

September 20, 2021

**Email** (ctirone@ci.reading.ma.us)

Charles Tirone, Conservation Administrator  
 Reading Conservation Commission  
 Town Hall  
 16 Lowell Street  
 Reading, MA 01867

**Re: Wetland Boundary Peer Review  
 Lot A, Main Street  
 Reading, Massachusetts**

[LEC File #: TORea\21-375.02]

Dear Mr. Tirone:

In response to your request, LEC Environmental Consultants, Inc. (LEC) has completed our review of the wetland delineations at the above-referenced Project Site. On August 31, 2021, I reviewed all of the Resource Area delineations on site and inspected upland areas on the north, east, and west portions of the lot. This review was conducted to determine conformance of the Resource Area delineations with the



Scarboro Soil Profile near LEC flag C-3

*Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40, the *Act*), its implementing *Regulations* at 310 CMR 10.00, MADEP Program Policies and Guidance documents, the *Reading General Bylaws* (Article 7.1, last revised April 2017), and the *Town of Reading Wetlands Protection Regulations* (the *Bylaw Regulations*, last revised November 2012).

The south side of the lot is dominated by a large Palustrine Deciduous Forested Wetland, where the soils are mapped as Scarboro mucky fine sandy loam, 0 to 3 percent slopes on the latest USDA-NRCS web soil survey. Scarboro soils are very poorly drained and have a dark, organic-rich surface layer, with a water table at 0 to 12 inches below the ground surface, throughout the entire year. The BVW delineated on the site is dominated by the Scarboro soils.

Wetland Resource Areas delineated by Norse Environmental Services, Inc. (NES) are depicted on a plan entitled: “Proposed Single-Family Dwelling, Main Street, Plan No. 274 of 2021-Lot A, Reading MA 01867,” dated June 14, 2021 and prepared by



prepared by Fodera Engineering. LEC reviewed flags 1A through 19A marking the NES delineation of Bordering Vegetated Wetland (BVW) and flags 1B through 17B marking the NES delineation of Isolated Vegetated Wetland (IVW).

I found that the Scarborough soils and wetland plant community rise significantly higher on the landscape at the western end of the BVW delineation, than indicated by the NES delineation. To identify this expansion in resource area, LEC hung twelve orange flags, labeled “LEC Resource Area Delineation”, numbered “C-1” through “C-12”, up-gradient from the NES delineation. LEC recommended that the BVW delineation by NES be adjusted as indicated by the LEC flags and that the IVW be adjusted approximately 12 feet up-gradient from NES flag 8B, indicated by the LEC flag “8B-1”. These recommended adjustments were depicted on a hand-sketch, prepared by LEC and sent to the applicant’s consultant, Giovanni Fodera of Fodera Engineering, via email, on September 2, 2021.

Plant and soil data were collected at one point below the LEC adjusted BVW boundary (wetland) and one point above the boundary (upland), near LEC flag C-3. The data sheets (Attachment B) are representative of the entire BVW delineation and are attached as documentation for LEC’s recommended adjustments. The hydric soils that occur between the NES delineation and the adjusted LEC delineation meet hydric soil indicators A3 – Black Histic and A11 – Depleted Below Dark Surface<sup>1</sup>.

During the course of my review, I also observed standing water within the BVW approximately 50-feet 50 feet south of the NES BVW delineation (Attachment C). This portion of the BVW also may function as a vernal pool.

LEC received a revised plan (Attachment D), via email on September 16, 2021. The plan is entitled: “Proposed Single-Family Dwelling, Main Street, Plan No. 274 of 2021-Lot A, Reading MA 01867,” prepared by Fodera Engineering dated June 14, 2021, last revised September 16, 2021 to add the LEC wetland flags.

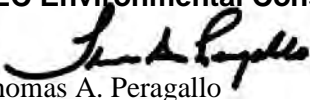
## Conclusion

LEC concurs with the BVW and IVW delineations, as shown on the September 16, 2021 revised plan. The BVW is protectable under the *Act* and the *Bylaw*. The IVW, unless it qualifies as Isolated Land Subject to Flooding, is only protectable under the *Bylaw*. The standing water observed south of the BVW delineation, may function as vernal pool.

