4'x8' Aluminum Cottage Style Dock, and (1) 8'x6' Aluminum Cottage Style Dock. The Sure Step Dock was designed to allow maximum light through compared to any other dock.
<u>Plank Spacing</u> <i>Planks should be spaced at least 3/4 inch apart to permit light penetration. Alternate spacing may be used if the deck material used provides a similar or greater degree of light penetration (such as perforated aluminum, fiberglass, or plastic grates; Any such grates should contain an anti-slip texture integrally melded to the top surface to provide for safety).</i>	The dock has 3 sections with 3/8 of an inch spacing in between each plank. However, the surface slots throughout the entire dock account for 34% of the panel area, allowing for maximum sunlight penetration without compromising strength.
<u>Orientation</u> <i>If placing appear over wetlands vegetation cannot be avoided, the pier should be oriented as close to a north-south Norse an orientation as possible (consistent with the site constraints and environmental and navigational educational considerations). Research indicates a north-south orientation is least likely to adverse effect aquatic vegetation through shading.</i>	There are no bordering vegetated wetlands on-site. The dock has 2 sections that extend east to west and 1 section that extends north to south.

3.4 BUFFER ZONE (100-FOOT)

The WPA Regulations do not contain performance standards for Buffer Zone Alteration (310 CMR 10.02(2)(b)). All reasonable efforts to avoid, minimize and mitigate adverse impacts on the Buffer Zone have been considered. Erosion controls will be implemented during construction, along the limit of work, in the form of straw wattles to protect downgradient resource areas. Only one tree will be removed in the Buffer Zone.

3.5 LAND UNDER WATERBODIES (LUW)

Fort pond, a Great Pond resource area, is located western edge of parcel F and encompasses the LUW resource area. The proposed dock is a fixed dock, which will require 8 metal legs and feet to be set into the LUW beneath Great Pond. The proposed dock will comply with the LUW general performance standards outlined in 310 CMR 10.56 (4):

(a) Where the presumption set forth in 310 CMR 10.56(3) is not overcome, any proposed work within Land under Water Bodies and Waterways shall not impair the following:

1. The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;
2. Ground and surface water quality;
3. The capacity of said land to provide breeding habitat, escape cover and food for fisheries; and
4. The capacity of said land to provide important wildlife habitat functions. 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 may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60.

(c) Notwithstanding the provisions of 310 CMR 10.56(4)(a) or (b), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.

The proposed boat dock will not impair the water carrying capacity of Fort Pond or the ground and surface water quality because the proposed dock will require a small area of seasonal/ temporary impacts to LUW (288 square inches), from eight dock posts. The capacity of the land to provide important wildlife habitat will not be impaired because the docks impact to LUW are minute, and only due to the dock's metal posts entering the LUW. No adverse impacts to rare species will occur as the site is not located within mapped rare species habitat. Seeing how the 288 square inches of seasonal/ temporary impact to LUW is negligible, no compensation for impacts is proposed.

4.0 REGULATORY COMPLIANCE WITH LITTLETON WETLANDS PROTECTION BYLAW

4.1 WETLAND SETBACKS FOR NEW ACTIVITIES AND STRUCTURES

4.2(2)(a) No-Disturbance Area: This is any area within the BVW or Bank and the first 50 feet of the Buffer Zone from BVW or Bank. No activities or work is permitted other than passive (foot or non-motorized vehicle) passage and removal of invasive vegetation if done in compliance with these Regulations. Except as noted, no vegetation may be disturbed, and the area should remain unchanged from its pre-project state.

The proposed work proposed within the 50-foot Buffer from the bank of the pond is a 5'x5' sitting area and 5-foot woodchip path. The sitting area consists of a cleared area to create a leisure area with chairs. Vegetation will only be removed in the 5'x5' sitting area and within the 5-foot-wide woodchip path within the 50-foot Buffer Zone. Only 1 large tree is proposed to be removed near the bank of the pond in order to install the dock, the remainder of the vegetation consists of small shrubs.

1. b) *Marking the No-Disturbance Area: The commission may require the limits of No-Disturbance be marked prior to construction*

GC recommends that this be included as a special condition with the Order of Conditions.

4.2 PERFORMANCE STANDARDS FOR WORK WITHIN THE BUFFER ZONE

The Commission shall begin with the presumption that lands within the Buffer Zone are best left in an undisturbed and natural state to protect the adjacent Area Subject to Protection. Any activity allowed within the Buffer Zone shall be conditioned as necessary to meet the following performance standards:

(1) The activity shall not significantly impair the values and functions of the adjacent Areas Subject to Protection. The quantity and quality of resource values and functions, as well as pre-project conditions, such as ground slope, soil conditions, vegetation, and prior disturbance of the site should be considered explicitly in making this determination. Any offsetting mitigation provided shall also be considered, including the inclusion of pedestrian and bicycle access rights-of-way in the project (which can reduce the pollutant runoff and climate change contribution associated with the project.)

Creating a 5-foot woodchip path will not significantly affect the values and functions of the Bank of the pond and will not significantly impair the 50-foot Buffer Zone.

(2) The amount of net additional impervious coverage created in the Buffer Zone shall be minimized to the extent feasible (including by use of pervious alternatives).

There are no proposed impervious surfaces within the 50-foot Buffer Zone.

(3) Land owners shall minimize application of fertilizers containing nitrogen and phosphorus, other than for agricultural uses.

No fertilizers are proposed.

5.0 ALTERNATIVES ANALYSIS

Alternative A: No Change to Existing Conditions

Under a no-build scenario, no dock would be proposed, and the site would remain as forested vacant lot. Additionally, this is not an equivalent economic alternative.

Alternative B: Cedar Dock Decking

The applicant could have used a cedar dock deck which is much more appealing but would not allow as much sunlight through as the current proposed Aluminum Style Sure Step Dock.

Alternative C: Current Proposed Design (Aluminum Style Sure Step Dock)

The current proposed Aluminum Style Sure Step Dock allows the maximum amount of sunlight through compared to the cedar dock decking. The surface slots account for 34% of the panel area, allowing for maximum sunlight penetration without compromising strength. The average light availability under dock panel is 53% at 18" and 82% at 60". The location of the dock was chosen to have the least amount of impacts to vegetation.

6.0 CONCLUSION

In summary, Goddard Consulting believes that the proposed project will not have any adverse impacts on the interests identified in the Wetlands Protection Act, Chapter 91 Waterways Law, or the Town of Littleton's Wetlands Protection Bylaw. Therefore, Goddard Consulting respectfully requests that the Littleton Conservation Commission issue an Order of Conditions approving the proposed project.

Sincerely,
Goddard Consulting, LLC



Zoe Krouner
Wetland Scientist



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

& Littleton Wetlands Protection Bylaw

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Littleton

City/Town

Important:
When filling out
forms on the
computer, use
only the tab key
to move your
cursor - do not
use the return
key.



Note:
Before
completing this
form consult
your local
Conservation
Commission
regarding any
municipal bylaw
or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

0 Fort Pond (Map: 27, Parcel: 12, Lot: 3)

a. Street Address

Littleton

01460

c. Zip Code

Latitude and Longitude:

42.504376

-71.464790

d. Latitude

e. Longitude

Map: 27

f. Assessors Map/Plat Number

Parcel: 12, Lot: 3

g. Parcel /Lot Number

2. Applicant:

David

a. First Name

Harrington

b. Last Name

c. Organization

223 Newtown Rd

d. Street Address

Acton

e. City/Town

MA

01720

g. Zip Code

(401) 529-351

h. Phone Number

i. Fax Number

Qdave7@yahoo.com

j. Email Address

3. Property owner (required if different from applicant): Check if more than one owner

a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Zoe

a. First Name

Krouner

b. Last Name

Goddard Consulting LLC

c. Company

291 Main Street, Suite 8

d. Street Address

Northborough

MA

01538

e. City/Town

f. State

g. Zip Code

508-393-3784

h. Phone Number

i. Fax Number

zoe@goddardconsultingllc.com

j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

\$210 +(113.75 Bylaw fee)

a. Total Fee Paid

\$92.50

b. State Fee Paid

\$117.50 +(113.75 Bylaw fee)

c. City/Town Fee Paid



Massachusetts Department of Environmental Protection

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A. General Information (continued)

6. General Project Description:

To construct a 112 square foot dock with associated 8' x 25' boat shed, 5' x 5' siting area, and 5-foot wide wood chip path.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. <input checked="" type="checkbox"/> Single Family Home	2. <input type="checkbox"/> Residential Subdivision
3. <input type="checkbox"/> Commercial/Industrial	4. <input checked="" type="checkbox"/> Dock/Pier
5. <input type="checkbox"/> Utilities	6. <input type="checkbox"/> Coastal engineering Structure
7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry)	8. <input type="checkbox"/> Transportation
9. <input type="checkbox"/> Other	

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. Yes No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53 (3)(J)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Middlesex South Registry of Deeds

a. County

80082

c. Book

b. Certificate # (if registered land)

365

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

& Littleton Wetlands Protection Bylaw

Provided by MassDEP:

MassDEP File Number _____

Document Transaction Number _____

Littleton

City/Town _____

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Bank	1. linear feet _____	2. linear feet _____
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet _____	2. square feet _____
c. <input checked="" type="checkbox"/> Land Under Waterbodies and Waterways	2 square feet (seasonal, temporary) _____ 3. cubic yards dredged _____	N/A 2. square feet _____
<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet _____	2. square feet _____
e. <input type="checkbox"/> Isolated Land Subject to Flooding	3. cubic feet of flood storage lost _____ 1. square feet _____	4. cubic feet replaced _____ 2. cubic feet of flood storage lost _____
f. <input type="checkbox"/> Riverfront Area	1. Name of Waterway (if available) - specify coastal or inland _____	3. cubic feet replaced _____
2. Width of Riverfront Area (check one):	<input type="checkbox"/> 25 ft. - Designated Densely Developed Areas only <input type="checkbox"/> 100 ft. - New agricultural projects only <input type="checkbox"/> 200 ft. - All other projects	
3. Total area of Riverfront Area on the site of the proposed project:	square feet _____	
4. Proposed alteration of the Riverfront Area:	<input type="checkbox"/> a. total square feet _____ <input type="checkbox"/> b. square feet within 100 ft. _____ <input type="checkbox"/> c. square feet between 100 ft. and 200 ft. _____	
5. Has an alternatives analysis been done and is it attached to this NOI?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6. Was the lot where the activity is proposed created prior to August 1, 1996?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3. <input type="checkbox"/> Coastal Resource Areas: (See 310 CMR 10.25-10.35)		

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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& Littleton Wetlands Protection Bylaw

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Littleton

City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your
document
transaction
number
(provided on your
receipt page)
with all
supplementary
information you
submit to the
Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet	2. cubic yards dredged
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	1. square feet	2. cubic yards dune nourishment
<u>Size of Proposed Alteration</u>		
f. <input type="checkbox"/> Coastal Banks	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet	
h. <input type="checkbox"/> Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet	
	2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet	
4. <input type="checkbox"/> Restoration/Enhancement	If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.	
	a. square feet of BVW	b. square feet of Salt Marsh
5. <input type="checkbox"/> Project Involves Stream Crossings		
	a. number of new stream crossings	b. number of replacement stream crossings



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

& Littleton Wetlands Protection Bylaw

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Littleton

City/Town

C. Other Applicable Standards and Requirements

This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

a. Yes No

If yes, include proof of mailing or hand delivery of NOI to:

Natural Heritage and Endangered Species Program
 Division of Fisheries and Wildlife
 1 Rabbit Hill Road
 Westborough, MA 01581

August 2021

b. Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); OR complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

1. Percentage/acreage of property to be altered:

(a) within wetland Resource Area _____ percentage/acreage

(b) outside Resource Area _____ percentage/acreage

2. Assessor's Map or right-of-way plan of site

2. Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

(a) Project description (including description of impacts outside of wetland resource area & buffer zone)

(b) Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <https://www.mass.gov/ma-endangered-species-act-mesa-regulatory-review>).

Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

& Littleton Wetlands Protection Bylaw

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Littleton

City/Town

C. Other Applicable Standards and Requirements (cont'd)

(c) MESA filing fee (fee information available at <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>).

Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

Projects altering 10 or more acres of land, also submit:

(d) Vegetation cover type map of site

(e) Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

1. Project is exempt from MESA review.

Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, <https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat>; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. Separate MESA review ongoing.

a. NHESP Tracking #

b. Date submitted to NHESP

3. Separate MESA review completed.

Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. Not applicable – project is in inland resource area only b. Yes No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and
the Cape & Islands:

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: dmf.envreview-south@mass.gov

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: dmf.envreview-north@mass.gov

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

c. Is this an aquaculture project? d. Yes No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

& Littleton Wetlands Protection Bylaw

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Littleton

City/Town

C. Other Applicable Standards and Requirements (cont'd)

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a. Yes No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC

5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

a. Yes No

6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

a. Yes No

7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

a. Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

1. Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
2. A portion of the site constitutes redevelopment
3. Proprietary BMPs are included in the Stormwater Management System.

b. No. Check why the project is exempt:

1. Single-family house
2. Emergency road repair
3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

& Littleton Wetlands Protection Bylaw

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Littleton

City/Town

D. Additional Information (cont'd)

3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
4. List the titles and dates for all plans and other materials submitted with this NOI.

Dock Siting Plan in Littleton, Massachusetts

a. Plan Title

Alfred M. Berry, P.L.S

b. Prepared By

8-15-2023

d. Final Revision Date

Alfred M. Berry

c. Signed and Stamped by

1" = 50'

e. Scale

f. Additional Plan or Document Title

g. Date

5. If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. Attach NOI Wetland Fee Transmittal Form
9. Attach Stormwater Report, if needed.

