

**Notice of Intent
Proposed Single Family Dwelling
Broadway (vacant parcel)
Haverhill, Mass**

June 12, 2025

**Prepared For:
Five C Construction, LLC
PO Box 2157
Methuen, MA 01844**

Prepared By:



**1 East River Place
Methuen, MA 01844**

Project Description

This Notice of Intent (NOI) is submitted pursuant to the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40), its implementing regulations at 310 CMR 10.00, and the Haverhill Wetland Protection Ordinance. The applicant, Five C Construction, LLC, proposes to construct a single-family dwelling and associated site improvements within the 100-foot buffer zone of Bordering Vegetated Wetlands (BVWs) located on an undeveloped parcel along Broadway in Haverhill, Massachusetts. The subject property is identified as Assessor's Parcel 539-439-7E and consists of approximately 1.76 acres.

The proposed development includes the construction of a single-family residence, driveway, utility connections, site grading, and other necessary appurtenances (the "Project"). The proposed dwelling is situated within an upland portion of the site. However, wetlands occupy a substantial portion of the lot, and work associated with the Project will occur within the buffer zone to BVWs. As such, the applicant is requesting waivers from the Haverhill Conservation Commission's 25-foot No-Disturb Zone and 50-foot No-Build Zone to allow reasonable development of the property.

To mitigate impacts to the adjacent resource areas, a staked erosion control barrier will be installed at the limit of work prior to construction, in accordance with Massachusetts Department of Environmental Protection Best Management Practices (BMPs). These measures are intended to control sedimentation, manage runoff, and protect the downgradient wetlands during construction.

Wetland resource areas were delineated in the field by Norse Environmental Services and subsequently located by a professional land survey crew. A copy of the National Wetlands Inventory (NWI) map is attached and indicates the presence of wetlands consistent with field flagging, including Freshwater Emergent Wetlands and Freshwater Forested/Shrub Wetlands.

Soils within the proposed project area were identified using the USDA Web Soil Survey. The upland area supporting the dwelling is primarily composed of Woodbridge fine sandy loam (310B) with 3 to 8 percent slopes and classified as Hydrologic Soil Group D, indicating very slow infiltration when wet. The lower, wetland-dominated portion of the site consists of Whitman fine sandy loam (72A), with 0 to 3 percent slopes, classified as Hydrologic Soil Group C/D, which also suggests poor drainage and limited infiltration capacity.

A FEMA Flood Insurance Rate Map (FIRMette) for Panel 25009C0067F, effective July 3, 2012, is also attached. This map indicates that a portion of the site is located within FEMA Flood Zone A; however, the proposed structure is situated entirely outside of the floodplain.

In evaluating potential locations for the proposed single-family dwelling on the subject parcel, the applicant considered an alternative siting option that would place the house further back on the lot. However, locating the dwelling deeper into the lot would require the filling of approximately 705 square feet of wetlands and encroach more significantly into the 25-foot No-Disturb Zone and 50-foot No-Build Zone, particularly in the rear portions of the site where wetlands are more expansive and less defined. It would also require substantially more land

clearing and vegetation removal, increasing the project's disturbance footprint and the potential for habitat disruption and soil erosion. In addition, a longer paved driveway would be needed, which would increase impervious surface area, stormwater runoff, and associated impacts to surrounding resource areas. The longer access route and steeper grades toward the rear of the site would also pose challenges to implementing and maintaining erosion control measures.

By contrast, the currently proposed location—closer to the street and within a defined upland area—minimizes direct impacts to both the BVW and buffer zone and allows for a more compact, contained development footprint. This location also enables more effective use of existing topography and access, reduces impervious surfaces, and allows for more straightforward implementation of erosion control measures. As such, the proposed siting near the front of the property represents the least environmentally impactful and most practical alternative that balances the development needs of the applicant with the protection of on-site and adjacent resource areas.

In summary, the proposed single-family home will be constructed within an upland area of the lot, minimizing wetland impacts while providing feasible site access and use. The project has been designed to avoid and mitigate impacts to nearby BVWs and buffer zones, with erosion controls and BMPs in place. Alternative siting options were considered but found to result in greater environmental disturbance, supporting the current proposal as the most environmentally responsible and practical approach.

WPA Form 3



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

Haverhill

City/Town

Important:

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



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

A. General Information

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

0 Broadway

a. Street Address

Haverhill

b. City/Town

01832

c. Zip Code

Latitude and Longitude:

42-47'22"N

d. Latitude

71-08'47"W

e. Longitude

539

f. Assessors Map/Plat Number

439-7E

g. Parcel /Lot Number

2. Applicant:

Joseph

a. First Name

Fisichelli

b. Last Name

Five C Construction, LLC

c. Organization

PO Box 2157

d. Street Address

Methuen

e. City/Town

MA

f. State

01844

g. Zip Code

978-994-6502

h. Phone Number

jofis@comcast.net

j. Email Address

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

Michael & Paula

a. First Name

O'Dea

b. Last Name

c. Organization

258 Clubhouse Road

d. Street Address

Wells

e. City/Town

ME

f. State

04090

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Dennis

a. First Name

Griecci

b. Last Name

Andover Consultants, Inc.

c. Company

1 East River Place

d. Street Address

Methuen

e. City/Town

MA

f. State

01844

g. Zip Code

978-687-3828

h. Phone Number

dgriecci@andoverconsultants.com

j. Email address

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

\$500.00

a. Total Fee Paid

\$237.50

b. State Fee Paid

\$262.50

c. City/Town Fee Paid



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A. General Information (continued)

6. General Project Description:

Construction of a proposed single-family dwelling and driveway, including associated site grading and installation of utilities, within the buffer zone of bordering vegetated wetlands.

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

6812

c. Book

b. Certificate # (if registered land)

522

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.



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Bureau of Resource Protection - Wetlands

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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 3. cubic yards dredged	2. square feet

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



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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.

- a. ☐ Yes ☒ No **If yes, include proof of mailing or hand delivery of NOI to:**

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

8/1/2021

b. Date of map

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

- c. Submit Supplemental Information for Endangered Species Review*

1. ☐ Percentage/acreage of property to be altered:

(a) within wetland Resource Area

percentage/acreage

(b) outside Resource Area

percentage/acreage

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

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

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

(b) ☐ Photographs representative of the site

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



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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 - Bourne to Rhode Island border, and the Cape & Islands:

North Shore - Plymouth to New Hampshire border:

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

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

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

- c. ☐ Is this an aquaculture project?

- d. ☐ Yes ☐ No

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



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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.



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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.

Proposed Site Plan (two sheets)

a. Plan Title

Andover Consultants, Inc.

Dennis A. Griecci

b. Prepared By

c. Signed and Stamped by

June 12, 2025

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.