Thank you for the opportunity to provide these peer review services. If you have any questions, do not hesitate to contact me via cell at (603) 903-9814 or tperagallo@leceenvironmental.com.

Sincerely,

**LEC Environmental Consultants, Inc.**



Thomas A. Peragallo

Senior Soil Scientist/Wetland Scientist

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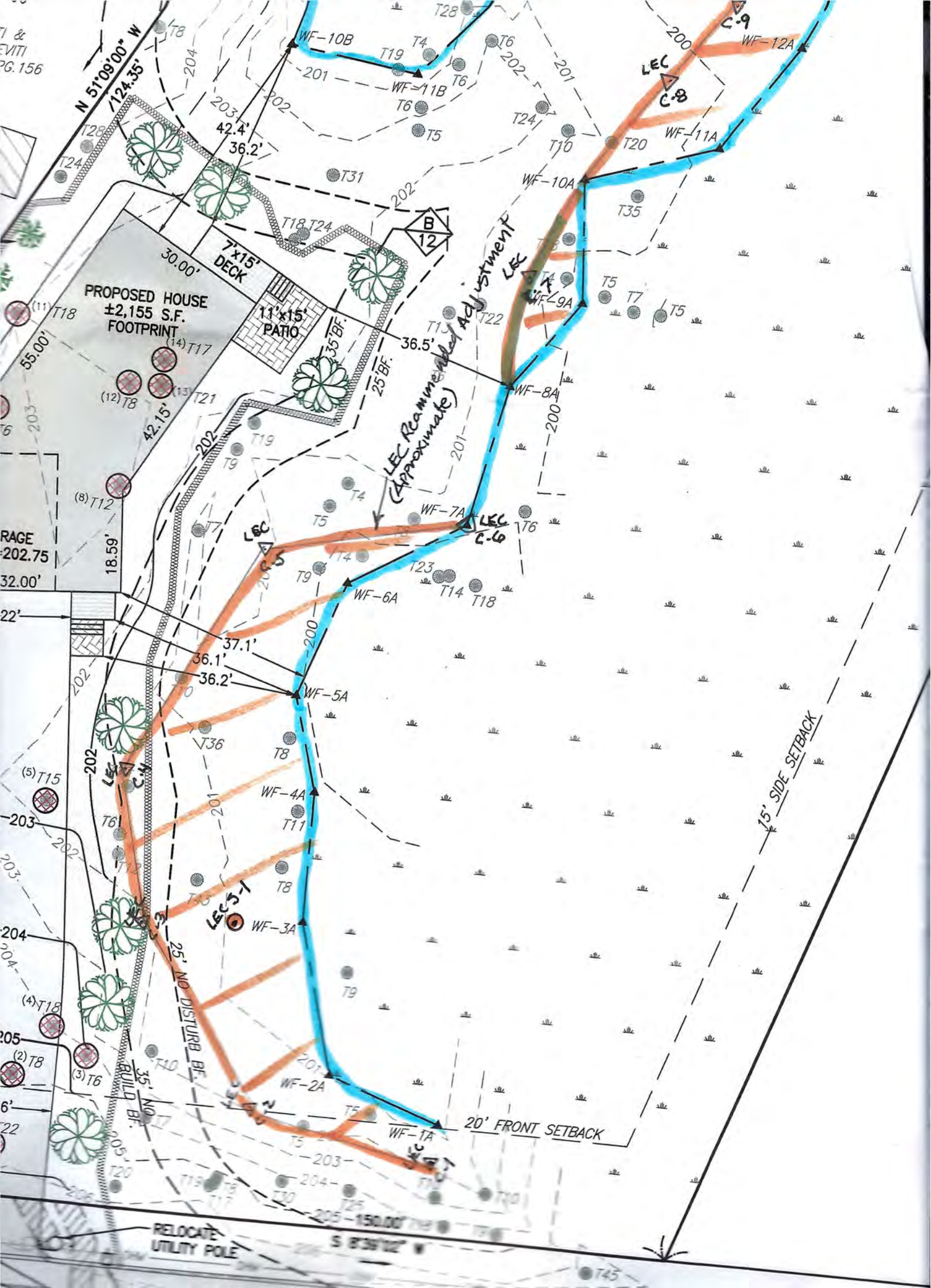
<sup>1</sup> New England Hydric Soil Technical Committee (NEHSTC), Field Indicators for Identifying Hydric Soils in New England, **Version 4**, New England Interstate Water Pollution Control Commission (NEIWPCC), 100 Foot of John St., Lowell, MA 01852, June, 2020.