E. Fees

1. Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

1320

7/24/23

2. Municipal Check Number

3. Check date

1319 & 1318

7/24/23, 7/24/23

4. State Check Number

5. Check date

David

Harrington

6. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

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Littleton

City/Town

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
 & Littleton Wetlands Protection Bylaw

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

David Harrington

Signature of Applicant (David Harrington)

7/11/23

2. Date

3. Signature of Property Owner (if different)

Zoe Krauner

5. Signature of Representative (if any) (Zoe Krauner Goddard Consulting, LLC)

4. Date

8-16-23

6. Date

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a copy of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

0 Fort Pond (Map: 27, Parcel: 12, Lot: 3)

a. Street Address

1320

c. Check number

Littleton

b. City/Town

\$92.50

d. Fee amount

2. Applicant Mailing Address:

David

a. First Name

Harrington

b. Last Name

c. Organization

223 Newtown Road

d. Mailing Address

Acton

e. City/Town

(401) 529-3518

h. Phone Number

i. Fax Number

MA

f. State

01720

g. Zip Code

Qdave7@yahoo.com

j. Email Address

3. Property Owner (if different):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

DAVID V HARRINGTON
56 HORSE HILL ST
DUNSTABLE, MA 01827-2709

1320

53-13/110 MA
26684

7/24/03

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Pay To The
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COMMONWEALTH OF MA

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For 223 NEWTOWN RD ACTION

10110001381: 009493554693# 1320

David Harrington

DAVID V HARRINGTON
56 HORSE HILL ST
DUNSTABLE, MA 01827-2709

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53-13/110 MA
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For 223 NEWTOWN RD ACTION

10110001381: 009493554693# 1319

David Harrington

DAVID V HARRINGTON
56 HORSE HILL ST
DUNSTABLE, MA 01827-2709

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ate

Pay To The
Order Of

TOWN OF LITTLETON

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One hundred seventeen 50

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Details on back

BANK OF AMERICA

ACH R/T 011000138 DOCK NOI PERMIT

For 223 NEWTOWN RD ACTION

10110001381: 009493554693# 1318

David Harrington

David Harrington
56 Horse Hill Road
Dunstable, MA 01827

January 25, 2022

Re: Wetland Border Report
223 Newtown Road, Acton/Littleton, MA 01720

Dear David Harrington

Introduction

On January 20, 2023, the wetland resources were delineated on land located on or near the above-listed site (refer to enclosed locus maps). The wetland border was flagged using the criteria in the most recent edition of MA Wetland Protection Act (WPA) and Regulations 310 CMR 10.00 et al, the Acton Wetland Bylaw, and Littleton Wetland Bylaw. Hydric soil indicators, vegetation changes, hydrological indicators, and topography were all considered for delineation purposes.

The locus site is within the towns of Littleton and Acton. In Acton, a Bordering Vegetated Wetland (BVW) was delineated off-site across Newtown Road. This wetland was flagged with wetland flag series GC1-GC34. The wetland is vegetated with red maple, eastern white pine, winterberry, multiflora rose, and wetland ferns. The adjacent upland is dominant in red oak, multiflora rose, fox grape, bittersweet, blackberry and garlic mustard. Department of Environmental Protection BVW field data forms were documented at wetland flag # GC-22 (see attached form).

In Littleton, the bank of Fort Pond was delineated with wetland flag series GCB1-GCB4. The bank of the pond was dominate in vegetation including red maple, northern red oak, white pine, sweet pepperbush, and highbush blueberry.

According to the Mass GIS data layers for NHESP, this site is not located within Estimated and/or Priority Habitat of Rare Wildlife. There are no mapped potential or certified vernal pools on-site. The site is not located in an ACEC or an Outstanding Resource Water. The small portion of the site within Littleton is in the jurisdictional FEMA Flood Zone A: no Base Flood Elevation (BFE).

The titles of attached documents are as follows:

- Department of Environmental Protection BVW field data forms
- NRCS Soil Map
- *FEMA Flood Zones on the Locus Site*, Goddard Consulting, LLC
- *Orthophoto View of Locus Site*, Goddard Consulting, LLC
- *USGS of Locus Site*, Goddard Consulting, LLC

Section 1. Regulatory Framework, Implications, and Delineation Methodology

1.1 Wetlands Protection Act (WPA)

Inland resource areas were delineated in accordance with relevant federal, state, and local regulations. As stated in 310 CMR (2)(a), “Bordering Vegetated Wetlands are freshwater wetlands which border on creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The ground and surface water regime and the vegetation community which occur in each type of freshwater wetland are specified in M.G.L. c 131 sec. 40.”

The methodology used to delineate Bordering Vegetated Wetlands is detailed in: (1) the BVW Policy “BVW: Bordering Vegetated Wetlands Delineation Criteria and Methodology,” issued March 1, 1995; and (2) “Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act: A Handbook,” produced by the Massachusetts Department of Environmental Protection, dated March 1995.

1.2 Acton Wetland Bylaw

Federal, state, and local authorities regulate wetland jurisdiction. The purpose of the Acton Wetland Bylaw is as follows: “The purpose of these regulations is to aid in the consistent and effective implementation of the Town of Acton Wetland Protection Bylaw (“the Bylaw”) by way of further definition, explanation and specification, and illustration and example of the Bylaw’s provisions. These rules and regulations set uniform standards and procedures for activities and work conducted in wetland and buffer zone resource areas and for the filing and review of applications under the Bylaw.

Wetlands and wetland buffer zones contribute to a number of public interests and values and are therefore protected by this Bylaw. These interests and values include, but are not limited to, the following: public and/or private water supply, groundwater protection, surface water protection, flood control, erosion and sedimentation control, storm damage prevention, water pollution prevention, fisheries, freshwater shellfish, protection of endangered and/or threatened species, and wildlife and wildlife habitat.”

The town of Acton has the following wetland setbacks/buffer zones:

- 0-foot setback for wetland-dependent structures (drain outfalls, weirs, etc.), fences, and structures necessary for upland access where reasonable alternative access is unavailable.
- 50-foot buffer of undisturbed natural vegetation.
- 75-foot setback to the edge of driveways, roadways, and structures.
- 50-foot chemical-free area within which no pesticides, herbicides, or fertilizers shall be used.
- 100-foot setback for underground storage of gasoline, oil, or other fuels and hazardous materials.
- 100-foot setback from the mean high-water line of vernal pools.

1.3 Littleton Wetland Bylaw

The purpose of the Littleton Wetland Bylaw is as follows: “The purpose of these Regulations is to protect the wetland and water resources of the Town of Littleton by aiding the consistent and effective implementation of the Bylaw. These Regulations set uniform standards and procedures for Activities conducted in the Areas Subject to Protection and the buffer zone and for the filing and review of Applications under the Bylaw. Where not otherwise specified in the Bylaw or in these Regulations, the presumptions, definitions and performance standards set forth in the Wetlands Protection Act, M.G.L. c. 131, § 40, (the “Act”) and the Massachusetts Department of Environmental Protection (“MassDEP”) Wetlands Protection Regulations, 310 CMR 10.00 et seq., (the “MassDEP Regulations”) shall apply.”

The town of Littleton has the following wetland setback/buffer zone:

- No-Disturbance Area: This is any area within the BVW or Bank and the first 50 feet of the buffer zone from BVW or Bank. No activities or work is permitted other than passive (foot or non-motorized vehicle) passage and removal of invasive vegetation if done in compliance with these Regulations. Except as noted, no vegetation may be disturbed, and the area should remain unchanged from its pre-project state.

Section 2. Description of Regulated Inland Resource Area

<input checked="" type="checkbox"/> Bank	<input checked="" type="checkbox"/> Bordering Vegetated Wetland(BVW)
<input type="checkbox"/> Land Under Water Bodies and Waterways	<input checked="" type="checkbox"/> Land Subject to Flooding
<input type="checkbox"/> Riverfront Area	<input type="checkbox"/> Isolated Vegetated Wetlands
<input checked="" type="checkbox"/> Buffer Zone	<input type="checkbox"/> Estimated Habitats of Rare Wildlife
<input type="checkbox"/> Vernal Pool (Certified and/or Potential)	<input type="checkbox"/> Priority Habitats of Rare Species

The table below provides the Flag Numbers, Flag Type, and Wetland Types and Locations for the BVW resources delineated.

Resource	Regulatory Buffer zone	Flag Numbers	Flag Color	Wetland Types and Locations
Bordering Vegetated Wetland (BVW)	100-foot buffer zone See Section 1.2 for Acton's local buffer zones	GC1-GC34	Blue Wetland Flag	Edge of BVW located south of the site across Newtown Road.
Bank of Fort Pond	100-ft buffer zone.	GCB1-GCB4	Blue Wetland Flag	Bank of Fort Pond.

	See Section 1.3 for Littleton's local buffer zones.			
--	---	--	--	--

2.1 Vegetation

The bank of Fort Pond was dominate in highbush blueberry/ *Vaccinium corymbosum* (FACW), eastern white pine/ *Pinus strobus* (FACU), red maple/ *Acer rubra* (FAC), northern red oak/ *Quercus rubra* (FACU), and sweet pepperbush/ *Clethra alnifolia* (FAC).

The BVW is dominate in red maple/ *Acer rubra* (FAC), eastern white pine/ *Pinus strobus* (FACU), winterberry/ *Ilex verticillata* (FACW), multiflora rose/ *Rosa multiflora* (FACU), wrinkle-leaf goldenrod/ *Solidago rugosa* (FAC), sensitive fern/ *Onoclea sensibilis* (FACW), and cinnamon fern/ *Osmundastrum cinnamomeum* (FACW). The adjacent upland is dominant in red oak/ *Quercus rubra* (FACU), multiflora rose/ *Rosa multiflora* (FACU), fox grape/ *Vitis labrusca* (FACU), bittersweet/ *Celastrus orbiculatus* (UPL), blackberry/ *Rubus allegheniensis* (FACU), and garlic mustard/ *Alliaria petiolata* (FACU).

2.2 Site Photographs



Photo 1. A photo facing north of Fort Pond.



Photo 2. A photo facing east of adjacent upland forest in Littleton.



Photo 3. A photo facing south of adjacent upland forest in Littleton.

2.3 Soils

Consistent with the NRCS survey, soils identified were rock outcrop, fine sandy loam and muck. More detailed information about soils is included in the attached NRCS soil map.

Section 3. Buffer Zone

Buffer zone is defined in 310 CRM 10.04 as the “area of land extending 100 feet horizontally outward from the boundary of any area specified in 310 CMR 10.02(1)(a).” This land is jurisdictional under the MA Wetlands Protection Act.

The town of Acton has the following setbacks/buffer zones:

- 0-foot setback for wetland-dependent structures (drain outfalls, weirs, etc.), fences, and structures necessary for upland access where reasonable alternative access is unavailable.
- 50-foot buffer of undisturbed natural vegetation.
- 75-foot setback to the edge of driveways, roadways, and structures.
- 50-foot chemical-free area within which no pesticides, herbicides, or fertilizers shall be used.
- 100-foot setback for underground storage of gasoline, oil, or other fuels and hazardous materials.
- 100-foot setback from the mean high-water line of vernal pools.”

The town of Littleton has the following setback/buffer zone:

- 50-foot No Disturbance Area.

Section 4. FEMA Flood Zones

The MassGIS National Flood Hazard Layer provided by the Federal Emergency Management Agency (FEMA) depicts a FEMA Flood Zone A: no Base Flood Elevation (BFE) on the property. BLSF is defined in 310 CMR 10.57 (2)(a)(1) as “an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetlands.” The area within this flood zone is considered to be the jurisdictional resource Bordering Land Subject to Flooding (BLSF).

Section 5. Natural Heritage and Other Site-Specific Data

This site is not mapped for rare or endangered species habitat. It is not mapped for certified or potential vernal pools. It is not located in an Area of Critical of Environmental Concern.

Section 6. Findings

The GC series is considered to be the edge of BVW. The GCB series is considered to be the bank of Fort Pond. The wetland resources, buffer zones and BLSF are a protected resource areas and have a jurisdictional 100-ft buffer zone along with jurisdictional local buffer zones/ setbacks.

Any work performed within the resource area, buffer zone, or within a FEMA Flood Zone needs a permit with the Acton/Littleton Conservation Commission.

Please contact Goddard Consulting if permit assistance is needed or requested.

Goddard Consulting, LLC.

A handwritten signature in black ink, appearing to read "T Schutz".

Tom Schutz, WPIT, WSA
Wetland Scientist

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: David Harrington

Prepared by: Goddard Consulting LLC

Project location: 223 Newtown Road Acton, MA

DEP File #: _____

Check all that apply:

Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only

Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II

Method other than dominance test used (attach additional information)

Section I. Vegetation		Observation Plot Number: GC22	Transect Number: Upgradient		Date of Delineation: 20-Jan-23	
Sample Layer and Plant Species	Scientific name	% Cover	% Dominance	Dominant Plant (yes or no)	Wetland Indicator Category*	
<u>Tree Layer</u>						
Northern Red Oak	<i>Quercus rubra</i>	20.5%	100.0%	Yes	FACU	
<u>Sapling Layer</u>						
Northern Red Oak	<i>Quercus rubra</i>	10.5%	100.0%	Yes	FACU	
<u>Shrub Layer</u>						
Multiflora Rose	<i>Rosa multiflora</i>	38.0%	100.0%	Yes	FACU	
<u>Climbing Woody Vine</u>						
Fox Grape	<i>Vitis labrusca</i>	3.0%	12.8%	No	FACU	
Oriental Bittersweet	<i>Celastrus orbiculatus</i>	20.5%	87.2%	Yes	UPL	
<u>Ground Cover</u>						
Multiflora Rose	<i>Rosa multiflora</i>	20.5%	46.6%	Yes	FACU	
Blackberry	<i>Rubus allegheniensis</i>	20.5%	46.6%	Yes	FACU	
Garlic-Mustard	<i>Alliaria petiolata</i>	3.0%	6.8%	No	FACU	

Remarks: * An asterisk after common plant name indicates stunted growth; ** indicates extremely stunted growth

Morphological Adaptations: 0

Description:

* An asterisk after indicator status denotes wetlands plants: plants listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; or plants listed as FAC, FACW, or OBL.