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:

2383
2. Municipal Check Number
2385
4. State Check Number
Five C Construction, LLC
6. Payor name on check: First Name

6/10/2025
3. Check date
6/10/2025
5. Check date
7. Payor name on check: Last Name



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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.

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <i>Joseph Fisichelli</i> <small>dotloop verified 06/09/25 3:30 PM EDT RMHR-R1ZN-C10X-NQ8M</small> </div> <div>1. Signature of Applicant</div>	<div>2. Date</div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <i>Michael O'Dea</i> <small>dotloop verified 06/04/25 12:28 PM EDT VWHL-HC12-UMAS-F1CQ</small> </div> <div>3. Signature of Property Owner (if different)</div>	<div>4. Date</div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <i>Dennis A. Grieco</i> <small>dotloop verified 06/04/25 12:28 PM EDT VWHL-HC12-UMAS-F1CQ</small> </div> <div>5. Signature of Representative (if any)</div>	<div>6. Date</div>

6/12/2025

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.



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NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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



A. Applicant Information

1. Location of Project:

0 Broadway

a. Street Address

Haverhill

b. City/Town

\$237.50

d. Fee amount

c. Check number

2. Applicant Mailing Address:

Joseph

a. First Name

Fisichelli

b. Last Name

Five C Construction, LLC

c. Organization

PO Box 2157

d. Mailing Address

Methuen

e. City/Town

MA

f. State

01844

g. Zip Code

978-994-6502

h. Phone Number

i. Fax Number

josfis@comcast.net

j. Email Address

3. Property Owner (if different):

Michael & Paula

a. First Name

O'Dea

b. Last Name

c. Organization

258 Clubhouse Road

d. Mailing Address

Wells

e. City/Town

ME

f. State

04090

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).



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NOI Wetland Fee Transmittal Form
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B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 2 (a) - single family	1	\$500.00	\$500.00

Step 5/Total Project Fee:

Step 6/Fee Payments:

Total Project Fee:	\$500.00
	a. Total Fee from Step 5
State share of filing Fee:	\$237.50
	b. 1/2 Total Fee less \$12.50
City/Town share of filing Fee:	\$262.50
	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

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

Department of Environmental Protection
Box 4062
Boston, MA 02211

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

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



Five C Construction, LLC

PO Box 2157
Methuen, MA 01844
978-994-6502

2385



53-274/113

PAY
TO THE
ORDER OF

Commonwealth of MA
Two Hundred Thirty-Seven

DATE 6-10-25

\$ 237 50

DOLLARS

FOR

State Fee - Ordinary
Consumption

Enterprise
Bank
Enterprise Bank & Trust Company
LOWELL, MASSACHUSETTS

⑈002385⑈ ⑆011302742⑆ 931 771⑈



Details on back



Security Features



Five C Construction, LLC

PO Box 2157
Methuen, MA 01844
978-994-6502

2383



53-274/113

PAY
TO THE
ORDER OF

CITY OF HAMBURG
ONE THOUSAND FIFTY-NINE DOLLARS

DATE 6-10-25

\$ 1059 25

DOLLARS

FOR

Local Ordinance Fee - Ordinary
Consumption

Enterprise
Bank
Enterprise Bank & Trust Company
LOWELL, MASSACHUSETTS

⑈002383⑈ ⑆011302742⑆ 931 771⑈



Details on back



Security Features



Five C Construction, LLC

PO Box 2157
Methuen, MA 01844
978-994-6502

2384



53-274/113

PAY
TO THE
ORDER OF

CITY OF HAMBURG
Two Hundred Sixty-Two DOLLARS

DATE 6-10-25

\$ 262 50

DOLLARS

FOR

Local Permit State Fee - Ordinary
Consumption

Enterprise
Bank
Enterprise Bank & Trust Company
LOWELL, MASSACHUSETTS

⑈002384⑈ ⑆011302742⑆ 931 771⑈



Details on back



Security Features

HCC Local Application Form 3



City of Haverhill Conservation Commission

HCC Local Application Form 3

Notice of Intent

A. STATUTE APPLICABILITY

This application is being filed with the Commission in accordance with the following (check all that apply):

- ☒ Massachusetts Wetlands Protection Act, M.G.L. Chapter 131, Section 40
- ☒ Haverhill Municipal Ordinance Chapter 253

B. GENERAL INFORMATION

Applicant Five C Construction, LLC

Property Owner Michael and Paula O'Dea

Representative Andover Consultants, Inc.

Location (Street Address) Broadway (vacant parcel)

Assessor's Parcel Identification 539-439-7E

C. APPLICATION CHECKLIST

The Commission requires the submittal of this original, completed Form; one (1) paper copy of site plans; and one (1) paper copy of all other materials. Additionally, the Commission requires the submittal of individual PDFs of this Form and all listed application materials. If practical, related items may be combined into a single PDF. PDFs should not mix larger format sheets (e.g. site plans) with smaller sheets (e.g. letters). These submittal requirements also apply to supplemental information provided during the public hearing. The following materials shall be submitted with this form:

- ☒ Completed, current WPA Form 3, 3A, or 4 and NOI Wetland Fee Transmittal Form
- ☒ Project Narrative with description of resource areas & delineation methodology and demonstration of compliance with pertinent Performance Standards
- ☒ Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan
- ☒ Site Plans clearly describing the location and nature of the work, including such information as site boundaries, wetlands, topography, existing and proposed conditions, vegetation cover, soils, erosion & sedimentation controls, Title 5 compliance, flood storage calculations...(24" x 36" max. sheet size)
- ☒ MassDEP Bordering Vegetated Wetland Delineation Field Data Forms, as appropriate
- n/a ☐ Wetland Resource Area Impact Mitigation Plan prepared in accordance with MA Inland Wetland Replication Guidelines, if applicable
- n/a ☐ Demonstration of compliance with MA River & Stream Crossing Standards, if applicable (The HCC applies the General Standards to all resource area crossings for wildlife passage.)
- n/a ☐ Simplified or Detailed Wildlife Habitat Evaluation (Appendix A or B), if applicable (See "MA Wildlife Habitat Protection Guidance for Inland Wetlands")
- n/a ☐ Demonstration of compliance with MA Stormwater Management Standards, including but not limited to
 - ☐ Stormwater Report with pertinent calculations based on NOAA Atlas 14 rainfall data
 - ☐ Checklist for Stormwater Report
 - ☐ Long-Term Pollution Prevention Plan
 - ☐ Operation and Maintenance Plan
 - ☐ Illicit Discharge Compliance Statement

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City of Haverhill Conservation Commission