[https://drive.google.com/file/d/1WHXaCEPSwHKkjyG6tmN\\_1cxzyziOy\\_qS/view](https://drive.google.com/file/d/1WHXaCEPSwHKkjyG6tmN_1cxzyziOy_qS/view)

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**Attachment A**

Wetland Boundary Review Sketch





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**Attachment B**

DEP Bordering Vegetated Wetland Field Data Sheets



## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site?  yes no  
 title/date: 9-2-21 (Web Soil Survey)  
 map number: N/A  
 soil type mapped: 6A Scarboro MFSL  
 hydric soil inclusions:

Are field observations consistent with soil survey?  yes no  
 Remarks:

#### 2. Soil Description

Horizon		Depth	Matrix Color	Mottles Color
Oe	Hemic	0-2"	7.5YR 2.5/2	N/A
Oa	Sapric	2-11"	10YR 2/1	N/A
Bg1	M-CoS	11-16"	2.5Y 5/2	10% 10YR 6/1
Bg2	LS	16-26"	10YR 4/2	20% 10YR 5/2

Remarks:

#### 3. Other:

Conclusion: Is soil hydric?  yes no

This soil meets New England Hydric Soil Indicators:  
 A3 – Black Histic and A11 – Depleted Below Dark Surface

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

- Site Inundated: \_\_\_\_\_
- Depth to free water in observation hole: 12 inches
- Depth to soil saturation in observation hole: 10 inches
- Water marks: \_\_\_\_\_
- Drift lines: \_\_\_\_\_
- Sediment Deposits: \_\_\_\_\_
- Drainage patterns in BVW: \_\_\_\_\_
- Oxidized rhizospheres: \_\_\_\_\_
- Water-stained leaves: \_\_\_\_\_
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- Other: \_\_\_\_\_

#### Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	X	
<b>Wetland hydrology present:</b>		
Hydric soil present	X	
Other indicators of hydrology present	X	
<b>Sample location is in a BVW</b>	X	

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

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

Applicant: Frank Lanzillo Prepared by: LEC Environmental Consultants, Inc  
Julia Hoogeboom, Wetland Specialist

Project location: "Lot A", Main Street, Reading, MA  
 LEC File #: ToRea\21-375.02 DEP File #: \_\_\_\_\_

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

## Section I.

Vegetation	Observation Plot Number: 2 ( <b>Upland</b> )		Transect Number: 1 (WF C-3)	Date of Delineation: September 2, 2021
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (Midpoints used)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category* Dominant plants in <b>bold</b>
<b>Canopy</b>				
Red maple ( <i>Acer rubrum</i> )	38%	38%	Yes	<b>FAC*</b>
Swamp white oak ( <i>Quercus bicolor</i> )	63%	62%	Yes	<b>FACW*</b>
<b>Sapling</b>				
Eastern white pine ( <i>Pinus strobus</i> )	63%	95%	Yes	<b>FACU</b>
American elm ( <i>Ulmus americana</i> )	3.0%	5%	No	FACW*
<b>Shrub</b>				
Sweet pepperbush ( <i>Clethra alnifolia</i> )	10.5%	30%	Yes	<b>FAC*</b>
Glossy buckthorn ( <i>Frangula alnus</i> )	3.0%	10%	No	FAC*
Eastern white pine ( <i>Pinus strobus</i> )	10.5%	30%	Yes	<b>FACU</b>
Black cherry ( <i>Prunus serotina</i> )	10.5%	30%	Yes	<b>FACU</b>
<b>Groundcover</b>				
Northern red oak ( <i>Quercus rubra</i> )	3.0%	18%	No	FACU
Sweet pepperbush ( <i>Clethra alnifolia</i> )	10.5%	63%	Yes	<b>FAC*</b>
Rough stem goldenrod ( <i>Solidago rugosa</i> )	3.0%	18%	No	FAC*