Vegetation conclusion:

Number of dominant wetland indicator plants: 0

Number of dominant non-wetland indicator plants: 6

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes no

title/date: Interim Soil Survey of Middlesex County - 1991 (Maps - 1989)

map number: 103C

soil type mapped: Charlton-Hollis Rock Outcrop Complex

hydric soil inclusions: _____

Are field observations consistent with soil survey? yes no

Remarks: _____

2. Soil Description

<u>Horizon</u>	<u>Depth (inches)</u>	<u>Matrix Color</u>	<u>Mottles Color or Texture</u>
A	0-9	10YR2/2	FSL
Rock	9-	Rock	Rock

Remarks: _____

3. Other: _____

Conclusion: Is soil hydric? yes no

Other Indicators of Hydrology: (check all that apply and describe)

Site inundated: _____

Depth to free water in observation hole: _____

Depth to soil saturation in observation hole: _____

Water marks: _____

Drift Lines: _____

Sediment deposits: _____

Drainage patterns in BVW: _____

Oxidized rhizospheres: _____

Water-stained leaves: _____

Recorded data (stream, lake, or tidal gauge; aerial photo; other):

Other: _____

Vegetation and Hydrology Conclusion for Upgradient of GC22

<u>yes</u>	<u>no</u>
------------	-----------

Number of wetland indicator plants

>= number of non-wetland plants X

Wetland hydrology present:

hydric soils present X

other indicators of hydrology
present X

Sample location is in a BVW X

Submit this form with the Request for Determination of Applicability or Notice of Intent

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: <u>David Harrington</u>	Prepared by: <u>Goddard Consulting LLC</u>	Project location: <u>223 Newtown Road Acton, MA</u>	DEP File #: _____
Check all that apply:			
<input type="checkbox"/> Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only <input checked="" type="checkbox"/> Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II <input type="checkbox"/> Method other than dominance test used (attach additional information)			

Section I. Vegetation		Observation Plot Number: GC22	Transect Number: Downgradient		Date of Delineation: 20-Jan-23	
Sample Layer and Plant Species	Scientific name		% Cover	% Dominance	Dominant Plant (yes or no)	Wetland Indicator Category*
<u>Tree Layer</u>						
Red Maple	<i>Acer rubrum</i>		38.0%	65.0%	Yes	FAC*
Eastern White Pine	<i>Pinus strobus</i>		20.5%	35.0%	Yes	FACU
<u>Sapling Layer</u>						
Red Maple	<i>Acer rubrum</i>		20.5%	50.0%	Yes	FAC*
Eastern White Pine	<i>Pinus strobus</i>		20.5%	50.0%	Yes	FACU
<u>Shrub Layer</u>						
Multiflora Rose	<i>Rosa multiflora</i>		20.5%	66.1%	Yes	FACU
Winterberry	<i>Ilex verticillata</i>		10.5%	33.9%	Yes	FACW*
<u>Climbing Woody Vine</u>						
<u>Ground Cover</u>						
Wrinkle-leaf Goldenrod	<i>Solidago rugosa</i>		20.5%	25.9%	Yes	FAC*
Sensitive Fern	<i>Onoclea sensibilis</i>		38.0%	48.1%	Yes	FACW*
Cinnamon Fern	<i>Osmunda cinnamomeum</i>		20.5%	25.9%	Yes	FACW*

Remarks: * An asterisk after common plant name indicates stunted growth; ** indicates extremely stunted growth

Morphological Adaptations: 0

Description:

* An asterisk after indicator status denotes wetlands plants: plants listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; or plants listed as FAC, FACW, or OBL.

Vegetation conclusion:

Number of dominant wetland indicator plants: **6**

Number of dominant non-wetland indicator plants: **3**

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? **yes**

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

yes no

title/date: **Interim Soil Survey of Middlesex County - 1991 (Maps - 1989)**

map number: **311B**

soil type mapped: **Woodbridge Fine Sandy Loam**

hydric soil inclusions: _____

Are field observations consistent with soil survey?

yes no

Remarks: _____

2. Soil Description

<u>Horizon</u>	<u>Depth (inches)</u>	<u>Matrix Color</u>	<u>Mottles Color or Texture</u>
O	0-14	10YR2/1	Muck
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Remarks: _____

3. Other:

Conclusion: Is soil hydric?

yes

no

Other Indicators of Hydrology: (check all that apply and describe)

Site inundated: _____

Depth to free water in observation hole: _____

Depth to soil saturation in observation hole: _____

Water marks: _____

Drift Lines: _____

Sediment deposits: _____

Drainage patterns in BVW: _____

Oxidized rhizosphere: _____

Water-stained leaves: _____

Recorded data (stream, lake, or tidal gauge; aerial photo; other):

Other: _____

Vegetation and Hydrology Conclusion for Downgradient of GC22

<u>yes</u>	<u>no</u>
------------	-----------

Number of wetland indicator plants

>= number of non-wetland plants

X

Wetland hydrology present:

hydric soils present

X

other indicators of hydrology
present

X

Sample location is in a BVW

X

Submit this form with the Request for Determination of Applicability or Notice of Intent

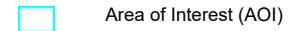
Soil Map—Middlesex County, Massachusetts



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/25/2023
Page 1 of 3

MAP LEGEND**Area of Interest (AOI)**

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts

Survey Area Data: Version 22, Sep 9, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

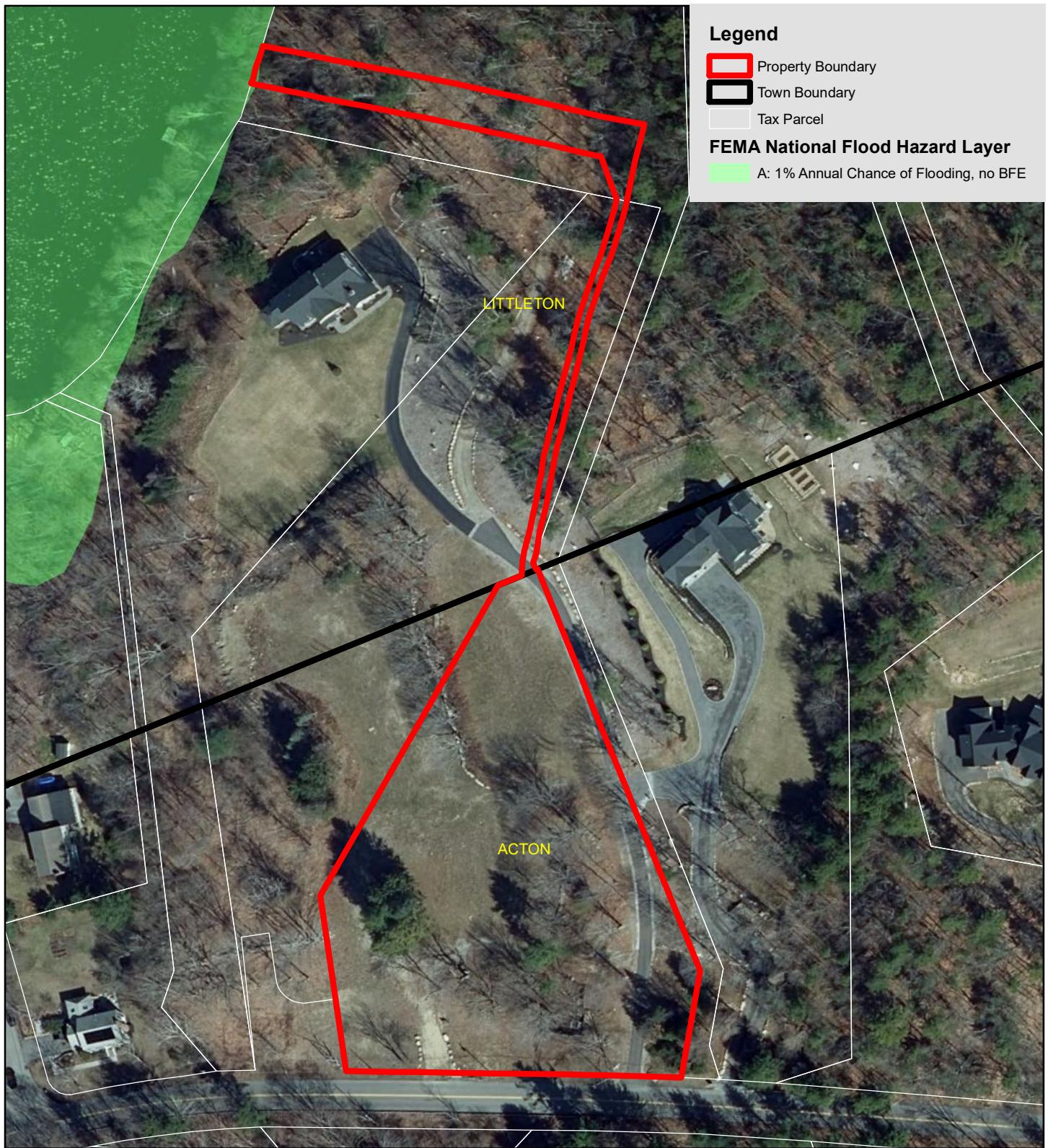
Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



Map Unit Legend

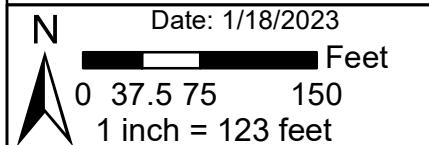
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Water	9.4	10.8%
51A	Swansea muck, 0 to 1 percent slopes	0.6	0.7%
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	3.3	3.8%
73B	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	0.5	0.6%
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes	10.1	11.6%
103C	Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes	11.5	13.3%
103D	Charlton-Hollis-Rock outcrop complex, 15 to 25 percent slopes	7.5	8.7%
104C	Hollis-Rock outcrop-Charlton complex, 0 to 15 percent slopes	4.4	5.1%
104D	Hollis-Rock outcrop-Charlton complex, 15 to 25 percent slopes	8.9	10.3%
307B	Paxton fine sandy loam, 0 to 8 percent slopes, extremely stony	2.3	2.7%
307C	Paxton fine sandy loam, 8 to 15 percent slopes, extremely stony	11.4	13.2%
311B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	16.7	19.3%
Totals for Area of Interest		86.7	100.0%



FEMA Flood Zones on the Locus Site

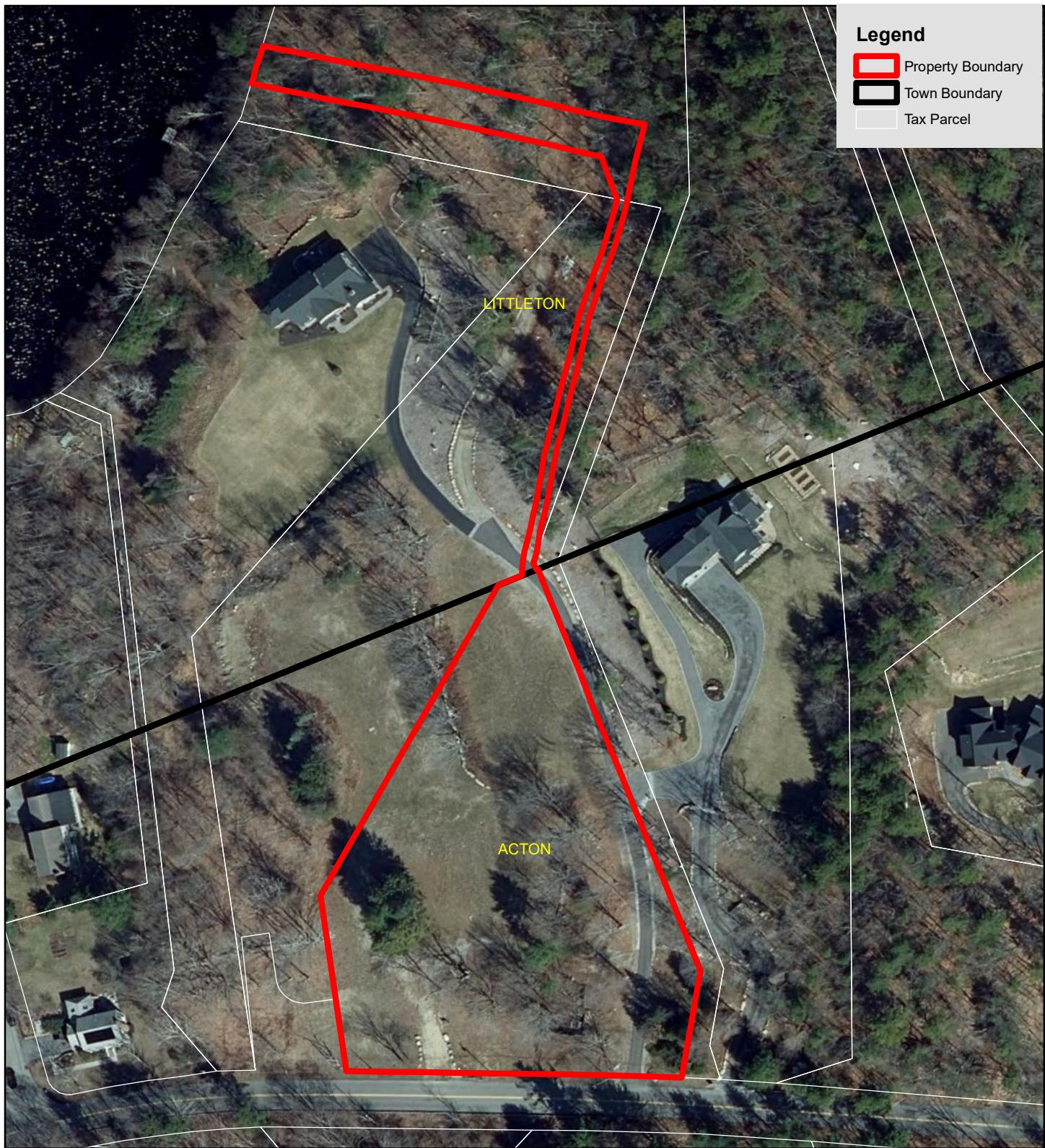
223 Newtown Road- Acton/Littleton, MA

(Map: C3, Parcel: 34 Lot: 3)