HCC Local Application Form 3

Notice of Intent

- ☒ 8½" x 11" sections of the following maps with project location clearly identified
- ☒ USGS Quadrangle
 - ☒ MassGIS Orthophoto
 - ☒ City of Haverhill Parcel ID Map, also identifying properties within 300' of subject property
 - ☒ NRCS Soils Map and Resource Report
 - ☒ FEMA Flood Insurance Rate Map, if applicable
 - n/a ☐ MA NHESP Estimated Habitats of Rare Wildlife and Priority Habitats of Rare Species, if applicable
 - n/a ☐ MassDEP/UMass-Amherst Habitat of Potential Regional or Statewide Importance, if applicable
 - n/a ☐ Proof of NOI filing with the MA Natural Heritage & Endangered Species Program, if applicable
 - ☒ Appropriate Filing Fees, payable to the City of Haverhill, under the Act and Ordinance
 - ☐ Other: _____

D. LOCAL PERMIT DOCUMENTATION

In accordance with 310 CMR 10.05(4)(e), list all obtainable permits, variances, and approvals required by local ordinance with respect to the proposed activity and status of same: _____

E. APPLICATION CERTIFICATION

I have read the Department of Environmental Protection's "Instructions for Completing Application" and the City's Municipal Ordinance under Chapter 253, with all applicable regulations and policies, for the filing of this application with the Haverhill Conservation Commission and agree to its terms and conditions, as amended. I understand the submitted NOI, its plans, and all its supporting materials are public records and may be uploaded to the City's website for public review. As required by the Commission, the wetland resource area(s) are flagged, the corners of proposed structures are staked, and the centerline of proposed roadway(s) and/or driveway(s) are marked, as appropriate, to facilitate site inspections by Commissioners and Conservation Staff.

Signed: _____

Joseph Fisichelli

dotloop verified
06/09/25 3:30 PM EDT
STY3-O50R-TTFR-DVLK

(APPLICANT)

(DATE)

F. SITE ACCESS ACKNOWLEDGEMENT

I hereby grant the Haverhill Conservation Commission and its officials permission to enter upon my property at Broadway (vacant parcel) Parcel ID 539-439-7E to review the filed Notice of Intent and

(STREET ADDRESS AND ASSESSOR'S PARCEL ID)

future site conditions for compliance with the issued Order of Conditions. The sole purpose of this acknowledgement is to allow the Commission and its officials to perform their duties under the Massachusetts Wetlands Protection Act and the City's wetlands protection ordinance.

Signed: ~~X~~ _____

Michael O'Dea

dotloop verified
06/04/25 12:26 PM EDT
JWSN-R0R9-HG2Z-IC9F

(PROPERTY OWNER)

(DATE)

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City of Haverhill Conservation Commission

HCC Local Application Form 3

Notice of Intent

G. AFFIDAVIT OF SERVICE FOR ABUTTER NOTIFICATION

I, Dennis A. Griecci, hereby certify under the pains and penalties of perjury that on
(NAME OF PERSON MAKING AFFIDAVIT)
or before 6/12/2025 I gave notification to all abutters pursuant to the requirements of the second
(DATE)
paragraph of Massachusetts General Laws Chapter 131, Section 40, the DEP Guide to Abutter Notification dated April 8, 1994, and Haverhill Municipal Ordinance Chapter 253, Section 5 in connection with the following matter:

A Notice of Intent filed under the Massachusetts Wetlands Protection Act and said ordinance by
Five C Construction, LLC with the Haverhill Conservation Commission on
(NAME OF APPLICANT)
or before 6/12/2025 for property located at Broadway (vacant parcel) Parcel ID 539-439-7E
(DATE) (STREET ADDRESS AND ASSESSOR'S PARCEL ID)

The list of the abutters to whom the Abutter Notification Form sent, with their addresses and Assessor's parcel identification information that corresponds with the submitted map section, are attached to this application.

Signed: Dennis A. Griecci 6/12/2025
(NAME OF PERSON MAKING AFFIDAVIT) (DATE)



City of Haverhill Conservation Commission

HCC Local Application Form 3

Notice of Intent

H. ABUTTER NOTIFICATION FORM

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40 (the Wetlands Protection Act) and Haverhill Municipal Ordinance Chapter 253, Section 5, you are hereby notified of the following:

1. The name of the applicant is Five C Construction, LLC
2. Brief Project Description: Construction of a proposed single-family dwelling and driveway, including associated site grading and installation of utilities, within the buffer zone of bordering vegetated wetlands on an undeveloped lot.
3. The applicant has filed a Notice of Intent ("NOI") with the Haverhill Conservation Commission seeking permission to remove, fill, dredge or alter an Area Subject to Protection Under the Wetlands Protection Act and/or Haverhill Municipal Ordinance Chapter 253 and/or to perform work within the buffer zone of such an Area.
4. The address of the lot where the activity is proposed is Broadway (vacant parcel) Parcel ID 539-439-7E
(INCLUDE ASSESSOR'S MAP/BLOCK/LOT)
5. Copies of the NOI may be examined at *the Haverhill Conservation Department Office* between the hours of *8am and 4pm* from *Monday through Friday*. Contact information is below. You may also find helpful application materials on the "Projects Under Review" section of the Commission's website.
6. Copies of the NOI may be obtained from either (check one) the applicant _____, or the applicant's representative x, by calling this telephone number (978) 687 - 3828 between the hours of 9:00 am and 4:00 pm on the following days of the week Monday - Friday
7. Information regarding the *date, time, and place* of the public hearing may be obtained from the *Haverhill Conservation Department Office* between the hours of *8am and 4pm* from *Monday through Friday*. Contact information is below. You may also consult the "Agenda" section of the Commission's website.

NOTE: Notice of the public hearing, including its date, time and place, will be published at least five (5) days in advance in the *Haverhill Gazette newspaper*.

NOTE: Notice of the public hearing, including its date, time, and place, will be posted in Haverhill City Hall not less than forty-eight (48) hours in advance.

NOTE: You may contact the Haverhill Conservation Department for more information about this application, the Wetlands Protection Act, and Haverhill Municipal Ordinance Chapter 253. Please note the Department has only one staff person; every effort will be made to assist you in a timely manner.

Website: http://www.cityofhaverhill.org/departments/conservation_commission/index.php.

Email: conservation@cityofhaverhill.com

Phone: 978.374.2334

NOTE: For additional information about this application and the Act, you may contact the MA Department of Environmental Protection Northeast Regional Office Service Center.

