

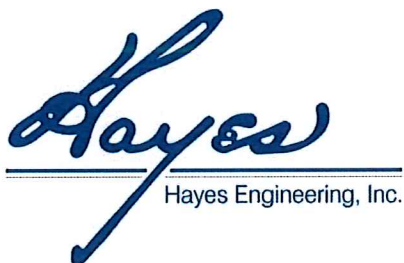
Applicant:  
Eric and Fiona Devroe  
#4 Haywood Farm  
Lynnfield, MA 01940

Project File: LYF-0803E

# Notice of Intent Application

Proposed Swimming Pool  
#4 Haywood Farm  
Lynnfield, Massachusetts

April 2023



603 Salem Street  
Wakefield, MA 01880  
Tel: (781) 246-2800  
Fax: (781) 246-7596

Nantucket, MA 02554  
Tel: (508) 228 -7909

**TABLE OF CONTENTS  
NOTICE OF INTENT  
#4 HAYWOOD FARM  
LYNNFIELD, MASSACHUSETTS**

April 19, 2023

<u>Identifying Number / Letter</u>	<u>Title / Date</u>
<b>SECTION A</b>	WPA Form 3- Notice of Intent and NOI Wetland Fee Transmittal Form – Proposed Swimming Pool, #4 Haywood Farm, Lynnfield, MA (including USGS Locus Map, Certified List of Abutters (April 2023), Abutter Notification letter, and Affidavit of Service).
<b>SECTION B</b>	Project Narrative, Proposed Swimming Pool, #4 Haywood Farm, Lynnfield, MA; April 19, 2023, including Google Aerial Photograph Showing Locus (2019).
<b>SECTION C</b>	Erosion and Sedimentation Control, #4 Haywood Farm, Lynnfield, MA; April 5, 2023.
<b>PLAN</b>	Plan to Accompany Notice of Intent, Lynnfield, Mass, #4 Haywood Farm; Hayes Engineering, Inc.; Scale: 1"= 10' and as noted; Dated: April 18, 2023 (2 Sheets).



**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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Lynnfield

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):

4 Haywood Farm  
(Lot 2 in the Haywood Farm subdivision)

Lynnfield

b. City/Town

01940

c. Zip Code

Latitude and Longitude:

42.54259

d. Latitude

-71.06214

e. Longitude

23

f. Assessors Map/Plat Number

186

g. Parcel /Lot Number

2. Applicant:

Eric and Fiona

a. First Name

Devroe

b. Last Name

c. Organization

4 Haywood Farm

d. Street Address

Lynnfield

e. City/Town

MA

f. State

01940

g. Zip Code

(617) 460-7323

h. Phone Number

i. Fax Number

Eric.Devroe@gmail.com

j. Email Address

3. Property owner (required if different from applicant):

☐ Check if more than one owner

Same as applicant.

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):

a. First Name

b. Last Name

Hayes Engineering, Inc.

c. Company

603 Salem Street

d. Street Address

Wakefield

e. City/Town

MA

f. State

01880

g. Zip Code

(781)246-2800

h. Phone Number

(781)2467586

i. Fax Number

lwallis@hayeseng.com

j. Email address

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

\$110.00

a. Total Fee Paid

\$42.50

b. State Fee Paid

\$67.50

c. City/Town Fee Paid



**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands

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

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City/Town

**A. General Information (continued)**

6. General Project Description:

The applicant proposes to install a swimming pool with adjacent patios and landscaped areas as shown on the accompanying plan and as described in the attached project narrative.

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 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)

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:

Essex South

a. County

40442

c. Book

b. Certificate # (if registered land)

287

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

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**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.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
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 type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet	2. square feet
	3. cubic yards dredged	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced

f. ☐ Riverfront Area

1. Name of Waterway (if available) - **specify coastal or inland**

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 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:

a. total square feet \_\_\_\_\_ b. square feet within 100 ft. \_\_\_\_\_ c. square feet between 100 ft. and 200 ft. \_\_\_\_\_

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☐ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

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



**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

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**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>	<u>Proposed Replacement (if any)</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. ☐ 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. ☐ Project Involves Stream Crossings

a. number of new stream crossings \_\_\_\_\_

b. number of replacement stream crossings \_\_\_\_\_



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**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](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:**

MassGISNHESP  
Online Mapping

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

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 \*\*

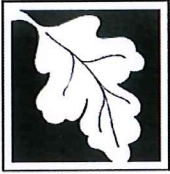
- (a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)
- (b) ☐ Photographs representative of the site

\* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <https://www.mass.gov/mas-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

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**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](mailto: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](mailto: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

Provided by MassDEP:

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

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

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

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**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.

Refer to attached document "Table of Contents" for titles and dates of submitted materials.

a. Plan Title

Hayes Engineering, Inc.

Peter J. Ogren, P.E., P.L.S.

b. Prepared By

c. Signed and Stamped by

d. Final Revision Date

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:

2. Municipal Check Number  
150

3. Check date  
4/10/23

4. State Check Number  
150

5. Check date  
4/10/23

6. Payor name on check: First Name  
Eric J DeVroe

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

## WPA Form 3 – Notice of Intent

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### 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.

*Elin Devroe*

1. Signature of Applicant

2. Date

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

6. Date

*Elizabeth Wallis-Hays Engineering, Inc.* 4/12/23

#### 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:

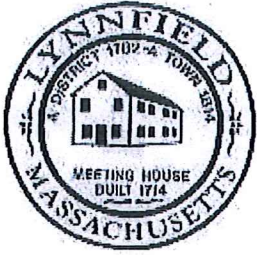
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

#### 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.





# TOWN OF LYNNFIELD

## ASSESSORS OFFICE

55 Summer Street, Lynnfield, MA 01940

781-334-9450

[www.town.lynnfield.ma.us](http://www.town.lynnfield.ma.us)

### REQUEST FOR CERTIFIED ABUTTERS LIST

**\*\*CERTIFIED LIST WILL BE PROVIDED WITHIN TEN WORKING DAYS \*\***

PROPERTY LOCATION: #4 Haywood Farm (Devroe)

ASSESSORS MAP#: 23 LOT #: 186

*FEE: \$15.00 for first five pages, \$1.00 after each consecutive page.*

☒ **CONSERVATION COMMISSION**  
Within 100 ft.

☐ **BOARD OF APPEALS**  
Within 300 ft.

☐ **PLANNING BOARD**  
Within 300 ft.

☐ **BOARD OF HEALTH**  
Immediate abutter and  
directly across the street

REQUESTED BY: Elizabeth Wallis Hayes Engineering, Inc. Date: 4/5/23

PHONE NUMBER (781)246-2800 EMAIL: lwallis@hayeseng.com

-----Assessors Use Only-----

CERTIFIED BY: Theresa C. Palmer DATE: 4/5/23

# OF PAGES \_\_\_\_\_ DATE PAID: \_\_\_\_\_ CASH \$/Amt: \_\_\_\_\_ CHECK #/Amt: \_\_\_\_\_





# 100 foot Abutters List Report

Lynnfield, MA

April 05, 2023

## Subject Property:

Parcel Number: 0023-0000-0186  
CAMA Number: 0023-0000-0186  
Property Address: 4 HAYWOOD FARM

Mailing Address: DEVROE ERIC J T/E DEVROE FIONA T/E  
4 HAYWOOD FARM  
LYNNFIELD, MA 01940

---

## Abutters:

Parcel Number: 0022-0000-0796  
CAMA Number: 0022-0000-0796  
Property Address: 258 CHESTNUT ST

Mailing Address: FRATTAROLI NANCY  
258 CHESTNUT STREET  
LYNNFIELD, MA 01940

Parcel Number: 0023-0000-0128  
CAMA Number: 0023-0000-0128  
Property Address: 261 CHESTNUT ST

Mailing Address: TORAN RICHARD E, JR T/E TORAN ANN  
J, T/E  
261 CHESTNUT STREET  
LYNNFIELD, MA 01940

Parcel Number: 0023-0000-0142  
CAMA Number: 0023-0000-0142  
Property Address: 276 CHESTNUT ST

