

Notice of Intent Application Proposed Solar Array – Parcel 3



November 14, 2023

Subject Property

160 Maple Street
Assessor's Parcels 239-10, 254-9 and 255-1
Franklin, MA 02038

Property Owners

Maple Gate Realty Trust
c/o Brown Legal PLLC
10 Liberty Square, 6th Floor
Boston, MA 02109

Applicant

Maple Street Solar, LLC
177 Huntington Avenue
Suite 1703, Unit 73069
Boston, MA 02115

Prepared by

LEC Environmental Consultants, Inc.
380 Lowell Street, Suite 101
Wakefield, MA 01880
781-245-2500

www.lecenvironmental.com



November 14, 2023

Email/Federal Express

Franklin Conservation Commission
Municipal Building
355 East Central Street
Franklin, MA 02038

Re: Notice of Intent Application

[LEC File #: BoE\22-015.04]

**160 Maple Street (Assessor’s Parcels 239-010, 254-9, and 255-1)
Franklin, Massachusetts**

Dear Members of the Commission:

On behalf of the Applicant, Maple Street Solar, LLC, LEC Environmental Consultants, Inc., (LEC) is submitting this Notice of Intent (NOI) Application for the “Proposed Solar Array – Parcel 3” project on the above-referenced subject parcels. Proposed work activities occur within Bordering Vegetated Wetlands (BVW) and the 100-foot Buffer Zone protected under the *Massachusetts Wetlands Protection Act* (M.G.L., c. 131, s. 40, the *WPA*), its implementing *Regulations* (310 CMR 10.00, *WPA Regulations*), and the *Town of Franklin Wetlands Protection Bylaw* (“*Bylaw*”; Chapters 181 & 271) and its implementing *Regulations* (“*Bylaw Regulations*”). Details of the proposed project are depicted on the *Proposed Site Plan*, prepared by Bohler Engineering, dated October 4, 2023 (Appendix C; provided under separate cover).

Enclosed please find a check payable to the Town of Franklin for \$1,603.00 which includes the town portion of the *WPA* filing fee (\$262.50) and the *Bylaw* fee (\$1,340.50). The state portion of the *WPA* filing fee (\$237.50) has been paid electronically via eDEP.

Thank you for your consideration of this Application. We look forward to discussing the project at the December 14, 2023 Public Hearing. If you should have any questions or require additional information, please do not hesitate to contact me at dwells@lecenvironmental.com.

Sincerely,

LEC Environmental Consultants, Inc.

Dan Wells

Senior Wildlife/Wetland Scientist

cc: DEP CERO; Maple Street Solar, LLC; Maple Gate Realty Trust

LEC Environmental Consultants, Inc.

www.lecenvironmental.com

12 Resnik Road
Suite 1
Plymouth, MA 02360
508.746.9491

380 Lowell Street
Suite 101
Wakefield, MA 01880
781.245.2500

100 Grove Street
Suite 302
Worcester, MA 01605
508.753.3077

P.O. Box 590
Rindge, NH 03461
603.899.6726

680 Warren Avenue
Suite 3
East Providence, RI 02914
401.685.3109

PLYMOUTH, MA

WAKEFIELD, MA

WORCESTER, MA

RINDGE, NH

EAST PROVIDENCE, RI

i.	WPA Form 3 – Notice of Intent
ii.	Wetland Fee Transmittal Form
iii.	Property Access Signature Form
iv.	Local Filing Fee Calculation Worksheet
v.	Franklin Resource Area Impact Summary Form
vi.	Affidavit of Service
vii.	Letter to Abutters
viii.	Abutter Notification Form
ix.	Certified List of Abutters

Wetland Resource Area Analysis and Report

1.	Introduction	1
2.	General Site Description	1
2.1	Floodplain Designation	2
2.2	Natural Heritage and Endangered Species Program Designation	3
3.	Wetland Boundary Determination Methodology	3
4.	Wetland Resource Areas	4
4.1	Bordering Vegetated Wetlands	4
4.2	Intermittent Stream	5
4.3	Bank	6
4.4	Isolated Lands Subject to Flooding	6
4.5	Vernal Pool (Bylaw Only)	7
4.6	Buffer Zone Resource Area (Bylaw Only)	8
5.	Proposed Project	9
5.1	Solar Panels and Interconnection	9
5.2	Stream Crossing	9
6.	Mitigation Measures	10
6.1	Erosion and Sedimentation Control	10
6.2	Stormwater Management	10
6.3	Wetland Replication	11
6.4	Buffer Zone Restoration	11

7.	Regulatory Compliance	12
7.1	Bordering Vegetated Wetland	12
7.2	Stream Crossing Standards	13
7.3	Buffer Zone	15
7.3.1	0-25 Foot Buffer Zone Resource Area	15
7.3.2	25-50 Foot Buffer Zone Resource Area	16
7.3.3	50-100 Foot Buffer Zone Resource Area	17
7.4	Vernal Pool Statement	17
7.5	Functions and Characteristics Statement	17

8.	Summary	20
-----------	----------------	-----------

Literature Referenced

Appendices

Appendix A

Locus Maps

Figure 1: USGS Topographic Map

Figure 2: Orthophoto Map

Figure 3: FEMA FIRMette

Appendix B

MassDEP Bordering Vegetated Wetland Field Data Forms

Appendix C

StreamStats Analysis

Attachments

Proposed Site Plan, prepared by Bohler, dated October 4, 2023

Drainage Report, prepared by Bohler, dated July 20, 2023

Tree Removal Exhibit, prepared by Bohler, dated May 26, 2023

Alternative Layout Plan, prepared by Bohler, dated October 4, 2023



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

Franklin
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):

160 Maple Street
a. Street Address

Franklin
b. City/Town

02038
c. Zip Code

Latitude and Longitude:
42.11040
d. Latitude

-71.44263
e. Longitude

239-010, 254-9 and 255-1
f. Assessors Map/Plat Number

g. Parcel /Lot Number

2. Applicant:

Daniel
a. First Name

Serber
b. Last Name

Maple Street Solar, LLC
c. Organization

177 Huntington Ave., Suite 1703, Unit 73069
d. Street Address

Boston
e. City/Town

MA
f. State

02115
g. Zip Code

559-731-4645
h. Phone Number

i. Fax Number

daniel@nextgrid.com
j. Email Address

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

Sally
a. First Name

Winters, Trustee
b. Last Name

Maple Gate Realty Trust, c/o Brown Legal PLLC
c. Organization

10 Liberty Square, 6th Floor
d. Street Address

Boston
e. City/Town

MA
f. State

02109
g. Zip Code

617-463-9133
h. Phone Number

i. Fax Number

brown@brownlegalllc.com
j. Email address

4. Representative (if any):

Dan
a. First Name

Wells
b. Last Name

LEC Environmental Consultants, Inc.
c. Company

380 Lowell Street, Suite 101
d. Street Address

Wakefield
e. City/Town

MA
f. State

01880
g. Zip Code

781-245-2500
h. Phone Number

i. Fax Number

dwells@lecenvironmental.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



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
Franklin
City/Town

A. General Information (continued)

6. General Project Description:

Construction of a 15,000 KW solar array in BVW and Buffer Zone.

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

- 1. Single Family Home
- 2. Residential Subdivision
- 3. Commercial/Industrial
- 4. Dock/Pier
- 5. Utilities
- 6. Coastal engineering Structure
- 7. Agriculture (e.g., cranberries, forestry)
- 8. Transportation
- 9. 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 CMR10.24(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:

Norfolk	
a. County	b. Certificate # (if registered land)
36388	159
c. Book	d. Page Number

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

- 1. 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.
- 2. Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

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



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Franklin
 City/Town

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	854 1. square feet	1,756 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. 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.



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

Franklin

City/Town

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

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

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

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	_____	
	1. square feet	

	2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	_____	_____
	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	_____	_____
	1. square feet	2. cubic yards dune nourishment
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	_____	
	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	_____	
	1. square feet	
h. <input type="checkbox"/> Salt Marshes	_____	_____
	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	_____	
	1. square feet	

	2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	_____	
	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	

	1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	_____	
	1. square feet	
4. <input type="checkbox"/> Restoration/Enhancement	If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.	
	_____	_____
	a. square feet of BVW	b. square feet of Salt Marsh
5. <input checked="" type="checkbox"/> Project Involves Stream Crossings		
	0	1
	a. number of new stream crossings	b. number of replacement stream crossings



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Franklin
City/Town

C. Other Applicable Standards and Requirements

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

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

- 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*

- Percentage/acreage of property to be altered:
 - (a) within wetland Resource Area _____ percentage/acreage
 - (b) outside Resource Area _____ percentage/acreage
- Assessor's Map or right-of-way plan of site

- 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/endangered-species-act-mesa-regulatory-review>).

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

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



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Franklin
City/Town

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

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

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

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

- (d) Vegetation cover type map of site
- (e) Project plans showing Priority & Estimated Habitat boundaries
- (f) OR Check One of the Following

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

2. Separate MESA review ongoing. a. NHESP Tracking # b. Date submitted to NHESP

3. Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?
- a. Not applicable – project is in inland resource area only b. Yes No

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

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

North Shore - Hull to New Hampshire border:

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

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

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

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

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



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Franklin
City/Town

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

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

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
a. Yes No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
a. Yes No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
a. Yes No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
a. Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
2. A portion of the site constitutes redevelopment
3. Proprietary BMPs are included in the Stormwater Management System.
b. No. Check why the project is exempt:
1. Single-family house
2. Emergency road repair
3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

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

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

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

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



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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

Franklin
City/Town

D. Additional Information (cont'd)

3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. List the titles and dates for all plans and other materials submitted with this NOI.

Proposed Site Plan

a. Plan Title

Bohler Engineering

John A. Kucich

b. Prepared By

c. Signed and Stamped by

October 4, 2023

1"=40'

d. Final Revision Date

e. Scale

Drainage Report, prepared by Bohler Engineering

7/20/23

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:

2146

10/16/2023

2. Municipal Check Number

3. Check date

Paid via eDEP

4. State Check Number

5. Check date

Brown Legal, PLLC

6. Payor name on check: First Name

7. Payor name on check: Last Name



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
Town of Franklin Wetlands Bylaw (Chapters 181 & 271) and Regulations

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Franklin
City/Town

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.