Website: <http://www.mass.gov/eea/agencies/massdep/about/contacts/northeast-region.html>

Phone: 978.694.3200

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City of Haverhill Conservation Commission

HCC Local Application Form 3

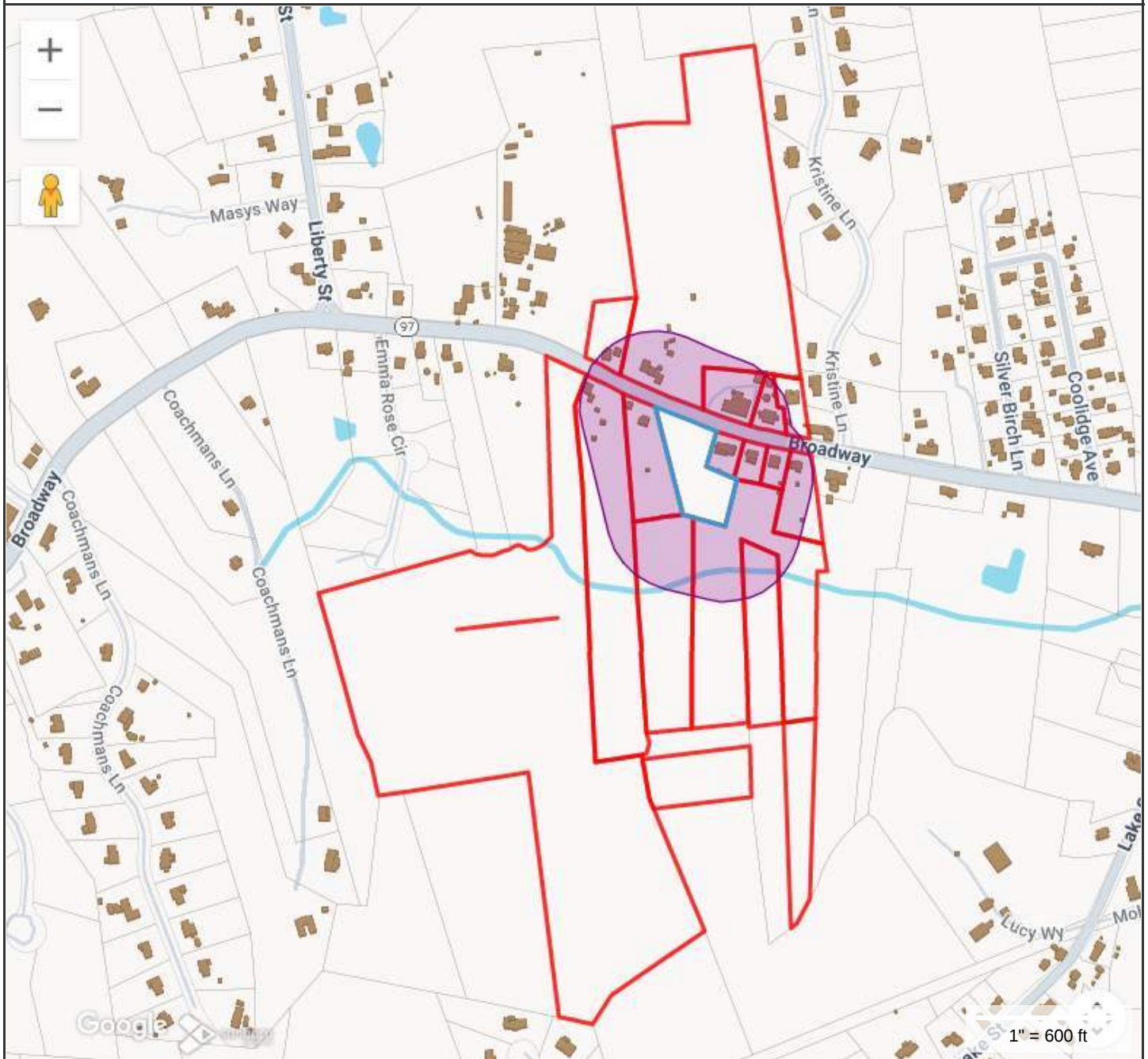
Notice of Intent

I. LOCAL ORDINANCE FEE CALCULATION FORM

ACTIVITY	LOCAL ORDINANCE FEE	# of Activities or Measurement	Subtotal
*Abbrev. Notice of Resource Area Delineation (ANRAD)			
Single Family House Project	\$1/linear foot, first 100'; \$0.50/lf, second 100'; \$0.10/lf, each additional foot		
All Other Projects	***\$1/linear foot, first 1000'; \$0.50/lf, second 1000'; \$0.10/lf, each additional foot		
***Notices of Intent (NOI)			
Category 1 Activity	\$100		
Category 2 Activity	\$250	1	\$250.00
Category 3 Activity	\$525		
Category 4 Activity	\$725		
Category 5 Activity	\$2/foot		
Category 6 Activity - If no ANRAD was filed for the project site, then a local Cat. 6 fee must be paid in accordance with the ANRAD fee schedule	See ANRAD fee schedule		
Resource Area Alterations			
Buffer Zone, 75'-100' from resource area boundary	\$0.05 / square foot	279 sf	\$13.95
Buffer Zone, 35'-75' from resource area boundary	\$0.10 / square foot	2,918 sf	\$291.80
Buffer Zone, 0'-35' from resource area boundary	\$0.25 / square foot	1,836 sf	\$459.00
Bordering Vegetated Wetland	\$0.50 / square foot		
Bank	\$5 / linear foot		
Land Under Water	\$0.50 / square foot		
Land Subject to Flooding	\$0.05 / square foot		
Riverfront Area	\$0.05 / square foot		
Riverfront Area with the watershed of a potable water supply	\$0.50 / square foot		
Land within 100' of a Certified Vernal Pool	\$0.25 / square foot		
Local-only Jurisdictional Resource Area	\$0.25 / square foot		
Land within 200' of a potable water supply	\$0.50 / square foot		
ADVERTISING FEE*			\$45
LOCAL ORDINANCE FEE TOTAL			\$1,059.75
For filings resulting from enforcement action, double the Local Ordinance Fee Total			
NOTES:			
*Application is subject to an additional \$45 Local Advertising Fee payable to the City of Haverhill prior to EACH advertising			
***Local Ordinance Fee maximum of \$100 for applications exceeding 1000'. Commission requires review by outside consultant under M.G.L. Ch. 44, sec. 53G for projects exceeding 1000'. Applicant shall post escrow in accordance with HCC Rules for Hiring Outside Consultants. Cap passed by a 5-0 vote of the Commission on March 7, 2019.			
%Local Ordinance Fees for RDA, NOI, & RMOC increase 50% when project is also proposed within a Riverfront Area			
Local Ordinance Fees passed by a 7 – 0 vote of the Commission on October 28, 2010, effective January 1, 2011			

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Abutters List

**Property Information**

Property ID 539-439-7E
Location BROADWAY
Owner O' DEA MICHAEL F JR ETUX



**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

City of Haverhill, MA makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated February 5, 2019
Data updated February 4, 2019

Print map scale is approximate.
Critical layout or measurement
activities should not be done using
this resource.