Mailing Address: MARDIROS AURELIAN MARDIROS  
ANAHID  
4 BRIDLE PATH  
LYNNFIELD, MA 01940

Parcel Number: 0023-0000-0165  
CAMA Number: 0023-0000-0165  
Property Address: 6 HAYWOOD FARM

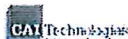
Mailing Address: BROWN JEFFREY, T/E BROWN  
KIMBERLY, T/E  
6 HAYWOOD FARM  
LYNNFIELD, MA 01940

Parcel Number: 0023-0000-0281  
CAMA Number: 0023-0000-0281  
Property Address: 1 HAYWOOD FARM

Mailing Address: MAGGIORE REALTY TRUST MAGGIORE  
MATTHEW P TR  
1 HAYWOOD FARM  
LYNNFIELD, MA 01940

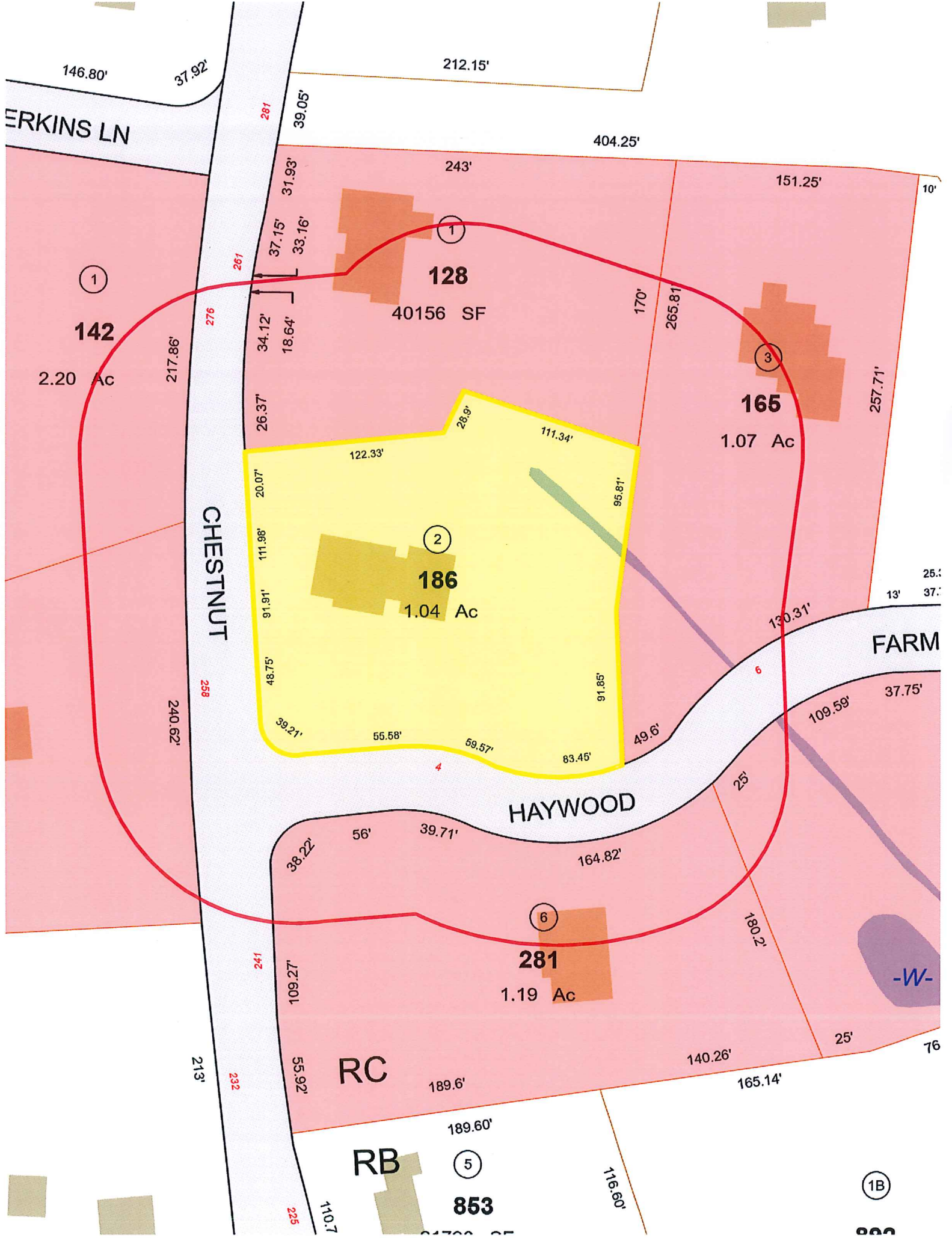
Parcel Number: 0023-0000-0288  
CAMA Number: 0023-0000-0288  
Property Address: 7 HAYWOOD FARM

Mailing Address: SHARLA J SIEVE REVOCABLE TRUST  
ROYCROFT LISA TR  
7 HAYWOOD FARM  
LYNNFIELD, MA



www.cai-tech.com

Data shown on this report 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 report.





## AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act

(to be submitted to the Massachusetts Department of  
Environmental Protection and the Conservation Commission  
when filing a Notice of Intent)

I, Elizabeth Wallis, hereby certify under the pains and  
penalties of perjury that on 4/20/23 I gave notification to abutters in  
compliance with the second paragraph of Massachusetts General Laws, Chapter 131,  
Section 40, and the **DEP Guide to Abutter Notification** dated April 8, 1994, in  
connection with the following matter:

Pool construction.

A Notice of Intent filed under the Massachusetts Wetlands Protection Act has been submitted by  
Eric and Fiona Devroe with the Lynnfield Conservation Commission on \_\_\_\_\_ for  
property located at #4 Haywood Farm (Assessors Map 23, Lot 186)

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

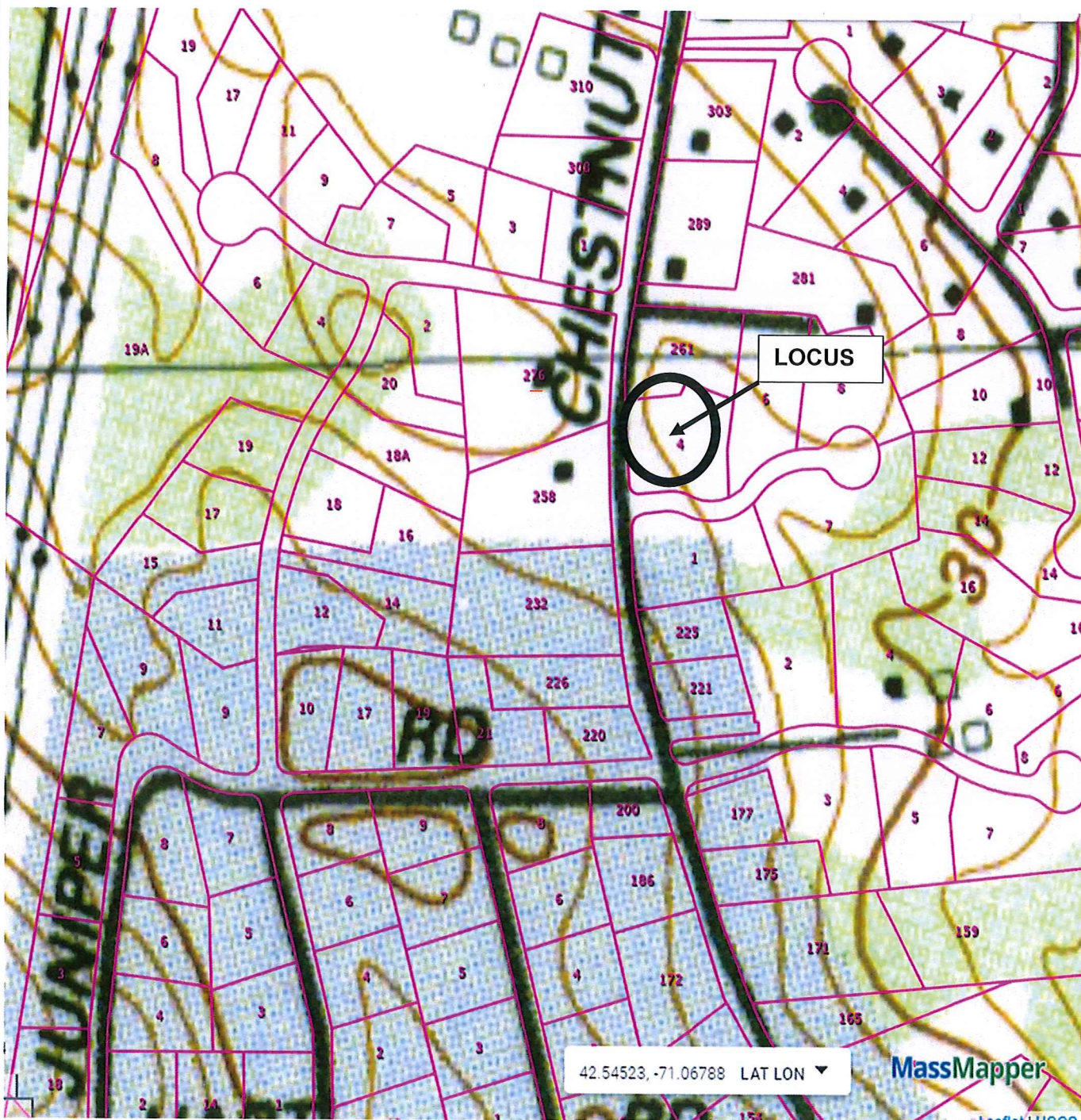
Elizabeth Wallis Hayes Engineering, Inc. 4/20/23  
Name - Signature Date