Daniel Serber

09/05/2023

1. Signature of Applicant

2. Date

Peter A. Brown, Esq. as Counsel for Owner, Maple Gate Realty Trust

09/05/2023

3. Signature of Property Owner (if different)

4. Date

[Signature]

10/17/2023

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

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

For MassDEP:

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

Other:

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

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



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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



A. Applicant Information

1. Location of Project:

160 Maple Street Franklin
 a. Street Address b. City/Town
 Paid via eDEP \$237.50
 c. Check number d. Fee amount

2. Applicant Mailing Address:

Daniel Serber
 a. First Name b. Last Name
 Maple Street Solar, LLC
 c. Organization
 177 Huntington Ave., Suite 1703, Unit 73069
 d. Mailing Address
 Boston MA 02115
 e. City/Town f. State g. Zip Code
 559-731-4645 daniel@nextgrid.com
 h. Phone Number i. Fax Number j. Email Address

3. Property Owner (if different):

Sally Winters, Trustee
 a. First Name b. Last Name
 Maple Gate Realty Trust, c/o Brown Legal PLLC
 c. Organization
 10 Liberty Square, 6th Floor
 d. Mailing Address
 Boston MA 02109
 e. City/Town f. State g. Zip Code
 617-463-9133 brown@brownlegalllc.com
 h. Phone Number i. Fax Number j. Email Address

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

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.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
2.j.) Other activity: solar farm	1	\$500.00	\$500.00
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Step 5/Total Project Fee: _____

Step 6/Fee Payments:

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

Roads	___ linear feet x \$2.00	=	_____
*Drainage Structures	___ X \$10.00 each	=	_____
Wetland Resource Area Disturbed	1,481 square feet x \$0.50	=	<u>\$740.50</u>
Buildings	___ X \$125 each	=	_____
All Accessory Improvements	\$100.00	=	_____

2. REQUEST FOR DETERMINATION (RDA) \$100.00

3. MINOR BUFFER ZONE ACTIVITY (MBZA) \$50.00

4. ABBREVIATED NOTICE OF RESOURCE AREA DETERMINATION (ANRAD)

\$0.50/foot/resource area: = _____

5. OTHER PERMITS/SERVICES

Order of Conditions Extension	\$50.00	_____
Certificate of Compliance Request	\$50.00	_____
Certificate Re-Inspection	\$50.00	_____
Status Letter for Financial Institution	\$100.00	_____
Permit Amendment	\$100.00	_____

6. FILING FEE CALCULATION

Town Share of State Fees (See NOI Wetland Fee Transmittal Form) \$ **262.50**

Local Filing Fee Calculated Above \$ **1,340.50**

TOTAL Due Town of Franklin (Check No.1) \$ **1,603.00**

State Share of Filing Fee (See NOI Wetland Fee Transmittal Form)

TOTAL Due DEP (Check No. 2) \$ **237.50**

7. ADVERTISING FEE (Check No. 3) **TBD**

The fee will be the exact amount the newspaper charges for that specific advertisement. Once the advertisement is placed with the paper, by the Conservation Commission, the applicant will be notified of the cost and will be expected to submit a check for that exact amount, payable to the Town of Franklin, to the Conservation Department prior to the first hearing.

*Drainage structures: catch basins, manholes, leaching basins, gutter inlet or any other man-made structure (other than a pipe) for purposes of controlling drainage.

Town of Franklin Conservation Commission

RESOURCE AREA IMPACT SUMMARY FORM

**The Franklin Wetlands Protection Bylaw
Franklin Town Code Section 181**

Resource Area	Alteration Proposed	Mitigation Proposed
Bordering Vegetated Wetland (SF)	854 sf	1,756 sf
Bank (LF)		
Land Under Water Bodies (SF)		
Isolated Wetland (SF)		
Vernal Pool (SF)		
Buffer Zone (SF)	0-25': 1,148 sf 25-50': 22,500 50-100': 60,992 sf Total: 84,640 sf	0-25': 26,992 sf restor. 25-50': 14,944 sf restor. 50-100': 5,131 sf restor. Total: 47,067 sf restor.
Riverfront (SF)		
100-Year Floodplain (CF)		
(SF) = Square Feet (LF) = Linear Feet (CF) = Cubic Feet Flood Storage		

Town of Franklin Conservation Commission

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act

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

I, Sharon A. Sullivan, hereby certify under the pains and penalties of perjury that on December XX, 2023, I gave Notification to Abutters in compliance with second paragraph of Massachusetts General Laws Chapter 131, Section 40 in connection with the following matter:

A Notice of Intent filed under the Massachusetts Wetlands Protection Act by LEC Environmental Consultants, Inc. on behalf of the Applicant, Maple Street Solar, LLC, with the Franklin Conservation Commission on November 15, 2023 for property located on 160 Maple Street (Parcel IDs: 239-010, 254-009, 255-001), Franklin, Massachusetts.

The Notification to Abutters form and list of the abutters to whom it was given and their addresses are attached to the Affidavit of Service.

Sharon A Sullivan

Signature

December XX, 2023

Date

December XX, 2023

CERTIFIED MAIL

«Name»

«Name2»

«Address»

«City», «State» «Zip»

Re: Notice of Intent Application
160 Maple Street
Assessor's Parcels 239-010, 254-009, and 255-001
Franklin, Massachusetts

[LEC File #: BoE\22-015.04]

Dear Abutter:

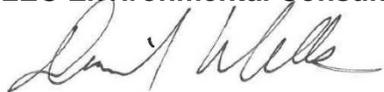
On behalf of the Applicant, Maple Street Solar, LLC, LEC Environmental Consultants, Inc., (LEC) has filed a *Notice of Intent (NOI) Application* with the Franklin Conservation Commission to construct a 15,000 KW solar field and associated gravel access drives, utilities, and stormwater management features at the above-referenced sites. The proposed activities occur within the 100-foot Buffer Zone to Bordering Vegetated Wetlands protected under the *Massachusetts Wetlands Protection Act* (M.G.L., c. 131, s. 40, the *Act*), its implementing *Regulations* (310 CMR 10.00, *Act Regulations*), and the *Town of Franklin Wetlands Protection Bylaw* (“*Bylaw*”; Chapters 181 & 271) and its implementing *Regulations* (“*Bylaw Regulations*”). The Applicant proposes to implement erosion controls to protect the wetland resource areas during construction.

The *NOI Application* and accompanying site plans are available for review by the public by contacting the Franklin Conservation Commission. Further information regarding this application will be published at least five (5) days in advance in the *Milford Daily News*. Notice of the Public Hearing will also be posted at the Franklin Town Hall at least 48 hours in advance.

A Public Hearing will be held on December 14, 2023 at 7:00 p.m. in the Town Council Chambers located on the second floor of the Municipal Building, 355 East Central Street, in accordance with the provisions of the *Act*, its implementing *Regulations*, and the *Bylaw*. The meeting is also available via Zoom. Please check the Town’s website and the Commission’s agenda for any updated information on the meeting.

Please do not hesitate to review the materials and/or attend the public hearing should you have questions or concerns about the proposed project.

Sincerely,

LEC Environmental Consultants, Inc.


Daniel L. Wells

Senior Wildlife/Wetland Scientist

LEC Environmental Consultants, Inc.**www.lectenvironmental.com**

12 Resnik Road
 Suite 1
 Plymouth, MA 02360
 508.746.9491

PLYMOUTH, MA

380 Lowell Street
 Suite 101
 Wakefield, MA 01880
 781.245.2500

WAKEFIELD, MA

100 Grove Street
 Suite 302
 Worcester, MA 01605
 508.753.3077

WORCESTER, MA

P.O. Box 590
 Rindge, NH 03461
 603.899.6726

RINDGE, NH

680 Warren Avenue
 Suite 3
 East Providence, RI 02914
 401.685.3109

EAST PROVIDENCE, RI

Notification to Abutters

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

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

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

- A. A Notice of Intent was filed with the Franklin Conservation Commission on November 15, 2023 seeking permission to remove, fill, dredge, or alter an area subject to protection under M.G.L. c. 131 §40. The following is a description of the proposed activity/activities:

Construction of a 15,000 KW solar field with associated gravel access drives, utilities, and stormwater management features. Erosion control barriers are proposed to protect the wetland resource areas during construction.

- B. The name of the applicant is: Maple Street Solar, LLC.
- C. The addresss of the land where the activities are proposed is: 160 Maple Street (Parcel IDs: 239-010, 254-009, and 255-001).
- D. Copies of the Notice of Intent may be examined or obtained at the office of the Franklin Conservation Commission, located at the Municipal Building, 355 East Central Street, 2nd Floor. The regular business hours of the Commission are Monday through Thursday, 8:00 a.m. – 4:00 p.m., and Friday, 8:00 a.m. – 1:00 p.m., and the Commission may be reached at (508) 520-4929.
- E. Copies of the Notice of Intent may be obtained from the Applicant’s representative, LEC Environmental Consultants, Inc., by calling (781) 245-2500, Monday through Friday, 8:00 a.m. – 5:00 p.m. An administrative fee may be applied for providing copies of the NOI and plans.
- F. The public hearing will be held on Thursday, December 14, 2023 at 7:00 p.m. at the town Council Chambers located on the second floor of the Municipal Building located at 355 East Central Street. The meeting is also available via Zoom and can be accessed through the Conservation Commission agenda for that night, which will be posted on the Town’s website 48 hours prior to the meeting. Please call the Conservation Commission at (508) 520-4929 if you have any questions. Notice of the public hearing will be published at least five business days in advance, in the Milford Daily News.

You may also contact the Massachusetts Department of Environmental Protection, Central Regional Office, Worcester, Massachusetts at (508) 792-7650.

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



MAPLEGATE [239-010; 254-009; 255-001] - 300' ABUTTERS

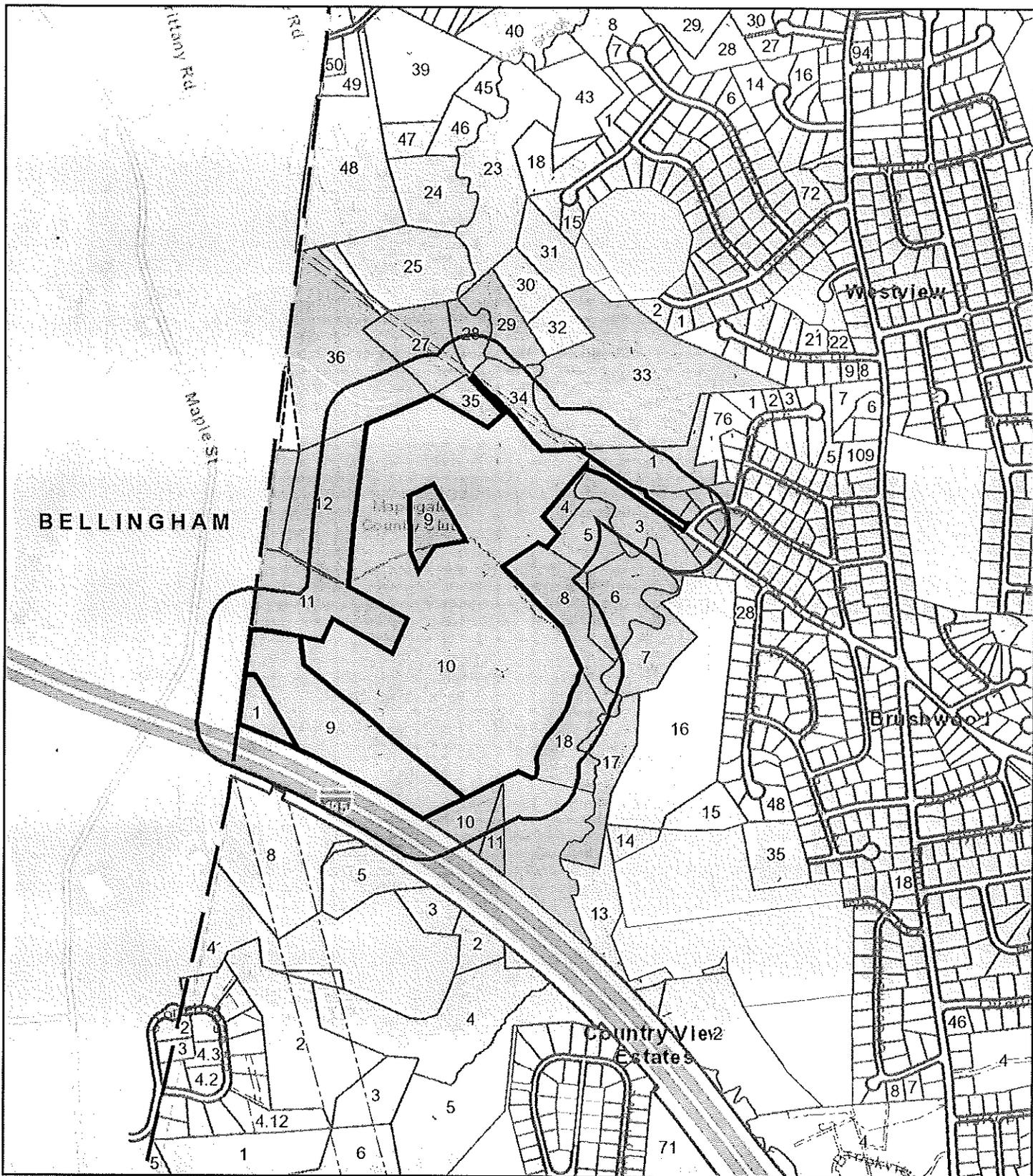
Franklin, MA



July 17, 2023

1 inch = 1000 Feet

www.cai-tech.com



This information is believed to be correct but is subject to change and is not warranted.



