



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40  
Boxford Wetlands Protection Bylaw, Town Code Ch. 192 & 375

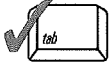
MassDEP File Number

Document Transaction Number

Boxford

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):

17 Pye Brook Lane

a. Street Address

Boxford

b. City/Town

01921

c. Zip Code

Latitude and Longitude:

30

f. Assessors Map/Plat Number

d. Latitude

e. Longitude

2-2

g. Parcel /Lot Number

2. Applicant:

Matthew and Stacey

a. First Name

Ovanes

b. Last Name

c. Organization

17 Pye Brook Lane

d. Street Address

Boxford

e. City/Town

Ma

f. State

01921

g. Zip Code

978-561-1443

h. Phone Number

i. Fax Number

sovanes@hotmail.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):

Gordon

a. First Name

Rogerson

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

781-246-7596

i. Fax Number

grogerson@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



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## A. General Information (continued)

### 6. General Project Description:

Proposed addition to an existing house along with installing a pool, cabana, patio and retaining walls, removal of existing bushes and rebuild existing walkway. Install a single car garage.

### 7a. Project Type Checklist:

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Single Family Home                | 2. <input type="checkbox"/> Residential Subdivision                   |
| 3. <input type="checkbox"/> Limited Project Driveway Crossing | 4. <input type="checkbox"/> Commercial/Industrial                     |
| 5. <input type="checkbox"/> Dock/Pier                         | 6. <input type="checkbox"/> Utilities                                 |
| 7. <input type="checkbox"/> Coastal Engineering Structure     | 8. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) |
| 9. <input type="checkbox"/> Transportation                    | 10. <input checked="" type="checkbox"/> Other                         |

### 7b. Is any portion of the proposed activity eligible to be treated as a 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:

2. Limited Project

### 8. Property recorded at the Registry of Deeds for:

Essex South

a. County

29361

c. Book

b. Certificate # (if registered land)

271

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.

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 type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet	2. square feet
	3. cubic yards dredged	



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

Table with 3 columns: Resource Area, Size of Proposed Alteration, Proposed Replacement (if any). Rows include: d. Bordering Land Subject to Flooding, e. Isolated Land Subject to Flooding, f. Riverfront Area (checked) with sub-questions 1 and 2.

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 (checked)

3. Total area of Riverfront Area on the site of the proposed project: 161607 square feet

4. Proposed alteration of the Riverfront Area:

2120 a. total square feet, 1538 b. square feet within 100 ft., 582 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 (checked)

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

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

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.

Table with 3 columns: Resource Area, Size of Proposed Alteration, Proposed Replacement (if any). Rows include: a. Designated Port Areas, b. Land Under the Ocean, c. Barrier Beach, d. Coastal Beaches, e. Coastal Dunes.



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

	<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. <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 BWV	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

## C. Other Applicable Standards and Requirements

### 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://www.mass.gov/dfwele/dfw/nhesp/regulatory\\_review/priority\\_habitat/online\\_viewer.htm](http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/online_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  
100 Hartwell Street, Suite 230  
West Boylston, MA 01583

b. Date of map \_\_\_\_\_



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

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.1.d, 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).*

### 1. 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

3.  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

(c)  MESA filing fee (fee information available at:

[http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/ mesa/ mesa\\_fee\\_schedule.htm](http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_fee_schedule.htm)).

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

### d. 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, [http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/ mesa/ mesa\\_exemptions.htm](http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_exemptions.htm); 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 \_\_\_\_\_

\* Some projects not in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <http://www.mass.gov/dfwele/dfw/nhosp/nhosp.htm>, regulatory review tab). 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.



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

- 3.  Separate MESA review completed.  
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.
- 2. 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 or hand delivery of NOI to either:

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

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -  
Southeast Marine Fisheries Station  
Attn: Environmental Reviewer  
1213 Purchase Street – 3rd Floor  
New Bedford, MA 02740-6694

Division of Marine Fisheries -  
North Shore Office  
Attn: Environmental Reviewer  
30 Emerson Avenue  
Gloucester, MA 01930

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.

- 3. 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

- 4. 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

- 5. 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

- 6. 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

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



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

- 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

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.
- 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.