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

### Vegetation conclusion:

Number of dominant wetland indicator plants: 4

Number of dominant non-wetland indicator plants: 3

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

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

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site?  yes  no  
 title/date: 9-20-2021 (NRCS Web Soil Survey)  
 map number: N/A  
 soil type mapped: Scarboro mucky fine sandy loam, 0 to 3 percent slopes  
 hydric soil inclusions: Swansea, Walpole, Wareham

Are field observations consistent with soil survey? yes   no  
 Remarks: Field observations contain higher values and chromas than what is described in the soil survey.

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-8"	10YR 2/2 sandy loam	
B <sub>w</sub>	8-22"	10YR 4/4 loamy sand	

Remarks:

#### 3. Other:

Conclusion: Is soil hydric? yes   no

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

- Site Inundated: \_\_\_\_\_
- Depth to free water in observation hole: \_\_\_\_\_
- Depth to soil saturation in observation hole: \_\_\_\_\_
- Water marks: \_\_\_\_\_
- Drift lines: \_\_\_\_\_
- Sediment Deposits: \_\_\_\_\_
- Drainage patterns in BVW: \_\_\_\_\_
- Oxidized rhizospheres: \_\_\_\_\_
- Water-stained leaves: \_\_\_\_\_
- Recorded Data (streams, lake, or tidal gauge; aerial photo; other):  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- Other: \_\_\_\_\_

#### Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ # of non-wetland indicator plants	X	_____
<b>Wetland hydrology present:</b>		
Hydric soil present	_____	X
Other indicators of hydrology present	_____	X
<b>Sample location is in a BVW</b>	_____	X

