NOTICE OF INTENT

MGL CH. 131S40

City of Haverhill Wetlands Protection Bylaw

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROPOSED DEVELOPMENT

890 North Broadway (575-2-8)
Haverhill, Massachusetts 01832

APPLICANT:

Sterling Golf Management, Inc.
212 Kendrick Street
Newton, MA 02458

SUBMITTED TO:

Haverhill Conservation Commission
4 Summer Street
Room 300
Haverhill, MA 01830

Mass DEP Northeast Region
150 Presidential Way
Woburn, MA 01801

ISSUED:

February 26, 2026

CDCI FILE #: 24-10594

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

NOTICE OF INTENT TABLE OF CONTENTS

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

NOTICE OF INTENT – MGL CH. 131S40

City of Haverhill Wetlands Protection Bylaw

SECTION I

Project Narrative
WPA Form 3 – Notice of Intent
Wetland Fee Transmittal Form
City of Haverhill Conservation Commission Local Application Form 3
Local Ordinance Fee Calculation Form
Copy of Checks

NOTICE OF INTENT

Crystal Lake Golf Course
Haverhill, Massachusetts

PROJECT DESCRIPTION

The Applicant proposes improvements to a portion of the property located at 940 North Broadway in Haverhill, Massachusetts, also known as Crystal Lake Golf Course. The proposed work includes construction of a clubhouse, cart barn, and paved parking lot to support golf course operations. Portions of the proposed improvements are located within jurisdictional wetland buffer zones.

EXISTING CONDITIONS

The property is located within the Rural Residential zoning district and is presently developed and operated as a golf course. The overall parcel contains ±125-AC and has frontage along Front Nine Drive and North Broadway. The proposed limit of work is confined to ±3.1-AC in the vicinity of the existing clubhouse area.

Existing site conditions within the project area includes a ±1,850-SF clubhouse and associated gravel and paved parking areas.

On-site wetland resource areas within the limit of work area include two Bordering Vegetated Wetlands (BVWs) located to the east and west of the proposed development area. The 100-FT Wetland Buffer, the local 50-FT No Build Zone, and the 25-FT No Disturb Zone all extend into the proposed work area.

Elevations across the project area range from approximately 213-FT at the site's frontage along Front Nine Drive (about 550-FT from North Broadway) to approximately 190-FT near the eastern BVW. Wetland resource areas were delineated by Norse Environmental in April 2025.

According to the Natural Resource Conservation Service Soil Survey for Middlesex County, Massachusetts, on-site soils consist of Montauk fine sandy loam (300) and Ridgebury fine sandy loam. For the purposes of the drainage calculations, HSG-C was used. Test pits were conducted by this office in August of 2025 to determine soil texture and estimated seasonal high groundwater elevations. Test pit logs are provided under Tab 5 of this report. According to the Flood Insurance Rate Map for Middlesex County, Massachusetts Panels 25009C0067G, the site is not located within the any designated flood hazard area.

PROJECT SITE BACKGROUND AND PERMITTING HISTORY

In 2009, the Haverhill Conservation Commission issued an Order of Conditions (DEP File No. 033-1279) for the construction of residential development and golf course improvements on the project site. The approved project included the following:

- Developing a portion of the existing Crystal Lake Golf Couse into 50-single family homes.
- Construction of a ±2,400-FT roadway (Front Nine Drive) supporting 34-single family homes
- Construction of ±590-FT of roadway (Back Nine Drive) to support 16-single family homes
- A ±10,000-SF clubhouse
- A ±2,000-SF maintenance building

Stormwater runoff from impervious areas was collected and treated through structural stormwater management systems throughout the site prior to discharge to several on-site wetland resource areas. The stormwater management systems were designed to provide peak rate attenuation, water quality treatment and groundwater recharge, consistent with MassDEP Stormwater Management Standards.

Portions of the site improvements associated with the clubhouse approved in 2009 were initiated in 2023. A temporary gravel parking area and pro-shop were constructed; however, the overall clubhouse development was not completed.

In 2022, an amendment to the original Notice of Intent (DEP File No. 033-1476) was filed and approved by the Haverhill Conservation Commission. The amendment removed all work associated with the previously approved clubhouse and its paved parking lot. Modifications were made to the stormwater

management system, including the removal of Proposed Wet Swale-1 and its replacement with a smaller treatment pond designed to manage runoff from a limited segment of Front Nine Drive and an associated gravel parking area.
Following completion of the amended work, a Certification of Compliance was issued in 2024, confirming that the construction of the revised treatment pond had been completed in substantial compliance with approved amended plans. As-built drainage calculations were submitted as part of the compliance with approved design.

2026 PROPOSED CLUBHOUSE DEVELOPMENT

As of 2026, the Applicant intends to proceed with construction of a revised clubhouse facility. The current proposal includes a ±4,710-SF clubhouse, a ±5,000-SF cart barn, along with a paved parking lot and supporting utilities. Although the overall golf course layout has evolved from the 2009 approval, the proposed improvements remain generally consistent with the previously developed clubhouse footprint area.

The stormwater management strategy for the 2026 design is based on comparison to the 2009 post-development design rather than the original pre-development conditions. This approach is appropriate because the original 2009 project included a comprehensive system of BMPs that achieved compliance with MassDEP Stormwater Management Standards for peak flow attenuation, water quality treatment, and groundwater recharge.

Additional details are provided in the attached Drainage Report.

WETLAND RESOURCE AREA BUFFER ZONE IMPACTS

Work within the 100-FT Wetland Buffer Zones includes a portion of the proposed clubhouse, a portion of the paved parking lot, a proposed infiltration basin, cart paths, and associated grading.

Work within the local 50-FT No-Build Zone includes a portion of the proposed wet swale, grading, and proposed cart paths. Lastly, impacts within the 25-FT No Disturb Zone are limited to minor grading and the construction of the previously approved wet swale.

SUMMARY

The project has been designed to meet the performance standards of the Wetlands Protection Act as well as Haverhill City Code Chapter 253. Erosion controls are proposed to prevent indirect alteration of wetland resource areas.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

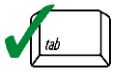
Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Haverhill
City/Town

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



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

A. General Information

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

890 North Broadway (a. Street Address) | Haverhill (b. City/Town) | 01832 (c. Zip Code)

Latitude and Longitude: 42.806719 (d. Latitude) | -71.138675 (e. Longitude)

575 (f. Assessors Map/Plat Number) | 2-8 (g. Parcel /Lot Number)

2. Applicant:

(a. First Name) | (b. Last Name)

Sterling Golf Management, Inc. (c. Organization)

212 Kendrick Street (d. Street Address)

Newton (e. City/Town) | MA (f. State) | 02458 (g. Zip Code)

(617) 930-8650 (h. Phone Number) | (i. Fax Number) | kosgood@sterlinggolf.com (j. Email Address)

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

(a. First Name) | (b. Last Name)

Sterling Golf Crystal Lake LLC (c. Organization)

212 Kendrick Street (d. Street Address)

Newton (e. City/Town) | MA (f. State) | 02458 (g. Zip Code)

(617) 930-8650 (h. Phone Number) | (i. Fax Number) | kosgood@sterlinggolf.com (j. Email address)

4. Representative (if any):

James (a. First Name) | Hanley (b. Last Name)

Civil Design Consultants, Inc. (c. Company)

344 North Main Street (d. Street Address)

Andover (e. City/Town) | MA (f. State) | 01810 (g. Zip Code)

(978) 416-0920 (h. Phone Number) | (i. Fax Number) | jhanley@CivilDCI.com (j. Email address)

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

$1,050.00 (a. Total Fee Paid) | $512.50 (b. State Fee Paid) | $537.50 (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

Haverhill
City/Town

A. General Information (continued)

6. General Project Description:

Applicant proposes to construct a ±4,710-SF clubhouse and ±5,000-SF cart barn with associated parking, grading, stormwater management system, utilities, landscaping and other appurtenances.

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:

a. County	b. Certificate # (if registered land)
Southern Essex Registry of Deeds	
c. Book	**d. Page Number**
36727	171

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

Haverhill
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. ☐ Bank	1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☐ 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. ☐ Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☐ Riverfront Area	1. Name of Waterway (if available) - **specify coastal or inland**	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

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

4. Proposed alteration of the Riverfront Area:

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

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

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

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

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

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Haverhill
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.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment
	Size of Proposed Alteration	Proposed Replacement (if any)
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐ Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ 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. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 3 – Notice of Intent
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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

C. Other Applicable Standards and Requirements

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

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

a. ☐ Yes ☒ No

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

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

08/01/2021
b. Date of map

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

c. Submit Supplemental Information for Endangered Species Review*

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

(a) within wetland Resource Area _____ percentage/acreage

(b) outside Resource Area _____ percentage/acreage

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

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

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

(b) ☐ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see https://www.mass.gov/ma-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
Haverhill
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 - Bourne to Rhode Island border, and the Cape & Islands:

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

North Shore - Plymouth to New Hampshire border:

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
Haverhill
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

Haverhill
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.