GIS Data Source: "Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, MassIT"

GODDARD CONSULTING
Strategic Wetland Permitting



Orthophoto of the Locus Site

223 Newtown Road- Acton/Littleton, MA

(Map: C3, Parcel: 34 Lot: 3)



Date: 1/18/2023

0 37.5 75 150
1 inch = 123 feet

GIS Data Source: "Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, MassIT"

GODDARD CONSULTING
Strategic Wetland Permitting



USGS of the Locus Site
223 Newtown Road- Acton/Littleton, MA
(Map: C3, Parcel: 34 Lot: 3)

<p>N</p>  <p>Date: 1/18/2023</p> <p>0 90 180 360</p> <p>1 inch = 300 feet</p>	<p>Feet</p> <p>GIS Data Source: "Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, MassIT"</p>	<p>GODDARD CONSULTING LLC</p> <p>Strategic Wetland Permitting</p>
--	---	---

0 FORT POND HILL RD U27 12 0

LUC: 101

BERGERON JOHN P

BERGERON CARRIE A

227 NEWTOWN RD

ACTON, MA 01720

FORT POND U27 12 2

LUC: 132

GLOBO, LLC

213 NEWTOWN RD

ACTON, MA 01720

FORT POND U27 12 3

LUC: 132

ZHANG CHUNNA

HARRINGTON DAVID

223 NEWTOWN RD

ACTON, MA 01720

FORT POND U27 13 0

LUC: 106

SALVATION TRUST LLC

PO BOX 1212

LITTLETON, MA 01460

FORT POND U27 13 2

LUC: 106

KRAUSS CHARLES

KRAUSS KELLY

217 NEWTOWN RD

ACTON, MA 01720

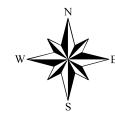
FORT POND U27 13 5

LUC: 132

SALVATION TRUST LLC

PO BOX 1212

LITTLETON, MA 01460



August 9, 2023

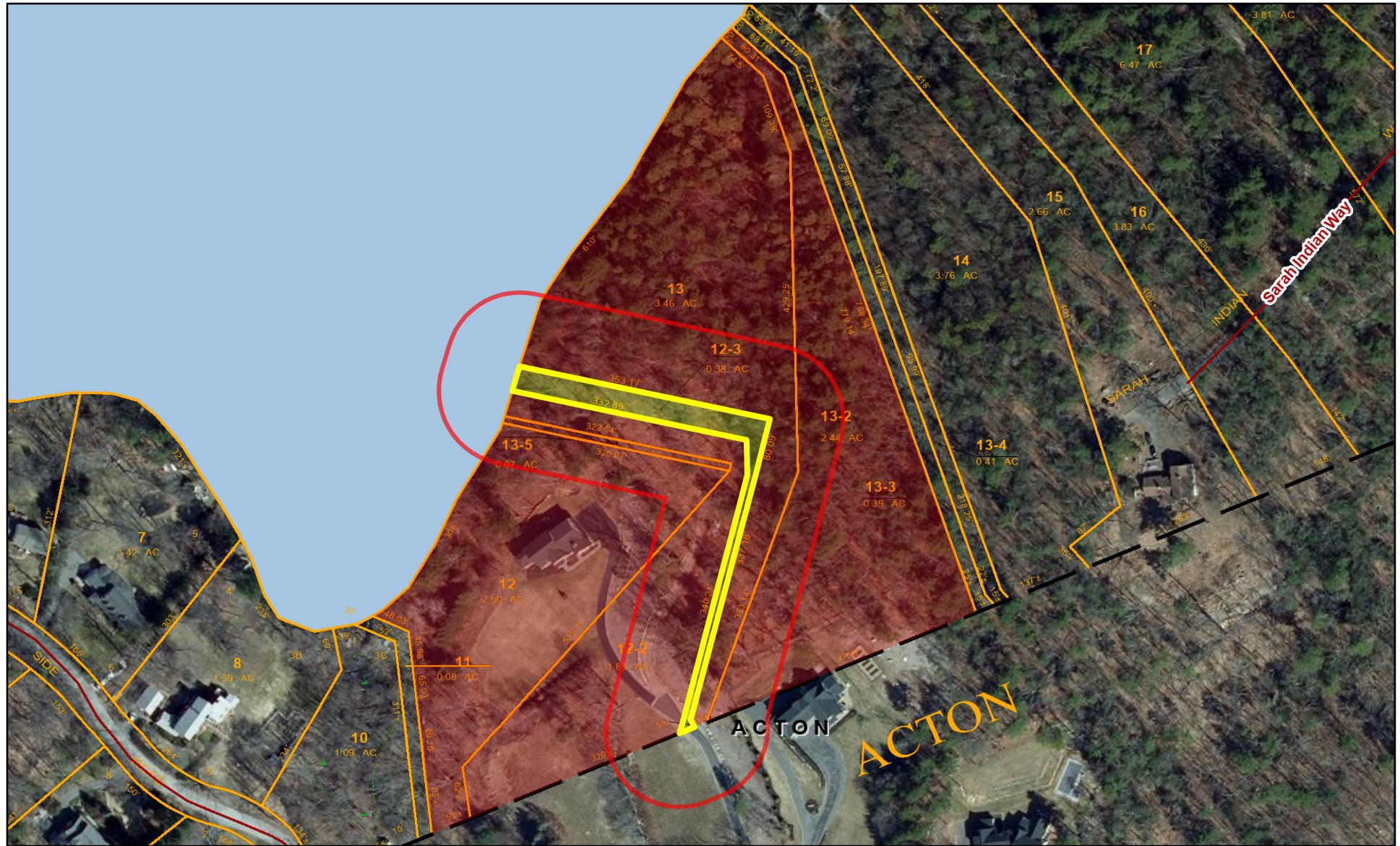
Littleton, MA

1 inch = 189 Feet

0 189 378 567

CAI Technologies
Precision Mapping. Geospatial Solutions.

www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.



**TOWN OF LITTLETON
BOARD OF ASSESSORS**

P.O. BOX 1305
LITTLETON, MA 01460
(978) 540-2410
FAX: (978) 952-2321

Date: August 10, 2023

Re: Certified List of Abutters Conservation Commission

Applicant: Zoe Krouner

Name of Firm: Goddard Consulting

Mailing Address 291 Main Street, Suite 8, Northborough, MA 01538

Subject Parcel Location: Fort Pond

Subject Parcel No.: U27 12 3

Subject Owner Name: Chunna Zhang

M.G.L. Chapter 131: Section 40 "Any person filing a notice of intention with a conservation commission shall at the same time give written notification thereof, by delivery in hand or certified mail, return receipt requested, to all abutters within one hundred feet of the property line of the land where the activity is proposed, but not limited to, owners of land directly opposite said proposed activity on any public or private street or way, and in another municipality or across a body of water. When a notice of intent proposes activities on land under water bodies and waterways or on a tract of land greater than 50 acres, written notification shall be given to all abutters within 100 feet of the proposed project site. For the purposes of this action, "project site" shall mean lands where the following activities are proposed to take place: dredging, excavating, filling, grading, the erection, reconstruction or expansion of a building or structure, the driving of pilings, the construction or improvement of roads or other ways and the installation of drainage, sewerage and water systems, and "land under water bodies and waterways" shall mean the bottom of, or land under, the surface of the ocean or an estuary, creek, river stream, pond or lake. When a notice of intent proposes activity on a linear shaped project site longer than 1,000 feet in length, notification shall be given to all abutters within 1,000 feet of the proposed project site. If the linear project site takes place wholly within an easement through another person's land, notice shall also be given to the landowner. Said notification shall be at the applicant's expense, and shall state where copies of the notice of intention may be examined and obtained and where information regarding the date, time and place of the public hearing may be obtained. Proof of such notification, with a copy of the notice mailed or delivered, shall be filed with the conservation commission."

I hereby certify the attached list of abutter (s) as stated in the M.G.L. Chapter 131, Section 40.

Number of Abutter(s) 6_ including the subject parcel.

Certified by:

A handwritten signature in black ink, appearing to read "Katherine Miller".

Katherine Miller, Chief Assessor

Notification to Abutters

By Hand Delivery, Certified Mail (return receipt requested), or Certificates of Mailing

This is a notification required by law. You are receiving this notification because you have been identified as the owner of land abutting another parcel of land for which certain activities are proposed. Those activities require a permit under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40).

In accordance with the second paragraph of the Massachusetts Wetlands Protection Act, and 310 CMR 10.05(4)(a) of the Wetlands Regulations, you are hereby notified that:

- A. A Notice of Intent was filed with the Littleton Conservation Commission on August 21th seeking permission to remove, fill, dredge, or alter an area subject to protection under M.G.L. c. 131 §40. The following is a description of the proposed activity/activities:

The applicant proposes a dock, boat shed, and walking path within 100-Buffer Zone.

- B. The name of the applicant is: David Harrington.
- C. The address of the land where the activity is proposed is: 0 Fort Pond (Map: 27, Parcel: 12, Lot: 3)
- D. Copies of the Notice of Intent may be examined or obtained at the office of the Littleton Conservation Commission, located at 37 Shattuck Street, 1st Floor, B100 Littleton, MA 01460. The regular business hours of the Commission are from 9:00 am to 1:00 pm, Monday-Thursday, and the Commission may be reached at 508-393-3784.
- E. Copies of the Notice of Intent may be obtained from the applicant or their representative by calling Goddard Consulting LLC at 508-393-3784. An administrative fee may be applied for providing copies of the NOI and plans.
- F. Information regarding the date, time, and location of the public hearing regarding the Notice of Intent may be obtained from the Littleton Conservation Commission. Notice of the public hearing will be published at least five business days in advance, in the Lowell Sub,

Notification provided pursuant to the above requirement does not automatically confer standing to the recipient to request Departmental Action for the underlying matter. See 310 CMR 10.05(7)(a)4.

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act and the Littleton Wetlands Protection Bylaw:

I, Zoe Krouner hereby certify under the pains and penalties of perjury that on August 21, 2023 I gave notification to abutters in Compliance with the second paragraph of Massachusetts General Law Chapter 131, Section 40, and the DEP Guide to Abutter Notification dating April 8, 1994 in connection with the following matter:

A Notice of Intent (NOI) was filed under the Massachusetts Wetlands Protection Act and the Littleton Wetlands Protection Bylaw by David Harrington with the Littleton Conservation Commission on August 21, 2023 for the property located at 0 Fort Pond (Map: 27, Parcel: 12, Lot: 3)

The form of the notification, and the list of abutters to whom it was given, and their addresses, are attached to this Affidavit of Service.



8/21/2023

(Name)

(Date)



Massachusetts
Department of
Environmental
Protection, Bureau of
Resource Protection,
Wetlands/Waterways
Program
One Winter Street
Boston, MA 02108

Small Docks and Piers



**A Guide to Permitting Small,
Pile-Supported Docks and Piers**

November 2003

Contents

Acknowledgements	4
Introduction	5
Section I. Overview	7
Section II. Summary of Standards	10
Section III. Design and Construction Standards	14
Appendices: Glossary	23
Appendices: Bibliography	27

Acknowledgements

This “Guide to Permitting Small Pile-Supported Docks and Piers” reflects the hard work and thoughtful contributions of many people. The following individuals contributed expertise that was essential to the completion of this document.

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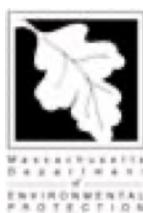
Page layout and design: Sandra Rabb, MA DEP

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Ed Reiner

Woods Hole Oceanographic Institute, Sea Grants Office

Jim O'Connell

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Printable copies of this document can be downloaded at the following DEP Web site: <http://www.state.ma.us/dep/brp/waterway/waterway.htm>

This information is also available in alternate formats upon request by contacting the ADA Coordinator at 617/574-6872.