Abutters List

Property ID	Site Address	Owner	Owner 2	Owner Address	Owner City	Owner State	Owner Zip
539-439-14	BROADWAY	ESSEX PROPERTIES TRUST	C/O AARON M.I. SHINBERG	893 WEST ROXBURY PARKWAY	CHESTNUT HILL	MA	2467
539-439-16	BROADWAY	ESSEX PROPERTIES TRUST	C/O AARON M.I. SHINBERG	893 WEST ROXBURY PARKWAY	CHESTNUT HILL	MA	2467
539-439-7	BROADWAY	CARNES LINDA A-ETUX	CARNES JOHN A	1002 BROADWAY	HAVERHILL	MA	1832
539-439-7A	986 BROADWAY	PELOSI ROCCO L	HELEN T PELOSI	986 BROADWAY	HAVERHILL	MA	1832
539-439-7B	1002 BROADWAY	1002 BROADWAY REALTY TRUST	CARNES JOHN A-TRUSTEE	1002 BROADWAY	HAVERHILL	MA	1832
539-439-7C	1010 BROADWAY	VIOLETTE LAURIE A		1010 BROADWAY	HAVERHILL	MA	1832
539-439-7D	1022 BROADWAY	SAETEROS ZOILA CAGUANA-ETUX	JUAN LOJA CELA	1022 BROADWAY	HAVERHILL	MA	1832
539-439-8	1036 BROADWAY	TALBOT ANDREW R	TALBOT JILLIAN	1036 BROADWAY	HAVERHILL	MA	1832
539-439-9A	BROADWAY	DUDLEY FRANK J	C/O NANCY O'NEILL	P.O. BOX 1181	WESTFORD	MA	1886
539-439-9B	1046 BROADWAY	CHUPASKO JUDITH M		1046 BROADWAY	HAVERHILL	MA	1832
574-1-12	1001 BROADWAY	KELLER JOY		1001 BROADWAY	HAVERHILL	MA	1832
574-1-12B	997 BROADWAY	MOREL ZOVEYDA A-ETUX	JEUNE CASIMIR	997 BROADWAY	HAVERHILL	MA	01832-8816
574-1-13	1015 BROADWAY	SERRATORE REALTY LLC		1015 BROADWAY	HAVERHILL	MA	1832
574-1-16	1037 BROADWAY	BOYLAND LOUISE S	SUSAN L BOYLAND ETAL	1037 BROADWAY	HAVERHILL	MA	1832
574-1-18	1047 BROADWAY	PORTALLA BRETT A		1047 BROADWAY	HAVERHILL	MA	1832

Wetland Determination Data Form

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 0 Broadway City/County: Haverhill / Essex Sampling Date: 3-20-25
 Applicant/Owner: Andover Consultants State: MA Sampling Point: SP-1
 Investigator(s): Norse Environmental Services, Inc. Section, Township, Range: _____
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): _____ Slope (%): 3-8
 Subregion (LRR or MLRA): LRR R Lat: 42.78969 Long: -71.14700 Datum: NAD83
 Soil Map Unit Name: Woodbridge NWI classification: PFO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Drought conditions	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

 Sampling Point: SP-1

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer rubrum</u>	40	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>77.8%</u> (A/B)																
2. <u>Pinus strobus</u>	15	Yes	FACU																	
3. <u>Quercus alba</u>	10	No	FACU																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	65	=Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____	(A) _____ (B) _____																			
Prevalence Index = B/A = _____																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. <u>Rhamnus alnifolia</u>	20	Yes	OBL																	
2. <u>Cornus amomum</u>	15	Yes	FACW																	
3. <u>Lonicera tatarica</u>	15	Yes	FACU																	
4. <u>Ilex verticillata</u>	15	Yes	FACW																	
5. <u>Alnus incana</u>	5	No	FACW																	
6. _____																				
7. _____																				
	70	=Total Cover																		
Herb Stratum (Plot size: _____)																				
1. <u>Onoclea sensibilis</u>	15	Yes	FACW	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> X </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Osmundastrum cinnamomeum</u>	15	Yes	FACW																	
3. <u>Impatiens capensis</u>	10	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	40	=Total Cover																		
Woody Vine Stratum (Plot size: _____)																				
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
				Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u>																
=Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 0 Broadway City/County: Haverhill / Essex Sampling Date: 3-20-25
 Applicant/Owner: Andover Consultants State: MA Sampling Point: SP-2
 Investigator(s): Norse Environmental Services, Inc. Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 3-8
 Subregion (LRR or MLRA): LRR R Lat: 42.78969 Long: -71.14700 Datum: NAD83
 Soil Map Unit Name: Woodbridge NWI classification: PFO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Drought conditions	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) _____ Surface Water (A1) <u>X</u> Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) <u>X</u> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: SP-2

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer rubrum</u>	30	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)																
2. <u>Pinus strobus</u>	20	Yes	FACU																	
3. <u>Ulmus americana</u>	15	Yes	FACW																	
4. <u>Quercus alba</u>	10	No	FACU																	
5. _____																				
6. _____																				
7. _____																				
	75	=Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____	(A) _____ (B) _____																			
Prevalence Index = B/A = _____																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. <u>Rhamnus alnifolia</u>	20	Yes	OBL																	
2. <u>Cornus amomum</u>	15	Yes	FACW																	
3. <u>Lonicera tatarica</u>	5	No	FACU																	
4. <u>Ilex verticillata</u>	10	No	FACW																	
5. <u>Alnus incana</u>	10	No	FACW																	
6. _____																				
7. _____																				
	60	=Total Cover		Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> X </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Herb Stratum (Plot size: _____)																				
1. <u>Onoclea sensibilis</u>	15	Yes	FACW																	
2. <u>Osmundastrum cinnamomeum</u>	15	Yes	FACW																	
3. <u>Symplocarpus foetidus</u>	10	Yes	FACW																	
4. <u>Impatiens capensis</u>	5	No	FACW																	
5. <u>Typha latifolia</u>	5	No	OBL																	
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	50	=Total Cover		Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
Woody Vine Stratum (Plot size: _____)																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
				Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u>																
			=Total Cover																	

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Marl (F10) (LRR K, L)
<input type="checkbox"/> Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (LRR K, L, **MLRA 149B**)
☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
☐ Polyvalue Below Surface (S8) (LRR K, L)
☐ Thin Dark Surface (S9) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