Site Development Plan for 890 North Broadway
a. Plan Title

Civil Design Consultatns, Inc.
b. Prepared By

James E. Hanely, P.E.
c. Signed and Stamped by

February 26, 2026
d. Final Revision Date

1" = 30'
e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. ☒ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

E. Fees

1. ☐ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

44062
2. Municipal Check Number

02/23/2026
3. Check date

44064
4. State Check Number

02/23/2026
5. Check date

6. Payor name on check: First Name

Sterling Golf Management, Inc.
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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Haverhill
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.

1. Signature of Applicant

2. Date: 2/23/2026

3. Signature of Property Owner (if different)

4. Date: 02/26/2026

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.

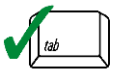
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

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:

890 North Broadway	Haverhill
a. Street Address	b. City/Town
44064	$512.50
c. Check number	d. Fee amount

2. Applicant Mailing Address:

a. First Name		b. Last Name	
Sterling Golf Management, Inc.			
c. Organization			
212 Kendrick Street			
d. Mailing Address			
Newton		MA	02458
e. City/Town		f. State	g. Zip Code
(617) 930-8650		kosgood@sterlinggolf.com	
h. Phone Number	i. Fax Number	j. Email Address	

3. Property Owner (if different):

a. First Name		b. Last Name	
Sterling Golf Crystal Lake LLC			
c. Organization			
212 Kendrick Street			
d. Mailing Address			
Newton		MA	02458
e. City/Town		f. State	g. Zip Code
(617) 930-8650		kosgood@sterlinggolf.com	
h. Phone Number	i. Fax Number	j. Email Address	

B. Fees

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

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
Category 3 b.) Each Building	1	$1,050.00	$1,050.00

Step 5/Total Project Fee:

Step 6/Fee Payments:

Total Project Fee:	$1,050.00 (a. Total Fee from Step 5)
State share of filing Fee:	$512.50 (b. 1/2 Total Fee **less $**12.50)
City/Town share of filling Fee:	$537.50 (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.)

City of Haverhill Conservation Commission

HCC Local Application Form 3
Notice of Intent

A. STATUTE APPLICABILITY

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

☒ Massachusetts Wetlands Protection Act, M.G.L. Chapter 131, Section 40

☒ Haverhill Municipal Ordinance Chapter 253

B. GENERAL INFORMATION

Applicant Sterling Golf Management, Inc.
Property Owner Sterling Golf Crystal Lake LLC
Representative Civil Design Consultants, Inc.
Location (Street Address) 890 North Broadway
Assessor's Parcel Identification 575-2-8

C. APPLICATION CHECKLIST

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

☒ Completed, current WPA Form 3, 3A, or 4 and NOI Wetland Fee Transmittal Form

☒ Project Narrative with description of resource areas & delineation methodology and demonstration of compliance with pertinent Performance Standards

☒ Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan

☒ Site Plans clearly describing the location and nature of the work, including such information as site boundaries, wetlands, topography, existing and proposed conditions, vegetation cover, soils, erosion & sedimentation controls, Title 5 compliance, flood storage calculations…(24" x 36" max. sheet size)

☐ MassDEP Bordering Vegetated Wetland Delineation Field Data Forms, as appropriate

☐ Wetland Resource Area Impact Mitigation Plan prepared in accordance with MA Inland Wetland Replication Guidelines, if applicable

☐ Demonstration of compliance with MA River & Stream Crossing Standards, if applicable (The HCC applies the General Standards to all resource area crossings for wildlife passage.)

☐ Simplified or Detailed Wildlife Habitat Evaluation (Appendix A or B), if applicable (See "MA Wildlife Habitat Protection Guidance for Inland Wetlands")

☒ Demonstration of compliance with MA Stormwater Management Standards, including but not limited to

- ☒ Stormwater Report with pertinent calculations based on NOAA Atlas 14 rainfall data
- ☒ Checklist for Stormwater Report
- ☒ Long-Term Pollution Prevention Plan
- ☒ Operation and Maintenance Plan
- ☒ Illicit Discharge Compliance Statement

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

D. LOCAL PERMIT DOCUMENTATION

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

_____

E. APPLICATION CERTIFICATION

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

Signed: _____ 2/23/2026
(APPLICANT) (DATE)

F. SITE ACCESS ACKNOWLEDGEMENT

I hereby grant the Haverhill Conservation Commission and its officials permission to enter upon my property at 890 North Broadway (575-2-8) to review the filed Notice of Intent and future site conditions for compliance with the issued Order of Conditions. The sole purpose of this acknowledgement is to allow the Commission and its officials to perform their duties under the Massachusetts Wetlands Protection Act and the City's wetlands protection ordinance.

(STREET ADDRESS AND ASSESSOR'S PARCEL ID)

Signed: _____ 2/23/2026
(PROPERTY OWNER) (DATE)

G. AFFIDAVIT OF SERVICE FOR ABUTTER NOTIFICATION

I, _____, hereby certify under the pains and penalties of perjury that on
(NAME OF PERSON MAKING AFFIDAVIT)

_____ I gave notification to all abutters pursuant to the requirements of the second
(DATE)

paragraph of Massachusetts General Laws Chapter 131, Section 40, the DEP Guide to Abutter Notification dated April 8, 1994, and Haverhill Municipal Ordinance Chapter 253, Section 5 in connection with the following matter:

A Notice of Intent filed under the Massachusetts Wetlands Protection Act and said ordinance by Sterling Golf Management, Inc. with the Haverhill Conservation Commission on
(NAME OF APPLICANT)

February 26, 2026 for property located at 890 North Broadway
(DATE) (STREET ADDRESS AND ASSESSOR'S PARCEL ID)

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

Signed: _____ _____
(NAME OF PERSON MAKING AFFIDAVIT) (DATE)

H. ABUTTER NOTIFICATION FORM

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

1. The name of the applicant is Sterling Golf Management, Inc.
2. Brief Project Description: Applicant proposes to construct a ±4,710-SF clubhouse and ±5,000-SF cart barn with associated parking, grading, stormwater management system, utilities, landscaping and other appurtenances..
3. The applicant has filed a Notice of Intent ("NOI") with the Haverhill Conservation Commission seeking permission to remove, fill, dredge or alter an Area Subject to Protection Under the Wetlands Protection Act and/or Haverhill Municipal Ordinance Chapter 253 and/or to perform work within the buffer zone of such an Area.
4. The address of the lot where the activity is proposed is 890 North Broadway
   (INCLUDE ASSESSOR'S MAP/BLOCK/LOT)
5. Copies of the NOI may be examined at *the Haverhill Conservation Department Office* between the hours of *8am and 4pm* from *Monday through Friday*. Contact information is below. You may also find helpful application materials on the "Projects Under Review" section of the Commission's website.
6. Copies of the NOI may be obtained from either (check one) the applicant or the applicant's representative Civil Design Consultants, Inc., by calling this telephone number (978) 416-0920 between the hours of 9AM and 5PM on the following days of the week Monday – Friday.
7. Information regarding the *date, time, and place* of the public hearing may be obtained from the *Haverhill Conservation Department Office* between the hours of *8am and 4pm* from *Monday through Friday*. Contact information is below. You may also consult the "Agenda" section of the Commission's website.

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

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

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

Website: http://www.cityofhaverhill.org/departments/conservation_commission/index.php.
Email: conservation@cityofhaverhill.com
Phone: 978.374.2334

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

Website: http://www.mass.gov/eea/agencies/massdep/about/contacts/northeast-region.html
Phone: 978.694.3200

I. LOCAL ORDINANCE FEE CALCULATION FORM

All Other Projects	***$1/linear foot, first 1000'; $0.50/lf, second 1000'; $0.10/lf, each additional foot		
%*Notices of Intent (NOI)			
Category 1 Activity	$100		
Category 2 Activity	$250		
Category 3 Activity	$525	1	$525.00
Category 4 Activity	$725		
Category 5 Activity	$2/foot		
Category 6 Activity - If no ANRAD was filed for the project site, then a local Cat. 6 fee must be paid in accordance with the ANRAD fee schedule	See ANRAD fee schedule	787-LF	$787.00
Resource Area Alterations			
Buffer Zone, 75'-100' from resource area boundary	$0.05 / square foot	13,900-SF	$695.00
Buffer Zone, 35'-75' from resource area boundary	$0.10 / square foot	14,975-SF	$1,497.50
Buffer Zone, 0'-35' from resource area boundary	$0.25 / square foot	1,075-SF	$268.75
Bordering Vegetated Wetland	$0.50 / square foot		
Bank	$5 / linear foot		
Land Under Water	$0.50 / square foot		
Land Subject to Flooding	$0.05 / square foot		
Riverfront Area	$0.05 / square foot		
Riverfront Area with the watershed of a potable water supply	$0.50 / square foot		
Land within 100' of a Certified Vernal Pool	$0.25 / square foot		
Local-only Jurisdictional Resource Area	$0.25 / square foot		
Land within 200' of a potable water supply	$0.50 / square foot		
		ADVERTISING FEE*	$45
		LOCAL ORDINANCE FEE TOTAL	$3,818.25
		For filings resulting from enforcement action, double the Local Ordinance Fee Total	

NOTES:

*Application is subject to an additional $45 Local Advertising Fee payable to the City of Haverhill prior to **EACH** advertising

***Local Ordinance Fee maximum of $100 for applications exceeding 1000'. Commission requires review by outside consultant under M.G.L. Ch. 44, sec. 53G for projects exceeding 1000'. Applicant shall post escrow in accordance with HCC Rules for Hiring Outside Consultants. Cap passed by a 5-0 vote of the Commission on March 7, 2019.