Commonwealth of Massachusetts

Mitt Romney, Governor

Kerry Healey, Lt. Governor

Executive Office of Environmental Affairs,

Ellen Roy Herzfelder, Secretary

Introduction

This guidance document was specifically designed for anyone interested in designing or building a small pile-supported dock or pier or other small water-related structure that will be an accessory to a place of residence. It is also a helpful document for local government officials, such as Conservation Commissions, who are responsible for the permitting of such structures. Small dock and pier projects where dredging is proposed are not covered in this particular guidance.

The work standards in this guidance are consistent with two Massachusetts state laws governing small dock and pier construction: the Wetlands Protection Act and the Public Waterfront Act, also known as the Chapter 91 Waterways Law. If you plan to construct a small dock or pier, you must obtain a wetlands permit or "Order of Conditions" from the municipal conservation commission and a state waterways "license" from the Massachusetts Department of Environmental Protection (DEP) prior to starting work.

If you want to obtain authorization for an existing dock or pier that doesn't require additional construction, you may file a "Request for Determination of Applicability" under the Wetlands Protection Act along with a simplified license or regular license application under Chapter 91. See DEP's Web site to download any of these application forms: <http://www.state.ma.us/dep/brp/ww/wwforms.htm>.

Section I.

Overview of the Wetlands and Waterways Permitting Requirements

Chapter 91 is one of the oldest laws in the nation. Dating back to the Colonial Ordinances of 1641-1647, it is based on the principle that states that the air, the sea, and the shore belong to no one person, but to the public at large.

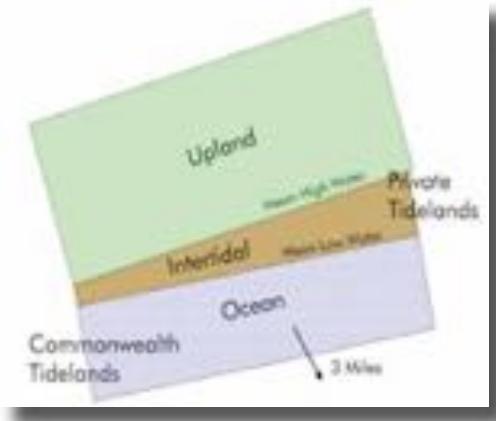
In Massachusetts, the construction of small docks, piers, and related structures requires permits or authorization under two laws, the Public Waterfront Act and the Massachusetts Wetlands Protection Act. These laws were designed to protect the public's ownership rights and access to the water, and along its shore and to ensure the environmental and public health benefits that wetlands provide.

Massachusetts Waterways Licensing

In accordance with the Public Waterfront Act (also known as Massachusetts General Law Chapter 91), which dates back to colonial times, the state owns the coastal waters and the land under the water below the historic low water mark. As the owner of these "Commonwealth Tidelands," the state is responsible for ensuring that the public's rights to use and have access to these valuable areas are protected.

In contrast, the public has a more limited right to "fish, fowl, and navigate" on "private tidelands" – the area between the historic high and low water marks. Finally, some public rights still apply to filled tidelands, areas along the coast that were originally public or private tidelands but were filled many decades ago. This is particularly relevant in urban areas, like Boston, where the coastline is almost entirely "fill." In such areas, public access and other rights are protected by the state all along the waterfront.

In addition, the state also historically owns the land and water within inland "Great Ponds" (lakes and pond originally 10 acres or more in size). A list of Great Ponds can be found on DEP's web site: <http://www.state.ma.us/dep/brp/waterway/research.htm#ponds>. Under a 1939 amendment to the Chapter 91 law, the public right of navigation is also protected in non-coastal waterways.



Chapter 91 Waterways Jurisdictional Areas

Great Ponds and lakes are bodies of water that contain more 10 acres or more in their natural state. Ponds and lakes presently larger than 10 acres are presumed to be Great Ponds, unless evidence is provided that proves otherwise. Ponds that were 10 acres or more originally, but have become smaller for any reason, are still considered to be Great Ponds.

The Massachusetts Department of Environmental Protection (DEP) is the state agency responsible for administering the Public Waterfront Act. DEP accomplishes this by reviewing and issuing licenses for structures in and along tidelands, Great Ponds, and navigable rivers and streams as specified in its Waterways Regulations (310 CMR 9.00). Private structures, such as small docks and piers, are only permitted in these areas if the public's ownership and/or access rights are protected in DEP's waterways license. These structures must meet the standards described in this Guidance to ensure:

- Public Navigational Rights
- Public Access Rights in and along the Shore
- Public Safety

Some small dock and pier projects are eligible for a “Simplified Waterways License” (formerly *Application BRP WW 06*), which is less expensive and easier to obtain than regular licenses, and can generally be completed by an applicant without the aid of an engineer or other consultant. To qualify for a Simplified license, the project must:

- Consist of a dock, pier and/or other small scale structure that is an accessory to a residential use or serves as a noncommercial docking facility;
- Be pile supported (e.g., wooden or metal posts) or bottom anchored (No fill allowed within a waterway!);
- Be no more than 600 square feet below the high water mark;
- Not be a marina (that is, serving 10 or more vessels);
- Be “water dependent” (that is, it needs to be in the water or along the shore);
- Be consistent with an accepted resource management plan if it is within a designated Area of Critical Environmental Concern (ACEC web site <http://www.state.ma.us/dem/programs/acec/acec1.htm>); and
- Meet the various waterways design and construction standards outlined in this Guidance.

Small structures that do not meet the above criteria must submit a regular waterways application (BRP WW 01) to DEP. Those applications tend to be more costly and require the assistance of a licensed professional engineer.

For more information on procedures for obtaining a Waterways license from DEP, see instructions for filing Waterways Applications, or contact your regional DEP office for a hard copy of these instructions. See the DEP Waterways web site for more information: <http://www.state.ma.us/dep/brp/waterway/waterway.htm>.

Massachusetts Wetlands Protection Act Permitting

Unlike the Waterways law, which protects the public rights of navigation and access to state waterways, the Massachusetts Wetlands Protection Act is designed to protect the public benefits that the state’s valuable wetland resources provide (a few examples include the protection of drinking water supplies, fisheries, and flood control), whether located on public or on private property. Under Massachusetts’ law and regulations (MGL Chapter 131, § 40 and 310 CMR 10.00), wetland “resource areas” include (*See page 13 for illustrations of wetland resource areas*):

- Inland swamps, marshes, bogs and wet meadows (“Bordering Vegetated Wetlands” or BVW) and coastal salt marshes
- Land under water bodies
- Banks of water bodies
- Floodplains
- Coastal Beaches and Dune fields
- Riverfront areas (within 200 feet of most perennial rivers and streams)
- Fish Runs
- Land Containing Shellfish

DEP's
Wetlands
Regulations, 310
CMR 10.00 set
minimum resource
protection standards
that Conservation
Commissions must
follow.

The Wetlands Protection Act standards for small docks and piers protect against potential negative impacts to wetlands that may detrimentally affect:

- Water quality (from leaching, spillage, runoff and turbidity);
- Water circulation and sediments (scouring, erosion, sedimentation);
- Important vegetation and shellfish beds (disruption of growing areas and spawning habitat);
- Rare animal species that depend on wetland habitat.

To find out more about conservation commissions and what they do, visit the Massachusetts Association of Conservation Commissions Web site, <http://www.maccweb.org/home.html>.

An application for permission to build in wetland resource areas called a “Notice of Intent” (NOI) must be filed with the municipal Conservation Commission and with DEP. Conservation commissions are a volunteer board appointed by the executive authority in each community to administer the state wetlands law on the local level. These commissions can usually be reached by contacting the town/city hall.

Construction of a small dock or pier in a wetland resource area constitutes a wetland alteration, and requires an NOI. In turn, Conservation Commissions should NOT use “Determinations of Applicability”, rather than an NOI, to review any proposed dock or pier project, though it may be appropriate for authorizing existing structures not requiring structural maintenance.

DEP’s Wetlands regulations (310 CMR 10.00) set minimal resource protection standards that the Conservation Commission must follow (although some municipalities also have local wetland bylaws that are even stricter than state standards). NOI application forms can be obtained from DEP (<http://www.state.ma.us/dep/brp/ww/wwforms.htm>) or from the local Conservation Commission.

The Conservation Commission will review the NOI application at a public hearing (generally held in the evening). If the project complies with the state wetlands regulations and local wetland bylaws, the Commission will issue a permit called an “Order of Conditions”. As the name implies, the project must comply with a list of conditions contained in the Order. Section III in this guide provides greater detail on what these standard conditions are and how an applicant can design projects to meet them.

If the applicant (or an abutter, aggrieved person, the property owner, ten citizens, or DEP) objects to the Order, an appeal for a “Superseding Order of Conditions” can be made to DEP (except for those Conditions which are based strictly upon a local wetlands bylaw). In turn, a Superseding Order may be appealed to DEP’s Office of Adjudicatory Appeals. No work can begin on a project until the wetlands Order is final.

For more information on procedures for obtaining a Wetlands Order of Conditions, see instructions for filing a Notice of Intent at <http://www.state.ma.us/dep/brp/ww/wwforms.htm>, or contact your regional DEP office for a hard copy of these instructions.



Section II.

Summary of Standards Applying to Small Docks and Piers Built in Various Locations

Standards applying to small docks and piers vary in a number of ways depending on their location. Most importantly, the standards are quite different if the structure is proposed in an inland or in a coastal or tidal area. Under the state Waterways law, different standards apply according to whether all or part of a project occurs in one or more of the following locations:

-  Flowed Tidelands (below mean high water)
-  Filled Tidelands (up to historic mean high water)
-  Great Ponds (up to mean high water)
-  Non-tidal Rivers and Streams (up to mean high water)

Under the state Wetlands Protection Act, the Waterways locations listed above (except, generally, filled tidelands) are also subject to performance standards pertaining to one or more overlapping wetland locations referred to as "wetland resource areas." For example, a small dock or pier project may also have an elevated walkway crossing a number of wetland resource areas (like Bordering Vegetated Wetland, dune fields, etc.) lying outside the jurisdiction of the Waterways law (that is, landward of the high water mark and not within filled tidelands). In such a case, the pier, which extends over the water, would be subject to Wetlands and Waterways standards, while the elevated walkway would be subject to Wetland standards only.

Projects in Coastal Wetland Resource Areas

Projects within the following Wetland Resource Areas also, in general, lie totally or partly within the Waterways location of "Flowed Tidelands". Therefore, these projects also require both Wetlands and Waterways permits/licenses:

-  Land Under the Ocean
-  Coastal Beaches
-  Rocky Intertidal Shores
-  Salt Marsh
-  Land Under Salt Ponds
-  Land Containing Shellfish*
-  Banks or Land Under the Ocean Underlying a "Fish Run" **

Mean high water and mean low water refers to the average high and low tide levels for a 19 year period.

** "Land Containing Shellfish" is limited to areas identified and mapped by the conservation commission or DEP based either on maps and designations of the MA Division of Marine Fisheries, or on maps and written documentation of the local shellfish constable or DEP. Such mapped areas occur only within the wetland resource areas "Land Under the Ocean", "Rocky Intertidal Shores", "Salt Marsh" and "Salt Ponds" and tidal flats found on "Coastal Beaches" (including Barrier Beaches.)*

*** "Fish Runs", where they occur, overlap with the wetland resource areas "Banks" (coastal and, sometimes, inland) and Land Under Ocean (and sometimes inland Land Under Waterbodies and Waterways).*

Projects in the following coastal Wetland

Resource Areas are generally outside Waterways jurisdiction and are subject only to Wetlands standards:

- ☛ Coastal Bank
- ☛ Coastal Dune
- ☛ Land Subject to Coastal Storm Flowage

Residential docks and piers are prohibited in one coastal wetland resource area in order to preserve these areas strictly for commercial and industrial use:

- ☛ Designated Port Areas.