HAYES ENGINEERING, INC.  
CIVIL ENGINEERING &  
LAND SURVEYORS



603 SALEM STREET  
WAKEFIELD, MA 01880  
(781) 246-2800

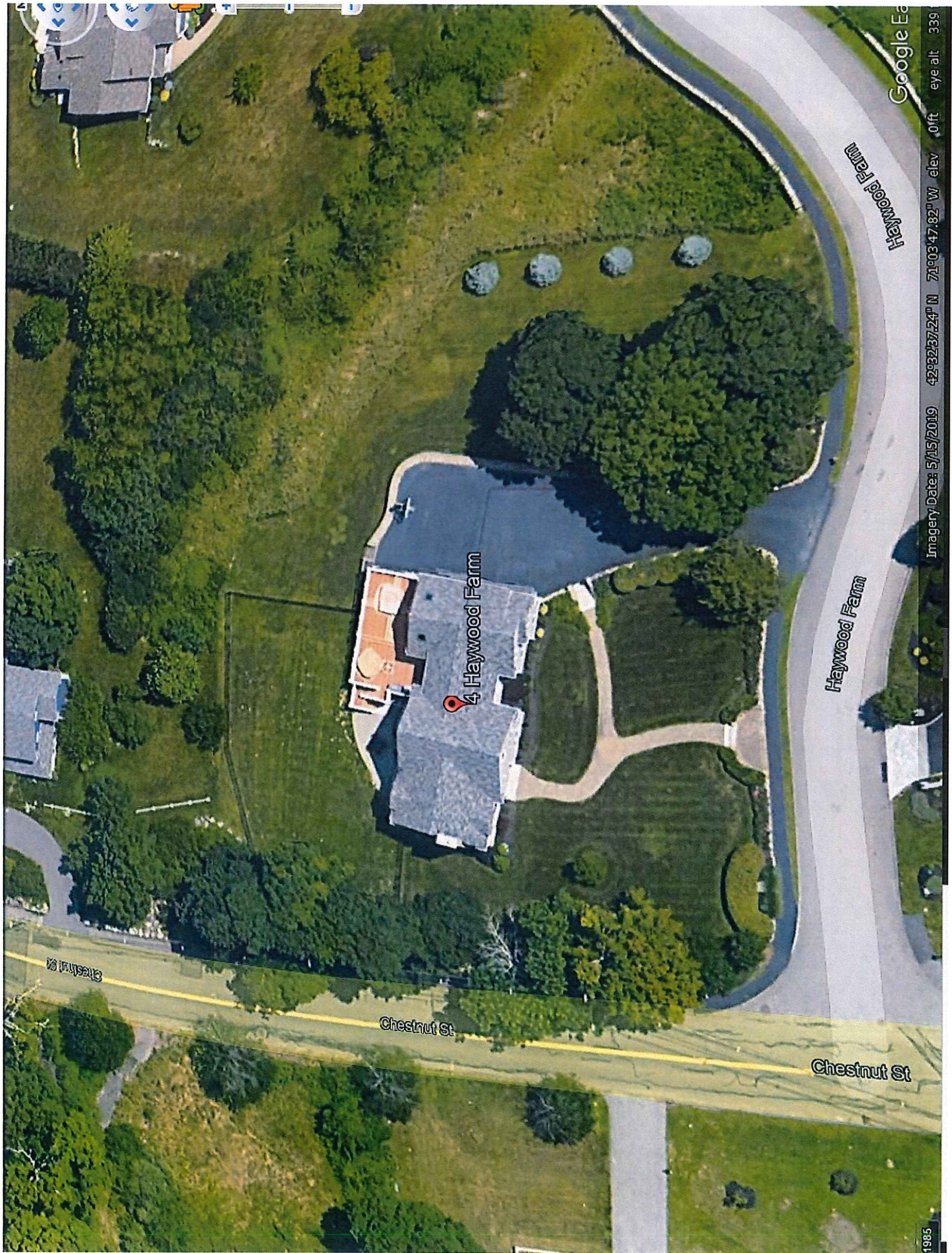


UNITED STATES GEOLOGICAL SURVEY MAP  
25K MASSGIS QUADRANGLE  
(Map Source: MassGIS "MassMapper" Online Mapping)

LOCUS MAP  
#4 HAYWOOD FARM ROAD  
LYNNFIELD, MASSACHUSETTS











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:

4 Haywood Farm  
(Lot 2 in the Haywood Farm subdivision)

Lynnfield

b. City/Town

c. Check number

d. Fee amount

2. Applicant Mailing Address:

Eric and Fiona

a. First Name

Devroe

b. Last Name

c. Organization

4 Haywood Farm

d. Mailing Address

Lynnfield

e. City/Town

MA

f. State

01940

g. Zip Code

(617) 460-7323

h. Phone Number

i. Fax Number

Eric.Devroe@gmail.com

j. Email Address

3. Property Owner (if different):

Same as applicant.

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).

[illegible]

### Step 6/Fee Payments:

Total Project Fee:	<u>\$110.00</u>
	a. Total Fee from Step 5
State share of filing Fee:	<u>\$42.50</u>
	b. 1/2 Total Fee <b>less</b> \$12.50
City/Town share of filling Fee:	<u>\$67.50</u>
	c. 1/2 Total Fee <b>plus</b> \$12.50

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.)