%Local Ordinance Fees for RDA, NOI, & RMOC increase 50% when project is also proposed within a Riverfront Area

Local Ordinance Fees passed by a 7 – 0 vote of the Commission on October 28, 2010, effective January 1, 2011

HOLD TO LIGHT TO VIEW TRUE WATERMARK IN PAPER HEAT SENSITIVE RED LOCK DISAPPEARS WHEN HEATED

44063

STERLING GOLF MANAGEMENT, INC.
212 KENRICK STREET
NEWTON, MA 02458
(617) 630-1950

TD Bank
America's Most Convenient Bank®
53-7054/2113

44063

DATE AMOUNT

Memo: Crystal Lake- Local Ordinance

Feb 23, 2026 *******$3,818.25

PAY Three Thousand Eight Hundred Eighteen and 25/100 Dollars

TO THE ORDER OF:
CITY OF HAVERHILL
4 SUMMER STREET ROOM 300
HAVERHILL, MA 01830

AUTHORIZED SIGNATURE

Security features. Details on back.

HOLD TO LIGHT TO VIEW TRUE WATERMARK IN PAPER HEAT SENSITIVE RED LOCK DISAPPEARS WHEN HEATED

44062

STERLING GOLF MANAGEMENT, INC.
212 KENRICK STREET
NEWTON, MA 02458
(617) 630-1950

TD Bank
America's Most Convenient Bank®
53-7054/2113

44062

DATE AMOUNT

Memo: Crystal Lake GC- WPA Form 3

Feb 23, 2026 ********$537.50

PAY Five Hundred Thirty-Seven and 50/100 Dollars

TO THE ORDER OF:
CITY OF HAVERHILL
4 SUMMER STREET ROOM 300
HAVERHILL, MA 01830

AUTHORIZED SIGNATURE

Security features. Details on back.

HOLD TO LIGHT TO VIEW TRUE WATERMARK IN PAPER HEAT SENSITIVE RED LOCK DISAPPEARS WHEN HEATED

STERLING GOLF MANAGEMENT, INC.
212 KENRICK STREET
NEWTON, MA 02458
(617) 630-1950

TD Bank
America's Most Convenient Bank®
53-7054/2113

44064

DATE AMOUNT

Memo: 043-176-886 - WPA Form 3

Feb 23, 2026 ********$512.50

PAY Five Hundred Twelve and 50/100 Dollars

TO THE ORDER OF:
COMM. OF MASSACHUSETTS
BOSTON, MA 02241

AUTHORIZED SIGNATURE

Security features. Details on back.

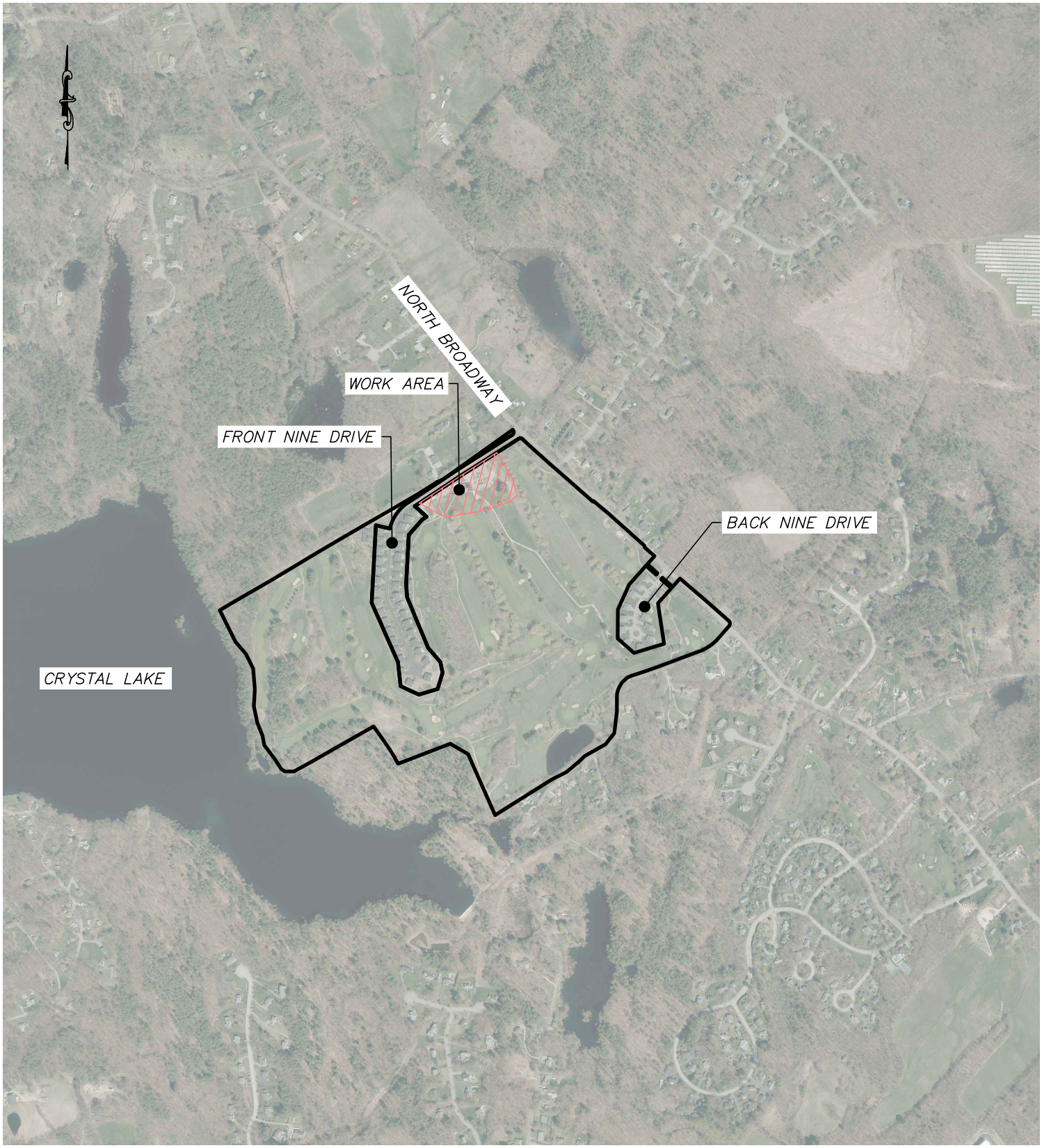
CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

NOTICE OF INTENT – MGL CH. 131S40

City of Haverhill Wetlands Protection Bylaw

SECTION II

Locus Orthophoto
USGS Topographic Map
Parcel Map
Soils Map
FEMA Flood Map
NHESP Map
HPRSI Map



CIVIL DESIGN CONSULTANTS, INC

344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:

STERLING GOLF MANAGEMENT, INC

212 KENRICK STREET
NEWTON, MA 02458

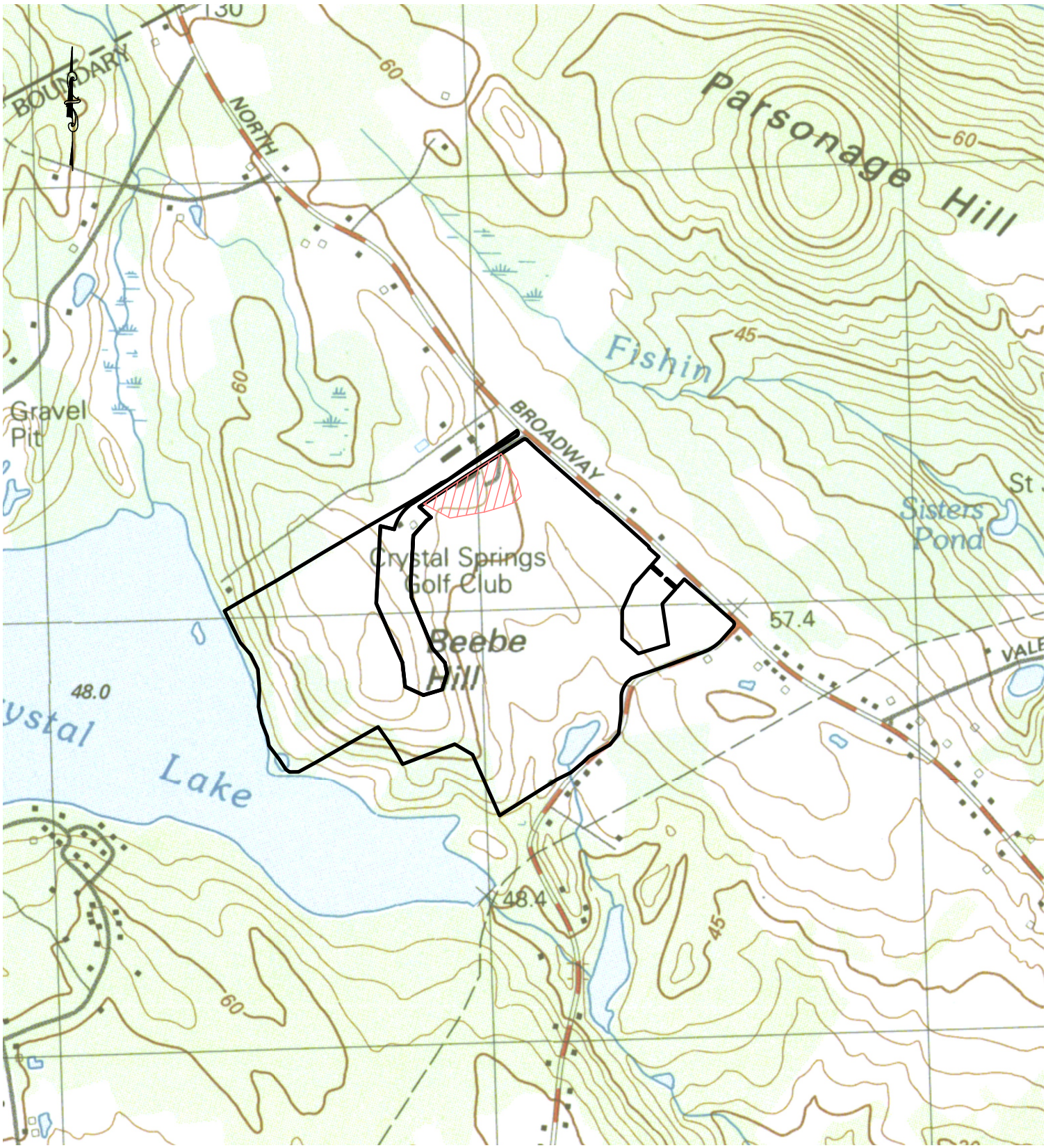
PREPARED FOR:

890 NORTH BROADWAY

HAVERHILL, MA 01832

FIGURE 1: ORTHO

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



CIVIL DESIGN CONSULTANTS, INC

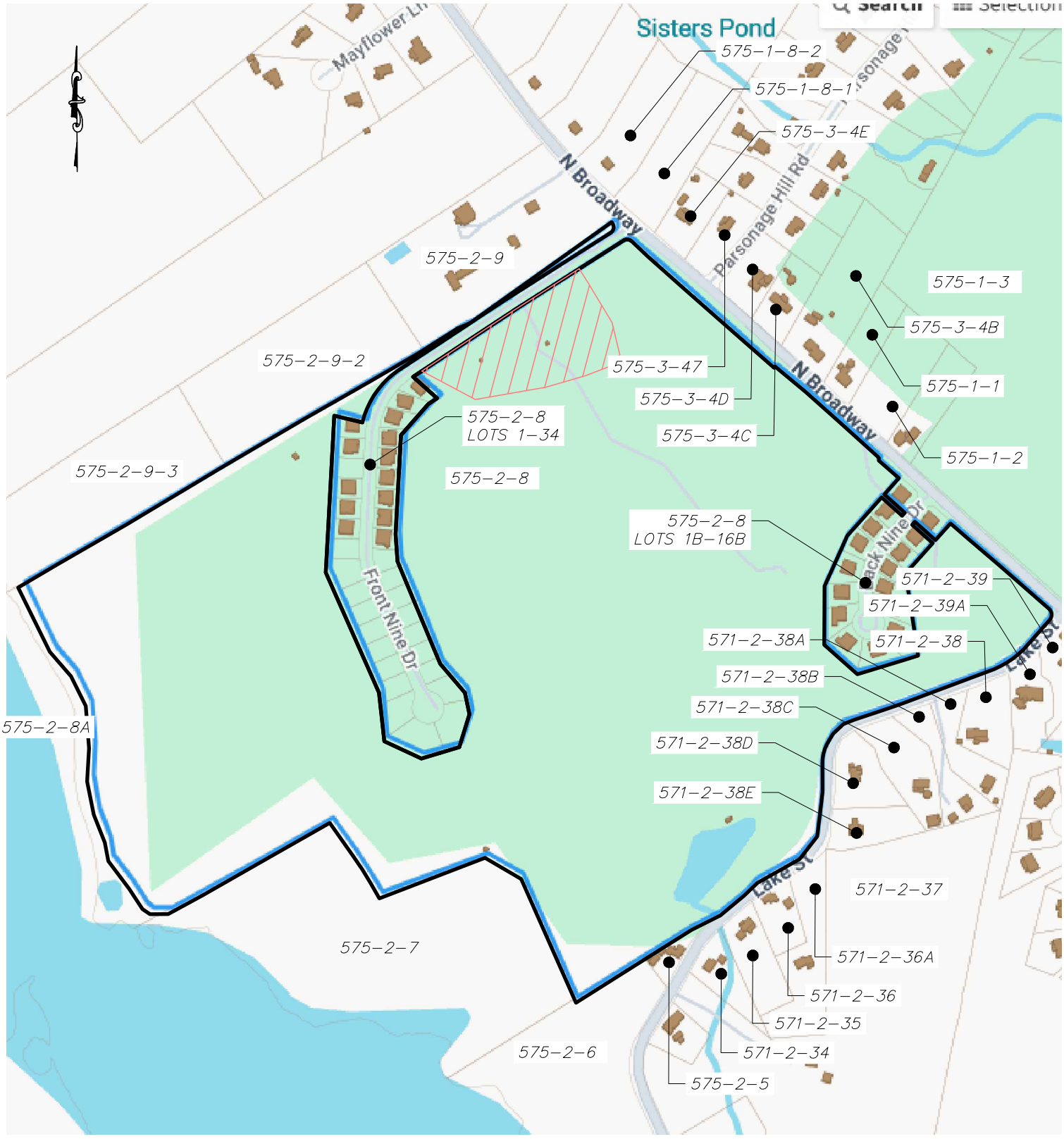
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 2: USGS

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

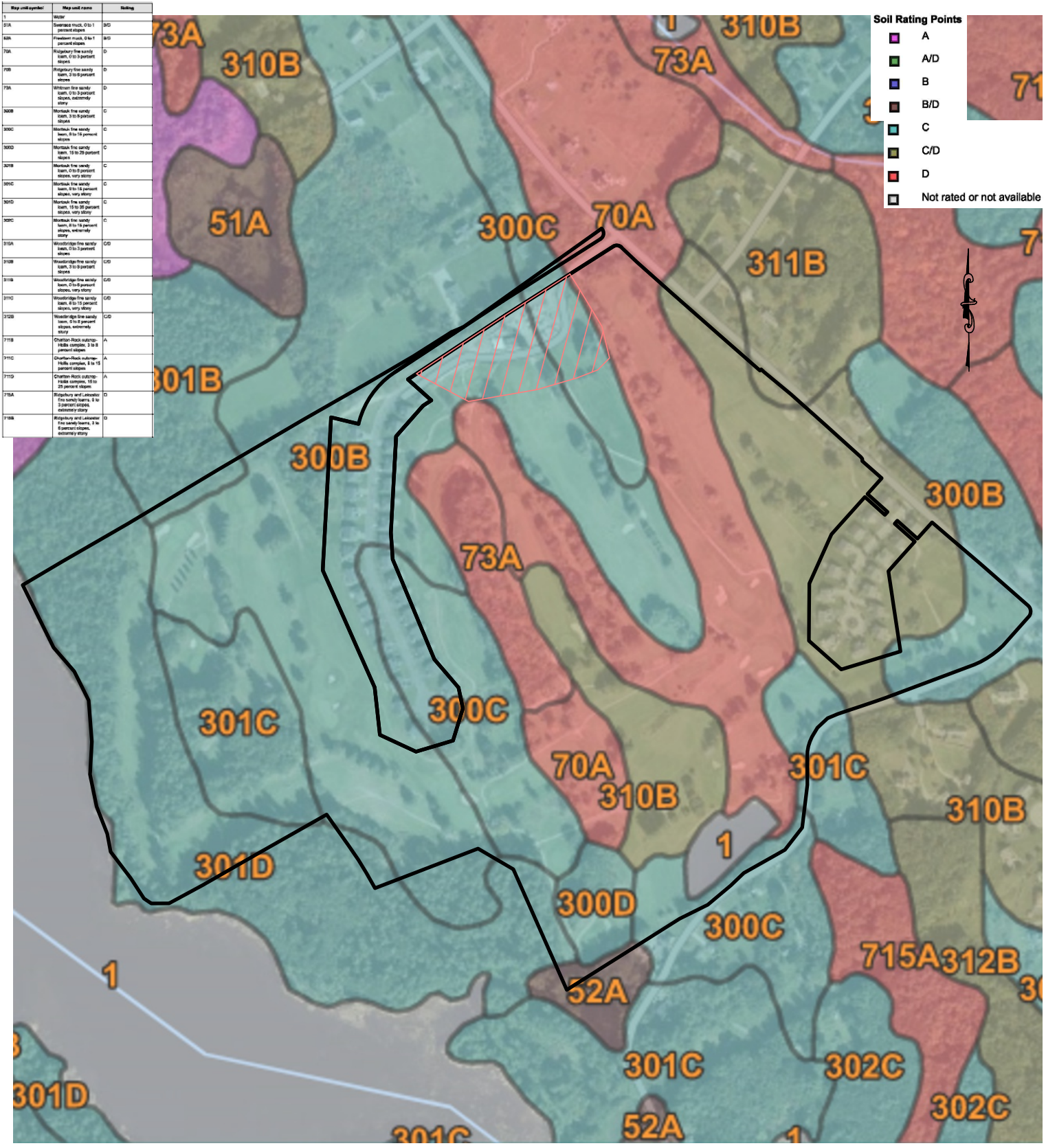
PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 3: PARCEL MAP