Projects In Inland Wetland Resources Areas

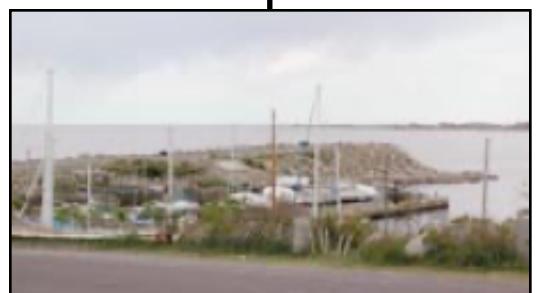
Projects within the following inland Wetland Resource Areas may lie totally or partly within a Great Pond or a navigable, non-tidal river or stream, and thus may need to obtain both Wetlands and Waterways permits:

- ☛ Land Under Water
- ☛ Bank

Portions of a project in the following inland Wetland Resource Areas are generally outside Chapter 91 Waterways jurisdiction and are subject only to Wetlands standards:

- ☛ Bordering Vegetated Wetlands
- ☛ Land Subject to Flooding
- ☛ Riverfront Area*

** Riverfront Areas generally lie within 200 feet (25 ft for densely developed areas) of the mean annual high water mark of perennial inland and coastal rivers and streams. The Riverfront Area provisions do not apply to any specific portion of a project that requires a waterways license (see 310 CMR 10.58(6)(i)).*



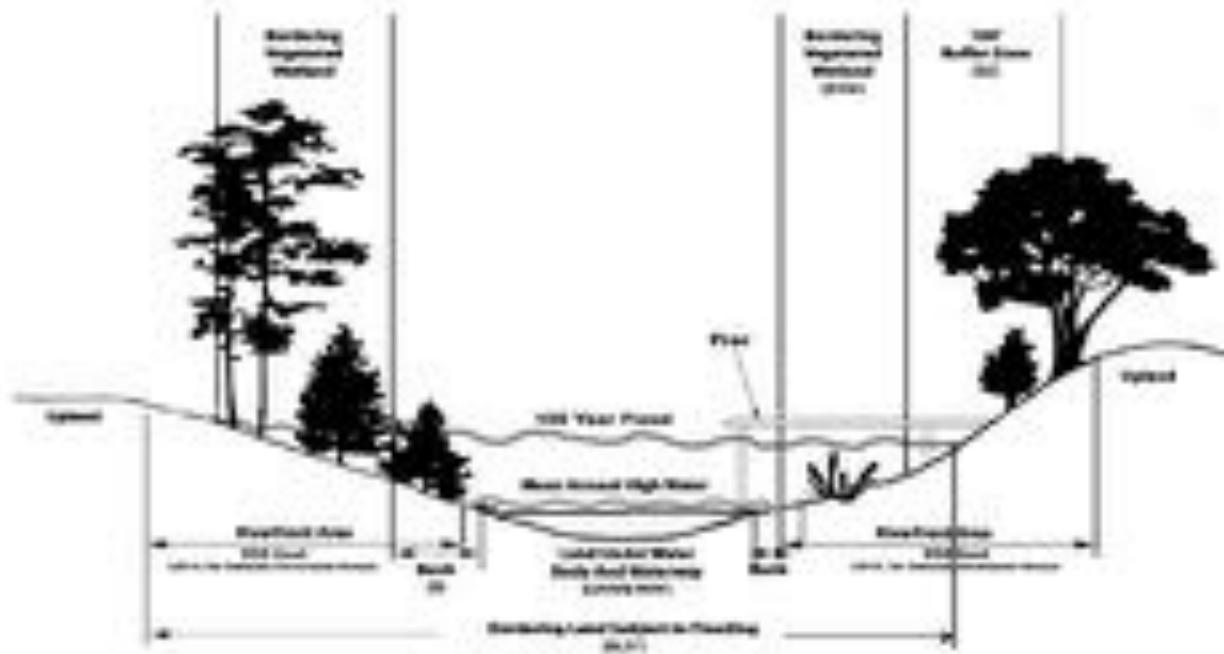
Matrix of Coastal and Inland Small Docks/Piers Projects and Required Standards

To use the charts on these two pages, determine whether any portion of the project is found in each of the locations listed on the left side of the chart. Then look to see which standards apply to that location. Each standard is discussed in detail on the pages indicated at the top of the chart.

Inland Project Location	C.91 &or WPA Standards Navigation P. 14	Access P.19	Safety P. 14 P. 20	Minimize Environ. Impacts P. 20	Rare Species P.15	Alternatives Analysis P. 19	Water Flow * P.15	Light for Vegetation* P.15
Great Pond/Land Under Water	•	•	•	•	•	•	•	•
Navigable Waterway/ Land Under Water	•		•	•	•	•	•	•
Bank				•	•	•		
Bordering Vegetated Wetland				•	•	•	•	•
Riverfront Area (Incl. Tidal Rivers)				•	•	•		
Land Subject to Flooding				•	•	•	•	

* No small private piers are allowed on Land Under Ocean located in Designated Port Areas

Inland Wetland Resource Areas and Associated Buffer Zones Applicable to Small Docks and Piers



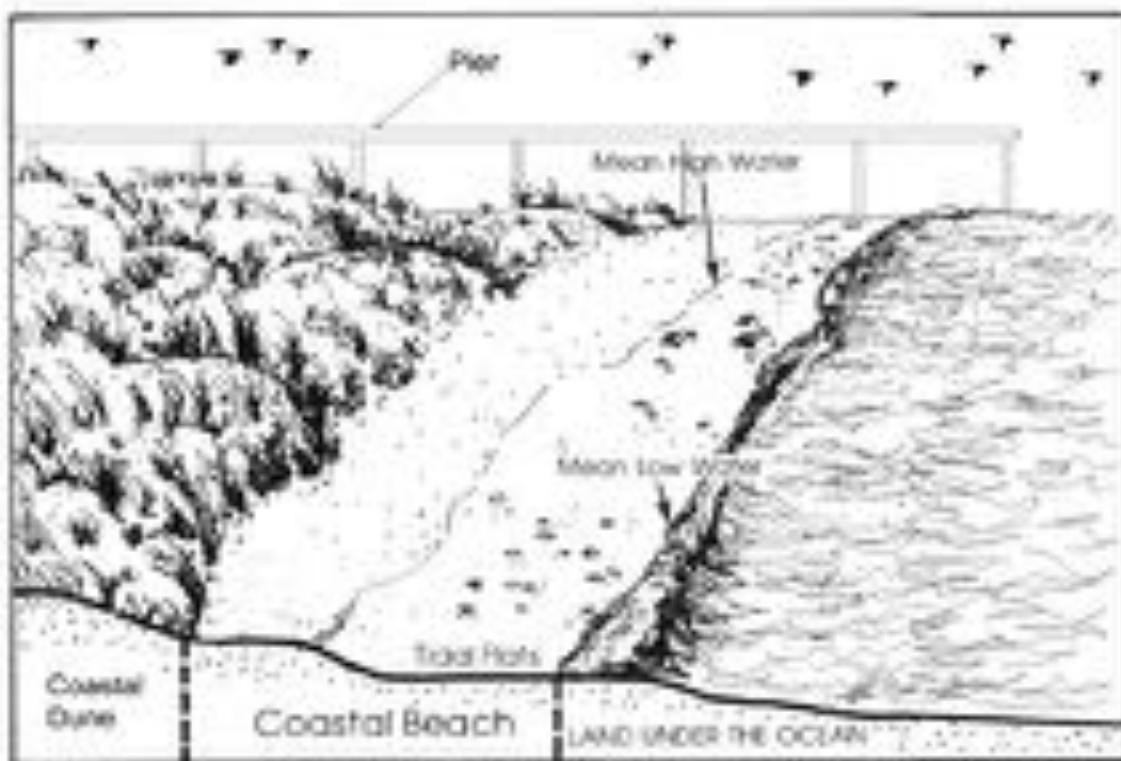
Matrix of Coastal and Inland Small Docks/Piers Projects and Required Standards

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Coastal Project Location	C.91 &or WPA Standards	Navigation P. 14	Access P. 19	Safety P. 14	Water Circulation P. 15	Rare Species P. 15	Water Quality P. 17	Salt Marsh/Pond Veg. & Eel Grass P. 15	Land Containing Shellfish P. 18	Bank Beach & Dune Stability P. 18	Fish Runs P. 19
Flowed Tidelands	•	•	•	•	•	•	•	H		F	
Filled Tidelands		•	•								
Land Under Ocean*	•	•	•	•	•	•	•	H		F	
Coastal Beach/Tidal Flats (Incl. Barrier Beach)	•	•	•	•	•	•		H		•	
Rocky Intertidal Shores	•	•	•	•	•	•		H			
Coastal Dunes (Incl. Barrier Beach)					•					•	
Coastal Bank					•					•	F
Salt Marsh		•	•	•	•		•	H			
Land Under Salt Ponds	•	•	•	•	•	•	•	H			
Land Subj. to Coastal Storm Flowage					•					•	

H If the project location is Land Containing Shellfish, See page 18
F If the project location is in a fish run, See page 19

* No small private piers are allowed on Land Under Ocean located in Designated Port Areas



Section III.

Design and Construction Standards for Small Docks, Piers and Related Structures

A. Waterways Design Standards

Protection of Navigation in all Waterways.

Docks, piers, and related structures of any size may not:

- ☛ Exceed the minimum size necessary to achieve the intended water-related purposes;
- ☛ Extend beyond the length required to achieve a safe berthing;
- ☛ Intrude into, or approach, navigation channels or extend seaward of any state harbor lines;
- ☛ Extend more than 25% of the distance across a waterbody;
- ☛ Impair the line of sights necessary for navigation;
- ☛ Interfere with access to adjoining areas by extending "substantially beyond the projection of existing structures adjacent to the site";
- ☛ Interfere with access or public rights associated with a public landing, easement, other public access to the water;
- ☛ Generate water-borne traffic that would substantially interfere with other vessels;
- ☛ Impair in any other substantial manner the ability of the public to swim or float freely upon the waterways;
- ☛ Be set back less than 25 feet from property lines where feasible; or
- ☛ Be allowed in state-designated "Areas of Critical Environmental Concern" unless there is a resource management plan approved by the Massachusetts Executive Office of Environmental Affairs (see <http://www.state.ma.us/dem/programs/acec/acec1.htm>)

Protection of Lateral Access Along the Shoreline

On Flowed Tidelands:

☛ All structures must be designed to allow foot traffic under, over, or around the structure. (Steps on either side of a dock often increase environmental impacts so passage under dock with a five foot clearance at the high water mark is preferred – elevated docks have the added benefit of allowing more light to reach under the dock.)

☛ If obstruction is unavoidable, alternate lateral passage above the high water mark around the pier must be provided.

☛ The right of public access under or around the pier should be posted on the pier.

On Filled Tidelands and Great Ponds:

☛ Reasonable measures shall be provided for on-foot passage, including allowing the public to pass laterally along a portion of the project shoreline or transversely across the site to a point on the project shoreline.

Engineering and Construction Standards to Protect Navigation, Public Health and Safety, and other Shoreline Structures

☛ All structures subject to Chapter 91 must be structurally sound and not pose an unreasonable threat to navigation, adjacent structures or public health or safety if damaged or destroyed in a storm.

Areas of Critical Environmental Concern are places in Massachusetts that receive special recognition because of the quality, uniqueness, and significance of their natural and cultural resources.



B. Wetlands Design Standards

Wetlands Standards applying to both Inland and Coastal Areas

Protecting Rare Species Habitat. No project may be permitted to have any adverse impact on specified habitat of rare animal species. A map of estimated habitat sites for each town can be found on the Department of Fish and Game (DFG) Web site: <http://www.state.ma.us/dfwele/dfw/nhesp/nhspecies.htm>.

If the project site is in one of the mapped estimated habitats, applicants should refer to the Wetland Regulations at 310 CMR 10.37 (for coastal wetlands) or 310 CMR 10.59 (for inland wetlands) for the procedures to follow in order to determine if the project is in fact in rare species habitat and if it will adversely impact it. Generally, if the Massachusetts Natural Heritage and Endangered Species Program finds that a project would have any such adverse impacts, that program would work with the applicant to redesign the project in order to avoid or mitigate such impacts. If such a redesign were impossible, the project would not be allowed to proceed.

Maintaining Proper Water Circulation.

Small docks and piers must be constructed so as to prevent or minimize adverse effects on water circulation in inland wetlands and certain coastal wetland resource areas (Land Under Ocean, Tidal Flats, Rocky Intertidal Shores, Salt Marshes, Salt Ponds, and Land Containing Shellfish, unless such coastal areas are specifically found by the conservation commission not to be significant to Marine Fisheries, Land Containing Shellfish, and Wildlife Habitat).

Providing adequate spacing between pilings allows reasonably unimpeded water flow. Wooden pilings should be spaced no closer than twenty (20) times the diameter of the piling. Batter piles, batter boards, and wave attenuators (used to dissipate wave energy) interfere with water circulation. Any cross or transverse bracing must be placed above the elevation of the high water mark.

For coastal wetland areas subject to the ebb and flow of the tide, the lowest structural member (generally the horizontal support beam or “stringer”) of floats (or if there are no floats, the seaward edge of the pier) should be at least 18 inches (1.5 feet) from the bottom at low tide. Where feasible, floats should be sited so they will float no lower than this height (18 inches) during low tide. Where this is not feasible (e.g., in locations with extensive mud flats due to tidal range, or in those circumstances where a shorter pile has less environmental impact), projects can use float stops or collar ties (or legs on rocky bottoms) to ensure an 18-inch height at low tide. Following these standards should lead to no impairment of water circulation.

Maintaining Adequate Light to Preserve the Productivity of Wetlands Vegetation and Eelgrass Beds:

Pile supported piers constructed in inland and certain coastal wetland resource areas (salt marsh, salt ponds, and those portions of Land Under the Ocean containing eelgrass) need to be constructed in such a manner as to have no adverse effect on plant productivity. This requirement is met by avoiding such vegetation where possible; placing the pier decking at an adequate height above the high water mark; limiting pier length and width; providing spacing between deck planking, and orientating the pier as close as possible to a north-south orientation. These Wetlands requirements also interplay with Waterways regulatory requirements, which require piers to be constructed in such a manner so as to permit unobstructed lateral public access under, over, or around the pier.

Piers located in inland wetlands resource areas (ponds, lakes, and rivers) typically do not include a combined pile-held pier and float system because they are not subject to daily tidal fluctuation. Also, piers located in great ponds or rivers are more likely to be built so they can easily be removed prior to the winter to avoid ice damage. Inland pier systems typically consist of pile-held decking (piles are typically pipe-piles or wood), piers constructed on cradles that rest on the bottom (versus being driven into the substrate), or piers pinned to the

land and supported on the water side by floats mounted to the decking bottom (or in some cases, bottom anchored floats). Because of these differences, inland piers tend to be constructed at an elevation just above the ordinary high water line to allow for egress to a boat, whereas coastal piers also need a ramp connecting to a float to allow egress to a boat at all ranges in the tidal cycle (boat is berthed to the float which goes up and down with the tide).

Avoidance: Keeping these differences between inland and tidal waters in mind, the first step in siting a pier is to determine if a location is available that will avoid or minimize putting the pier over wetlands vegetation. Avoidance is especially critical over existing or historically present eelgrass beds and in Land Containing Shellfish.