300 foot Abutters List Report

Franklin, MA
July 17, 2023

Subject Properties:

Parcel Number: 239-010-000
CAMA Number: 239-010-000-000
Property Address: MAPLEGATE
Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019

Parcel Number: 254-009-000
CAMA Number: 254-009-000-000
Property Address: MAPLEGATE
Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019

Parcel Number: 255-001-000
CAMA Number: 255-001-000-000
Property Address: MAPLEGATE
Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019

Abutters:

Parcel Number: 237-027-000
CAMA Number: 237-027-000-000
Property Address: MINE BROOK
Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 237-028-000
CAMA Number: 237-028-000-000
Property Address: MINE BROOK
Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

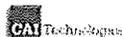
Parcel Number: 237-029-000
CAMA Number: 237-029-000-000
Property Address: POND ST
Mailing Address: RANIERI MARY E
59 PLEASANT ST
FRANKLIN, MA 02038

Parcel Number: 237-033-000
CAMA Number: 237-033-000-000
Property Address: MINE BROOK
Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 237-034-000
CAMA Number: 237-034-000-000
Property Address: MINE BROOK
Mailing Address: UNITED STATES OF AMERICA USA
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 237-035-000
CAMA Number: 237-035-000-000
Property Address: OAK ST
Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 237-036-000
CAMA Number: 237-036-000-000
Property Address: 160 MAPLE ST
Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019



www.cai-tech.com

This information is believed to be correct but is subject to change and is not warranted.

7/17/2023

Page 1 of 4



300 foot Abutters List Report

Franklin, MA
July 17, 2023

Parcel Number: 239-001-000
CAMA Number: 239-001-000-000
Property Address: POND ST

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 239-002-000
CAMA Number: 239-002-000-000
Property Address: OAK ST

Mailing Address: UNITED STATES OF AMERICA
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 239-003-000
CAMA Number: 239-003-000-000
Property Address: OAK ST

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 239-004-000
CAMA Number: 239-004-000-000
Property Address: MINE BROOK

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 239-005-000
CAMA Number: 239-005-000-000
Property Address: OAK ST

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 239-006-000
CAMA Number: 239-006-000-000
Property Address: OAK ST

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 239-007-000
CAMA Number: 239-007-000-000
Property Address: MINE BROOK

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 239-008-000
CAMA Number: 239-008-000-000
Property Address: MINE BROOK

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 239-009-000
CAMA Number: 239-009-000-000
Property Address: MAPLEGATE

Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019

Parcel Number: 239-010-000
CAMA Number: 239-010-000-000
Property Address: MAPLEGATE

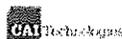
Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019

Parcel Number: 239-011-000
CAMA Number: 239-011-000-000
Property Address: 186 MAPLEGATE

Mailing Address: LMP PROPERTIES LLC C/O RYAN LLC
PO BOX 4900
SCOTTSDALE, AZ 85261

Parcel Number: 239-012-000
CAMA Number: 239-012-000-000
Property Address: MINE BROOK

Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019



www.cai-tech.com

This information is believed to be correct but is subject to change and is not warranted.

7/17/2023

Page 2 of 4



300 foot Abutters List Report

Franklin, MA
July 17, 2023

Parcel Number: 240-031-000
CAMA Number: 240-031-000-000
Property Address: 30 OAK ST EXT

Mailing Address: BONGIORNO PATRICIA A CROWLEY
KEITH A
30 OAK STREET EXT
FRANKLIN, MA 02038

Parcel Number: 240-032-000
CAMA Number: 240-032-000-000
Property Address: 32 OAK ST EXT

Mailing Address: ZHOU HENG
32 OAK STREET EXT
FRANKLIN, MA 02038

Parcel Number: 240-033-000
CAMA Number: 240-033-000-000
Property Address: OAK ST EXT

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA RD
CONCORD, MA 01742

Parcel Number: 240-034-000
CAMA Number: 240-034-000-000
Property Address: 45 SCHOFIELD DR

Mailing Address: ZWICKER TOBIN A ZWICKER KERRI L
45 SCHOFIELD DR
FRANKLIN, MA 02038

Parcel Number: 240-035-000
CAMA Number: 240-035-000-000
Property Address: 46 SCHOFIELD DR

Mailing Address: STUART KEVIN G STUART JUDITH M
46 SCHOFIELD DR
FRANKLIN, MA 02038

Parcel Number: 240-036-000
CAMA Number: 240-036-000-000
Property Address: 31 OAK ST EXT

Mailing Address: MULLIKEN PETER B MULLIKEN OLIVIA K
31 OAK STREET EXT
FRANKLIN, MA 02038

Parcel Number: 240-055-000
CAMA Number: 240-055-000-000
Property Address: 38 SCHOFIELD DR

Mailing Address: BOURNAZIAN DAVID A
38 SCHOFIELD DR
FRANKLIN, MA 02038

Parcel Number: 240-056-000
CAMA Number: 240-056-000-000
Property Address: 42 SCHOFIELD DR

Mailing Address: BERTONE MARC N BERTONE
CATHLEEN M
42 SCHOFIELD DR
FRANKLIN, MA 02038

Parcel Number: 240-057-000
CAMA Number: 240-057-000-000
Property Address: 43 SCHOFIELD DR

Mailing Address: EVERS JOHN R EVERS CHERYL L
43 SCHOFIELD DR
FRANKLIN, MA 02038

Parcel Number: 240-058-000
CAMA Number: 240-058-000-000
Property Address: 39 SCHOFIELD DR

Mailing Address: WILLIAMS MARK R WILLIAMS REGINA M
39 SCHOFIELD DR
FRANKLIN, MA 02038

Parcel Number: 254-009-000
CAMA Number: 254-009-000-000
Property Address: MAPLEGATE

Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019

Parcel Number: 254-010-000
CAMA Number: 254-010-000-000
Property Address: MINE BROOK

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742



www.cai-tech.com

This information is believed to be correct but is subject to change and is not warranted.



300 foot Abutters List Report

Franklin, MA
July 17, 2023

Parcel Number: 254-011-000
CAMA Number: 254-011-000-000
Property Address: MINE BROOK

Mailing Address: UNITED STATES OF AMERICA US ARMY
CORP ENG
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 254-012-000
CAMA Number: 254-012-000-000
Property Address: POND ST

Mailing Address: FRANKLIN TOWN OF
355 EAST CENTRAL ST
FRANKLIN, MA 02038

Parcel Number: 254-017-000
CAMA Number: 254-017-000-000
Property Address: POND ST

Mailing Address: UNITED STATES OF AMERICA US ARMY
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 254-018-000
CAMA Number: 254-018-000-000
Property Address: MINE BROOK

Mailing Address: UNITED STATES OF AMERICA
696 VIRGINIA ROAD
CONCORD, MA 01742

Parcel Number: 255-001-000
CAMA Number: 255-001-000-000
Property Address: MAPLEGATE

Mailing Address: WINTERS SALLY TR MAPLE GATE
REALTY TRUST
160 MAPLE ST
BELLINGHAM, MA 02019

Kevin W. Doyle, 7-17-2023



www.cai-tech.com

This information is believed to be correct but is subject to change and is not warranted.

7/17/2023

Page 4 of 4



Notice of Intent Application

Proposed Solar Array – Parcel 3
160 Maple Street
Franklin, Massachusetts

November 14, 2023

1. Introduction

On behalf of the Applicant, Maple Street Solar, LLC, LEC Environmental Consultants, Inc., (LEC) is submitting this Notice of Intent (NOI) Application for the “Proposed Solar Array – Parcel 3” project located at 160 Maple Street in Franklin, Massachusetts.

Proposed work activities occur within Bordering Vegetated Wetlands (BVW), Bank and the 100-foot Buffer Zone, protected under the *Massachusetts Wetlands Protection Act* (M.G.L., c. 131, s. 40, the *WPA*), its implementing *Regulations* (310 CMR 10.00, the *WPA Regulations*), and the *Town of Franklin Wetlands Protection Bylaw* (“*Bylaw*” Chapters 181 & 271) and its implementing *Regulations* (“*Bylaw Regulations*”).

Details of the proposed project are depicted on the *Proposed Site Plan*, prepared by Bohler, dated October 4, 2023 (Attachment, provided under separate cover).

The following NOI Application provides a description of the existing site conditions, Wetland Resource Areas, and proposed project designed to protect the interests and values of the Wetland Resource Areas outlined within the above-referenced statutes.

2. General Site Description

The Project is proposed within the southern half of the existing Maplegate Country Club property, which is located in portions of Bellingham and Franklin. The existing property is proposed to be subdivided into three parcels: “Parcel 3” is the location of the project proposed in this NOI, while a separate solar project proposed in Parcel 1 was permitted with the Conservation Commission under MassDEP File # 159-1268. Parcel 2, located between Parcels 1 and 3, has been designated for public Open Space purposes.

The approximately 70.5± acre project site is located east of Maple Street, north of Route 495 and west of Mine Brook, within the western portion of Franklin, Massachusetts (Appendix A, Figures 1 and 2). Undeveloped land surrounds the project site to the south, northeast, and east. Portions of the existing golf course are located north of the project, a solar array is located to the northwest, and a high voltage powerline right-of-way is situated to the west.

The project site occurs within the southern portion of an existing 18-hole golf course. Existing features include paved and gravel cart paths, golf fairways and greens, and associated landscaping with interspersed patches of natural forest. Undeveloped portions of the site consist of forested upland, ponds, BVW, vernal pools and intermittent streams

flowing southerly, discharging to Mine Brook. The golf course actively manages the vegetation within the golf course, so existing vegetation is limited to manicured grasses and is mostly devoid of woody species or saplings.

A 325' wide New England Power Company easement with associated utility poles and overhead wires traverses the southwestern portion of the site.

Vegetation within the forested upland portions of the project site include a canopy of eastern white pine (*Pinus strobus*), northern red oak (*Quercus rubra*), red maple (*Acer rubrum*), with individuals of shagbark hickory (*Carya ovata*), black birch (*Betula lenta*), and gray birch (*Betula populifolia*). The understory contains saplings from the canopy, witch hazel (*Hamamelis virginiana*), and maple leaf viburnum (*Viburnum acerifolium*). The groundcover includes cinnamon fern (*Osmunda cinnamomea*), Canada mayflower (*Maianthemum canadense*), hay scented fern (*Dennstaedtia punctilobula*), dewberry (*Rubus* sp.), individual patches of lowbush blueberry (*Vaccinium angustifolium*), tree-club moss (*Lycopodium obscurum*), and wintergreen (*Gaultheria procumbens*).

Mine Brook, a perennial stream, flows northward along the eastern property boundary, eventually joining with the Charles River at the northern edge of Franklin. The 200-foot Riverfront Area extends laterally from the Mean Annual High Water (MAHW) Line of the Brook, but does not extend into or near the project footprint.