PREPARED BY: TJS
SCALE: 1"=500'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026

Map unit symbol	Map unit name	Rating
1	Water	
51A	Swansea muck, 0 to 1 percent slopes	B/D
52A	Freetown muck, 0 to 1 percent slopes	B/D
70A	Ridgebury fine sandy loam, 0 to 3 percent slopes	D
70B	Ridgebury fine sandy loam, 3 to 8 percent slopes	D
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D
300B	Montauk fine sandy loam, 3 to 8 percent slopes	C
300C	Montauk fine sandy loam, 8 to 15 percent slopes	C
300D	Montauk fine sandy loam, 15 to 25 percent slopes	C
301B	Montauk fine sandy loam, 0 to 8 percent slopes, very stony	C
301C	Montauk fine sandy loam, 8 to 15 percent slopes, very stony	C
301D	Montauk fine sandy loam, 15 to 35 percent slopes, very stony	C
302C	Montauk fine sandy loam, 8 to 15 percent slopes, extremely stony	C
310A	Woodbridge fine sandy loam, 0 to 3 percent slopes	C/D
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D
311B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	C/D
311C	Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony	C/D
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	C/D
711B	Charlton-Rock outcrop-Hollis complex, 3 to 8 percent slopes	A
711C	Charlton-Rock outcrop-Hollis complex, 8 to 15 percent slopes	A
711D	Charlton-Rock outcrop-Hollis complex, 15 to 25 percent slopes	A
715A	Ridgebury and Leicester fine sandy loams, 0 to 3 percent slopes, extremely stony	D
715B	Ridgebury and Leicester fine sandy loams, 3 to 8 percent slopes, extremely stony	D



CIVIL DESIGN CONSULTANTS, INC

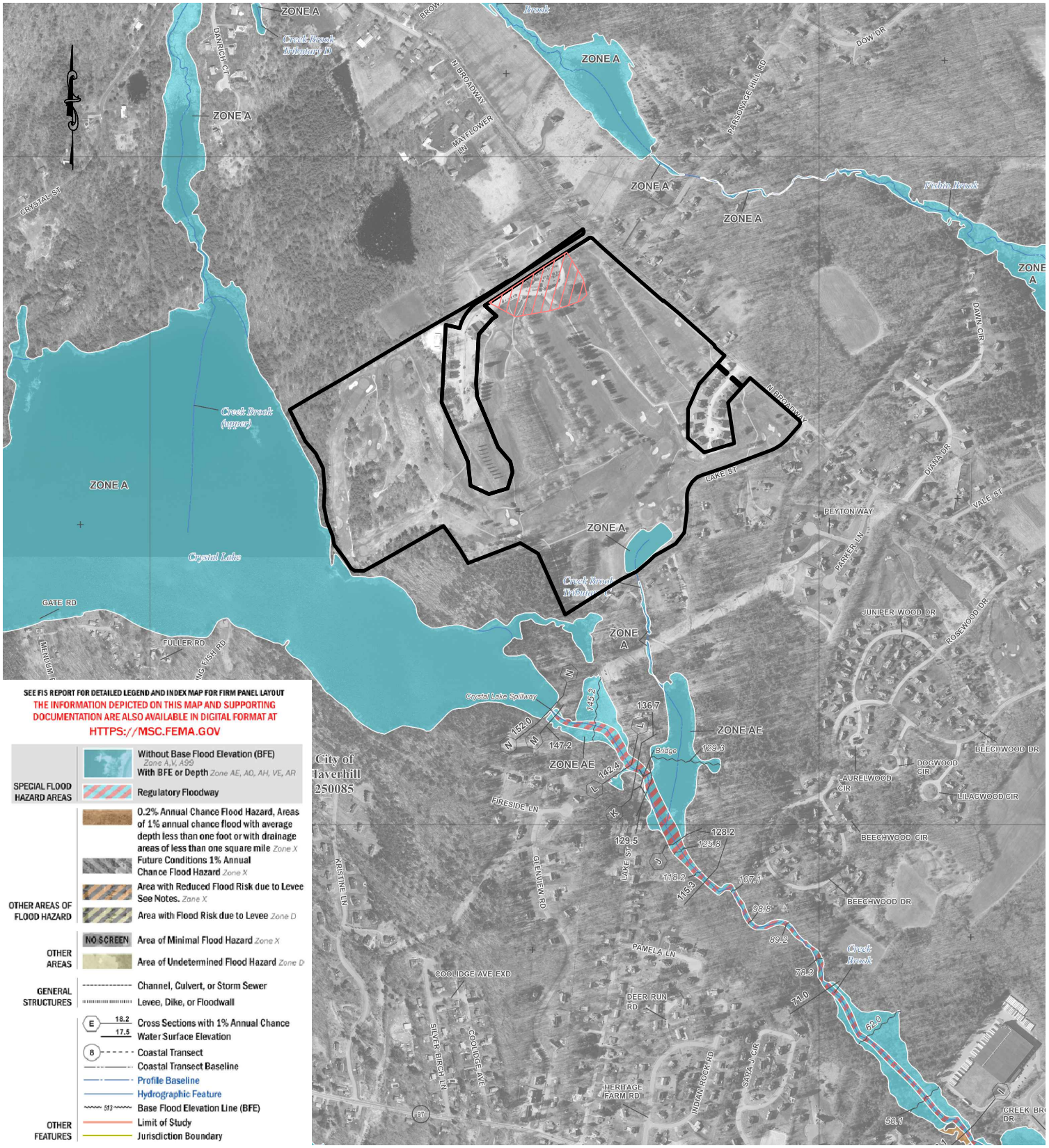
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 4: SOILS MAP

PREPARED BY: TJS
SCALE: 1"=500'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



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

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

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
	Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary

CIVIL DESIGN CONSULTANTS, INC

344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:

STERLING GOLF MANAGEMENT, INC

212 KENRICK STREET
NEWTON, MA 02458

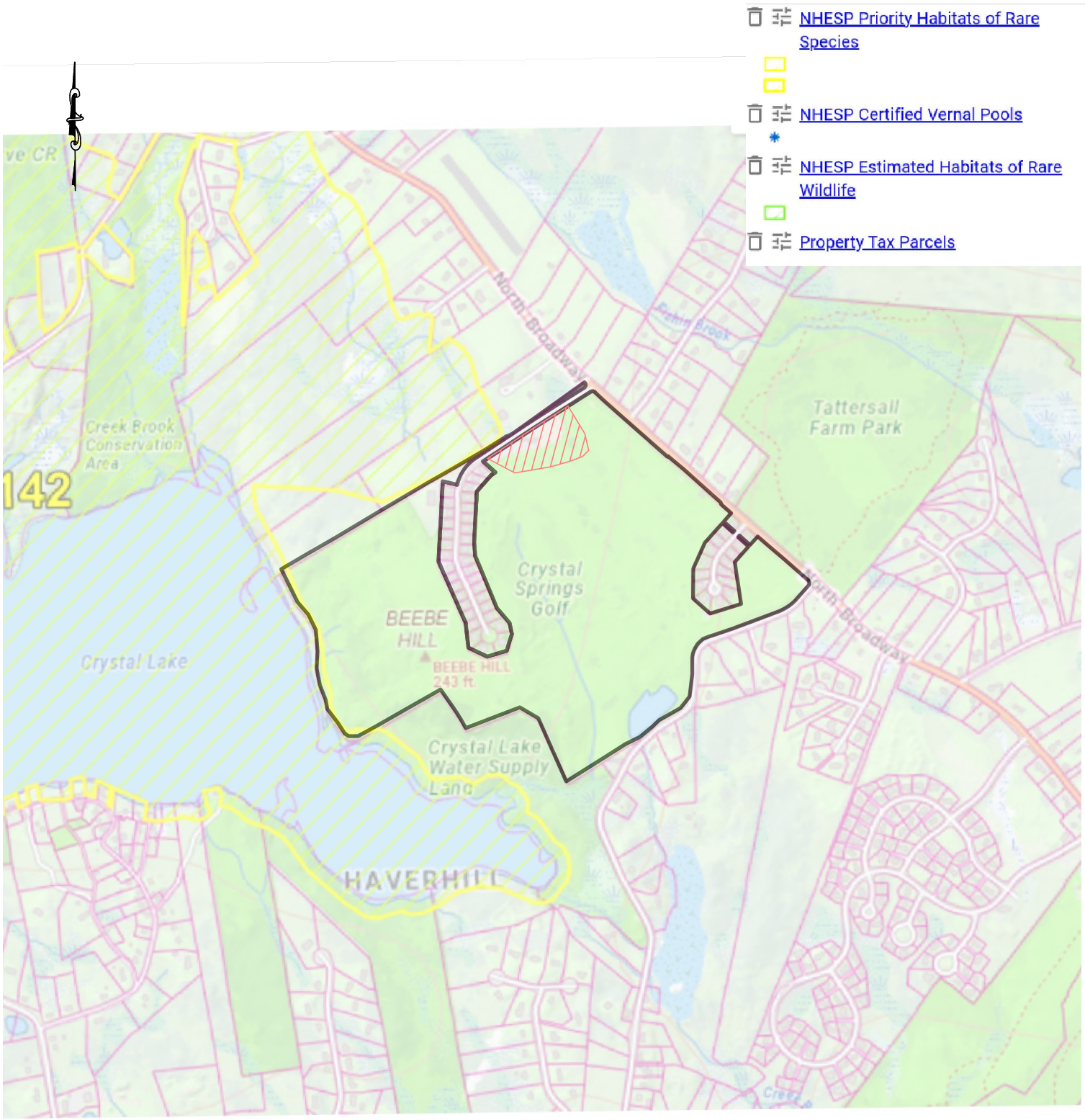
PREPARED FOR:

890 NORTH BROADWAY

HAVERHILL, MA 01832

FIGURE 5: FEMA MAP

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



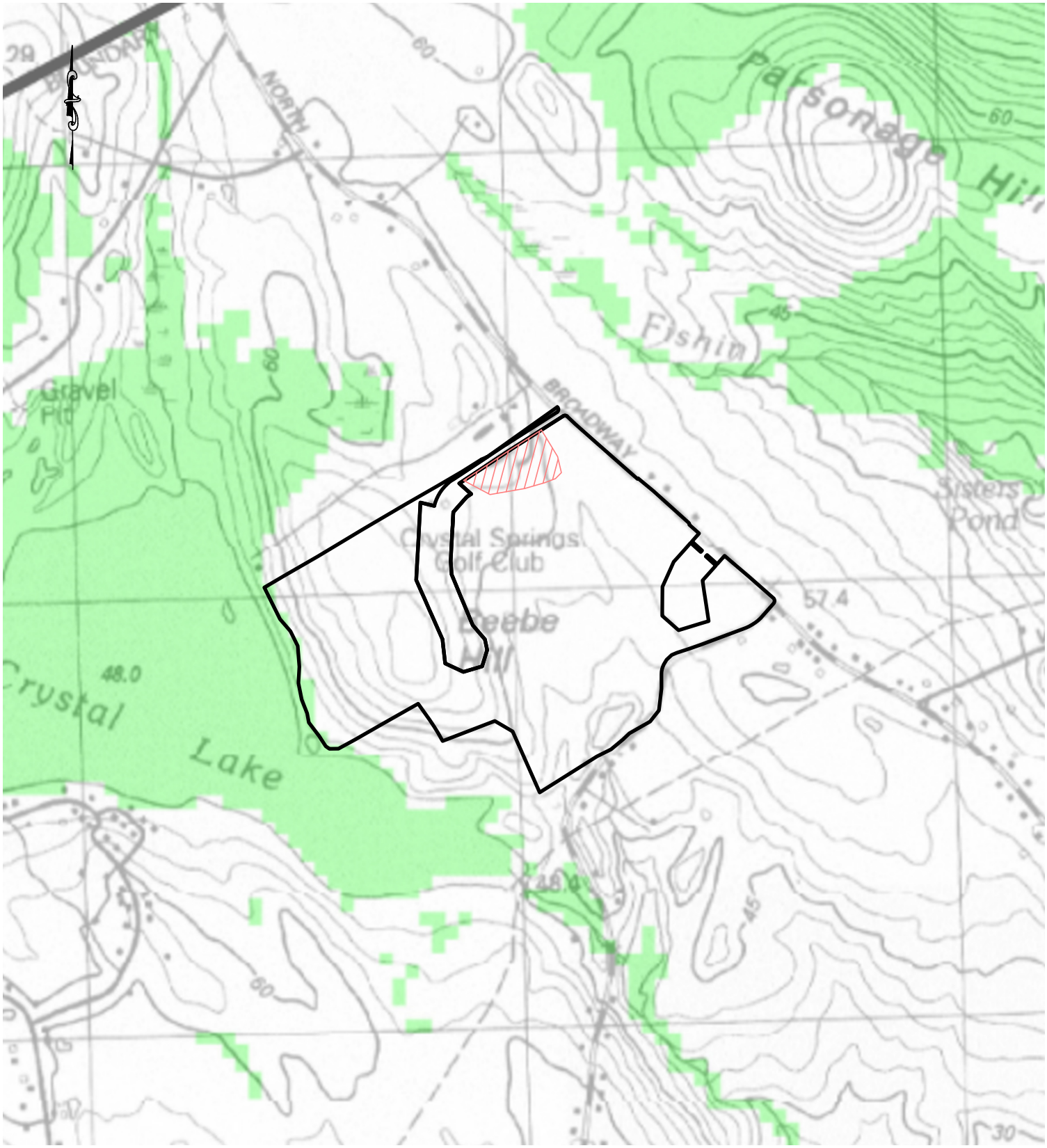
CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 6: NHESP MAP