Plan to Accompany Notice of Intent

a. Plan Title

Hayes Engineering, Inc.

Peter J. Ogren

b. Prepared By

c. Signed and Stamped by

April 1, 2015

1"=20'

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.



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## E. Fees

- 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:

See copy

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name

## 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.

1. Signature of Applicant

2. Date

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

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.



**EROSION AND SEDIMENTATION CONTROL  
17 PYE BROOK LANE  
BOXFORD, MASSACHUSETTS**

April 2015

**PART I - GENERAL**

- A. The applicant and site contractors shall be responsible for reviewing, and taking steps to meet all requirements contained in the Order of Conditions issued by the Boxford 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 to areas that must be entered for construction of temporary or permanent facilities.
- D. Siltation controls along areas of grading and at catch basins shall be checked frequently and maintained in functioning condition throughout the duration of site work so as to prevent encroachment upon adjacent resource areas. If siltation control barriers are damaged or washed away, contact the Conservation Commission and Engineer, and repair /remove materials and silt accumulations from fouled areas as directed.
- E. Conservation Commission has authority 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.
- F. Temporary storage areas for demolition materials and mechanized equipment shall be kept as far away from adjacent resource areas as possible.
- G. Equipment and trucks shall be routed only over the existing pavement and workers shall avoid foot traffic in vegetated areas adjacent to the work area.

**PART 2 – EROSION CONTROL BARRIERS**

Erosion control barriers shall be installed along the limit of work as shown on the Notice of Intent plan prior to commencement of any site work 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 manufacturers 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. 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 shall consist of a pervious sheet of propylene, nylon, polyester or ethylene filaments.
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.

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 Boxford 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

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 strength filter fabric to the posts. The fabric should be pulled tight between 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. Backfill trench and compact soil over filter fabric.
6. Provide wildlife passage corridor with baffle for every 100' of fence installation. Passage shall be 18" wide between stakes, and baffle shall be installed parallel to fence, offset 18" from fenceline, and overlapping passage by 48" on either side of break.

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

- A. Sedimentation control devices (i.e. hay bales, filter fabric, silt bag, fiber roll or other approved device) shall be installed at, or within, catch basins to effectively prevent sediments from entering the drainage system during construction. These devices shall be inspected frequently and maintained in functioning condition throughout site construction.
- B. 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.
- C. 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.
- D. Do not dump any materials into any streams, wetlands, surface waters or unspecified locations.
- E. Do not pump silt-laden water from trenches or excavations into surface waters, streams, wetlands or natural or man-made channels leading thereto.

- F. Do not dispose of trees, brush, debris, paints, chemicals, asphalt products, concrete curing compounds, fuels, lubricants, insecticides, wash water 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.
- G. No disturbance or alteration of any kind allowed between the specified limit of work and the wetland boundary or within adjacent wetlands.
- H. Prevent any operation of equipment outside the designated limit of work (silt fence).
- I. Take preventative measures to ensure that sediments generated by site work do not wash into catch basins and other components of the drainage system.

#### **PART 4 – STABILIZATION TECHNIQUES**

##### **A. Protecting and Minimizing Exposed Areas**

Steps shall be taken to minimize area of bare earth exposure by preserving existing vegetation and providing soil stabilization. Equipment and trucks shall be routed only over the existing paved or proposed work areas 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 are necessary for controlling erosion on exposed areas, including grading, seeding and otherwise stabilizing the areas.

##### **B. Sediment And Erosion Control**

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 or repaired 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 (if any) are stabilized to ensure that they are in functioning condition. Mirafi (or equivalent fabric) fencing and haybales shall be installed along the limit of work as shown on the above-mentioned plan. 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.

##### **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 136-137) 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.

### Liming and Fertilization

Apply uniformly 2 tons of ground limestone per acre (100 lbs. per 1,000 Sq. Ft.) or according to soil test.

Apply uniformly 10-10-10 analysis fertilizer at the rate of 400 lbs. per acre (14 lbs. per 1,000 Sq. Ft.) or as indicated by soil test. Forty percent of the nitrogen should be in organic form.

Work in lime and fertilizer to a depth of 4 inches using any suitable equipment.