ERIC J DEVROE  
FIONA S DEVROE

152

55-760/0312  
00385

4/10/23

Date

Pay to the  
Order of

The Lynnfield Villages

\$ 50.00

Fifty and  $\frac{00}{100}$  only

Dollars



Photo  
Safe  
Deposit  
Details on back



PNC Bank, N.A. 060

For 4 Haywood Farm

Eric Devroe

MP

⑆031207607⑆ 8141550707⑆ 0152

Harland Clarke

ERIC J DEVROE  
FIONA S DEVROE

150

55-760/0312  
00385

4/10/23

Date

Pay to the  
Order of

The Commonwealth of Massachusetts

\$ 42.50

Forty-two and  $\frac{50}{100}$  only

Dollars



Photo  
Safe  
Deposit  
Details on back



PNC Bank, N.A. 060

For 4 Haywood Farm, Lynnfield

Eric Devroe

MP

⑆031207607⑆ 8141550707⑆ 0150

Harland Clarke

ERIC J DEVROE  
FIONA S DEVROE

151

55-760/0312  
00385

4/10/23

Date

Pay to the  
Order of

Town of Lynnfield

\$ 67.50

Sixty seven and  $\frac{50}{100}$  only

Dollars



Photo  
Safe  
Deposit  
Details on back



PNC Bank, N.A. 060

For 4 Haywood Farm

Eric Devroe

MP

⑆031207607⑆ 8141550707⑆ 0151

Harland Clarke



**PROJECT NARRATIVE  
PROPOSED SWIMMING POOL  
#4 HAYWOOD FARM  
LYNNFIELD, MASSACHUSETTS**

April 19, 2023

**Existing Conditions**

The site locus is a 45,264± s.f. developed residential property formerly known as Haywood Farm Subdivision Lot 2 and located on the eastern side of Haywood Farm at the intersection of Chestnut Street. Property features include a single-family house with garage, utilities, septic system, paved driveway, walkways, retaining walls, decks, patios, and grassed yards and other landscaping. Site features are shown on the accompanying April 2023 Hayes Engineering, Inc. plan titled "Plan to Accompany Notice of Intent in Lynnfield, Mass, #4 Haywood Farm" and attached Google Map aerial photographs.

A wet meadow-type wetland bordering an intermittent stream is present within the eastern portion of the property, thereby placing portions of the house, garage, driveway, patio, and rear yard within the 100-foot buffer zone protected under the Massachusetts Wetlands Protection Act and its promulgated Regulations. The extent of this wetland, demarcated by Hayes Engineering, Inc. flags #A6- A9B, was initially determined through an Order of Resource Area Delineation issued by the Lynnfield Conservation Commission in 2003 and used in the lot development design approved in the 2007 Haywood Farm Order of Conditions. The Lynnfield Conservation Commission subsequently reviewed the Hayes Engineering, Inc. wetland flags in 2013 relative to issuance of the Order of Conditions for the garage addition (DEP file 209-0536), resulting in a revision to the wetland boundary with wetland flags A8B and A9B as shown on the above-referenced plan. The extent of wetland remains as determined at that time and as demarcated by a row of planted trees and conservation marker posts.

**Proposed Conditions**

The project will consist of three general activities: preparing the work area, constructing the pool and installing associated structures, and finally project completion through proposed landscaping and site cleanup as shown on the accompanying Notice of Intent plan. Work site preparation will include installing siltation control mulch socks along the project area closest to the wetland, creating a temporary opening in the rear yard fence for machine access, placing a construction waste container in the vicinity of the work, removing the existing 533± s.f. rear patio structure, and removing vegetation in work areas. Pool construction will include excavating and grading as required, then installing pool, retaining wall, patio, and drainage structures as shown on the above-referenced plan. Project completion will include accomplishing planned landscaping (e.g. install landscape plants within the designated areas, re-seeding of disturbed lawn areas, and placement of walkway stepping stones), re-installing fence sections, and removing construction debris and any remaining materials and tools.

All areas of bare soil resulting from this project will be loamed and seeded or otherwise stabilized. Construction and demolition debris will be placed in an appropriate disposal container for

transport off of the site. Machine access to the work site will be gained from the street (Haywood Farm) and routed along the lawn area between the driveway and the wetland boundary.

### **Impacts**

As noted above, only a portion of the proposed pool project is located within 100 feet of the wetlands. Buffer zone impacts have been minimized through placement of the pool and patio structures at least 50 feet from the wetland boundary as possible, providing stormwater management devices to intercept runoff from impervious surfaces, and locating activities within areas occupied by existing lawn and other manmade disturbances. As designed, the new work will result in approximately 1,637± s.f. of buffer zone disturbance, including 603± s.f. of pool, 642± s.f. of new paver patio, and 392± s.f. of proposed landscape planting and disturbances related to installation of stormwater management structures. Addition of the pool and patio will result in a moderate increase in overall lot imperviousness from 7,215± s.f. to 7,966± s.f.; however, this will be mitigated by the integration of a stormwater management system wherein patio runoff and pool splash over will be intercepted by a series of slot drains and routed through drain pipe and shallow drain basin structures into a StormTech chamber system for recharge and detention. If chamber capacity is reached, detained stormwater will be directed into an overflow outlet pipe and drain basin to discharge through a flared end with level spreader in the lawn for infiltration and sheet flow toward the wetland. Pool project stormwater devices will be maintained as outlined in the Operation and Maintenance section below.

Erosion control procedures will be implemented as described in the attached document, "Erosion and Sedimentation Control" to protect adjacent bank resource area and buffer zone areas from sediment and personnel encroachment.

### **Stormwater BMP Operation and Maintenance**

Proposed stormwater management system components for the pool project consist of Dura-Tech slot drains, StormTech SC-160LP subsurface chambers, Nyloplast drain basins, and flared outlet. These devices shall be maintained as described below. The current property owner and all future property owners are responsible for the maintenance of the pool stormwater management system. Inspections may be conducted by the Homeowner or representatives of the system construction contractor and design engineer as desired.

#### **Slot Trench**

Slot trenches and associated drain piping will be installed within the pool paver patio as the first in a stormwater treatment train. These grated trenches are intended as a first pre-treatment device to filter out leaves and other debris to prevent clogging of the downstream treatment devices which would lead to water backing up onto the patio. As such, patio sweeping and regular slot trench maintenance is essential to preserve the integrity of the stormwater system well into the future.

Slot trenches shall be inspected and maintained once a year during the Fall season after leaf drop. Inspection includes first sweeping leaves and any debris off of the patio and away from the trench, observing the condition of the grate for any wear or damage, removing the grate and observing condition of the trench pipe for damage, and observing the amount of sediment and debris in the trench and any clogging. Trench clean-out activities shall be conducted using trench cleaning paddles or similar tools to pull out accumulations of debris and sediment and remove any clogs. Once the bulk of the accumulated material has been removed, trenches shall be further



cleaned through water flushing. Damaged or worn grate or trench components shall be replaced to maintain stormwater control functions. Refer to the attached trench maintenance description obtained from the manufacturer's website (<https://www.duratrench.com/single-post/how-to-clean-and-maintain-a-trench-drain-system/>).

#### Nyloplast Drain Basin

There are two drain basins, one receiving stormwater from the trenches and directing it into the chamber system (inlet basin) and the other receiving overflow discharge from the chambers and directing to the flared pipe outlet (outlet basin). Both structures are essential for capturing any fine sediments that get through upstream devices and promoting proper stormwater flowage as designed. Any clogging in these structures could result in water backing up into the trenches and patio, so regular maintenance of dense vegetation cover surrounding the system as well as upstream pre-treatment devices and these basins is essential to preserve stormwater management system functions.

The Manufacturer recommends opening and inspecting these structures for sediment accumulation, damage, and proper drainage flow after storms during the first year of operation as described in the attached "Maintenance Guide" document obtained from the manufacturer's website (<https://assets.adspipe.com/m/17ad3a6c885bfe67/original/Drain-Basin-Nyloplast-Maintenance-Guide>). Hayes Engineering, Inc. recommends continuing basin inspections of the structure for damage and clogs on a yearly basis concurrently with the above slot trench inspection. As specified in the attached "Maintenance Guide", drain basins shall be cleaned using the services of a professional vacuum truck when significant sediment and debris accumulations are observed. Damaged or worn basin components shall be replaced to maintain proper function.

#### StormTech Chambers

A subsurface recharge system composed of connected chamber units will receive patio stormwater runoff piped through the upstream slot drain and drain basin devices. The project contractor shall be responsible for installing the chambers in the manner specified by the manufacturer (details provided on the above-referenced plan and found at the ADS website <https://www.adspipe.com/stormtech>), including ensuring that the necessary crushed stone and filter fabric are free of soil and sediment at the time of installation so as to prevent premature clogging of the system.