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



CIVIL DESIGN CONSULTANTS, INC

344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 7: HPRSI MAP

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

NOTICE OF INTENT – MGL CH. 131S40

City of Haverhill Wetlands Protection Bylaw

SECTION III

Abutters List – Haverhill
Property Deed

Owner 2	Owner Address	Owner City	Owner State	Owner Zip	Total Value	Land Value	Building Value	Last Sale Date	Last Sale	Last Sale Bo	Use Code
WATER WORKS DEPT	4 SUMMER ST	HAVERHILL	MA	01830	238000	238000	0				930
CHOUNIARD PETER-ETUX	559 LAKE ST	HAVERHILL	MA	01832	510200	220700	282300	12/17/2012 0:00:00	243000	32026-511	101
	595 LAKE ST	HAVERHILL	MA	01832	500600	249500	244300	5/22/2020 0:00:00	339000		101
	609 LAKE ST	HAVERHILL	MA	01832	552900	263800	281800	9/30/2024 0:00:00	625000		101
HARRISON DOLORES M	617 LAKE ST	HAVERHILL	MA	01832	554600	254200	284500	8/19/2008 0:00:00	324000	82592-459	101
TATTERSALL BENJAMIN G-TRUSTEE	619 LAKE STREET	HAVERHILL	MA	01832	653900	269900	384000	4/28/2022 0:00:00	100		101
	569 LAKE ST	HAVERHILL	MA	01832	681600	322900	344600	3/1/2010 0:00:00	100	29305-96	101
THOMANN KRISTINA M	631 LAKE ST	HAVERHILL	MA	01832	686500	249200	436800	6/30/2022 0:00:00	667000	41040-454	101
O`KEEFE MEREDITH	629 LAKE ST	HAVERHILL	MA	01832	601600	261800	339200	6/1/2004 0:00:00	349000	22927-516	101
	627 LAKE STREET	HAVERHILL	MA	01832	622500	262400	349900	3/21/1997 0:00:00	100		101
LEMERISE CRAIG	625 LAKE ST	HAVERHILL	MA	01832	705700	265300	391300	10/23/2018 0:00:00	490000	37097-411	101
BURGESS MAUREEN B	623 LAKE STREET	HAVERHILL	MA	01832	618300	262600	355200	2/7/1995 0:00:00	170000		101
COX MARY ANN	621 LAKE STREET	HAVERHILL	MA	01832	649700	261500	388200	3/29/1996 0:00:00	186000		101
	740 NORTH BROADWAY	HAVERHILL	MA	01832	523400	230800	292100	7/10/2019 0:00:00	392000	37654-494	101
	637 LAKE ST	HAVERHILL	MA	01832	963200	206100	739100	3/16/2023 0:00:00	889000	41478-495	101
	724 NORTH BROADWAY	HAVERHILL	MA	01832	469800	219900	242800	2/8/2022 0:00:00	420000	40713-249	101
ASTL PAULA	725 NORTH BROADWAY	HAVERHILL	MA	01832	496600	210300	285300	8/9/2021 0:00:00	535000	40159-593	101
GABRIELE STACHA	825 NO BROADWAY	HAVERHILL	MA	01832	557300	230700	326100	8/27/2019 0:00:00	391000	37789-196	101
KEVIN E. SARRETTE-TRUSTEE	815 NORTH BROADWAY	HAVERHILL	MA	01832	439700	230700	191400	7/31/2015 0:00:00	260000	34264-597	101
SARRETTE KEVIN E-TRUSTEE	815 NORTH BROADWAY	HAVERHILL	MA	01832	797600	237200	560400	7/31/2015 0:00:00	260000	34264-597	101
	4 SUMMER ST	HAVERHILL	MA	01830	669300	669300	0	6/10/1999 0:00:00	100		930
	885 NORTH BROADWAY	HAVERHILL	MA	01832	229800	229800	0	11/8/2011 0:00:00	140000	30814-58	130
DEL VALLE ERNESTO J	925 NORTH BROADWAY	HAVERHILL	MA	01832	660500	234400	426100	10/14/2020 0:00:00	535000	39056-148	101
	186 BROADWAY	HAVERHILL	MA	01832	325900	325900	0	2/6/1963 0:00:00	0		131
	596 LAKE ST	HAVERHILL	MA	01832	573100	215600	341000	12/30/2016 0:00:00	348900	35579-274	101
JOHNSON SUSAN M	49 FRONT NINE DR	HAVERHILL	MA	01832	680200	170700	509500	4/2/2025 0:00:00	100	42644-572	101
SOLARI JOANNA	83 FRONT NINE DR	HAVERHILL	MA	01832	742100	168600	573500	11/24/2020 0:00:00	599000	39220-356	101
RASTOGI SHOBHA	26 BACK NINE DR	HAVERHILL	MA	01832	815900	179900	636000	2/27/2012 0:00:00	510000	31117-81	101
GORMADY GEORGE E	87 FRONT NINE DR	HAVERHILL	MA	01832	688600	168600	520000	4/11/2025 0:00:00	100	42658-328	101
BADOUR STEVEN A-TRUSTEE	22 BACK NINE DRIVE	HAVERHILL	MA	01832	734400	173400	561000	7/14/2023 0:00:00	100	41660-540	101
	91 FRONT NINE DR	HAVERHILL	MA	01832	719200	168600	550600	9/10/2021 0:00:00	668500	40267-196	101
WENDY R. HATEM-TRUSTEE	18 BACK NINE DR	HAVERHILL	MA	01832	737900	172300	565600	5/8/2012 0:00:00	480000	31323-494	101
	95 FRONT NINE DR	HAVERHILL	MA	01832	744300	168600	575700	1/21/2022 0:00:00	680000	40673-520	101
CABRERA ROSEMARY	14 BACK NINE DR	HAVERHILL	MA	01832	731100	170200	560900	4/30/2021 0:00:00	620000	39828-569	101
HARRINGTON JOHN	99 FRONT NINE DR	HAVERHILL	MA	01832	690000	169500	520500	2/16/2022 0:00:00	690000	40729-278	101
SCOTT M. BUCUZZO-TRUSTEE	12 BACK NINE DR	HAVERHILL	MA	01832	677700	168900	508800	3/19/2012 0:00:00	100	31177-445	101
RIGNOLI DONNA J-TRUSTEE	103 FRONT NINE DR	HAVERHILL	MA	01832	730500	177100	553400	4/14/2023 0:00:00	100	41519-251	101
TAMMARO JEAN M	6 BACK NINE DR	HAVERHILL	MA	01832	729300	168900	560400	6/27/2019 0:00:00	565000	37620-313	101
SLEININGER BRENDA K	107 FRONT NINE DR	HAVERHILL	MA	01832	784700	184000	600700	9/8/2022 0:00:00	789000	41178-179	101
	2 BACK NINE DR	HAVERHILL	MA	01832	684500	170100	514400	9/19/2016 0:00:00	100	35271-400	101
TWOHIG JOANNE N	106 FRONT NINE DR	HAVERHILL	MA	01832	777100	186300	590800	9/23/2022 0:00:00	739900	41208-48	101
PETTI MARGUERITE F	102 FRONT NINE DR	HAVERHILL	MA	01832	782900	176300	606600	3/18/2022 0:00:00	685000	40800-404	101
ZIMMERMAN LISA K	98 FRONT NINE DR	HAVERHILL	MA	01832	702700	169600	533100	9/30/2021 0:00:00	635870	40333-253	101
PALMISANO-NORRIS LISA G-TRUSTE	1BACK NINE DR	HAVERHILL	MA	01832	711500	169800	541700	5/16/2024 0:00:00	100	42120-282	101
HALLAHAN PETER M-TRUSTEE	51 FRONT NINE DR	HAVERHILL	MA	01832	639500	168600	470900	8/13/2020 0:00:00	100	38819-327	101
NOLAN THERESA L	94 FRONT NINE DR	HAVERHILL	MA	01832	834900	168800	666100	1/12/2023 0:00:00	100	41395-541	101
MURPHY NOREEN	90 FRONT NINE DR	HAVERHILL	MA	01832	720700	169000	551700	6/28/2021 0:00:00	632000	40027-51	101
DELANEY NANCY A	86 FRONT NINE DR	HAVERHILL	MA	01832	748100	169300	578800	6/9/2021 0:00:00	630000	39963-350	101
SORENSEN MARYELLEN	82 FRONT NINE DR	HAVERHILL	MA	01832	831900	169500	662400	3/16/2021 0:00:00	740000	39653-92	101
BELDING TONI S	78 FRONT NINE DR	HAVERHILL	MA	01832	782600	168900	612600	11/4/2020 0:00:00	605000	39145-82	101
FOOTE LINDA L	74 FRONT NINE DR	HAVERHILL	MA	01832	672700	169600	502300	6/30/2021 0:00:00	639900	40040-504	101
RICHIE JAMES L-TRUSTEE	70 FRONT NINE DR	HAVERHILL	MA	01832	686100	169200	516900	2/3/2021 0:00:00	100	39489-321	101
HALKS GABRIELLE A-TRUSTEE	66 FRONT NINE DR	HAVERHILL	MA	01832	684100	168600	515500	12/17/2019 0:00:00	100	38122-21	101
	62 FRONT NINE DR	HAVERHILL	MA	01832	649900	168600	481300	4/30/2025 0:00:00	100	42691-405	101
REGAN THERESA A	58 FRONT NINE DRIVE	HAVERHILL	MA	01832	751200	168600	582600	6/20/2014 0:00:00	485000	33353-284	101
QUARTARONE MARILYN	5 BACK NINE DR	HAVERHILL	MA	01832	740800	168900	571900	6/17/2011 0:00:00	463800	30474-386	101
	55 FRONT NINE DR	HAVERHILL	MA	01832	745200	168600	576600	6/13/2022 0:00:00	760000	40997-215	101
DELMONICO BRENDA J	54 FRONT NINE DRIVE	HAVERHILL	MA	01832	668000	168600	499400	5/16/2014 0:00:00	483427	33280-410	101
	50 FRONT NINE DR	HAVERHILL	MA	01832	660000	168700	491300	10/2/2015 0:00:00	100	34419-221	101
DIFEO III MICHAEL A-TRUSTEE	60 TERRACE HILL RD	GILFORD	NH	03249	800300	170100	630200	10/27/2023 0:00:00	100	41830-34	101
HILLMAN DEAN T & CAROL A-TRUSTEES	42 FRONT NINE DR	HAVERHILL	MA	01832	812000	170800	640400	6/21/2022 0:00:00	755000	41012-500	101

MARY E YOUNGBLOOD LIVING TRUST	38 FRONT NINE DR	HAVERHILL	MA	01832	758200	162400	595800	10/30/2023 0:00:00	750000	41832-352	101
	9 BACK NINE DR	HAVERHILL	MA	01832	727500	168900	558600	7/18/2011 0:00:00	458000	30532-268	101
McMAHON PETER F-TRUSTEE	59 FRONT NINE DR	HAVERHILL	MA	01832	741000	168600	572400	11/19/2014 0:00:00	100	33680-235	101
	13 BACK NINE DR	HAVERHILL	MA	01832	758100	172100	586000	8/20/2021 0:00:00	630000	40195-378	101
DENN PETER J-TRUSTEE	63 FRONT NINE DRIVE	HAVERHILL	MA	01832	707900	168600	539300	11/18/2022 0:00:00	710000	41309-203	101
BUTLER JANE K	19 BACK NINE DRIVE	HAVERHILL	MA	01832	729300	176400	552900	1/28/2011 0:00:00	429000	30196-273	101
REMMES MARLENE A	67 FRONT NINE DR	HAVERHILL	MA	01832	746100	168600	577500	9/28/2015 0:00:00	511572	34403-316	101
	3 HARVEST DR	NORTH ANDOVER	MA	01845	794600	173800	620800	11/4/2024 0:00:00	100	42415-320	101
HICKMAN BRENDA J	71 FRONT NINE DR	HAVERHILL	MA	01832	733000	168800	564200	7/24/2020 0:00:00	599900	38747-357	101
LINDA J. LOOK-TRUSTEE	25 BACK NINE DR	HAVERHILL	MA	01832	794800	174700	620100	2/25/2011 0:00:00	475500	30258-303	101
CURLEY BARBARA J	75 FRONT NINE DR	HAVERHILL	MA	01832	760200	174500	585700	10/27/2023 0:00:00	100	41831-359	101
SHEA JANICE A	31 BACK NINE DR	HAVERHILL	MA	01832	770300	178100	592200	4/15/2011 0:00:00	573860	30352-360	101
HARB IRREVOCABLE REALTY TRUST	79 FRONT NINE DR	HAVERHILL	MA	01832	741800	168600	573200	7/1/2020 0:00:00	574900	38670-296	101
HARNDEN CAROL A-TRUSTEE	2967 CINNAMON BAY CIRCLE	NAPLES	FL	34119	773600	179900	593700	11/20/2013 0:00:00	100	32965-374	101
	4 SUMMER ST	HAVERHILL	MA	01830	47500	47500	0	1/14/2011 0:00:00	100	30161-244	930
STEPHEN C. GALINSKY-TRUSTEE	950 NORTH BROADWAY	HAVERHILL	MA	01832	1289000	283100	918600	11/7/2008 0:00:00	425000	28141-56	101
STEPHEN C. GALINSKY-TRUSTEE	950 NORTH BROADWAY	HAVERHILL	MA	01832	30000	30000	0	11/7/2008 0:00:00	425000	28141-56	132
STEPHEN C. GALINSKY-TRUSTEE	950 NORTH BROADWAY	HAVERHILL	MA	01832	28100	28100	0	11/7/2008 0:00:00	425000	28141-56	132
	2 PARSONAGE HILL ROAD	HAVERHILL	MA	01832	652100	255000	397100	2/8/2000 0:00:00	1	16188-580	101
ROSA IRENE FIGUEROA MOLINA	837 NORTH BROADWAY	HAVERHILL	MA	01832	576600	207500	368000	4/16/2020 0:00:00	500000	38427-146	101
	841 NORTH BROADWAY	HAVERHILL	MA	01830	610000	225300	384200	3/16/2015 0:00:00	325000	33918-401	101
SPENCER KELLY R	1 PARSONAGE HILL RD	HAVERHILL	MA	01832	661300	257500	403500	3/3/1997 0:00:00	192000		101
McCAULEY-HAMEL PAMELA	885 NORTH BROADWAY	HAVERHILL	MA	01832	620900	229100	381500	5/22/2018 0:00:00	100	36730-12	101