Pier Height: Higher piers allow for better light penetration

to underlying vegetation and assist in preventing storm damage. The Waterways regulations require a five (5) foot minimum height above mean high water mark for pier decking in Great Ponds and coastal tidelands to provide for unobstructed lateral passage under the pier (note: this requirement may be waived if alternative measures are taken to provide for public pedestrian access over or around the pier).

Constructing the decking at least 5 feet above mean high water/ordinary high water/annual high water also serves to minimize adverse shading impacts on vegetation.

Although a specific height requirement is not mandated under the Wetlands Protection Act regulations, elevating the structure above vegetation is essential to minimizing the effects of shading. The New England Division of the U.S.



Army Corps of Engineers suggests that the height of a pile-supported structure above the mean high water be at least as great as the width (a 1:1 height to width ratio) to provide adequate height for existing vegetation. See Land Containing Shellfish in the section entitled “Wetland Standards Applying to Coastal Areas Only”, below, for additional requirements if a pier is proposed in this resource area.

When there is no alternative to building over eelgrass beds, floats (or if no floats, the seaward end of the pier) should be at least four (4) feet from the bottom at low tide. It should be noted that eelgrass beds are ephemeral and historic presence of eelgrass should be considered, even if not currently present, in order to prevent the exclusion of future eelgrass bed expansion or colonization.

Eelgrass is considered to be present if depicted on maps produced by Massachusetts Geographic Information System (MGIS), DEP, or other credible source (on the web, see <http://www.mass.gov/mgis/>); or if not mapped, a site field survey indicates its presence.

Float Height: Floats should be located at the end of the pier in deeper water. The bottom of the float or pier should be at

least 18 inches from the bottom (measured at low tide in coastal wetland resource areas and ordinary high water or annual high water for inland wetland resource areas). See Land Containing Shellfish in the section entitled “Wetland Standards Applying to Coastal Areas Only”, page 15, for additional requirements if a float is proposed in this resource area. Also, see the previous paragraph regarding restrictions on the siting of floats in eelgrass beds.

Pier Length: Shorter piers produce less adverse shading effects on vegetation than longer piers. The Waterways regulations require the pier to be no longer than the distance necessary to reach navigable water depths.

Pier Width: Narrower piers provide less adverse shading effects on plant productivity than wider piers. The U.S. Army Corps of Engineers' Florida District limits pier widths to four (4) feet to minimize width impacts on plant productivity. Typical small docks and piers in Massachusetts are 3 feet wide.

Plank Spacing: Planks should be spaced at least $\frac{3}{4}$ inch apart to permit light penetration. Alternate spacing may be used if the deck material used provides a similar or greater degree of light penetration (such as perforated aluminum, fiberglass, or plastic grates; any such grates should contain an anti-slip texture integrally moulded to the top surface to provide for safety).

Orientation: If placing the pier over wetlands vegetation cannot be avoided, the pier should be orientated as close to a north-south orientation as possible (consistent with site constraints and environmental and navigational considerations). Research indicates a north-south orientation is least likely to adversely affect aquatic vegetation through shading.

Wetlands Standards Applying to Coastal Areas Only (see also "Wetlands Standards Applying to both Coastal and Inland areas" above)

Maintaining water quality. This includes other than normal fluctuations in turbidity, addition of pollutants, and the level of dissolved oxygen or temperature. This standard applies to any portion of a project located on Land Under the Ocean; the tidal flat portion of Coastal Beach; Salt Marsh; Salt Pond; or Rocky Intertidal Shore, unless such area is specifically found not to be significant to Marine Fisheries, Land Containing Shellfish and Wildlife Habitat.

Turbidity is the clouding up of water from stirred up sediments. It harms vegetation by reducing light penetration and harms fish by clogging gills and hurts fish eggs, larvae, and shellfish by causing abrasions from sediments. Turbidity related to the use of small docks and piers (versus their construction, which is discussed below) can be minimized by:

⌚ Considering where the floats will be stored and launched, how and at what tide range they will be installed, and by the nature of the bottom substrate. In some circumstances, less turbidity may result if the floats are rafted from the storage location and installed at high tide.

⌚ Ensuring that the end of the pier or float is sufficiently high at low tide to prevent boat engine propellers from creating "prop wash." See "Maintaining Proper Water Circulation," and "Maintaining the Productivity of Salt Marsh Vegetation and Eelgrass Beds," page 15, regarding ways to ensure proper height of piers and floats above the water bottom.

⌚ Driving, rather than jetting, pilings during construction.

The "addition of pollutants" may come in various ways: leaching of pressure treated wood preservatives, breakdown of flotation materials, and accidental spillage during the application of paint or other preservatives during maintenance or storage.

Leaching of Wood Preservatives. Paints and wood treatments containing creosote and pentachlorophenols are extremely toxic, and should be explicitly forbidden. So-called "CCA pressure treated" lumber (i.e., that treated with copper chromated arsenic, or CCA) has been banned by the US Environmental Protection Agency (EPA) for residential uses after December 31, 2003, due to the dangers posed to human health from the leaching of arsenic. However, the ban does not apply to use of CCA lumber for docks or piers. While CCA lumber is not prohibited under the Wetlands Protection Act for use as both pilings and decking, DEP recommends that alternative materials, including pressure treated lumber that does not contain CCA be considered if direct skin exposure to this type of lumber is a concern. The advantage of CCA lumber is that it extends the life of a dock and therefore minimizes the need to rebuild it or to drive additional piles. It can also save money for the dock owner. On the other hand, leaching of chemicals contained in CCA lumber may be damaging to human health

and possibly to the aquatic environment. There are a number of alternatives to CCA treated lumber which applicants should at least know about.

For pilings, there are several pressure treated wood formulae that do not contain arsenic and have been approved by EPA for residential uses: Ammoniacal Copper Quaternary (ACQ) or "Kodiak Wood", copper azole, copper dimethyldithiocarbamate, copper citrate, copper boron azole; copper-quinolinate, and borate-based wood preservatives. None of these contain arsenic and all have been shown to be effective. They are on the order of 5-8% more expensive than CCA-treated woods but the material costs for pilings are a small part of the overall cost of construction of a dock.

Application of paint and wood treatments.

Conservation Commissions should condition the Order (permit) to require that any preservatives be applied on land and away from the water and wetlands, if possible, such as

to a float being seasonally stored on land. For fixed elements, such as piles and decking, a condition should be included in the Order which limits the applications of preservatives to no more than once a year, requires only the minimum amount of preservative to be applied to limit runoff of excessive amounts into the underlying water, and which does not allow for application of preservatives to any elements of the pier below the plane of mean high water.

Where it is feasible to reconfigure a pier to avoid or minimize siting it on Land Containing Shellfish, this should be done. To the extent that a pier must be at least partially located in Land Containing Shellfish, adverse impacts on shellfish may be minimized by placing limits on the number and spacing of piles.

For piers sited on Land Containing Shellfish that was identified by the local Shellfish Constable, a conservation commission may, after consultation with the Constable, permit the shellfish to be moved to a location approved by the Division of Marine Fisheries (MADMF). Work on the pier may not begin until after replanting of the shellfish has commenced. For piers sited on Land Containing

Shellfish designated by the MADMF, the applicant may be required to purchase seed shellfish and seed adjacent areas at the discretion of the Shellfish Constable prior to commencement of construction, and under his supervision. Projects that MADMF determines will have a permanent adverse impact on the productivity of a significant shellfish resource should not be allowed.

 Floats (or if there are no floats, the seaward end of the pier) must be at least 2 1/2 feet from the bottom during low tide to prevent adverse impacts on shellfish. Where possible, floats should be removed in the off-season so as to allow easier access for shell fishing. See "*Maintaining Adequate Light to Preserve the Productivity of Wetlands Vegetation and Eelgrass Beds*" (pg. 15), regarding methods for keeping floats from resting on or near the bottom.

 See also "*Standards for Avoiding or Minimizing Temporary Construction Impacts*" on page 20, regarding Land Containing Shellfish.



Maintaining the Stability of Coastal Banks & Beaches and the Natural Movement of Sand Dunes; Protecting against Storm Damage.

These standards apply (as specified below) to any portion of a project located on Coastal Beach or Dune (including that on Barrier Beaches); Coastal Bank; or Land Subject to Coastal Storm Flowage (the so-called "one hundred year floodplain"). Note that any alteration of a Coastal Bank, Barrier Beach, or Coastal Dune requires the filing of an Environmental Notification Form (ENF) with the Massachusetts Environmental Policy Act office (<http://www.state.ma.us/envir/mepa/index.htm>). Thus piers and associated walkways should be avoided in these resource areas wherever possible.

 Coastal Banks act as a vertical buffer for storm damage prevention. Cutting into the bank to install a ramp should not be allowed, as the cut will provide an avenue for wave run-up and rainfall

Anadromous fish, or migratory fish, in New England include: Atlantic Salmon, American Shad, Herring, Sea Lamprey, Sturgeon, Striped Bass, and Rainbow Smelt.

The "100-year Floodplain" is the area that would be inundated by a flood waters during a 100 year flood.

to erode the bank. Ramps and walkways leading to docks and piers may have adverse impacts to stability of coastal banks unless properly sited and designed. Conservation Commissions should require revegetating areas disturbed by construction and not allow ancillary activities around the pier or walkway that may result in erosion.

 **Coastal Beaches.** Ramps and walkways leading to docks and piers must be designed and sited to avoid erosion and to maintain the volume and form of the beach or downdrift beach.

 **On Coastal Dunes,** pedestrian walkways may be allowed under the Wetland Protection Act regulations if they are designed to minimize disturbance to the dune, vegetative cover, and bird-nesting habitat.

Fish Runs. Fish runs are identified by the MA Division of Marine Fisheries and mapped on the Coastal Atlas of the MA Coastal Zone Management Program (see <http://www.state.ma.us/czm>). Fish runs are waters that serve as spawning or feeding grounds or passageways for fish species that spawn in fresh water but live in salt water or vice versa.

The construction and use of small docks and piers that do not involve dredging are unlikely to cause significant adverse impacts on fish runs. Larger dock construction, dredging and filling within fish runs can generally be addressed by requiring Time of Year (TOY) Restrictions that avoid work within the fishrun between March 15th and June 15th of any given year. Other TOY Restrictions may also be appropriate if recommended by the Division of Marine Fisheries.

1 Fish runs under the wetland regulations extend no further than the inland boundary of the "coastal zone", as defined in 301 CMR 21.05. This may include the portions of a fish run going as far as the inland boundary of a coastal town if it falls "inland of the roads, rail lines and rights of way described in the (MA Coastal Zone Management) Boundary Appendix."

Wetland Standards Applying to Inland Areas Only (see also "Wetlands Standards Applying to both Coastal and Inland Areas")

Under the Wetlands Protection Act Regulations for inland wetland resource areas, local conservation commissions (and DEP on appeal) may grant "limited project" status to small docks and pier projects pursuant to regulations at 310 CMR

10.53(3)(j). Such status provides some less stringent standards for small docks, piers, catwalks, and footbridges than the normal performance standards for the affected resource areas.

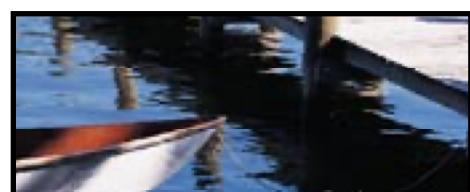
Alternatives Analysis. In considering whether to grant limited project status to a particular proposal, the conservation commission (or DEP on appeal) is directed under the regulations (310 CMR 10.57(3)) to "consider ... the availability of reasonable alternatives to the proposed activity." Such alternatives generally include redesigning or repositioning the dock and pier so that it would have fewer adverse impacts on wetlands resource areas. Such alternatives should also consider whether a particular design or configuration is necessary to protect public navigational or access right under Chapter 91.

The limited project described in 310 CMR 10.53 (3)(j) contains three specific performance standards relating to protecting rare wildlife habitat, preserving adequate light to maintain existing (pre-construction) vegetation, and maintaining reasonably unobstructed flowage of water. Requirements for meeting these standards are discussed in the section entitled "Wetlands Standards Applying to both Inland and Coastal Areas (above)."

If for any reason a small dock or pier cannot meet either of the last two standards listed directly above (rare species standards must always be met), applicants may still qualify for another "limited project" applying to "water dependent uses" under 310 CMR 10.53(3)(l). This limited project has considerably more stringent performance standards:

 The project must meet the normal performance standards for bordering vegetated wetlands.

 Normal performance standards for flood control and prevention of storm damage in other (non-BVW) wetland resource areas must also be met.



Standards for Avoiding or Minimizing Temporary Construction Impacts to Coastal and Inland Wetlands

 Impacts on salt marsh and bordering vegetated wetlands can be avoided by working out along the completed portions of a walkway or from a floating platform (a boat or barge), so long as it doesn't touch the bottom at any time. When this is not possible, such equipment should exert low ground pressure. Machines are currently available that exert less than two pounds per square inch. Only if absolutely necessary should equipment be allowed in bordering vegetated wetlands (BVW) or salt marshes.

 Installation of piles through "jetting" with high-pressure hoses typically disturbs a surrounding area potentially depopulating vegetation that may have difficulty reestablishing itself and disturbing bottom sediments. This may smother fish eggs and clog the gills of adult fish. Pilings should normally be installed by pile driving or auguring although it is permissible to allow a minimal amount of low pressure jetting to set piles. If the bottom sediments are contaminated, commissions may deny the use of jetting to set piles.

 Fill should not be allowed on BVW or salt marsh to provide footing for equipment.