Species	Seedings for Temporary Cover		Recommended Seeding Dates
	Seeding Rates lbs sq.ft. <u>1,000 Sq.Ft.</u>	<u>Acre</u>	
Annual Ryegrass	1	40	April 1 to June 1 Aug. 15 to Sept. 15
Foxtail Millet	0.7	30	May 1 to June 30
Oats	2	80	April 1 to July 1 August 15 to Sept. 15
Winter Rye	3	120	Aug. 15 to Oct. 15

"Hydro-seeding" applications with appropriate seed-mulch-fertilizer mixtures may also be used.

### Seeding

Select adapted species from the accompanying table.

Apply seed uniformly according to the rate indicated in the table by broadcasting, drilling or hydraulic application.

Cover seeds with suitable equipment as follows:

- Rye grass            ¼ inch
- Millet                ½ to ¾ inch
- Oats                  1 to 1-1/2 inches
- Winter rye          1 to 1-1/2 inches.

### Mulch

Use an effective mulch, such as clean grain straw; tacked and/or tied down with netting to protect seedbed and encourage plant growth.

### Common Trouble Points

#### *Lime and fertilizer not incorporated to at least 4 inches*

May be lost to runoff or remain concentrated near the surface where they may inhibit germination.

#### *Mulch rate inadequate or straw mulch not tacked down*

Results in poor germination or failure, and erosion damage. Repair damaged areas, reseed and mulch.

***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 or Broomsedge	10	0.25	* Use Warm Season planting procedure.
		Tumble Lovegrass*	1	0.10	* Roadsides
		Switchgrass	10	0.25	* Sand and Gravel Stabilization
		Bush Clover*	2	0.10	* Clover requires inoculation with nitrogen-fixing bacteria
		Red Top	1	0.10	* 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	* Rates for this mix are for PLS.
3	Dry	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 * OK to substitute Poverty Dropseed in place of Red Top/Ryegrass. * Rates for this mix are for PLS.
4	Dry	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)
		Perennial Ryegrass	15	0.35	
5	Dry	Little Bluestem	5	0.10	* Use Warm Season planting procedures.
		Switchgrass	10	0.25	* Coastal sites
		Beach Pea*	20	0.45	* Rates for Bluestein and Switchgrass are for PLS.
		Perennial Ryegrass	10	0.25	
6	Dry - Moist	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	

421  
197

LOT 10  
N36°14'20"E dh: N99°20'20"  
134.96 63.61

551.059, 45.11"E  
198.88

LOT 32

Note: Being a redivision of  
Lots 30 & 31, shown on a  
plan by Essex Survey Service  
dated Nov. 6, 1967, revised  
Aug. 19, 1968 and recorded  
at Essex South Registry of  
Deeds in Pl. Bk. 113, Pl. 15.  
Subject to all conditions  
so stated on above  
mentioned plan.

ESSEX REGISTRY OF DEEDS, SO. DIST. SALEM, MASS.

Received Sept. 20, 1974 with Deed:

Holman Realty, Inc. to  
Charles Grohn

Rec. B. 6100 P. 377 Filed No. 421 1974

Leo H. Jordan  
Register of Deeds

Holman Realty Inc.

LOT 31A  
Area Upland - 2.80 ± Ac.  
Area Marsh - 0.91 ± Ac.  
Total Area - 3.71 ± Ac.

N37°26'10"E  
200.00

BROOK

PYE

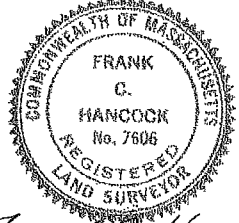
LOT 30A  
Area Upland - 1.06 ± Ac.  
Area Marsh - 1.21 ± Ac.  
Total Area - 2.27 ± Ac.

N46°17'37"W  
416.71

LANE

BROOK

PYE



Plan of Land  
in  
BOXFORD

Property of  
Holman Realty, Inc.