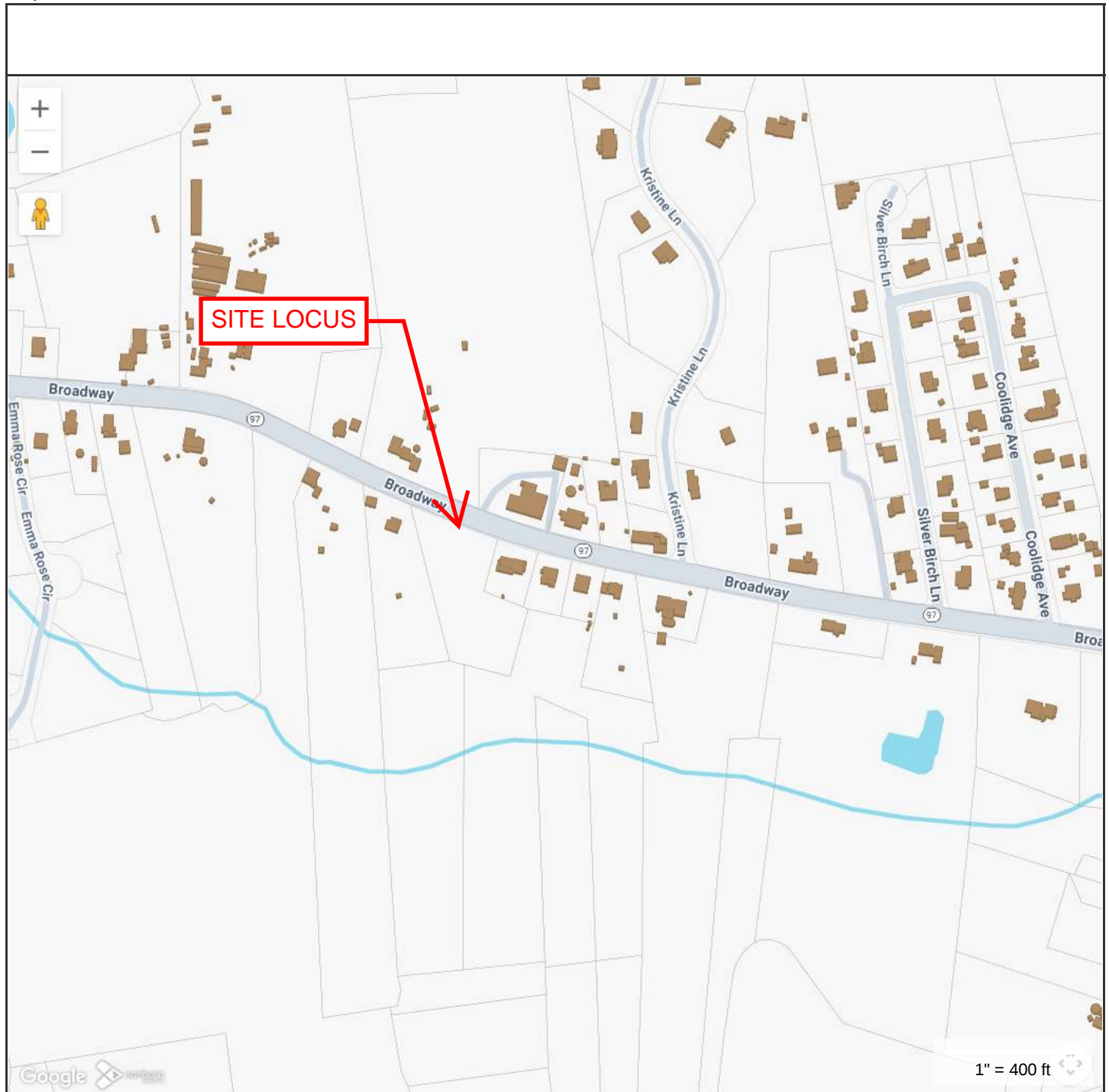
Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

City of Haverhill Parcel Map



**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

City of Haverhill, MA makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

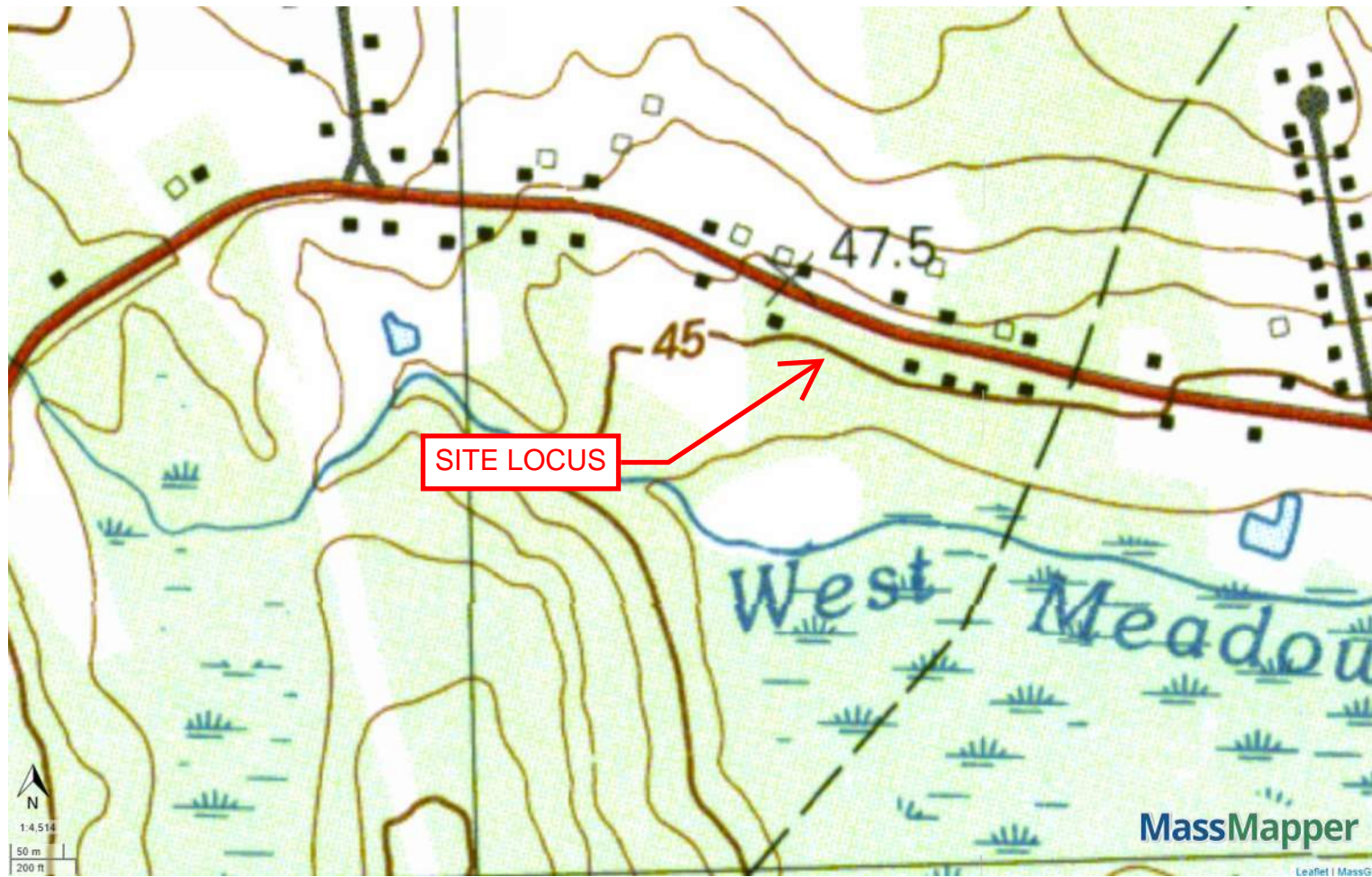
Geometry updated February 5, 2019
Data updated February 4, 2019

Print map scale is approximate.
Critical layout or measurement
activities should not be done using
this resource.