Recharge systems are generally prone to failure due to clogging and so a dense cover of vegetation and regular cleaning of the patio and pre-treatment devices are the priority maintenance activities for the chamber system. In this circumstance where the chambers are solely receiving relatively clean runoff from the pool patio and regularly maintained upstream treatment devices, it is unlikely that this system will experience that type of failure and so the system should need little maintenance. Nonetheless, the chamber system should be inspected on a regular basis through the inspection port to identify significant sediment accumulations and presence of long-term ponding or clogging within the chamber system. Generally, the subsurface system will be inspected after every major storm (defined as 0.5 inches or greater of rain resulting from a single or multiple-day storm event) for the first few months after construction to ensure that proper function has been achieved. Ponded water inside the chambers (as visible from the inspection port) after 24 hours or several days most likely indicates that the bottoms of the pipes are clogged.

If poor conditions are observed (a general accumulation of 3 inches or more of sediment or leaf debris measured with a tape, yard stick, or stadia rod or pipes are clogged with sediments or



debris) and the recharge system is constructed with an Isolator Row, the services of a professional Jet-Vac truck will be needed to provide chamber clean out maintenance as recommended in the "Isolator Row O & M Manual found at <https://www.adspipe.com/stormtech/resources/stormtech-faqs> . Otherwise, if the system is in poor condition and does not include an Isolator Row, the system will need to be reconstructed in consultation with a professional engineer.

### **Lynnfield Environmental Bylaw Performance Standard Compliance**

#### **25' No Disturb Zone**

The project locates all permanent disturbance activities outside of the 25-foot No-Disturbance Zone and thus complies with this performance standard (machinery will gain access to the worksite through this Zone, but impacts would be minor and temporary). Note that most of the area within this Zone is currently disturbed by lawn and other manmade disturbances.

#### **50' No Build Zone**

The project locates all new pool, patio, and subsurface chamber structures outside of the 50-foot No- Build Zone and thus complies with this performance standard. Soil and vegetation disturbances will occur with the 25' – 50' buffer zone due to chamber system overflow pipe installation and planting of landscape areas. Note that most of the area within this Zone is currently disturbed by lawn and other manmade disturbances.

# ADS<sup>®</sup> Nyloplast<sup>®</sup> Drain Basin Maintenance Guide

The Nyloplast Drain Basin is an engineered PVC surface drainage structure. These drain basins are custom manufactured according to the plans/takeoff specified by the site engineer. Nyloplast Drain Basins have a quick production time, creates watertight connections, and provide simple and quick installations. They ship to the job site ready to install. This allows for fast, easy, hassle free installations with a product built specifically to the engineer's specifications.

Installation shall be in accordance with Nyloplast installation procedures and those issued by local building/construction regulations. The required minimum sump located in the typical installation is for manufacturing purposes. Due to these manufacturing restrictions, the sump may collect sediment over time and the structure could require some maintenance.



## Maintenance Recommendations

- Over the span of the first year of a new installation, visually inspect each basin every 2 months or after 2 storm events once the site has stabilized.
- Check for obstructions and debris at the openings of the grate and remove as needed.
- After cleaning the surface of the grate, remove the grate from the frame.
- Once the grate is removed from the frame, check for obstructions and debris inside the basin (including the sump and inlet and outlet pipes) and clean out as needed.
- A vacuum truck is best for the removal of debris when necessary. After the collection of the debris, it shall be disposed of according to the local environment requirements.
- After the maintenance or inspection of the structure completed, set the grate back in the frame so it sits flush and does not rock.
- Once the monitoring period is over, it is best to continually schedule maintenance based on the amount of debris or sediment that accumulates over time.



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[adspipe.com](http://adspipe.com)  
1-800-821-6710



# How to Clean and Maintain a Trench Drain System

📅 March 16, 2023

## TRENCH DRAIN KNOWLEDGE

Trench drains are one of the best drainage solutions for many applications. They are practical and work really well, and they are easy to care for. They are also pleasant to look at since they are quite discrete and can be made more attractive with decorative grate covers.

If you are thinking about installing this kind of drainage system, you might be wondering how you clean and care for it. Maintenance of your trench drain system is important. Knowing how to care for a trench drain system is important to protect the function and longevity of your drainage system.



## Do Trench Drains Require Maintenance?

As mentioned above, trench drains require maintenance. All drain types require maintenance at least annually. Depending upon the location of your trench drain, you might have to undertake maintenance processes a few times a year to prevent drainage blockages and other issues.

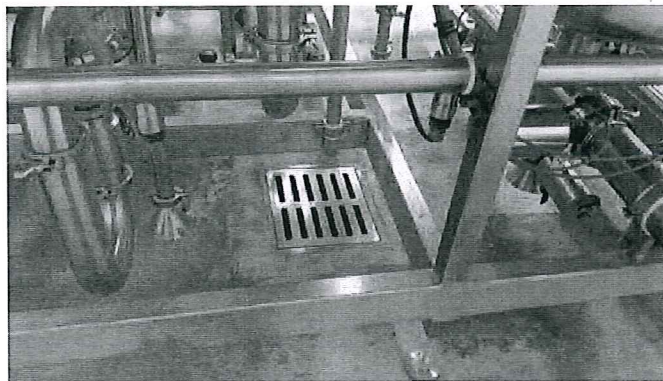


The more debris or chemical exposure that a trench drain suffers exposure to on a daily basis, the more often it will need to be maintained and cleaned. Trench drains that are in industrial locations often need to be cleaned weekly, but home drainage systems might be fine with one maintenance session a year.

## Why is Maintaining a Drainage System Important?

It's critical to maintain your trench drain system so that it does not become clogged with dirt or debris and to ensure that the drain itself will not be undermined. Drains that are clogged badly can actually fail, and chemical exposure without cleanup can also lead to the breakdown of some drain materials.

Caring for your trench drain setup is critical to ensure that your drains are going to work properly and to make sure that they last for many years. Some locations will not put much pressure on a drain, and you might never think about cleaning out these drains. However, over time, there will be silt, debris, and other detritus that will collect in any trench drain. This can still lead to problems with your drain's performance and longevity over time, which is why all trench drains need to be checked out and maintained at least once a year.



## How do you Maintain a Drainage System?

There are some key steps that need to be taken to care for and maintain any trench drainage system. Knowing about these steps can help you to keep your drain performing perfectly throughout every season and for years of use.

## **Keep Areas Around the Drain Clean**

The first thing that everyone should know about caring for a trench drain system is that you need to keep the area around the trench clear of debris like leaves, mud, or offal from industrial processes. It is much easier to clean up these kinds of messes before they go into the drain and potentially clog it. The cleaner the area around your trench drain, the better the health of your trench drainage system as a whole.

## **Clean Out the Trench**

It is easier to clean out your trench drains than you might think. Industrial locations often have set protocols for this work to be done weekly at least, but homeowners might not realize that they can undertake these tasks too. You can lift out the drain covers over your trench drain and rinse or sweep out the material that had fallen into the drain. There are various cleaning tools that are made to clean out trench drainage systems, and you could invest in these tools to help clean up any messes or debris that have been collecting in the bottom of the trench.

## **Take Care of Clogs Right Away**

If your drains are backing up when it rains hard or when there is a lot of runoff that needs to pass through them, you need to make sure that you clean out the clog that is causing this issue right away. If you find out that a clog is not the problem and the drain has failed for some reason, you need to attend to this issue right away as well. When water runs underneath the trench drain itself, it can undermine the entire system and wash away the support for the entire structure of the drain. You will want to take care of standing water issues and clogs as soon as possible for the well-being and longevity of your drain system.



## Keep the Grates On

Sometimes grates will get knocked off the trench, or they might start to wear out and allow in larger items to wash down the drain. When your trench drain is open to the elements without the benefit of a grate, large items can get washed into the trench and cause damage to it. This can lead to all kinds of problems along the entire length of the drainage system, which you will want to avoid.