According to the Natural Resource Conservation Service (NRCS) Soil Survey (Web Soil Survey Norfolk and Suffolk Counties, Massachusetts, Version 17, September 3, 2021), the developed and upland portions of the site are mapped as Scituate fine sandy loam, 3-8% slopes, extremely stony. NRCS describes the Scituate Series, as friable coarse-loamy eolian deposits over dense sandy lodgment till derived from granite and gneiss.

Using a hand-held, Dutch-style auger, LEC inspected soil conditions within the forested upland along the BVW boundary. Representative test pits within the upland generally consisted of a ten-inch-thick topsoil (A-Horizon) with a soil matrix color 10 YR 2/2. The A-Horizon is directly underlain by a B-Horizon measuring up to 10 inches thick with a matrix color 10 YR 3/6. The soil matrix color renders the soil profile 'non-hydric' in accordance with the *Field Indicators for Identifying Hydric Soils in New England* (Version 4, June 2020, the *Field Indicators Guide*). LEC's field observations of the soil profile were generally consistent with the NRCS Soil Survey.

2.1

Floodplain Designation

According to the July 17, 2012 Federal Emergency Management Agency Flood Insurance Rate Maps (FIRM Panel Number: 25021C0302E), the eastern side of the site is located

near but outside of a Zone AE Special Flood Hazard Area, with a Base Flood Elevation ranging from 184 feet, at the southeast corner, to 183.6 feet to the northeast (Appendix A, Figure 3). As a result, most of the site is not mapped within the 100-year floodplain and does not contain Bordering Land Subject to Flooding (BLSF).

2.2

Natural Heritage and Endangered Species Program Designation

According to the 15th Edition of the Massachusetts *Natural Heritage Atlas* (effective August 1, 2021) published by the Natural Heritage & Endangered Species Program (NHESP), the site is not located within an *Estimated Habitat of Rare Wildlife* or *Priority Habitat of Rare Wildlife* (Appendix A, Figures 1 & 2). No Certified or Potential Vernal Pools are mapped within the site. LEC performed a vernal pool survey in Spring of 2022, and documented two vernal pools within and/or near the project site, as described below.

3.

Wetland Boundary Determination Methodology

LEC conducted site evaluations during February and March, 2022 and May 30, 2023 to determine the extent of Wetland Resource Areas and delineate the boundaries in proximity to the proposed project area and portions of Bank at a proposed stream crossing. The 200-foot Riverfront Area associated with the off-site Mine Brook extends onto the western portion of the property but is generally greater than 500 linear feet from the project area.

The BVW boundary was confirmed by observing existing plant communities, the presence or absence of hydric soils, and hydrologic indicators in accordance with the WPA and its implementing WPA Regulations, the *Bylaw* and associated *Bylaw Regulations*, as further defined in the *Massachusetts Handbook for Delineation of Bordering Vegetated Wetlands* (Second Edition, September 2022; “*the Handbook*”), the *Field Indicators Guide*, and the criteria set forth in 310 CMR 10.55. MassDEP Bordering Vegetated Wetland Determination Field Data Forms are included with this Application to support the wetland delineation (Appendix B).

The BVW, ILSF, and Vernal Pool boundaries were demarcated in the field with sequentially numbered blaze orange surveyor’s flagging tape embossed with the words “LEC Resource Area Boundary” in bold, black print, and are depicted in the *Plan Set*. Bank boundaries were delineated with sequentially numbered blue surveyor’s flagging tape and are depicted in the *Plan Set*. Delineated resource areas include the following sequences indicated in Table 1:

Table 1 - Wetland Delineation Summary Table:

Bordering Vegetated Wetland (BVW), Isolated Land Subject to Flooding (ILSF)

Wetland Series	Resource Area	Notes
375 to 567	BVW	Ends at fence
H1 to H24	ILSF / Vernal Pool	Confirmed VP
I1 to I24	ILSF	Not VP
J1 to J28	BVW	Connects to adjacent BVW by culvert
K1 to K18	ILSF	Not VP
L1 to L22	BVW / Vernal Pool	LL Series drains into L series by culvert
LL1 to LL18	BVW	Connected to L series by culvert
LLL1 to LLL15	BVW	Not connected to L series. Connected to B series by culvert
M1 to M15	BVW	Connected to N series by culvert. Note: a non-jurisdictional ditch is upgradient of this series
N1 to N7	BVW	Connected to wetland across roadway by culvert
TOB 1 to 4	Bank	West side of proposed crossing
TOB 101 to 106	Bank	East side of proposed crossing

4. Wetland Resource Areas

The Wetland Resource Areas associated with this NOI Application include BVW, Bank, ILSF, and Vernal Pool (a jurisdictional resource area under the Bylaw only).

4.1 Bordering Vegetated Wetlands

BVW are defined in 310 CMR 10.55(2) as *freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes. In these areas soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The boundary of BVW is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist.*

According to §181-4(B), *except as otherwise provided in this chapter or in regulations of the Commission, the definitions of terms in this chapter shall be set forth in the Wetlands Protection Act, MGL.c.131§40, and Regulations, 310 CMR 10.00.*

A forested BVW occurs within the southeastern and southern tree lines of the site and is associated with a series of intermittent stream channels generally flowing eastward toward Mine Brook with descending topography and the adjacent wetland complex bordering on Mine Brook. Vegetation within the forested BVW includes a moderately dense canopy and sapling layer of red maple (*Acer rubrum*) and American elm (*Ulmus americana*). The shrub layer includes highbush blueberry (*Vaccinium corymbosum*), winterberry (*Ilex verticillata*), arrowwood (*Viburnum dentatum*), and sweet pepperbush (*Clethra alnifolia*). The variably dense groundcover layer consists of sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), sphagnum moss (*Sphagnum* sp.), and skunk cabbage (*Symplocarpus foetidus*).

In the west-central part of the site is a forested wetland that drains into an intermittent stream southward across the golf course into the Mine Brook wetland complex. This forested wetland is comprised of similar species to the larger forested wetland system running along the southeastern and southern edges of the property.

According to the Natural Resource Conservation Service (NRCS) Soil Survey (Web Soil Survey Norfolk and Suffolk Counties, Massachusetts, Version 17, September 3, 2021), the wetland portion of the site located in proximity to the project area is mapped as Freetown Muck, 0 to 1 percent slopes. NRCS describes the Freetown Series as highly decomposed organic material. Representative soil test pits within the wetland revealed an approximately 11-inch-thick organic layer (O-Horizon) with a mucky texture and a soil matrix color 10 YR 2/1. The organic layer was directly underlain by a loamy sand C-Horizon (subsoil) measuring between 3 inches thick with a soil matrix color of 10 YR 4/2. Redoximorphic features (10 YR 4/6) were common in this soil profile. This soil profile is considered 'hydric' in accordance with the *Handbook* and meets the criteria for A2: *Histic Epipedon*. MassDEP BVW Determination Forms were documented in the vicinity of wetland flag #380, and are provided in Appendix B.

4.2

Intermittent Stream

The current USGS map does not show any perennial or intermittent streams located within the development portions of the site; however, LEC delineated the BVW bordering on an intermittent stream system that flows southerly through the west-central portions of Parcel 3, eventually turning southeasterly offsite and joining Mine Brook.

According to the *Act Regulations* [310 CMR 10.58(2)(a)(1)(b and c)], b. *A river or stream shown as intermittent or not shown on the current USGS map or more recent map provided by the Department, that has a watershed size greater than or equal to one square mile, is perennial.* c. *A stream shown as intermittent or not shown on the current*

USGS map or more recent map provided by the Department, that has a watershed size less than one square mile, is intermittent unless: i. The stream has a watershed size of at least ½ (0.50) square mile and has a predicted flow rate greater than or equal to 0.01 cubic feet per second at the 99% flow duration using the USGS Stream Stats method. The issuing authority shall find such streams to be perennial...

To confirm the intermittent status of the observed onsite stream, LEC utilized the USGS Water Resources Web Application StreamStats, to calculate the contributing watershed area and 99% flow duration from a point located on the southern property boundary. The StreamStats analysis calculated a 0.06 square mile watershed with an “undefined” 99% flow duration which does not meet the criteria for a perennial stream status (Appendix C). As such, LEC confirms the intermittent status of the stream in the west-central portions of Parcel 3. LEC delineated the Bank in a portion of the stream where a crossing is proposed, as described below.

4.3

Bank

According to the Act Regulations, Bank is the first observable break in slope or the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level [310 CMR 10.54 (2) (c)].

According to the Bylaw, Bank is the land area which normally abuts and confines a water body; the lower boundary being the mean annual low flow level, and the upper boundary being the first observable break in the slope or the mean annual flood level, whichever is higher.

Bank was delineated along both sides of an intermittent stream in the vicinity of a proposed replacement stream crossing. North of the existing golf cart bridge crossing, the wetland consists of a densely vegetated emergent marsh wetland that lacks a well-defined stream channel. Just north of the bridge, a drop in elevation causes a stream to emerge from the wetland as it flows southward under the bridge. During the site evaluation, it was observed to have two flow channels that converge due to a natural topographical constriction just south (downstream) of the bridge. The consolidated channel then proceeds southward through a forested wetland.

4.4

Isolated Lands Subject to Flooding

Isolated Lands Subject to Flooding (ILSF) are defined in 310 CMR 10.57(2)(b).1. as an isolated depression or closed basin without an inlet or an outlet. It is an area which at least once a year confines standing water to a volume of at least 1/4 acre-feet and to an average depth of at least six inches.

The H Series ILSF (also a documented Vernal Pool) is located to the north of the Project in Parcel 2, but its Buffer Zone extends into the Parcel 3 project. The I and K Series ILSFs are located in the east-central portions of Parcel 3. All three of the identified ILSF consist of small, ponded water hazards within the golf course, without inlets or outlets connected to nearby resource areas. The H and K ILSF had water depths of at least 40 inches during early spring of 2022 and are likely to hold greater than ¼ acre-feet of water at least once per year. The I ILSF was mostly dry during spring of 2022, but its topography suggests that it fills up during typical high-groundwater times of year, and likely also holds greater than ¼ acre-feet of water at least once per year.

4.5

Vernal Pool (Bylaw Only)

The Bylaw defines Vernal Pool as *A confined basin depression which, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer and which is free of adult fish populations, regardless of whether the site has been certified by the Massachusetts Division of Wildlife and Fisheries. Where there is a conflict of opinion as to the extent of the vernal pool or the extent of the habitat area, the applicant may submit an opinion certified by a registered professional engineer and/or a competent professional with at least two years experience in wildlife habitat evaluation, following the procedures set for in MGL C. 131, s. 40 and 310 CMR 10.00, as to the probable extent of the pool and the habitat area.* [§181-4(A)]

According to the *Bylaw Regulations*, vernal pools are defined as *Any isolated wetland subject to flooding or which is determined by a vote of the commission to be capable of satisfying the definition of a vernal pool as set forth in the MassDEP Regulations 310, CMR 10.00, or is already designated as such by the state.* (Section 1.6).

In the spring of 2022, LEC conducted a Vernal Pool Study to evaluate whether on-site Wetland Resource Areas may function to provide *essential breeding and rearing habitat functions for amphibian, reptile or other vernal pool community species* according to the Natural Heritage and Endangered Species Program's (NHESP) *Guidelines for Certification of Vernal Pool Habitat* (March 2009), hereafter referred to as the "*NHESP Guidelines*" and/or the *Bylaw and Bylaw Regulations*.