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

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**Attachment C**

BVW Standing Water/Potential Vernal Pool Photos





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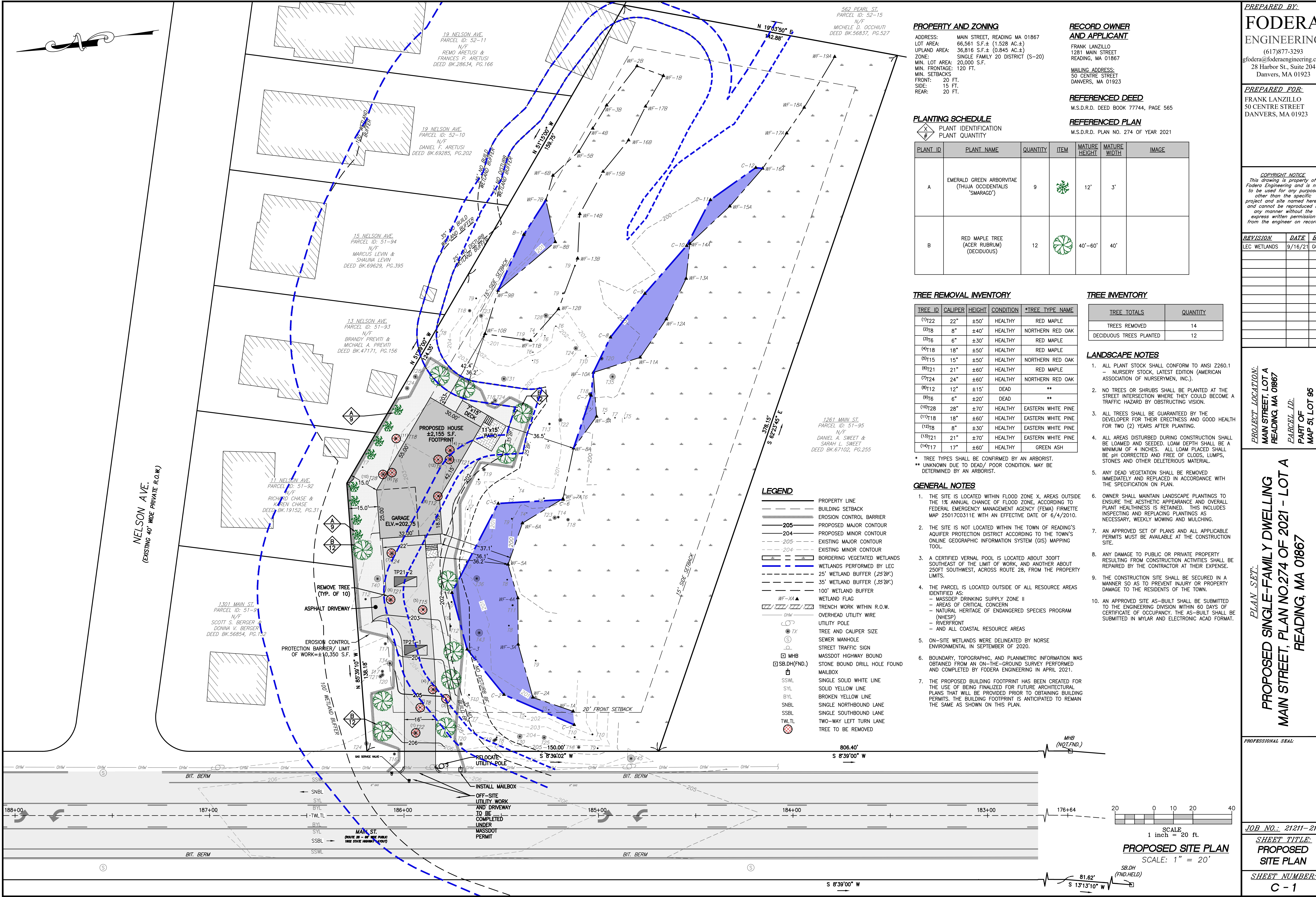
**Attachment D**

Proposed Single-Family Dwelling, Main Street  
Plan No. 274 of 2021-Lot A, Reading MA 01867

prepared by Fodera Engineering

Dated June 14, 2021

Last revised September 16, 2021



**PROPERTY AND ZONING**

ADDRESS: MAIN STREET, READING MA 01867  
 LOT AREA: 66,561 S.F.± (1.528 AC.±)  
 UPLAND AREA: 36,816 S.F.± (0.845 AC.±)  
 ZONE: SINGLE FAMILY 20 DISTRICT (S-20)  
 MIN. LOT AREA: 20,000 S.F.  
 MIN. FRONTAGE: 120 FT.  
 MIN. SETBACKS:  
 FRONT: 20 FT.  
 SIDE: 15 FT.  
 REAR: 20 FT.

**RECORD OWNER AND APPLICANT**

FRANK LANZILLO  
 1281 MAIN STREET  
 READING, MA 01867  
 MAILING ADDRESS:  
 50 CENTRE STREET  
 DANVERS, MA 01923

**REFERENCED DEED**

M.S.D.R.D. DEED BOOK 77744, PAGE 565

**REFERENCED PLAN**

M.S.D.R.D. PLAN NO. 274 OF YEAR 2021

**PLANTING SCHEDULE**

PLANT IDENTIFICATION  
 PLANT QUANTITY

PLANT ID	PLANT NAME	QUANTITY	ITEM	MATURE HEIGHT	MATURE WIDTH	IMAGE
A	EMERALD GREEN ARBORVITAE (THUJA OCCIDENTALIS 'SMARAGD')	9		12'	3'	
B	RED MAPLE TREE (ACER RUBRUM) (DECIDUOUS)	12		40'-60'	40'	