On top of problems with the drain itself, you might also be exposing people around the trench to injury or accidents related to slipping or falling into the open trench. The grates on your trench drains are a key part of the correct performance of the entire drainage system. Keeping them in good repair and in place over the trench is critical for the well-being of your trench drain system.

## Caring for a Trench Drain System is Easy

Unlike many other drainage solutions, caring for a trench drain system is quite simple. This kind of drain is meant to be hardy and to hold up to daily use and abuse. You will probably be able to get away with providing maintenance to your drainage systems only once a year unless you notice problems in the drain's performance.

Make sure that you keep the area around your drains clear of debris and refuse and that you replace missing or broken grates right away. Taking these kinds of steps all year long will help to ensure that your drainage system lasts for years to come.

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### Join Our Mailing List



**EROSION AND SEDIMENTATION CONTROL  
#4 HAYWOOD FARM  
LYNNFIELD, MASSACHUSETTS**

April 5, 2023

**PART I - GENERAL**

**QUALITY ASSURANCE**

- A. The applicant and all site contractors shall be responsible for reviewing, and taking steps to meet, all requirements contained in the Order of Conditions issued by the Conservation Commission for this project.
- B. Follow siltation control methods as outlined below, shown on the plan and as directed by Engineer.
- C. Operations will be restricted to areas of work indicated on drawings (and clearly marked on site) and area which must be entered for construction of temporary or permanent facilities.
- D. Conservation Commission has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and fill operations, and to direct immediate permanent or temporary pollution control measures to prevent contamination of wetlands, including construction of temporary berms, sediment basins, sediment traps, slope drains and use of temporary mulches, mats or other control devices or methods as necessary to control erosion.
- E. Temporary stockpiles of soil shall be located in an upland area (not to exceed the limit of construction as demarcated by siltation fencing shown on the plan) and be surrounded with an erosion control barrier to prevent sediments from encroaching upon adjacent resource areas.

**PART 2 – EROSION CONTROL BARRIERS**

Erosion barriers shall be installed along wetland boundaries as shown on the Notice of Intent Plan prior to commencement of any site work. Barriers specified on the plan shall be installed as specified below. Alternative types of barriers (i.e straw, coir or Filtrexx™ type logs) may be used with the approval of the Conservation Commission and Project Engineer, and be installed per manufacturer's instructions. The approved alternative barrier must be designed and sized specifically for conditions on this site. After initial barrier installation, site personnel shall perform weekly inspections of, and maintain, the siltation control barrier during construction. Inspections of the siltation control barrier shall also be performed prior to and immediately following major (>1") rainfall event. After all construction activities are completed, and the areas of bare soil are vegetated and or stabilized, the siltation control barriers may be removed upon approval of the Conservation Commission. It is important that the disturbed areas previously occupied by the siltation control barriers, as well as adjacent areas, be repaired and vegetated immediately after removal of the barriers.

## A. MATERIALS

### Staked Haybale Barrier

1. Hay or straw bales, enough to accomplish length specified on plan and 10 to be reserved for replacement or barrier re-enforcement use, as needed.
2. 2-inch by 2-inch by 3.5-foot wooden stakes for hay bales, two stakes per bale.

### Filter Fences

#### A. Synthetic Filter Fabric

1. Synthetic filter fabric (i.e Marafi or other brand of siltation control filter fabric) shall consist of a pervious sheet of propylene, nylon, polyester or ethylene filaments. Standard or extra –strength filter fabric may be installed.
2. Certified by manufacturer or supplier as conforming to the following requirements:

<u>Physical Property</u>	<u>Minimum Requirements</u>
Filtering Efficiency	75 percent
Tensile Strength at 20% (maximum) Elongation	Extra Strength: 50 lbs./ linear inch Standard Strength: 30 lbs../ linear inch
Flow Rate	.3 gal./ sq.ft.

#### B. Non-synthetic Filter Fabric

1. Shall consist of burlap fabric weighing 10 ounces per square yard.

#### C. Filter Fabric Support

1. Posts or stakes for filter fences shall be of sufficient size and strength to support the fabric. Steel posts shall have projections for fastening wire to them.
2. When standard strength filter fabric fencing is used on a sloped location, the fabric shall be reinforced by wire mesh fence. Wire fence reinforcement for filter fences shall be a minimum of 36 inches in height, a minimum of 14 gauge and a maximum mesh spacing of 6 inches.

## B. INSTALLATION

### 1. Location

Install erosion controls prior to commencement of construction activities along limits of work area as specified on plan, surrounding bases of all deposits of stored fill material outside of disturbed area, and where directed by the Conservation Commission.

### 2. Barrier Installment



- A. Hay Bales  
Hay bales, if specified, will be embedded in the soil a minimum of 4 inches. Hold bales in place with two 2-inch by 2-inch by 3.5-foot stakes so that each bale is butted tightly against adjoining bale, thereby precluding short-circuiting of erosion check. The first stake in each bale shall be driven toward the previously-laid bale to push the bales together.
- B. Filter Fences (If required)
  - 1. Excavate trench along post line 6 inches wide and 6 inches deep on the upslope side of the barrier.
  - 2. Space posts a maximum of 10 feet apart and drive them a minimum of 12 inches into the ground. The posts should not be greater than 36 inches above the ground.
  - 4. Staple, wire or tie the standard or extra- strength filter fabric to the posts. The fabric shall extend 8 inches into the trench and shall not extend more than 36 inches above the ground. Do not staple filter fabric to existing trees.
  - 5. Backfill trench and compact soil over filter fabric.
  - 6. When extra-strength filter fabric or burlap and closer post spacing (6 ' max.) is used for projects on slopes, wire mesh support may be eliminated, in which case the filter fabric is stapled, wired or tied directly to the posts with all other provisions of item 4 applying.

### **PART 3 – POLLUTION CONTROL MEASURES**

- A. Discharge silt-laden water from excavations onto filter fabric mat and/or baled hay or straw sediment traps to ensure that only sediment-free water is returned to wetland areas. Sediment traps, if needed, should be constructed by standard methods.
- B. Do not place soil backfill material adjacent to resource areas without proper siltation controls or otherwise preventing the soil from washing away by high water or runoff.
- C. Do not dump any materials into any streams, wetlands, surface waters or unspecified locations.
- D. Do not dispose of trees, brush, debris, paints, chemicals, asphalt products, concrete curing compounds, fuels, lubricants, insecticides, washwater from concrete trucks or hydroseeders, or any other pollutant into any streams, wetlands, surface waters or natural or man-made channels leading thereto, or unspecified locations.
- E. No disturbance or alteration of any kind allowed between the specified limit of work and the flagged wetland boundary.
- F. Prevent any operation of equipment outside the designated limit of work (erosion control barrier).

- G. Prevent indiscriminate, arbitrary or capricious operation of equipment in surface waters.

## **PART 5 – EQUIPMENT STORAGE AND REFUELING**

- A. All equipment refueling shall take place as far away as possible from wetlands as possible.
- B. All equipment shall be parked as far away as possible from the on-site wetland boundary or removed from the site at the end of the workday.
- C. No permanent or temporary storage of fuel and / or lubricants allowed on the site.

## **PART 6 – STABILIZATION TECHNIQUES**

- A. Protecting and Minimizing Exposed Areas

Steps shall be taken to minimize area of bare soil exposure by preserving existing vegetation and providing soil stabilization. Equipment and trucks shall be routed only over areas of proposed work and workers shall minimize foot traffic in vegetated areas adjacent to the work area as much as possible. During site work, utilization of stabilization techniques is necessary for controlling erosion on exposed areas, including grading, seeding and otherwise stabilizing the areas.