According to NHESP's *Guidelines*, *Vernal Pools are ephemeral bodies of freshwater that, in most years, hold water for a minimum of two continuous months and do not contain a permanent flowing outlet (physical criteria), in addition to providing important wildlife habitat for specific animal species (Obligate or Facultative Vernal Pool species) and generally lacking a reproducing fish population (biological criteria).*

LEC evaluated all confined basin depressions and ponded areas within the project area on March 23 and March 31 of 2022 to determine if any met the criteria for certification in accordance with the *NHESP Guidelines*. The survey was initiated at the optimal time of year, as confirmed by regular observations of the status of amphibian breeding activity in eastern Massachusetts towns beginning in mid-March. The survey was conducted using waders during sunny, calm weather and aided with polarized sunglasses so that visibility into the pools was optimal.

The *NHESP Guidelines* require that both biological and physical criteria be met if a wetland is to be certified. Under the “Obligate Species Method,” the biological criteria requirement is that certain “obligate” amphibian species be documented breeding (usually by the presence of egg masses), or fairy shrimp be present. Note that a minimum of five egg masses of one or more obligate species are required for certification. The physical criteria requirement is evidence that a pool lacks a permanently flowing outlet (documented by a photo of standing water). If a pool cannot be successfully certified using the Obligate Species Method, it can also be certified by the Facultative Species Method, whereby one must document that two or more facultative species breed, the pool lacks a permanent outlet, and document that there is no established, reproducing fish population.

LEC observed greater than 5 egg masses of “obligate” amphibian species within two of the surveyed wetlands:

- the “H-series” - six spotted salamander (*Ambystoma maculatum*) and two wood frog (*Lithobates sylvaticus*) egg masses;
- the “L-series” – 14 spotted salamander (*Ambystoma maculatum*) egg masses;

Neither had a permanent outlet, and both had depths greater than 40 inches, so it is highly likely that they hold water for two continuous months in spring, and probably into the early summer as well. For these reasons, the identified pools meet the criteria for certification under the NHESP Guidelines, and also meet the *Bylaw* definition of vernal pool.

None of the additional surveyed wetlands near the project site contained the requisite biological criteria for vernal pool certification.

4.6

Buffer Zone Resource Area (Bylaw Only)

According to the *Bylaw Regulations*, §181-2(B), *Except as permitted by the Conservation Commission or as provided in this chapter, no person shall commence to remove, fill, dredge, build upon, degrade, discharge into or otherwise alter the following resource*

areas: any freshwater wetlands; marshes; wet meadows; bogs; swamps; vernal pools; banks; reservoirs; lakes; ponds of any size; beaches; intermittent streams; lands under water bodies; lands within 100 feet of any of the aforesaid wetland or floodplain area;...

The 100-foot Buffer Zone extends from the BVW and Vernal Pool flags. The Buffer Zone within the project area is comprised of existing golf course fairways, greens, rough, tees and sand traps, plus cart paths, driveway, and parking areas. Undeveloped portions of the buffer zone consist of fringing forested upland habitat consisting of White Pine - Oak Forest cover type.

5. Proposed Project

The Project consists of the construction of a 15,000 KW solar field, along with associated gravel access drives, utilities, and stormwater management features. Erosion control barriers will be installed around the limit of work will remain in place until the site is stabilized to protect the downgradient wetland resource areas during construction.

5.1 Solar Panels and Interconnection

The solar array and most of its associated components are proposed to be constructed within the limits of the Town of Franklin. Electrical service to the Project will originate at a utility pole located on the westerly side of Maple Street in the Town of Bellingham. The connection will include a new pole on the eastern side of Maple Street, then continue underground to the Project site in Franklin via jack and bore methodology to limit impacts to resource areas. A Notice of Intent was filed with the Bellingham Conservation for the installation of this electrical line on November 9, 2023.

5.2 Stream Crossing

A replacement stream crossing is proposed in the southern portion of the Project, to provide vehicle access to portions of the solar array. The crossing has been designed to avoid and minimize impacts to wetland resource areas by spanning across the entire width of existing Banks, utilizing an existing golf cart bridge location, and avoiding clearing of forested wetlands to the south to the greatest extent possible. The proposed crossing is a 33-foot wide by 3.5-foot tall 3-sided box culvert. Proposed Stream Crossing Details are provided on Sheet C-902, including stream crossing standards calculations.

The existing golf cart bridge will be removed and replaced with a 33-foot wide, 3.5-foot tall, 32-foot-long box culvert that has been designed to avoid alteration of the existing Bank and natural streambed substrate. Installation of the new box culvert will maintain

the existing upgradient topographic elevations to preserve the hydrologic gradient and the hydrology of the wetland system. In accordance with the *Stream Crossing Standards*, the culvert will be greater than 1.2 times the bankfull width (the proposed 33-foot width exceeds the required 29.8 feet width) and greatly exceeds the minimum required openness ratio (proposed 3.6 openness ratio exceeds the minimum required 0.82 ratio). The footprint of impacts to construct the crossing have been designed to avoid tree clearing to the greatest extent possible. Permanent 854± square feet of BVW impacts will be mitigated by creating a 1,756± square-foot Wetland Replication Area, which is a greater than 2:1 ratio of mitigation to impacts, as required in the *Bylaw Regulations*.

6. Mitigation Measures

The project has been designed with mitigation measures to ensure compliance with the applicable Wetland Resource Area performance standards and protection of the interests of the *Act* and *Bylaw* during and after construction. The mitigation measures include perimeter erosion and sedimentation control, a stormwater management system, Wetland Restoration/Replication for disturbances to BVW at the stream crossing, and Upland Buffer Zone Restoration.

6.1 Erosion and Sedimentation Control

An erosion and sedimentation control program will be implemented to protect the adjacent Wetland Resource Areas from sedimentation during the proposed construction activities. As shown throughout the *Site Plan*, and as detailed on Sheet C-609, erosion controls consisting of silt fence and compost sock or equivalent will be installed to demarcate the Limit-of-Work in the vicinity of Wetland Resource Areas and provide additional assurance that construction equipment will not further intrude upon the Buffer Zone or protectable Wetland Resource Areas than otherwise permitted by the Commission. The actual means and methods of erosion control installation will be determined by the contractor. All barriers will remain in place until disturbed areas are stabilized with vegetation.

6.2 Stormwater Management

DEP's Stormwater Management Standards and the Stormwater Best Management Practices (BMPs) provided in the project design are detailed in Appendix B – *Drainage Report* prepared by Bohler.

According to the Report, proposed stormwater management will closely match existing drainage patterns. Most of the runoff generated will continue to flow overland to onsite water hazards / resource areas or to streams and wetlands associated with Mine Brook. The BMPs incorporated into the proposed stormwater management system have been designed to meet or exceed the standards set forth in the MassDEP Stormwater Handbook standards, and comply with MassDEP Wetlands Program Policy 17-1: Photovoltaic System Solar Array Review.

6.3 **Wetland Replication**

The proposed wetland/stream crossing will require 854± square feet of permanent impacts to BVW, as shown on Sheet C-206. To mitigate permanent impacts, a 1,756± square-foot Wetland Replication Area will be created northeast and proximate to the impacted BVW at a 2:1 ratio of mitigation to permanent impact. Sheet C-306 of the *Site Plans* shows the location, and Sheet C-606 shows the location and plantings associated with the 2:1 wetland replication area.

The Wetland Replication Area will be created in an existing disturbed area (golf course fairway) by excavating to appropriate sub-grades, backfilling with organic-rich topsoil as may be required, and planting the area with native wetland indicator species and a wetland seed mix. All of this work will be supervised by a Wetland Scientist experienced in Wetland Replication. Post-construction monitoring and reporting by a Wetland Scientist will document the progress toward achieving compliance with the BVW Performance Standards, including a 75% survival of woody species and 75% coverage by wetland indicator species after two growing seasons.

6.4 **Buffer Zone Restoration**

Buffer Zone alteration of 86,640± square feet (1,148 within 25 feet; 22,500 square feet within 25-50 feet; 60,992 square feet within 50-100 feet) will be mitigated with the restoration of existing disturbed lands with native species habitat enhancements, totaling 47,067 square feet.

Buffer Zone habitat restoration will be overseen and monitored annually by a qualified Wetland Scientist, with Monitoring Reports provided to the Commission after the work is complete for two growing seasons or until 75% coverage by target native species is achieved.

7. Regulatory Compliance

As noted above in Section 5.2, the proposed stream crossing will result in 854± square feet of permanent alteration of BVW. As mitigation, the project includes 1,756± square feet of wetland replication. The Wetland Replication Area has been designed in accordance with the performance standards for BVW at 310 CMR 10.55 (4)(b)(1)-(7), as follows, and the 2:1 wetland replication requirement of the *Bylaw*.

There is no proposed alteration to Bank, LUWW, ILSF or Vernal Pool resource areas. The *Act* and its implementing *Regulations* do not set forth specific performance standards for work within Buffer Zone. The *Bylaw Regulations* provide performance standards for work within the 0-25 foot, 25-50 foot, and 50-100 foot Buffer Zones. The pertinent performance standards and an explanation of the proposed project’s compliance with these standards follows.

7.1 Bordering Vegetated Wetland

The 854± square feet of permanent BVW impacts associated with the project are mitigated at a 2:1 ratio with a Wetland Replication Area (WRA) totaling 1,756± square feet. The activity will not destroy or otherwise impair the BVW, as required in 310 CMR 10.55(4)(a).

Compliance with the applicable performance standards at 310 CMR 10.54(4) are summarized below.

According to 310 CMR 10.55(4)(b), *notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an Order of Conditions permitting work which results in the loss of up to 5000 square feet of Bordering Vegetated Wetland when said area is replaced in accordance with the following general conditions and any additional, specific conditions the issuing authority deems necessary to ensure that the replacement area will function in a manner similar to the area that will be lost:*

(7) *The surface of the replacement area to be created (“the replacement area”) shall be equal to that of the area that will be lost (“the lost area”):*

The Applicant proposes to permanently alter 854± square feet. A 1,756± square-foot wetland replication area (WRA) is proposed to the northeast of the crossing, resulting in a >2:1 ratio of wetland replication to permanent alteration.

(2) *Ground water and surface elevation of the replacement area shall be approximately equal to that of the lost area:*

The WRA is located nearby to the northeast of the altered wetland, and final elevations within the WRA will approximate those within the adjacent BVW. Therefore, groundwater and surface elevation of the replication area will approximate the lost area.

(3) The overall horizontal configuration and location of the replacement area with respect to the bank shall be similar to that of the lost area:

The proposed WRA is situated along the same BVW as the western portion to be altered.

(4) The replacement area shall have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area:

The WRA is located immediately adjacent to the same BVW system, resulting in an unrestricted hydraulic connection.

(5) The replacement area shall be located within the same general area of the water body or reach of the waterway as the lost area:

The WRA is located adjacent to the same wetland as the lost area.

(6) At least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons, and prior to said vegetative re-establishment any exposed soil in the replacement area shall be temporarily stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods:

LEC anticipates re-establishment of a native wetland plant community within the WRA within two growing seasons through replanting with native shrubs, ferns, and a native wetland seed mix.

(7) The replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in Part III of 310 CMR 10.00:

The proposed wetland restoration/replication complies with all other General Performance Standards for resource areas located on the site.