 Materials with potential to contaminate the environment should be removed right away; e.g., those containing petroleum, etc. Debris should be continuously cleaned to lessen environmental impacts.

 Equipment storage should not occur in vegetated wetlands, in the intertidal zone, or on dunes.

 If it can be reasonably done, construction during winter months tends to have fewer adverse environmental impacts.

 Temporary construction impacts in Land Containing Shellfish may be permitted in an Order of Conditions. However, shellfish within areas designated by the local shellfish constable should be relocated. Shellfish beds within areas designated by the Massachusetts Division of Marine Fisheries must be reseeded so that it will be returned substantially to its former productivity within one year from the commencement of work.

Sample Wetlands Permit Conditions for Small Docks and Piers

Below are some standard conditions that have been used by the DEP regional offices in their Superseding Order of Conditions when permitting small docks and piers. These conditions are offered as examples only. It may not be feasible or appropriate to utilize all of these conditions. Conservation commissions are encouraged to select the appropriate conditions, tailored to the specific project site and conditions and any others that they deem appropriate. Applicants planning to construct a small dock or pier should design these structures to meet the conditions that are appropriate to their project.

General Conditions:

 No work shall take place until all administrative appeal periods from the order have elapsed, or if an appeal has been filed, until all proceedings before the Department have been completed.

 Dredging is neither proposed nor permitted under this filing.

 Future maintenance of the approved structure, in strict compliance with the plan of record and the conditions of this Order, is permissible.

Conditions to Protect Water Quality:

 Construction may be accomplished from a barge or boat operating in at least two feet of water. The barge or boat shall not be permitted to ground out at low tides.

 Construction of the pier shall be accomplished by maximizing access from the water and upon completed portions of the pier. No heavy construction equipment, vehicles or barges are permitted on bordering vegetated wetland, salt marsh or tidal flat during construction of the pier.

 The use of chromated copper arsenate (CCA) treated wood and creosote treated timber is prohibited. Wood preservative must be dry before the treated wood is used in construction.

 Piles placed below the plane of Mean Low Water (MLW) shall be mechanically driven to refusal, not jetted. The piles in the salt marsh and coastal bank shall be placed by hand.

Condition used to protect water quality when turbidity or shellfish spawning is an issue:

- ◆ Minimal jetting of the piles to set them into place is permitted. Then the piles shall be driven to refusal, or if this is not possible, until stable.
- ◆ Motorized vessels shall be moored stern seaward at the float or end of the pier to prevent “propeller dredging” and turbidity.

Conditions to protect bordering vegetated wetland, eel grass, and salt marsh vegetation:

- ◆ To allow sunlight to penetrate the vegetation below, the pier and walkway is to be elevated 1 foot above the marsh for every foot of its width, and individual deck planks of the structure are to be spaced at least $\frac{3}{4}$ inch apart.
- ◆ Salt marsh vegetation shall be avoided during construction.
- ◆ Any area that is disturbed during construction is to be revegetated immediately, or as soon thereafter as the growing season commences, with appropriate local indigenous vegetation.
- ◆ Motorized vessels shall be moored stern seaward at the float or end of the pier to prevent “propeller dredging,” turbidity, and alteration to vegetation.

Condition to protect Land Containing Shellfish designated significant by the Town or the Department:

- ◆ Prior to commencement of construction and after consultation with the local shellfish officer, any shellfish in the immediate vicinity of the pier shall be moved and replanted in a suitable location approved by the Division of Marine Fisheries [310 CMR 10.34 (6)].

When the state Division of Marine Fisheries designates that the project is within significant land containing shellfish use this language instead:

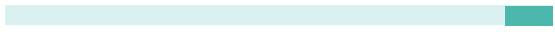
- ◆ Prior to commencement of construction and at the discretion of the Shellfish Constable, and under his supervision, the applicant may be required to purchase seed shellfish and seed adjacent areas. The quantity of seed shall be determined and approved by the Shellfish Constable.

Condition to protect stability of coastal banks, to protect salt marshes or dunes, if there are seasonal portions of the structure:

- ◆ The seasonal (ramp and) float(s) is to be stored at a suitable upland location.



In providing the design standards and conditions for protecting wetland resource areas and the public's rights to tidelands, DEP hopes that this guide has clarified many of the questions that arise both from applicants and local officials. If there are any further questions, we encourage you to go to the DEP web site address at: <http://www.state.ma.us/dep/brp/waterway/waterway.htm> to obtain more information and resources available to you.



APPENDICES



Glossary

100-year floodplain – The area that will be inundated by floodwaters during a 100-year flood. The 100-year flood has a 1% chance of occurring at least once in any given year. Therefore, the 100-year flood could occur more than once a year. The 100-year floodplain is regulated under the Wetlands Protection Act regulations as “Bordering Land Subject to Flooding” (BLSF) and “Land Subject to Coastal Storm Flowage” (LSCSF). The location of the 100-year floodplain is determined by reference to the most recently available flood and coastal profile data prepared for each community by the Federal Emergency Management Agency (FEMA). BLSF and LSCSF boundaries must be determined in accordance to the definitions specified in the wetlands regulations at 310 CMR 10.04 and 10.57.

Abutter –

- a) Under Chapter 91 Waterways regulations, an abutter is the owner of land which shares, along the water's edge, a common boundary or corner with a project site, as well as the owner of the land that lies within 50 ft. across a water body from such a site. Ownership is determined by the records of the local tax assessors office; or
- b) Under the Wetlands Protection Act, an abutter is the owner of properties within 100 ft. of the property line of the land where the activity is proposed, ...on the most applicable tax list of assessors, including, but not limited to, owners of land directly opposite said proposed activity on any public or private street or way, and in another municipality or across a body of water.

Anadromous Fish - Fish that enter fresh water from the ocean to spawn.

Areas of Critical Environmental Concern - Areas of Critical Environmental Concern (ACECs) are places in Massachusetts that receive special recognition because of the quality, uniqueness, and significance of their natural and cultural resources. These areas are identified and nominated at the community level and are formally reviewed and designated by the state's Secretary of Environmental Affairs. State agencies, such as DEP, that are under the Secretariat's purview are directed to acquire useful scientific data on ACECs, ensure that activities in or impacting an area minimize adverse effects on the resources, and apply close scrutiny to the environmental review of projects subject to their jurisdiction.

Bordering Vegetated Wetlands – A type of freshwater wetland that is protected under the Wetlands Protection Act. It is a swamp, bog, wet meadow, or marsh that borders on a creek, stream, river, pond or lake.

Catadromous fish - Fish that enter salt water from fresh water to spawn.

Coastal Beach – Unconsolidated sediment subject to wave, tidal, and coastal storm action that forms the gently sloping shore of a body of salt water and including tidal flats. Coastal beaches extend from the low water line landward to the dune line, coastal bank line, or the seaward edge of existing man-made structures, when the structures replace one of the above lines, whichever is closest to the ocean.

Coastal Dune – Any natural hill, mound, or ridge of sediment landward of a coastal beach deposited by wind action or storm overwash. Coastal dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.

Commonwealth Tidelands – Tidelands held by the Commonwealth in trust for the benefit of the public, or held by another party by license or grant of the commonwealth subject to an express or implied condition that it be used for a public purpose. Generally, Commonwealth Tidelands running seaward of the historic low water mark or of a line running 1650 feet seaward of the historic high water mark, whichever is farther landward.

Glossary

Conservation Commissions – Conservation commissions are volunteer boards appointed by the executive authority in each community to administer the Massachusetts Wetlands Protection Act on the local level. (The mayor or board of selectmen assumes the conservation commission's responsibilities where no commission has been established.)

Deposition – The process of sedimentation or the placing of a solid material from a state of suspension or solution in a fluid (usually air or water).

Designated Port Areas – Areas that have been developed for maritime commerce and industry to promote commercial fishing, shipping and other vessel related activities associated with waterborne commerce and production activities reliant upon marine transport or the withdrawal or discharge of large volumes of water. Also, these areas are almost completely developed where few or no natural land forms or vegetation remains. Designated Port Areas are established and modified through the Massachusetts Coastal Management Office.

Determinations of Applicability –

- a) A written finding by a conservation commission as to whether a site or the work proposed is subject to the jurisdiction of the Wetlands Protection Act.
- b) DEP's Waterways Program may issue a separate type of Determination of Applicability that applies to Chapter 91 jurisdiction.

Dredging – The removal of materials including, but not limited to, rocks, bottom sediments, debris, sand, refuse, plant or animal matter in any excavating, cleaning, deepening, widening, or lengthening, either permanently or temporarily, of any flowed tidelands, rivers, streams, ponds, or other waters of the commonwealth.

Fill – Any unconsolidated material that is confined or expected to remain in place in a waterway. This does not include: material placed by natural processes, material placed on a beach for beach nourishment purposes, and dredged material placed below the low water mark for purposes of subaqueous disposal.

Filled tidelands – Former submerged lands and tidal flats which are no longer subject to tidal action due to the presence of fill.

Fish Runs – Areas within estuaries, ponds, streams, creeks, rivers, lakes or coastal waters, which are spawning or feeding grounds or passageways for Anadromous or Catadromous fish.

Flowed tidelands – Present submerged lands and tidal flats that are subject to tidal action.

Great ponds – Great ponds and lakes are bodies of water that contained 10 acres or more in their natural state. Ponds that were 10 acres or more originally, but have become smaller for any reason, are still considered to be great ponds.

High Water Mark – For tidelands, the present high tide line as established by the present arithmetic mean of the water heights observed at high tide over a specific 19-year Metonic cycle, determined by using hydrographic survey data of the National Ocean Survey and the US Department of Commerce. For great ponds, rivers and streams, the present arithmetic mean of high water heights observed over a one-year period using the best available data as determined by DEP.

Historic High Water Mark – The high water mark that existed prior to human alteration of the shoreline by filling, dredging, excavating, impounding, or by other means.

Glossary

Historic Low Water Mark – The low water mark that existed prior to human alteration of the shoreline by filling, dredging, excavating, impounding, or by other means.

Intertidal – The area between the high water and low water marks.

Jetting - Injection of water under pressure, usually from jets located on opposite sides of a pile, to pre-excavate a hole for inserting a pile into the ground.

Land Containing Shellfish – Land under the ocean, tidal flats, rocky intertidal shores, salt marshes, and land under salt ponds when any such land contains shellfish.

Land Under the Ocean – Land extending from the mean low water line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries.

Low Water Mark – the present mean low tide line, as established by the present arithmetic mean of water heights observed at low tide over a specific 19-year Metonic cycle, determined by using hydrographic survey data of the National Ocean Survey and the US Department of Commerce.

Notice of Intent – An application under the Wetlands Protection Act to do work that will alter any area(s) subject to jurisdiction of the Act.

Order of Conditions – A document issued by the municipal conservation commission under the Wetlands Protection Act containing conditions that regulates or prohibits an activity that alters any area(s) subject to jurisdiction of the Act.

Private Tidelands – Tidelands held by a private party subject to an easement of the public for the purposes of navigation and free fishing and fowling and of passing freely over and through the water. Generally, private tidelands lie landward of the historic low water mark or of a line running 1650 feet seaward of the historic high water mark, whichever is farther landward.

Public Waterfront Act – Massachusetts General Laws Chapter 91, also known as the state “waterways” law administered by the Waterways program.

Rocky Intertidal Shores - Naturally occurring rocky areas, such as bedrock or boulder-strewn areas between the mean high water line and the mean low water line.

Scouring – The clearing and digging action of flowing water, especially the downward erosion caused by stream water in sweeping away mud and silt from the streambed and outside bank of a curved channel.

Shellfish – Includes the following: Bay scallops, Blue Mussel, Ocean Quahog, Oyster, Quahog, Razor Clam, Sea Clam, Sea Scallop, and Soft Clam.

Structure – Any man-made object which is intended to remain in place in, on, over, or under tidelands, great ponds, or other waterways. Structures do not include any mooring, float or raft which has been authorized by annual permit of the local harbormaster.

Glossary

Superseding Determination of Applicability - A written finding by DEP as to whether a site or the work proposed is subject to the jurisdiction of the Wetlands Protection Act. DEP's finding occurs after an appeal of a conservation commission's Determination of Applicability.

Superseding Order of Conditions – A document issued by DEP under the Wetlands Protection Act containing conditions that regulates or prohibits an activity that impacts or alters wetland resource area(s) specified under the Act. DEP's Order occurs after an appeal of a conservation commission's Order of Conditions.

Tidelands – Present and former submerged lands and tidal flats lying below the present or historic high water mark, whichever is farther landward, and the seaward limit of state jurisdiction. Tidelands include flowed and filled tidelands, private tidelands and Commonwealth Tidelands.

Water-dependent Uses – Those uses and facilities which require direct access to, or location in, waterways and therefore cannot be located inland, including but not limited to: marinas, recreational uses, navigational and commercial fishing and boating facilities, water-based recreational uses, navigation aids, basins, and channels.

Waterway – any area of water and associated submerged land or tidal flat lying below the high water mark of any navigable river or stream, and Great Pond, or any portion of the Atlantic Ocean within state jurisdiction.

Wetlands Protection Act – The Massachusetts Wetlands Protection Act (Massachusetts General Laws Chapter 131, Section 40) states that no person may remove, fill, dredge, or alter certain wetland resource areas without first filing a Notice of Intent and obtaining an Order of Conditions. The Act requires that the Order contain certain conditions to preserve and promote the protection of public or private water supply and groundwater supply, flood control, storm damage protection, the prevention of pollution and the protection of fisheries, land containing shellfish, and wildlife habitat.

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