- B. Sediment And Erosion Control / Soil Stabilization

- i) Prior to any construction occurring adjacent to identified resource areas (shown on the plan and/or marked in the field, proper erosion and siltation barriers will be installed so that throughout and until completion of construction, those areas will be afforded maximum protection. Temporary stockpiles of soil shall be surrounded with an erosion control barrier to prevent sediments from exiting the subject property. All erosion control barriers are to be Maintained and periodically inspected until areas of bare soil are stabilized to ensure that they are in functioning condition. Any accumulations of sediments present along erosion control barriers shall be removed as soon as possible after deposition in order to ensure the effectiveness of all sedimentation controls.
- ii) On sites where grading or other work will occur on moderately steep slopes (3:1 and greater) located immediately upgradient of wetlands, the contractor shall work on one portion of the slope at a time, ensuring the stability of the disturbed soil by immediately loaming and seeding the slope, or otherwise vegetating the slope as desired, and installing erosion control mats (straw or cocoanut fiber designed for the slope steepness). If work is interrupted and the slope is to be left bare or otherwise unstabilized for duration of a day or more, a series of erosion control fences oriented parallel to the slope contours shall be installed along the length of slope.

- C. Vegetational Covers



## 1. Temporary Vegetational Cover

Any area proposed for removal of vegetation where soil will be exposed for more than 10 days shall be mulched or otherwise treated to prevent erosion. On sediment-producing areas in the buffer zone, where the period of exposure will be more than 30 days, the following procedures should be followed for a cover of annual rye. When bare soils are not completely graded and vegetated by September 30 of any year, winter rye shall be planted as specified in table and mulched with three (3) inches of hay or straw.

- a. Install needed surface water control measures.
- b. Perform all cultural operations at right angles to the slope.
- c. Establish grass or other ground cover species as recommended in the attached excerpt (pgs 144 -146) from Massachusetts Erosion and Sedimentation Guidelines for Urban and Suburban Areas, 2003.

## 2. Permanent Vegetational Cover

To reduce damages from the potential incidence of sedimentation and runoff to other properties, and to avoid erosion on the site itself, a permanent type cover shall be established in disturbed areas located adjacent to resource areas immediately upon completion of grading. Seeding herbaceous cover is usually the most economical and practical way to stabilize any large area. For this site, all disturbed areas where lawns are desired will be seeded in Fall during the period of August 1 to October 1; or in spring by May 15 with a commercial lawn mixture utilizing standard landscape methods and as recommended by the seed manufacturer. Grass sod or landscape plantings may be used instead of seed, if preferred.

In upland/ buffer zone areas, outside of lawn locations, where an erosion control - wildlife seed mixture is desired, prepare soil and use one of grass seed mixes #1 through #6 as recommended in the attached excerpts (pgs 136 -139) from Massachusetts Erosion and Sedimentation Guidelines for Urban and Suburban Areas 2003, to establish a stable, permanent cover.

## REFERENCES

Department of Environmental Protection, Bureau of Resource Protection and U.S. Environmental Protection Agency, Massachusetts Erosion and Sedimentation Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers and Municipal Officials. Massachusetts Executive Office of Environmental Affairs, Boston, Massachusetts, Reprint: May 2003.

Use low-maintenance native species wherever possible.

Planting should be timed to minimize the need for irrigation.

Sheet erosion, caused by the impact of rain on bare soil, is the source of most fine particles in sediment. To reduce this sediment load in runoff, the soil surface itself should be protected. The most efficient and economical means of controlling sheet and rill erosion is to establish vegetative cover. Annual plants which sprout rapidly and survive for only one growing season are suitable for establishing temporary vegetative cover. Temporary seeding is effective when combined with construction phasing so bare areas of the site are minimized at all times.

Temporary seeding may prevent costly maintenance operations on other erosion control systems. For example, sediment basin clean-outs will be reduced if the drainage area of the basin is seeded where grading and construction are not taking place. Perimeter dikes will be more effective if not choked with sediment.

Proper seedbed preparation and the use of quality seed are important in this practice just as in permanent seeding. Failure to carefully follow sound agronomic recommendations will often result in an inadequate stand of vegetation that provides little or no erosion control.

Soil that has been compacted by heavy traffic or machinery may need to be loosened. Successful growth usually requires that the soil be tilled before the seed is applied. Topsoiling is not necessary for temporary seeding; however, it may improve the chances of establishing temporary vegetation in an area.

## **Planting Procedures**

### **Time of Planting**

Planting should preferably be done between April 1 and June 30, and September 1 through September 30. If planting is done in the months of July and August, irrigation may be required. If planting is done between October 1 and March 31, mulching should be applied immediately after planting. If seeding is done during the summer months, irrigation of some sort will probably be necessary.

### **Site Preparation**

Before seeding, install needed surface runoff control measures such as gradient terraces, interceptor dike/swales, level spreaders, and sediment basins.

### **Seedbed Preparation**

The seedbed should be firm with a fairly fine surface.

Perform all cultural operations across or at right angles to the slope. See **Topsoiling** and **Surface Roughening** for more information on seedbed preparation. A minimum of 2 to 4 inches of tilled topsoil is required.



***Annual ryegrass used for temporary seeding***

Ryegrass reseeds itself and makes it difficult to establish a good cover of permanent vegetation.

***Seed not broadcast evenly or rate too low***

Results in patchy growth and erosion.

**Maintenance**

Inspect within 6 weeks of planting to see if stands are adequate. Check for damage after heavy rains. Stands should be uniform and dense. Fertilize, reseed, and mulch damaged and sparse areas immediately. Tack or tie down mulch as necessary.

Seeds should be supplied with adequate moisture. Furnish water as needed, especially in abnormally hot or dry weather or on adverse sites. Water application rates should be controlled to prevent runoff.

**References**

Massachusetts Department of Environmental Protection, Office of Watershed Management, Nonpoint Source Program, Massachusetts **Nonpoint Source Management Manual**, Boston, Massachusetts, June, 1993.

North Carolina Department of Environment, Health, and Natural Resources, **Erosion and Sediment Control Field Manual**, Raleigh, NC, February 1991.

U.S. Environmental Protection Agency, **Storm Water Management For Construction Activities**, EPA-832-R-92-005, Washington, DC, September, 1992.

Washington State Department of Ecology, **Stormwater Management Manual for the Puget Sound Basin**, Olympia, WA, February, 1992.

**Silt Curtain**

A temporary sediment barrier installed parallel to the bank of a stream or lake. Used to contain the sediment produced by construction operations on the bank of a stream or lake and allow for its removal.

**Where Practice Applies**

The silt curtain is used along the banks of streams or lakes where sediment could pollute or degrade the stream or lake.

### Seeding Dates

Seeding operations should be performed as an early spring seeding (April 1-May 15) with the use of cold treated seed. A late fall early winter dormant seeding (November 1 - December 15) can also be made, however the seeding rate will need to be increased by 50%.

### Seeding Methods

Seeding should be performed by one of the following methods:

- ☐ Drill seedings (de-awned or de-bearded seed should be used unless the drill is equipped with special features to accept awned seed).
- ☐ Broadcast seeding with subsequent rolling, cultipacking or tracking the seeding with small track construction equipment. Tracking should be oriented up and down the slope.
- ☐ Hydroseeding with subsequent tracking. If wood fiber mulch is used, it should be applied as a separate operation after seeding and tracking to assure good seed to soil contact.

### Mulch

Mulch the seedings with straw applied at the rate of ½ tons per acre. Anchor the mulch with erosion control netting or fabric on sloping areas.

### Seed Mixtures for Permanent Cover

Recommended mixtures for permanent seeding are provided on the following pages. Select plant species which are suited to the site conditions and planned use. Soil moisture conditions, often the major limiting site factor, are usually classified as follows:

**Dry** - Sands and gravels to sandy loams. No effective moisture supply from seepage or a high water table.

**Moist** - Well drained to moderately well drained sandy loams, loams, and finer; or coarser textured material with moderate influence on root zone from seepage or a high water table.