7.2

Stream Crossing Standards

The stream crossing has been designed in accordance with the *Massachusetts River and Stream Crossing Standards* (the “*Stream Crossing Standards*”). The Standards are subdivided into “General” and “Optimal” as described below:

General Standards

1. *Spans (bridges, 3-sided box culverts, open-bottom culverts or arches) that preserve the natural stream channel are strongly preferred.*
2. *If a culvert, then it should be embedded:*
 - *a minimum of 2 feet for all culverts,*
 - *a minimum of 2 feet and at least 25 percent for round pipe culverts*
 - *When embedment material includes elements > 15 inches in diameter, embedment depths should be at least twice the D84 (particle width larger than 84 % of particles) of the embedment material*
3. *Spans channel width (a minimum of 1.2 times the bankfull width)*
4. *Natural bottom substrate within the structure*
5. *Designed with appropriate bed forms and streambed characteristics so that water depths and velocities are comparable to those found in the natural channel at a variety of flows*
6. *Openness > 0.82 feet (0.25 meters)*
7. *Banks should be present on each side of the stream matching the horizontal profile of the existing stream and banks*

Optimal Standards

1. *Use a bridge*
2. *Span the streambed and banks*
3. *Natural bottom substrate within the structure*
4. *Designed with appropriate bed forms and streambed characteristics so that water depths and velocities are comparable to those found in the natural channel at a variety of flows*
5. *Maintain a minimum height of 8 ft (2.4 meters) and openness of 2.46 feet (0.75 meters) if conditions are present that significantly inhibit wildlife passage (high traffic volumes, steep embankments, fencing, Jersey barriers or other physical obstructions. If conditions that significantly inhibit wildlife passage are not present, maintain a minimum height of 6 ft. (1.8 meters) and openness of 1.64 feet (0.5 meters)*
6. *Banks should be present on each side of the stream matching the horizontal profile of the existing stream and banks with sufficient headroom to provide dry passage for semi-aquatic and terrestrial wildlife*

The stream at its widest is 24.8 feet, therefore, the Standards require a minimum Bankfull Width (BFW) of 1.2 times, or 29.76 feet. The proposed culvert will be 33.0 feet, in compliance with the 1.2x BFW requirement.

The Openness Ratio (OR) is calculated as the cross-sectional area of the structure divided by the crossing length. For the General Standard, the OR must be greater than 0.82 feet, and for the Optimal Standard, the OR should be greater than 1.64. The proposed crossing has an OR of 3.6, which greatly exceeds even the Optimal Standard.

7.3

Buffer Zone

It should be noted that the proposed alterations within Buffer Zone will take place within the existing golf course footprint and are considered “disturbed areas” as defined in the Bylaw Regulations:

1.3. Disturbed Area: An area may be determined by the Commission to be a Disturbed Area where natural vegetation has been removed or otherwise legally modified and the soil has been removed, altered or legally modified such as in a mining or gravel removal operation.

1.3.1. Modifications made to an area prior to July 18, 1972 (Enactment of Wetlands Protection Act) or after July 18, 1972 with a permit from the Conservation Commission are considered legally modified. An area that has not been legally modified shall not be considered Disturbed Area for the purposes of the Town of Franklin Wetlands Bylaw and Wetland Bylaw Regulations.

1.3.2. Modified areas can include, but are not limited to areas such as parking lots, established lawn areas, non-native landscaped areas, patios and areas with active agricultural uses. Modified areas do not include areas where brush has been removed or limbs trimmed without any other modifications to the soil or the site.

1.3.3. The burden of proof is on the applicant to show by a preponderance of evidence that the area meets the Commission’s definition of a disturbed Area.

1.3.4. For the purposes of the Town of Franklin Wetlands Bylaw and Wetland Bylaw Regulations, a Disturbed Area considered legally modified will cease to be A legally modified Disturbed Area after three years of non-use or abandonment and will be considered non-disturbed area.

7.3.1

0-25 Foot Buffer Zone Resource Area

According to Section 4.2.1 of the Bylaw Regulations, *an applicant shall demonstrate that no work/disturbance including grading activities is proposed within the 0-25 foot buffer*

zone resource area. Any applicant proposing a project within the 0-25 foot buffer zone resource area will have an irrefutable presumption of significant adverse impact to the functions and characteristics of the resource area, unless otherwise determined by the Commission under the minor buffer zone activity criteria set forth in Section 2 of these regulations, or as approved by the Commission by the variance procedures set forth in Section 5 of these regulations.

A total of 1,148 square feet of alteration, including 593 square feet associated with the stream crossing, is proposed within the 0-25 foot Buffer Zone. Most of these areas are grading within existing disturbed golf course habitat. Mitigation plantings are proposed within portions of the 25-foot Buffer Zone to compensate for these unavoidable alterations, in accordance with Section 4.2 of the *Bylaw Regulations*.

7.3.2

25-50 Foot Buffer Zone Resource Area

According to Section 4.3.1 of the Bylaw Regulations, any applicant proposing a project within the 25-50 foot buffer zone resource area shall indicate that there are no structures including but not limited to, concrete, stone, or other impervious foundations and/or slabs for construction purposes that for all intents and purposes would significantly increase runoff. Alteration in the 25-50 foot buffer zone resource area is limited to grading, tree clearing. Stormwater management system components, lawns, gardens, and other low impact uses as determined by the Commission or as otherwise approved by the Commission by the variance procedures set forth in Section XVII of these regulations. Footings for building structures, such as a deck, as opposed to slabs or foundations, shall be used when technically feasible.

According to Section 4.3.2 of the Bylaw Regulations, Areas Disturbed Prior to June 29, 2006: When there is a pre-existing disturbance (disturbed as part of a previously recorded Certificate of Compliance or disturbed prior to the enactment of the Wetlands Protection Act and the Franklin Wetlands Protection Bylaw), and the work proposed is entirely within this previously disturbed area, an applicant may propose impervious surfaces or other uses such as pools, buildings, porches, and sheds within the 25-50 foot buffer zone resource area. The Commission shall evaluate the proposed uses based on the demonstration by the applicant that the functions and characteristics of the resource area will not be adversely impacted.

Solar panels and other related structures are proposed within portions of the 25-50 foot Buffer Zone. The total amount of alteration between 25 and 50 feet is 22,500 square feet, most of which is within existing disturbed golf course habitat. Other than the stream

crossing, the only other work proposed within the 25-50 foot Buffer Zone consists of grading, perimeter fencing, and portions of gravel access roads.

An alternative plan, showing greater impacts within this portion of Buffer Zone, is attached. Mitigation plantings are also proposed within 25-50 feet, to compensate for some of the alteration.

7.3.3 **50-100 Foot Buffer Zone Resource Area**

*According to Section 4.4.1. of the **Bylaw Regulations**, Alterations including structures are allowed in the 50-100 foot buffer zone resource area. The Commission may require additional mitigation offsets when the slope within the buffer zone is steeper than 10%. Additionally, mitigation offsets may be required by the Commission when the applicant proposes that more than 30% of the 50-100 foot buffer zone resource area is proposed to be impervious surface.*

The slope within the 50-100 foot Buffer Zone is less than 10%. The percentage of impervious surface proposed within the 50-100 foot Buffer Zone is less than 30%. Proposed mitigation efforts within this buffer zone include the implementation of erosion controls and native plantings.

7.4 **Vernal Pool Statement**

As required by Section 7.7 of the **Bylaw Regulations**, the Applicant must provide a Vernal Pool Statement. In Section 2.2 above, LEC stated that there are no certified or potential vernal pools mapped within the site. Figures 1 and 2 in Appendix A of the NOI show that there are no CVP or PVP mapped within abutting parcels of the site either. LEC performed a vernal pool survey in Spring of 2022, and documented two vernal pools within the project site, and these are described above and indicated on the plans.

7.5 **Functions and Characteristics Statement**

As required by Section 7.10 of the **Bylaw Regulations**, the Applicant must provide a Functions and Characteristics Statement. The proposed project will not result in any significant individual or cumulative adverse effect to the functions and characteristics of resource areas protected by the Franklin Wetlands Protection Bylaw, as described below:

Public Water Supplies – Public water supply is available along the frontage of Maple Street. There are existing fire hydrants on site that are associated with the current golf course use. The site is bordered to the east by Zone II water resource district associated with Mine Brook.

Private Water Supplies – Locations of private wells were not identified adjacent to the subject site.

Groundwater – The proposed stormwater management system will prevent adverse effects to groundwater.

Flood Control – No work is proposed within the 100-year flood plain. Therefore, the project will not result in any significant individual or cumulative adverse effect to this function and characteristic.

Erosion and Sedimentation – A detailed erosion control plan for both the construction and post construction conditions at the property is provided on the plans. Therefore, the project will not result in any significant individual or cumulative adverse effect to this function and characteristic.

Storm Damage Prevention – As described in the Drainage Report, the project will result in a reduction in peak rates and volumes of runoff when compared to pre-development conditions for the 2-, 10-, 25- and 100-year storm frequencies. If any storms more severe than a 100-year event take place, the natural forested buffer to the south and east of the project will serve as a natural filter to minimize impacts on Mine Brook and its associated wetlands. Therefore, the project will not result in any significant individual or cumulative adverse effect to this function and characteristic.

Water Quality – A sedimentation and erosion control program will be implemented to protect the adjacent Wetland Resource Areas from sedimentation during the proposed construction activities. Due to the proposed use of the site as a solar field, the number of vehicles accessing the site and providing maintenance will be significantly reduced compared to current conditions. The Project will eliminate the need for fertilizers and pesticides that would otherwise be used to support golf course vegetation. Therefore, the Project will improve water quality generated from the site by significantly reducing vehicular use and the spreading of fertilizers and pesticides, and will not result in any significant individual or cumulative adverse effect to this function and characteristic.

Water Pollution Control – A sedimentation and erosion control program will be implemented to protect the adjacent Wetland Resource Areas from sedimentation during the proposed construction activities. The proposed stormwater system will only convey allowable non-stormwater discharges and will not contain any illicit discharges from prohibited sources. An Illicit Discharge Statement is included in the Drainage Report. Therefore, the project will not result in any significant individual or cumulative adverse effect to this function and characteristic.

Fisheries – The work is located outside of Riverfront Area, therefore is greater than 200 feet from Mine Brook, a likely fishery. The drainage report details how the water quality of stormwater discharged to the nearby ponds and river will be improved versus the existing condition, due to reduction in impervious area, elimination of fertilizer and pesticide use on turf, and reduction in vehicle traffic. The improved water quality will improve potential habitat for nearby fisheries. Therefore, the project will not result in any significant individual or cumulative adverse effect to this function and characteristic.

Shellfish – This function and characteristic is not applicable to the project.

Wildlife Habitat – The project will take place in existing developed/disturbed and/or fragmented upland habitat. Both during and post construction, no important wetland habitats will be altered, nor will migratory access to vernal pool habitat be impaired by the project. Erosion control barriers will be installed around the limit of work and will remain in place until the site is stabilized to protect the downgradient wetland resource areas during construction. The arrays will be enclosed by a 7-foot-high chain-link fence with a six-inch gap at the bottom to accommodate wildlife passage. Therefore, the project will not result in any significant individual or cumulative adverse effect to this function and characteristic.

Rare Species Habitat (including rare plant species) – The project site is not mapped by the MA Natural Heritage & Endangered Species Program for rare species. Therefore, the project will not result in any significant individual or cumulative adverse effect to this function and characteristic.

Agriculture – This function and characteristic is not applicable to the project.

Aquaculture – This function and characteristic is not applicable to the project.

Recreation – The project is presently located within a private property, that provides recreation to the public in the form of golf. Upon construction, the golf course will no longer be in operation. There are no public walking trails or other public recreation opportunities that will be eliminated by the project. The project will provide for 74,500 square feet of future public amenity space in Lot 2, which may provide recreational opportunities for the public. Therefore, the project will not result in any significant individual or cumulative adverse effect to this function and characteristic.