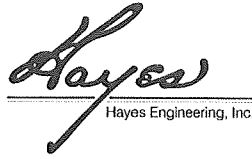
Scale: 1"=100' March 7, 1973

ESSEX SURVEY SERVICE INC.  
47 Federal Street, Salem

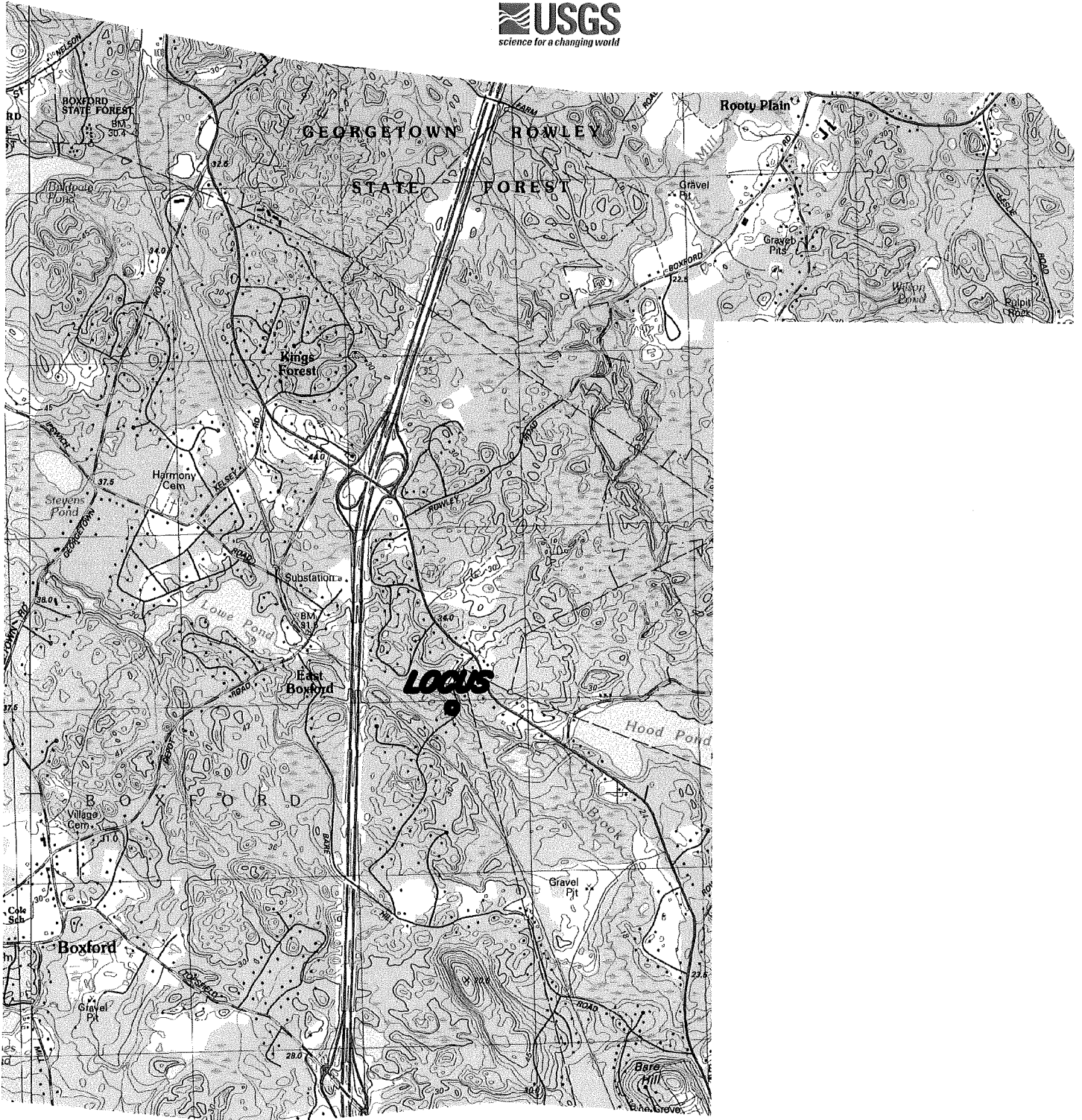
Approval under the Subdivision  
Control Law not required.  
Boxford PLANNING BOARD

Carole E. [Signature]  
[Signature]  
[Signature]  
[Signature]  
Pat [Signature]

HAYES ENGINEERING INC.  
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UNITED STATES GEOLOGICAL  
SURVEY MAP  
SCALE: 1:25,000  
(METRIC CONTOURS)

VICINITY MAP  
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