**TREE REMOVAL INVENTORY**

TREE ID	GALIPER	HEIGHT	CONDITION	TREE TYPE NAME
(1)T22	22"	±50'	HEALTHY	RED MAPLE
(2)T8	8"	±40'	HEALTHY	NORTHERN RED OAK
(3)T6	6"	±30'	HEALTHY	RED MAPLE
(4)T18	18"	±50'	HEALTHY	RED MAPLE
(5)T15	15"	±50'	HEALTHY	NORTHERN RED OAK
(6)T21	21"	±60'	HEALTHY	RED MAPLE
(7)T24	24"	±60'	HEALTHY	NORTHERN RED OAK
(8)T12	12"	±15'	DEAD	**
(9)T6	6"	±20'	DEAD	**
(10)T28	28"	±70'	HEALTHY	EASTERN WHITE PINE
(11)T18	18"	±60'	HEALTHY	EASTERN WHITE PINE
(12)T8	8"	±30'	HEALTHY	EASTERN WHITE PINE
(13)T21	21"	±70'	HEALTHY	EASTERN WHITE PINE
(14)T17	17"	±60'	HEALTHY	GREEN ASH

\* TREE TYPES SHALL BE CONFIRMED BY AN ARBORIST.  
 \*\* UNKNOWN DUE TO DEAD/ POOR CONDITION. MAY BE DETERMINED BY AN ARBORIST.

**TREE INVENTORY**

TREE TOTALS	QUANTITY
TREES REMOVED	14
DECIDUOUS TREES PLANTED	12

**LANDSCAPE NOTES**

- ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 - NURSERY STOCK, LATEST EDITION (AMERICAN ASSOCIATION OF NURSERYMEN, INC.).
- NO TREES OR SHRUBS SHALL BE PLANTED AT THE STREET INTERSECTION WHERE THEY COULD BECOME A TRAFFIC HAZARD BY OBSTRUCTING VISION.
- ALL TREES SHALL BE GUARANTEED BY THE DEVELOPER FOR THEIR ERECTNESS AND GOOD HEALTH FOR TWO (2) YEARS AFTER PLANTING.
- ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED AND SEEDED. LOAM DEPTH SHALL BE A MINIMUM OF 4 INCHES. ALL LOAM PLACED SHALL BE pH CORRECTED AND FREE OF CLODS, LUMPS, STONES AND OTHER DELETERIOUS MATERIAL.
- ANY DEAD VEGETATION SHALL BE REMOVED IMMEDIATELY AND REPLACED IN ACCORDANCE WITH THE SPECIFICATION ON PLAN.
- OWNER SHALL MAINTAIN LANDSCAPE PLANTINGS TO ENSURE THE AESTHETIC APPEARANCE AND OVERALL PLANT HEALTHINESS IS RETAINED. THIS INCLUDES INSPECTING AND REPLACING PLANTINGS AS NECESSARY, WEEKLY MOWING AND MULCHING.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
- ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- THE CONSTRUCTION SITE SHALL BE SECURED IN A MANNER SO AS TO PREVENT INJURY OR PROPERTY DAMAGE TO THE RESIDENTS OF THE TOWN.
- AN APPROVED SITE AS-BUILT SHALL BE SUBMITTED TO THE ENGINEERING DIVISION WITHIN 60 DAYS OF CERTIFICATE OF OCCUPANCY. THE AS-BUILT SHALL BE SUBMITTED IN MYLAR AND ELECTRONIC ACAD FORMAT.