8. Summary

On behalf of the Applicant, Maple Street Solar, LLC, LEC Environmental Consultants, Inc., (LEC) is submitting this NOI Application for a proposed 15,000 KW solar array and associated grading, utilities and stormwater management features located within BVW and the 100-foot Buffer Zone to BVW and Bylaw-protected Vernal Pools. BVW is a jurisdictional Wetland Resource Area protectable area under the *Massachusetts Wetlands Protection Act* (WPA; M.G.L. c. 131, § 40) and its implementing Regulations (310 CMR 10.00); BVW and Vernal Pools are protectable under the *Town of Franklin Wetlands Protection Bylaw* (“Bylaw” Chapters 181 & 271) and its implementing *Regulations* (“Bylaw Regulations”). The proposed project has been designed to protect the interests and values of the BVW and Vernal Pools in compliance with the WPA and *Bylaw*.

Federal Emergency Management Agency Flood Insurance Rate Map, Town of Franklin (*Community Panel 25021C0307E*), effective July 17, 2012.

Jackson, S. D., D. J. Henson, D. Hilgeman, M. McHugh, and L. Rhodes, 2022. Massachusetts Handbook for Delineation of Bordering Vegetated Wetlands, Second Edition, Massachusetts Department of Environmental Protection, Bureau of Water Resources, Wetlands Program, Boston, Massachusetts.

Massachusetts Natural Heritage Atlas, 15th Edition. Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries and Wildlife, Route 135, Westborough, MA 01581, http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

Massachusetts River and Stream Crossing Standards, Developed by the River and Stream Continuity Partnership, March 1, 2006, revised March 1, 2011.

Massachusetts Wetlands Protection Act (M.G.L. c. 131, §. 40) and its implementing *Regulations* (310 CMR 10.00), www.state.ma.us/dep.

New England Hydric Soils Technical Committee. 2019 Version 4, *Field Indicators for Identifying Hydric Soils in New England*, New England Interstate Water Pollution Control Commission, Lowell, MA.

Town of Franklin Wetlands Protection & Conservation Commission Bylaws and Regulations
<https://www.franklinma.gov/conservation/pages/regulations-and-bylaws>

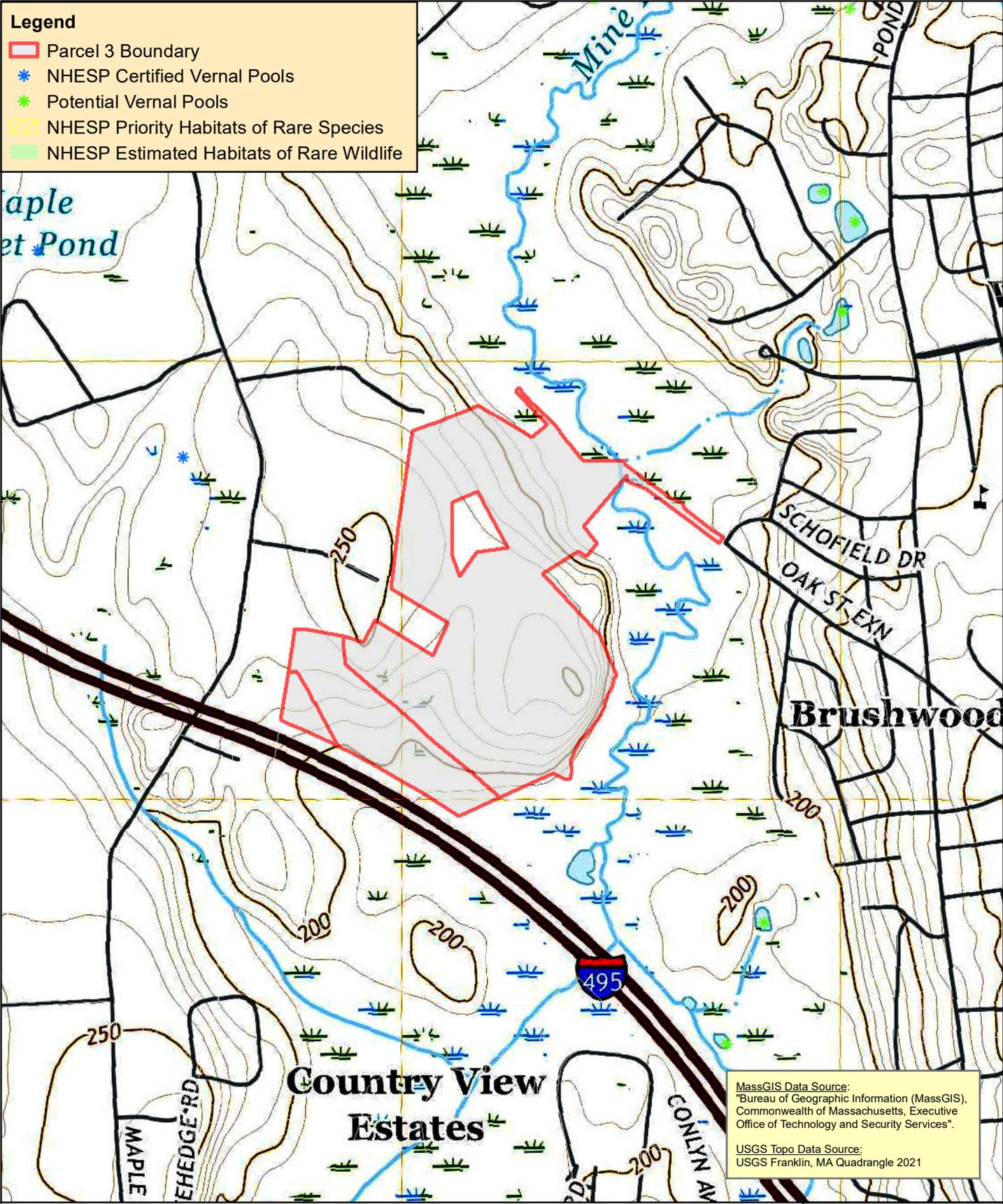
Appendix A

Locus Maps

Figure 1: USGS Topographic Map

Figure 2: Orthophoto Map

Figure 3: FEMA FIRMette



Legend

- Parcel 3 Boundary
- * NHESP Certified Vernal Pools
- * Potential Vernal Pools
- NHESP Priority Habitats of Rare Species
- NHESP Estimated Habitats of Rare Wildlife

MassGIS Data Source:
 "Bureau of Geographic Information (MassGIS),
 Commonwealth of Massachusetts, Executive
 Office of Technology and Security Services".

USGS Topo Data Source:
 USGS Franklin, MA Quadrangle 2021

LEC
 LEC Environmental Consultants, Inc.
 Wakefield, MA 781.245.2500
 www.lecenvironmental.com

Figure 1
USGS Topographic Map
 Maplegate Country Club
 Franklin, MA

Date: 8/8/2023

N

1 inch = 1,000 feet

0 250 500 1,000 Feet

Legend

- ▭ Parcel 3 Boundary
- ✱ NHESP Certified Vernal Pools
- ✱ Potential Vernal Pools
- NHESP Priority Habitats of Rare Species
- NHESP Estimated Habitats of Rare Wildlife



MassGIS Data Source:
"Bureau of Geographic Information (MassGIS),
Commonwealth of Massachusetts, Executive
Office of Technology and Security Services".
MassGIS 2021 Ortho (Spring 2021)



LEC Environmental Consultants, Inc.
Wakefield, MA 781.245.2500
www.lecenvironmental.com

Figure 2
Orthophoto Map
Maplegate Country Club
Franklin, MA

Date: 8/8/2023

N

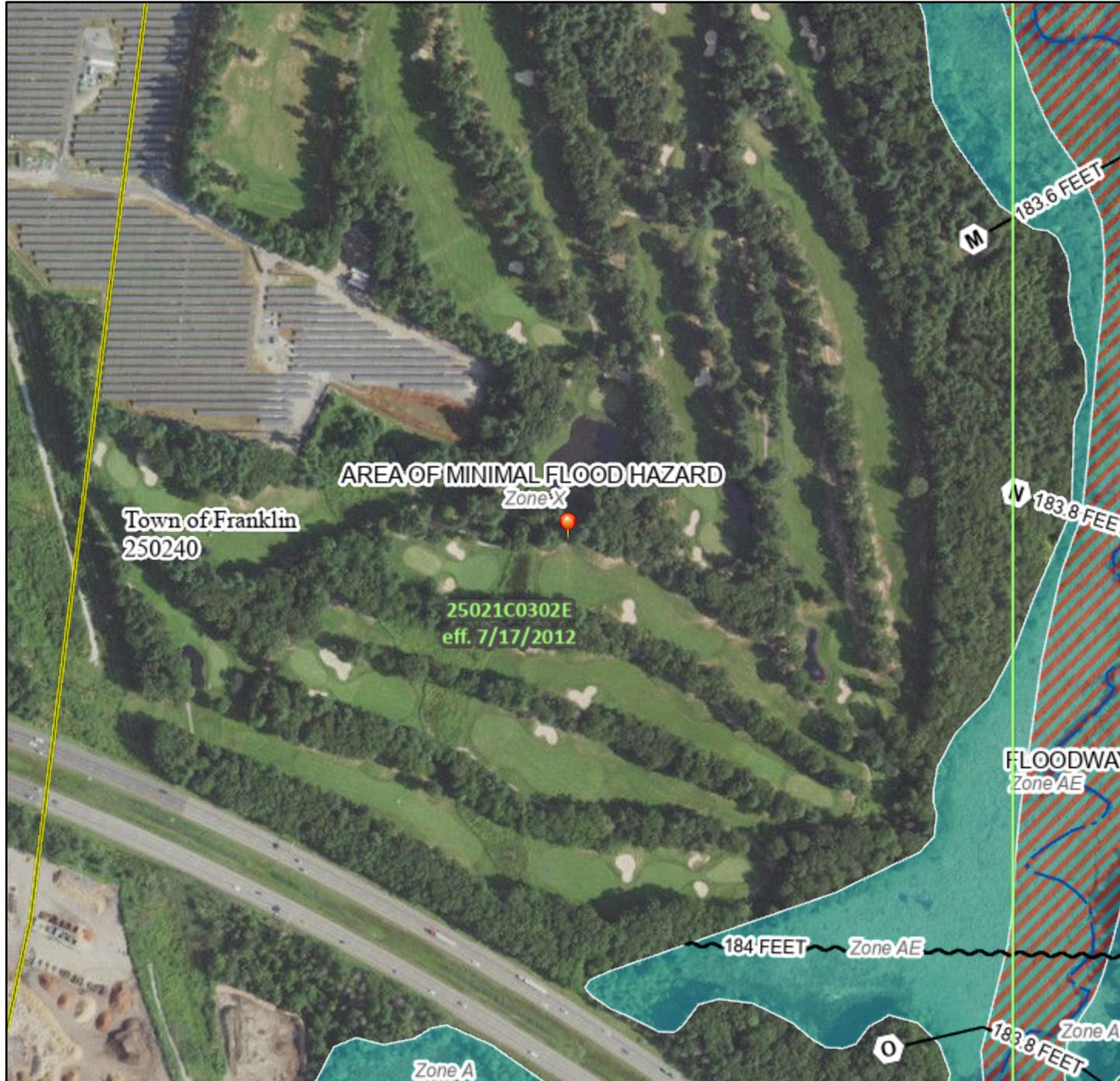
1 inch = 600 feet

0 150 300 600 Feet

National Flood Hazard Layer FIRMette



71°26'49"W 42°6'30"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/8/2023 at 3:01 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



1:6,000 71°26'11"W 42°6'4"N

Basemap Imagery Source: USGS National Map 2023

Appendix B

MassDEP Bordering Vegetated Wetland Determination Data Forms

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: 160 Maple Street City/Town: Franklin Sampling Date: 3/23/2022