**Wet** - All textures with a water table at or very near the soil surface, or with enduring seepage.

When other factors strongly influence site conditions, the plants selected must also be tolerant of these conditions.



## Permanent Seeding Mixtures

Seed, Pounds per:

Mix	Site	Seed Mixture	Acre	1,000 sf	Remarks
1	Dry	Little Bluestem	10	0.25	* Use Warm Season planting procedure.
		or Broomsedge	1	0.10	* Roadsides
		Tumble Lovegrass*	10	0.25	* Sand and Gravel Stabilization
		Switchgrass	2	0.10	* Clover requires inoculation with nitrogen-fixing bacteria
		Bush Clover*	1	0.10	
		Red Top			* Rates for this mix are for PLS.
2	Dry	Deertongue	15	0.35	* Use Warm Season planting procedures.
		Broomsedge	10	0.25	* Acid sites/Mine spoil
		Bush Clover*	2	0.10	* Clover requires inoculation with nitrogen-fixing bacteria.
		Red Top	1	0.10	
3	Dry				* Rates for this mix are for PLS.
		Big Bluestem	10	0.25	* Use Warm Season planting procedures.
		Indian Grass	10	0.25	* Eastern Prairie appearance
		Switchgrass	10	0.25	* Sand and Gravel pits.
		Little Bluestem	10	0.25	* Golf Course Wild Areas
		Red Top or	1	0.10	* Sanitary Landfill Cover seeding
		Perennial Ryegrass	10	0.25	* Wildlife Areas
4	Dry				* OK to substitute Poverty Dropseed in place of Red Top/Ryegrass.
					* Rates for this mix are for PLS.
		Flat Pea	25	0.60	* Use Cool Season planting procedures
		Red Top or	2	0.10	* Utility Rights-of-Ways (tends to suppress woody growth)
5	Dry	Perennial Ryegrass	15	0.35	
		Little Bluestem	5	0.10	* Use Warm Season planting procedures.
		Switchgrass	10	0.25	* Coastal sites
		Beach Pea*	20	0.45	* Rates for Bluestem and Switchgrass are for PLS.
6	Dry - Moist	Perennial Ryegrass	10	0.25	
		Red Fescue	10	0.25	* Use Cool Season planting procedure.
		Canada Bluegrass	10	0.25	* Provides quick cover but is non-aggressive; will tend to allow indigenous plant colonization.
		Perennial Ryegrass	10	0.25	
		Red Top	1	0.10	* General erosion control on variety of sites, including forest roads, skid trails and landings.
7	Moist-Wet	Switchgrass	10	0.25	* Use Warm Season planting procedure.
		Virginia Wild Rye	5	0.10	* Coastal plain/flood plain
		Big Bluestem	15	0.35	* Rates for Bluestem and Switchgrass are for PLS.
		Red Top	1	0.10	



## Permanent Seeding Mixtures

Seed, Pounds per:

Mix	Site	Seed Mixture	Acre	1,000 sf	Remarks
8	Moist	Creeping Bentgrass	5	0.10	* Use Cool Season planting procedures.
	Wet	Fringed Brome grass	5	0.10	* Pond Banks
		Fowl Meadowgrass	5	0.10	* Waterways/ditch banks
		Bluejoint Reedgrass			
		or Rice Cutgrass	2	0.10	
		Perennial Ryegrass	10	0.25	
9	Moist	Red Fescue	5	0.10	*Salt Tolerant
	Wet	Creeping Bentgrass	2	0.10	* Fescue and Bentgrass provide low growing appearance, while Switchgrass provides tall cover for wildlife.
		Switchgrass	8	0.20	
		Perennial Ryegrass	10	0.25	
10	Moist	Red Fescue	5	0.10	* Use Cool Season planting procedure.
	Wet	Creeping Bentgrass	5	0.10	* Trefoil requires inoculation with nitrogen fixing bacteria.
		Virginia Wild Rye	8	0.20	
		Wood Reed Grass*	1	0.10	* Suitable for forest access roads, skid trails and other partial shade situations.
		Showy Tick Trefoil*	1	0.10	
11	Moist	Creeping Bentgrass	5	0.10	* Use Cool Season planting procedure.
	Wet	Bluejoint Reed Grass	1	0.10	* Suitable for waterways, pond or ditch banks.
		Virginia Wild Rye	3	0.10	* Trefoil requires inoculation with nitrogen fixing bacteria.
		Fowl Meadow Grass	10	0.25	
		Showy Tick Trefoil*	1	0.10	
		Red Top	1	0.10	
12	Wet	Blue Joint Reed Grass	1	0.10	* Use Cool Season planting procedure.
		Canada Manna Grass	1	0.10	* OK to seed in saturated soil conditions, but not in standing water.
		Rice Cut Grass	1	0.10	
		Creeping Bent Grass	5	0.10	* Suitable as stabilization seeding for created wetland.
		Fowl Meadow Grass	5	0.10	* All species in this mix are native to Massachusetts.
13	Dry -	American Beachgrass 18"		18'	*Vegetative planting with dormant culms, 3-5 culms per planting centers
	Moist			centers	
14	Inter-	Smooth Cordgrass 12-18"		12-18"	* Vegetative planting with transplants.
	Tidal	Saltmeadow Cordgrass		centers	centers



**Notes:**

\* Species such as Tumble Lovegrass, Fringed Bromegrass, Wood Reedgrass, Bush Clover and Beach Pea, while known to be commercially available from specific seed suppliers, may not always be available from your particular seed suppliers. The local Natural Resources Conservation Service office may be able to help with a source of supply. In the event a particular species listed in a mix can not be obtained, however, it may be possible to substitute another species.

*Seed mixtures by courtesy of Natural Resources Conservation Service, Amherst, MA.*

**(PLS) Pure Live Seed**

Warm Season grass seed is sold and planted on the basis of pure live seed. An adjustment is made to the bulk rate of the seed to compensate for inert material and non-viable seed. Percent of pure live seed is calculated by multiplying the percent purity by the percent germination;  $(\% \text{ purity}) \times (\% \text{ germination}) = \text{percent PLS}$ .

For example, if the seeding rate calls for 10 lbs./acre PLS and the seed lot has a purity of 70% and germination of 75%, the PLS factor is:

$$(.70 \times .75) = .53$$

$$10 \text{ lbs. divided by } .53 = \text{approx. } 19 \text{ lbs.}$$

Therefore, 19 lbs of seed from the particular lot will need to be applied to obtain 10 lbs. of pure live seed.

**Special Note**

Tall Fescue, Reed Canary Grass, Crownvetch and Birdsfoot Trefoil are no longer recommended for general erosion control use in Massachusetts due to the invasive characteristics of each. If these species are used, it is recommended that the ecosystem of the site be analyzed for the effects species invasiveness may impose. The mixes listed in the above mixtures include either species native to Massachusetts or non-native species that are not perceived to be invasive, as per the Massachusetts Native Plant Advisory Committee.

**Wetlands Seed Mixtures**

For newly created wetlands, a wetlands specialist should design plantings to provide the best chance of success. Do not use introduced, invasive plants like reed canarygrass (*Phalaris arundinacea*) or purple loosestrife (*Lythrum salicaria*). Using plants such as these will cause many more problems than they will solve.

The following grasses all thrive in wetland situations:

- ☞ Fresh Water Cordgrass (*Spartina pectinata*)
- ☞ Marsh/Creeping Bentgrass (*Agrostis stolonifera*, var. *Palustris*)
- ☞ Broomsedge (*Andropogon virginicus*)
- ☞ Fringed Bromegrass (*Bromus ciliatus*)
- ☞ Blue Joint Reed Grass (*Calamagrostis canadensis*)
- ☞ Fowl Meadow Grass (*Glyceria striata*)
- ☞ Riverbank Wild Rye (*Elymus riparius*)
- ☞ Rice Cutgrass (*Leersia oryzoides*)
- ☞ Stout Wood Reed (*Cinna arundinacea*)
- ☞ Canada Manna Grass (*Glyceria canadensis*)