USGS Quadrangle

USGS

Property Tax Parcels



FEMA Flood Insurance Rate Map

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Massachusetts State Plane Meters and Feet (FIPS zone 2001). The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS-12
National Geodetic Survey
SSMC-3, #8202
1315 East-West Highway
Silver Spring, Maryland 20910-3262
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from digital orthophotography provided by the Massachusetts Geographic Information System. This information was created from photography dated 2005.

The **profile baselines** depicted on this map represent the hydraulic modeling baseline that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

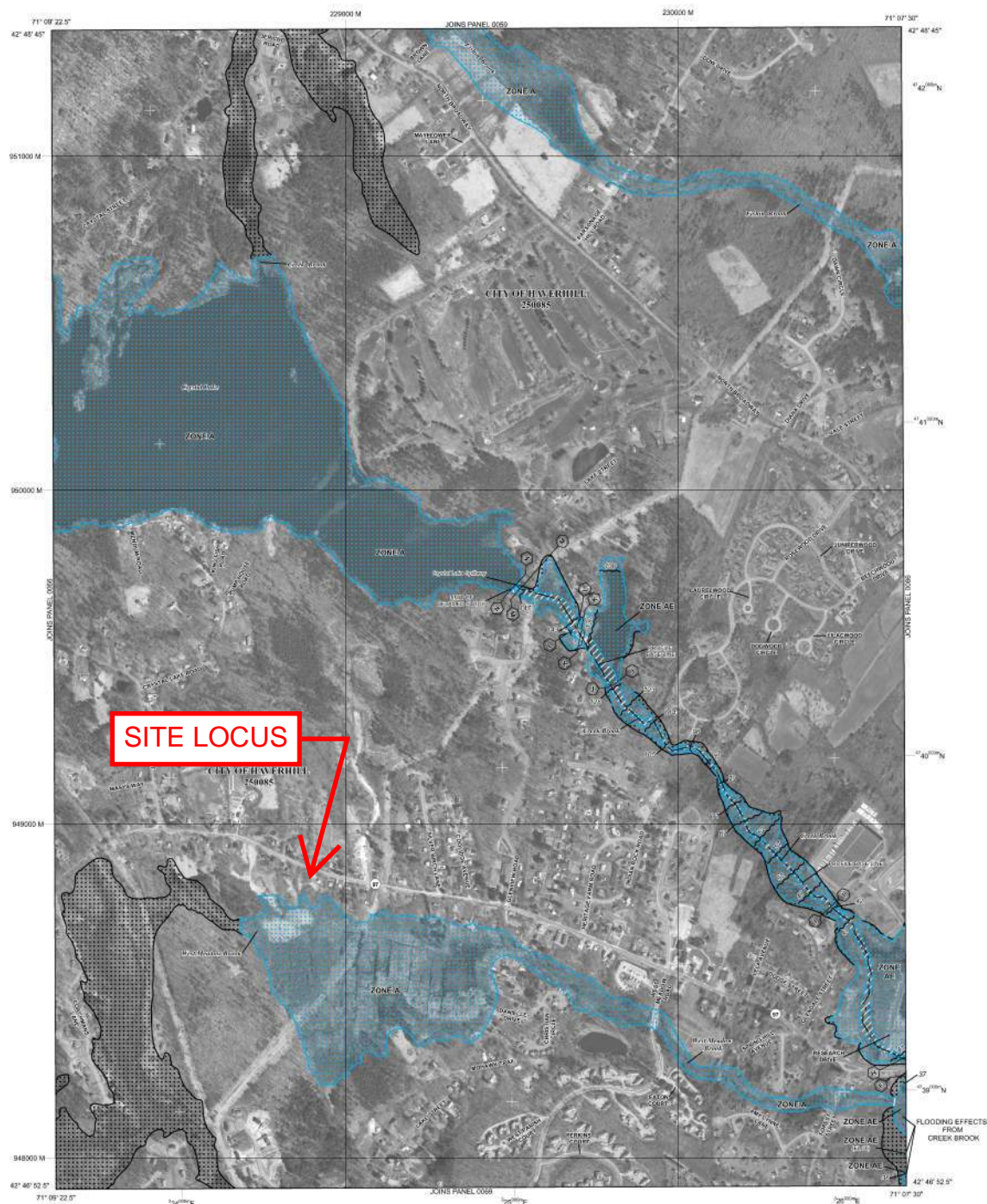
Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRMs for this jurisdiction. As a result, the Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) for the Flood Insurance Study Report (which contains authoritative hydrologic data) may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://fema.msc.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/fmifp>.



SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood elevation, also known as the 100-year flood, is the flood that has a 1% chance of being equaled or exceeded in the next year. The Special Flood Hazard Areas include Zones AE, AH, AO, VE, X, Y, and Z.

ZONE A: No Base Flood Elevation determined.

ZONE AE: Base Flood Elevations determined.

ZONE AO: Flood depths of 1 to 7 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AR: Mean depth of 1 to 7 feet (usually where flow is channelized); average depths determined; for areas of shallow flooding, velocities also determined.

ZONE AP: Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a levee system that has been removed or decommissioned. Zone AP indicates that the former flood control system is being returned to protection from the 1% annual chance flood.

ZONE ADO: Areas to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevation determined.

ZONE V: Coastal storm surge with velocity (near shore); no base flood elevation determined.

ZONE VE: Coastal storm surge with velocity (near shore); Base Flood Elevation determined.

Floodway Areas IN ZONE AE:

The floodway is the channel of a stream plus any adjacent floodplain area that must be kept free of encroachments so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS:

ZONE X: Areas of 0.2% annual chance flood. Areas of 1% annual chance flood with less than 1 foot of depth of water 1 foot or more above mean low water spring tide, and are protected by levees from 1% annual chance flood.

OTHER AREAS:

ZONE K: Areas determined to be outside the 0.2% percent chance floodable.

ZONE L: Areas in which flood hazards are considered, but possibly not mapped.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located near or adjacent to Special Flood Hazard Areas.