Applicant/Owner: _____ Sampling Point or Zone: Upgradient of WF #380

Investigator(s): Dan Wells Latitude / Longitude: not recorded

Soil Map Unit Name: Scituate fine sandy loam, 3-8% slopes, extremely stony NWI or DEP Classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Are Vegetation , Soil , or Hydrology significantly disturbed? (If yes, explain in Remarks)

Are Vegetation , Soil , or Hydrology naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydic Soils criterion met?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetlands hydrology present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks, Photo Details, Flagging, etc.:			

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Depth (inches) _____
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology <input type="checkbox"/> Water-stained leaves <input type="checkbox"/> Evidence of aquatic fauna <input type="checkbox"/> Iron deposits <input type="checkbox"/> Algal mats or crusts <input type="checkbox"/> Oxidized rhizospheres/pore linings <input type="checkbox"/> Thin muck surfaces <input type="checkbox"/> Plants with air-filled tissue (aerenchyma) <input type="checkbox"/> Plants with polymorphic leaves <input type="checkbox"/> Plants with floating leaves <input type="checkbox"/> Hydrogen sulfide odor	Indicators that can be Reliable with Proper Interpretation <input type="checkbox"/> Hydrological records <input type="checkbox"/> Free water in a soil test hole <input type="checkbox"/> Saturated soil <input type="checkbox"/> Water marks <input type="checkbox"/> Moss trim lines <input type="checkbox"/> Presence of reduced iron <input type="checkbox"/> Woody plants with adventitious roots <input type="checkbox"/> Trees with shallow root systems <input type="checkbox"/> Woody plants with enlarged lenticels	Indicators of the Influence of Water <input type="checkbox"/> Direct observation of inundation <input type="checkbox"/> Drainage patterns <input type="checkbox"/> Drift lines <input type="checkbox"/> Scoured areas <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Surface soil cracks <input type="checkbox"/> Sparsely vegetated concave surface <input type="checkbox"/> Microtopographic relief <input type="checkbox"/> Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u>		Plot size <u>30 feet radius</u>			
Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
1. White oak	Quercus alba	FACU	20.5	No	No
2. Red oak	Quercus rubra	FACU	63.0	Yes	No
3. White pine	Pinus strobus	FACU	20.5	No	No
4.					
5.					
6.					
7.					
8.					
9.					
			<u>104.0</u> = Total Cover		
<u>Shrub/Sapling Stratum</u>		Plot size <u>15 foot radius</u>			
Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
1. Red maple	Acer rubrum	FAC	3.0	Yes	Yes
2. White pine	Pinus strobus	FACU	3.0	Yes	No
3. Witch hazel	Hamamelis virginiana	FACU	3.0	Yes	No
4. Highbush blueberry	Vaccinium corymbosum	FACW	3.0	Yes	Yes
5.					
6.					
7.					
8.					
9.					
			<u>12.0</u> = Total Cover		
<u>Herb Stratum</u>		Plot size <u>5 foot radius</u>			
Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
1. Princess-pine	Dendrolycopodium obscurum	FACU	3.0	Yes	No
2.					No
3.					No
4.					No
5.					No
6.					No
7.					No
8.					No
9.					No
10.					No
11.					No
12.					No
			<u>3.0</u> = Total Cover		

VEGETATION – continued.

<u>Woody Vine Stratum</u>		Plot size _____			
			Indicator Status	Absolute % Cover	Dominant? (yes/no)
Common name	Scientific name				Wetland Indicator? (yes/no)
1.					
2.					
3.					
4.					
			0.0 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW?			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?	
	5	2	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species		X 1	= 0.00
	FACW species		X 2	= 0.00
	FAC species		X 3	= 0.00
	FACU species		X 4	= 0.00
	UPL species		X 5	= 0.00
	Column Totals	(A) 0		(B) 0
Prevalence Index		B/A = 0.00		Is the Prevalence Index ≤ 3.0?
				Yes <input type="checkbox"/> No <input type="checkbox"/>
Wetland vegetation criterion met?			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
2.00	10YR 2/2	100.0%		0.0%			sandy loam
8.00	10YR 3/3	100.0%		0.0%			sandy loam
4.00	10YR 3/6	100.0%		0.0%			fine sandy loam
		0.0%		0.0%			
		0.0%		0.0%			
		0.0%		0.0%			
		0.0%		0.0%			
		0.0%		0.0%			
		0.0%		0.0%			
		0.0%		0.0%			

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		Indicators for Problematic Hydric Soils
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Polyvalue Below Surface (S8)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F8)	<input type="checkbox"/> Mesic Spodic (A17)
<input type="checkbox"/> Sandy Mucky Mineral (S1)		<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Other (Include Explanation in Remarks)
<input type="checkbox"/> Stripped Matrix (S6)		
<input type="checkbox"/> Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks:

Hydric Soils criterion met? Yes No

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: 160 Maple Street City/Town: Franklin Sampling Date: 3/23/2023

Applicant/Owner: _____ Sampling Point or Zone: Downgradient of WF #380

Investigator(s): Dan Wells Latitude / Longitude: not recorded

Soil Map Unit Name: Freetown muck, 0 to 1 percent slopes NWI or DEP Classification: WOODED SWAMP DECIDUOUS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Are Vegetation , Soil , or Hydrology significantly disturbed? (If yes, explain in Remarks)

Are Vegetation , Soil , or Hydrology naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydic Soils criterion met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetlands hydrology present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks, Photo Details, Flagging, etc.:			

HYDROLOGY

Field Observations:		
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches) <u>2.00</u>
Saturation Present (including capillary fringe)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches) <u>0.00</u>
Wetland Hydrology Indicators		
Reliable Indicators of Wetlands Hydrology <input checked="" type="checkbox"/> Water-stained leaves <input type="checkbox"/> Evidence of aquatic fauna <input type="checkbox"/> Iron deposits <input type="checkbox"/> Algal mats or crusts <input type="checkbox"/> Oxidized rhizospheres/pore linings <input type="checkbox"/> Thin muck surfaces <input type="checkbox"/> Plants with air-filled tissue (aerenchyma) <input type="checkbox"/> Plants with polymorphic leaves <input type="checkbox"/> Plants with floating leaves <input type="checkbox"/> Hydrogen sulfide odor	Indicators that can be Reliable with Proper Interpretation <input type="checkbox"/> Hydrological records <input type="checkbox"/> Free water in a soil test hole <input checked="" type="checkbox"/> Saturated soil <input type="checkbox"/> Water marks <input type="checkbox"/> Moss trim lines <input type="checkbox"/> Presence of reduced iron <input type="checkbox"/> Woody plants with adventitious roots <input type="checkbox"/> Trees with shallow root systems <input type="checkbox"/> Woody plants with enlarged lenticels	Indicators of the Influence of Water <input type="checkbox"/> Direct observation of inundation <input checked="" type="checkbox"/> Drainage patterns <input type="checkbox"/> Drift lines <input type="checkbox"/> Scoured areas <input type="checkbox"/> Sediment deposits <input type="checkbox"/> Surface soil cracks <input type="checkbox"/> Sparsely vegetated concave surface <input type="checkbox"/> Microtopographic relief <input checked="" type="checkbox"/> Geographic position (depression, toe of slope, fringing lowland)
Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):		

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

<u>Tree Stratum</u>		Plot size <u>30 foot radius</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. Red maple	Acer rubrum	FAC	38.0	Yes	Yes		
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
			<u>38.0</u> = Total Cover				
<u>Shrub/Sapling Stratum</u>		Plot size <u>15 foot radius</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. Highbush blueberry	Vaccinium corymbosum	FACW	10.5	Yes	Yes		
2. Maleberry	Lyonia ligostrina	FACW	20.5	Yes	Yes		
3.							
4.							
5.							
6.							
7.							
8.							
9.							
			<u>31.0</u> = Total Cover				
<u>Herb Stratum</u>		Plot size <u>5 foot radius</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name	Scientific name						
1. Cinnamon fern	Osmundastrum cinnamomeum	FACW	3.0	Yes			
2. Princess-pine	Dendrolycopodium obscurum	FACU	3.0	Yes			
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
			<u>6.0</u> = Total Cover				

VEGETATION – continued.

<u>Woody Vine Stratum</u>		Plot size <u>30 feet radius</u>		Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indicator? (yes/no)
Common name		Scientific name					
1.	Greenbrier	Smilax rotundifolia		FAC	10.5	Yes	Yes
2.							
3.							
4.							
				<u>10.5</u> = Total Cover			

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes No

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?	
	6	6	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species		X 1	= 0.00
	FACW species		X 2	= 0.00
	FAC species		X 3	= 0.00
	FACU species		X 4	= 0.00
	UPL species		X 5	= 0.00
Column Totals	(A) 0			(B) 0
Prevalence Index		B/A = 0.00		Is the Prevalence Index ≤ 3.0? Yes <input type="checkbox"/> No <input type="checkbox"/>

Wetland vegetation criterion met? Yes No

Definitions of Vegetation Strata

- Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height
- Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall
- Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall
- Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Location ²		
11.00	10YR 2/1	100.0%		0.0%			muck	
3.00	10YR 4/2	70.0%	10YR 4/6	30.0%	RM	M	loamy sand	
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		Indicators for Problematic Hydric Soils
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8)	<input type="checkbox"/> 2 cm Muck (A10)
<input checked="" type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Polyvalue Below Surface (S8)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F8)	<input type="checkbox"/> Mesic Spodic (A17)
<input type="checkbox"/> Sandy Mucky Mineral (S1)		<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Other (Include Explanation in Remarks)
<input type="checkbox"/> Stripped Matrix (S6)		
<input type="checkbox"/> Dark Surface (S7)		

Restrictive Layer (if observed) Type: _____ Depth (inches): _____

Remarks:

Hydric Soils criterion met? Yes No

Appendix C

StreamStats Analysis

StreamStats Report - Maplegate South NOI

Region ID: MA

Workspace ID: MA20230918150252140000

Clicked Point (Latitude, Longitude): 42.10163, -71.44156

Time: 2023-09-18 11:03:19 -0400



[+ Collapse All](#)

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM250	Mean basin slope computed from 1:250K DEM	3.799	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	-100000	square mile per mile
DRNAREA	Area that drains to a point on a stream	0.058	square miles
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Flow-Duration Statistics

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.058	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	3.799	percent	0.32	24.6

Flow-Duration Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors. Equation D60 in GC320 could not be calculated due to undefined basin characteristic. Equation D70 in GC320 could not be calculated due to undefined basin characteristic. Equation D75 in GC320 could not be calculated due to undefined basin characteristic. Equation D80 in GC320 could not be calculated due to undefined basin characteristic. Equation D85 in GC320 could not be calculated due to undefined basin characteristic. Equation D90 in GC320 could not be calculated due to undefined basin characteristic. Equation D95 in GC320 could not be calculated due to undefined basin characteristic. Equation D98 in GC320 could not be calculated due to undefined basin characteristic. Equation D99 in GC320 could not be calculated due to undefined basin characteristic.

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
50 Percent Duration	0.0523	ft ³ /s
60 Percent Duration	undefined	ft ³ /s
70 Percent Duration	undefined	ft ³ /s
75 Percent Duration	undefined	ft ³ /s
80 Percent Duration	undefined	ft ³ /s
85 Percent Duration	undefined	ft ³ /s
90 Percent Duration	undefined	ft ³ /s
95 Percent Duration	undefined	ft ³ /s
98 Percent Duration	undefined	ft ³ /s
99 Percent Duration	undefined	ft ³ /s

Flow-Duration Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (<http://pubs.usgs.gov/wri/wri004135/>)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.17.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1