**GENERAL NOTES**

- THE SITE IS LOCATED WITHIN FLOOD ZONE X, AREAS OUTSIDE THE 1% ANNUAL CHANCE OF FLOOD ZONE, ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FIRMEET MAP 25017C0311E WITH AN EFFECTIVE DATE OF 6/4/2010.
- THE SITE IS NOT LOCATED WITHIN THE TOWN OF READING'S AQUIFER PROTECTION DISTRICT ACCORDING TO THE TOWN'S ONLINE GEOGRAPHIC INFORMATION SYSTEM (GIS) MAPPING TOOL.
- A CERTIFIED VERNAL POOL IS LOCATED ABOUT 300FT SOUTHWEST OF THE LIMIT OF WORK, AND ANOTHER ABOUT 250FT SOUTHWEST, ACROSS ROUTE 28, FROM THE PROPERTY LIMITS.
- THE PARCEL IS LOCATED OUTSIDE OF ALL RESOURCE AREAS IDENTIFIED AS:  
 - MASSDEP DRINKING SUPPLY ZONE II  
 - AREAS OF CRITICAL CONCERN  
 - NATURAL HERITAGE OF ENDANGERED SPECIES PROGRAM (NHESP)  
 - RIVERFRONT  
 - AND ALL COASTAL RESOURCE AREAS
- ON-SITE WETLANDS WERE DELINEATED BY NORSE ENVIRONMENTAL IN SEPTEMBER OF 2020.
- BOUNDARY, TOPOGRAPHIC, AND PLANIMETRIC INFORMATION WAS OBTAINED FROM AN ON-THE-GROUND SURVEY PERFORMED AND COMPLETED BY FODERA ENGINEERING IN APRIL 2021.
- THE PROPOSED BUILDING FOOTPRINT HAS BEEN CREATED FOR THE USE OF BEING FINALIZED FOR FUTURE ARCHITECTURAL PLANS THAT WILL BE PROVIDED PRIOR TO OBTAINING BUILDING PERMITS. THE BUILDING FOOTPRINT IS ANTICIPATED TO REMAIN THE SAME AS SHOWN ON THIS PLAN.

**LEGEND**

- PROPERTY LINE
- BUILDING SETBACK
- EROSION CONTROL BARRIER
- 205 PROPOSED MAJOR CONTOUR
- 204 PROPOSED MINOR CONTOUR
- 205 EXISTING MAJOR CONTOUR
- 204 EXISTING MINOR CONTOUR
- BORDERING VEGETATED WETLANDS
- WETLANDS PERFORMED BY LEC
- 25' WETLAND BUFFER (25'BF)
- 35' WETLAND BUFFER (35'BF)
- 100' WETLAND BUFFER
- WETLAND FLAG
- TRENCH WORK WITHIN R.O.W.
- OVERHEAD UTILITY WIRE
- UTILITY POLE
- TREE AND CALIPER SIZE
- SEWER MANHOLE
- STREET TRAFFIC SIGN
- MHB MASSDOT HIGHWAY BOUND
- SB.DH (FND.) STONE BOUND DRILL HOLE FOUND
- MAILBOX
- SSWL SINGLE SOLID WHITE LINE
- SYL SOLID YELLOW LINE
- BYL BROKEN YELLOW LINE
- SNBL SINGLE NORTHBOUND LANE
- SSBL SINGLE SOUTHBOUND LANE
- TWLT TWO-WAY LEFT TURN LANE
- TREE TO BE REMOVED

**PREPARED BY:**  
**FODERA ENGINEERING**  
 (617)877-3293  
 gfodera@foderaengineering.com  
 28 Harbor St., Suite 204  
 Danvers, MA 01923

**PREPARED FOR:**  
 FRANK LANZILLO  
 50 CENTRE STREET  
 DANVERS, MA 01923

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REVISION	DATE	BY
LEC WETLANDS	9/16/21	GGF

**PROJECT LOCATION:**  
 MAIN STREET, LOT A  
 READING, MA 01867  
**PARCEL ID:**  
 MAP 51, LOT 95

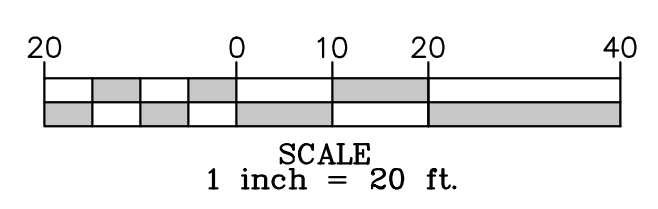
**PLAN SET:**  
**PROPOSED SINGLE-FAMILY DWELLING**  
**MAIN STREET, PLAN NO.274 OF 2021 - LOT A**  
**READING, MA 01867**

PROFESSIONAL SEAL

**JOB NO.:** 21211-219

**SHEET TITLE:**  
**PROPOSED SITE PLAN**

**SHEET NUMBER:**  
 C-1



SCALE: 1" = 20'

JUNE 14, 2021