1% Annual Chance Channel Boundary
0.2% Annual Chance Boundary
County boundary
Zone boundary
Zone boundary
CBRS and OPA boundary
Boundary defining Special Flood Hazard Area Zones and boundary, showing Special Flood Hazard Areas of different Base Flood Elevation flood depths, or flood conditions.
Base Flood Elevation unit and value; uniform in feet?
Base Flood Elevation unit and value; elevation in feet, elevation in "feet"

*Referenced to the North American Vertical Datum of 1988

(A) Cross section line
(B) Treated line
(C) Culvert
Bridge

Geographic coordinates referenced to the North American Datum of 1983
NAD83(2011)
100-year water level: Saint Peter's River Historical Zone (see Note)
100-year water level: Lower California Core protection
100-year elevation: Tulelake Reservoir #16 station, June 1998
Benchmark (see explanation in Notes to latest version of the DEM panel)
Note: Water

MMP REQUISITES
Map May Represented As Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
APR. 1, 2015

EFFECTIVE DATES OF REVISIONS TO THIS PANEL

For community map revision history refer to countywide mapping used by the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

*Subsequent flood insurance availability in this community, cannot guarantee your insurance agent will carry the National Flood Insurance Program at 1-800-886-8620

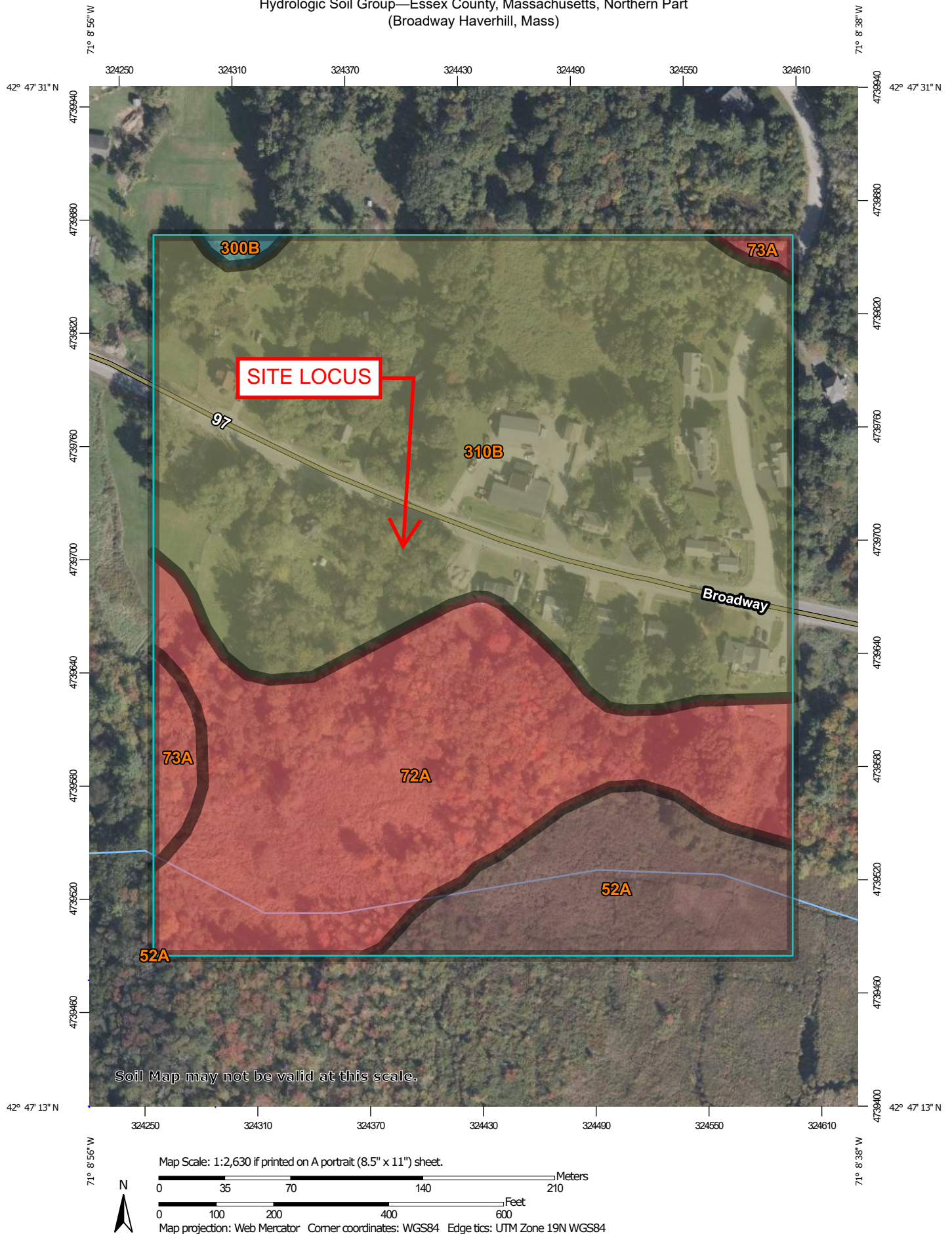
MAP SCALE 1" = 300'

250 0 1000
150 0 150 300
FEET METERS

NATIONAL FLOOD INSURANCE PROGRAM NFIP	PANEL 0067F			
	<h1>FIRM</h1>			
	<h2>FLOOD INSURANCE RATE MAP</h2>			
	<h3>ESSEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS)</h3>			
	PANEL 67 OF 600 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)			
<u>CONTAINS:</u>				
COMMUNITY HATFIELD, CITY OF		NUMBER 20009	REVEL 0067	SURFO 0000
Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.				
MAP NUMBER 25009C0067F EFFECTIVE DATE JULY 3, 2012				
Federal Emergency Management Agency				

NRCS Web Soil Survey

Hydrologic Soil Group—Essex County, Massachusetts, Northern Part
(Broadway Haverhill, Mass)



Hydrologic Soil Group—Essex County, Massachusetts, Northern Part
(Broadway Haverhill, Mass)

MAP LEGEND

Area of Interest (AOI)









Area of Interest (AOI)

Soils

Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines


-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Essex County, Massachusetts, Northern Part
Survey Area Data: Version 20, Aug 27, 2024

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

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
52A	Freetown muck, 0 to 1 percent slopes	B/D	3.4	10.6%
72A	Whitman fine sandy loam, 0 to 3 percent slopes	D	9.4	29.1%
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D	0.7	2.1%
300B	Montauk fine sandy loam, 3 to 8 percent slopes	C	0.1	0.4%
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D	18.6	57.8%
Totals for Area of Interest			32.2	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Wetland Inventory Mapper



U.S. Fish and Wildlife Service

National Wetlands Inventory

Broadway Haverhill



May 28, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Alternative Analysis Plan