SO.ESSEX #139 Bk:36727 Pg:171
05/21/2018 10:14 AM DPO Pg 1/11
eRecorded

MASSACHUSETTS EXCISE TAX
Southern Essex District ROD
Date: 05/21/2018 10:14 AM
ID: 1240333 Doc# 20180521001390
Fee: $3,921.60 Cons: $860,000.00

FORECLOSURE DEED

PENTUCKET BANK, a Massachusetts banking institution with a principal place of business at One Merrimack Street, Haverhill, Massachusetts 01830, the holder of a mortgage from **MICHAEL J. MARONEY, TRUSTEE OF PREMIERE REALTY TRUST** to Pentucket Bank dated January 27, 2010, and recorded at the Essex South District Registry of Deeds in Book 29244, Page 85, by the power conferred by said mortgage and every other power, for EIGHT HUNDRED SIXTY THOUSAND DOLLARS ($860,000.00) paid, grants to **STERLING GOLF CRYSTAL LAKE LLC**, a Massachusetts limited liability company with a mailing address of 212 Kenrick Street, Newton, Massachusetts 02458, the land, with the improvements thereon, described on **Schedule A** ~~Exhibit A~~, attached hereto.

See Entry recorded at Book 36469, Page 195

The street address of said premises is 890-940 North Broadway, Haverhill, Massachusetts.

signature on following page

IN WITNESS WHEREOF, the duly authorized representative of the Mortgagee has executed this Foreclosure Deed.

Dated May 17, 2018

PENTUCKET BANK

By: _____
Gregory J. Shaw
First Senior Vice President – Chief Risk Officer

STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH

On this 17th day of May, 2018, before me, the undersigned notary public, personally appeared Gregory J. Shaw, the duly authorized First Senior Vice President – Chief Risk Officer of Pentucket Bank, proved to me through satisfactory evidence of identification, which was drivers license, to be the person whose name is signed above, and acknowledged to me that he signed it voluntarily for its stated purpose, in said capacity.

_____
Notary Public:
My Commission Expires: 4/9/19

SCHEDULE A

~~EXHIBIT A~~

The land, with the improvements thereon, located on the westerly side of North Broadway, so-called, in Haverhill, Essex County, Massachusetts, more particularly bounded and described as follows:

Beginning at the northeasterly corner thereof by said North Broadway and by land now or formerly of the Sisters of Saint Joseph; thence

Southeasterly by said North Broadway 2,145 feet, more or less, to Lake Street; thence

Westerly, Northwesterly, Southwesterly and again Westerly 1,963.5 feet, more or less, all by said Lake Street to land now or formerly of Lucien L. Bouvier; thence

Westerly by land now or formerly of said Bouvier 528 feet, more or less, to the land now or formerly of the City of Haverhill; thence

Northerly, 495 feet, Northwesterly, 231 feet, Westerly, 445.5 feet, and northerly 330 feet, all by land now or formerly of the City of Haverhill; thence

Westerly again by land now or formerly of the City of Haverhill 858 feet to Crystal Lake; thence

Northerly by said Crystal Lake 1,320 feet to land now or formerly of the Sisters of Saint Joseph; thence

Easterly by said land now or formerly of the Sisters of Saint Joseph 2,689.5 feet to said North Broadway and the point of beginning.

TOGETHER WITH whatever right, title, and interest Pentucket has with respect to the conveyed property.

EXCEPTING the following two parcels of land:

Parcel One

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, & 16 on a private way known as Back Nine Drive, and Lots, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 , 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, and 34 on a private way known as Front Nine Drive, together with the said private ways known as Front Nine Drive and Back Nine Drive, all as set forth and shown on Sheets No. C7, C8, and C9 entitled, "DEFINITIVE LOTTING PLAN," of a residential cluster development definitive subdivision plan entitled, "DEFINITIVE RESIDENTIAL CLUSTER DEVELOPMENT -

CRYSTAL SPRINGS - TAX LOT 575-2-8 NORTH BROADWAY- HAVERHILL, MASSACHUSETTS," Applicant: Premiere Realty Trust 423 East Broadway, Haverhill, MA 01830, dated June 10, 2009, prepared by S.E.C. & Associates, Inc., and recorded in the Essex South District Registry of Deeds at Plan Book 422, Plan 89, together with any buildings or structures thereon.

Parcel Two

A vacant parcel of land located off North Broadway, at 890 (a/k/a 940) North Broadway, Haverhill, Massachusetts, being shown and identified as "Area To Be Deeded To The City Of Haverhill" on Sheet No. C 10 entitled, "DEFINITIVE LOTTING PLAN," of a residential cluster development definitive subdivision plan entitled, "DEFINITIVE RESIDENTIAL CLUSTER DEVELOPMENT - CRYSTAL SPRINGS - TAX LOT 575-2-8, NORTH BROADWAY- HAVERHILL, MASSACHUSETTS," Applicant: Premiere Realty Trust 423 East Broadway, Haverhill, MA 01830, dated June 10, 2009, prepared by S.E.C. & Associates, Inc., and recorded in the Essex South District Registry of Deeds at Plan Book 422, Plan 89; bounded and described as follows:

Beginning at the northwesterly corner of the parcel herein conveyed, at a point bounding the high water mark of Crystal Lake, thence running

N 74° 59' 45" E, 50 feet to a point bounding the easterly boundary of land of Crystal Springs Golf Course as set forth on said Plan; thence turning and running

S 10° 41' 58"' E, 264.52 feet to a point; thence running

S 25° 22' 47" E, 119.75 feet

S 10° 41' 58" E, 122.73 feet to a point; thence running

S 11° 06' 17" W, 156.62 feet to a point; thence running

S 18° 50' 31" W, 123.77 feet to a point; thence running

S 04° 08' 51" W, 124.58 feet to a point; thence running

S 05° 56' 05" E, 111 .12 feet to a point; thence running

S 05° 04' 13" W, 69.4 7 feet to a point; thence running

S 21° 34' 03" E, 126.05 feet to a point; thence running

S 17° 35' 19" E, 91.79 feet to a point; thence running

S 40° 25' 42" E, 33.48 feet to a point; thence running

S 74° 45' 00" E, 67.38 feet to a point bounding the northerly boundary of land owned by the City of Haverhill; thence running

S 77° 00' 46" W, along said northerly boundary of land owned by the City of Haverhill as set forth on said Plan to a point bounding the high water mark of Crystal Lake.

Parcel two includes all land between the high water mark of Crystal Lake and the low water mark of Crystal Lake.

Record and return to:
McLane Middleton, Professional Association
Attn: Joseph A. Foster, Esq.
300 TradeCenter
Suite 7000
Woburn, MA 01801-7419

AFFIDAVIT OF SALE
(Pursuant to M.G.L. ch. 244 § 14)

Mortgagee:	Pentucket Bank One Merrimack Street Haverhill, MA 01830
Mortgage:	Mortgage given by Michael J. Maroney, Trustee of Premiere Realty Trust, to Pentucket Bank, dated January 27, 2010, and recorded with Essex County South District Registry of Deeds in Book 29244, Page 85, said mortgage given to secure a promissory note signed by Premiere Realty Trust in the original principal amount of $1,500,000, dated January 27, 2010.
Deed:	Foreclosure Deed given by Pentucket Bank, as mortgagee, to Sterling Golf Crystal Lake LLC, a Massachusetts limited liability company with a mailing address of 212 Kenrick Street, Newton, Massachusetts 02458, of near or even date herewith and recorded with Essex County South District Registry of Deeds contemporaneously herewith.
Mortgaged Premises:	Commonly known as Crystal Lake Golf Course located at 890-940 North Broadway, Haverhill, Massachusetts; more particularly described in the above-referenced mortgage, subject to all easements, restrictions, covenants, conditions, and other matters of record.

I, Gregory J. Shaw, First Senior Vice President and Chief Risk Officer of Pentucket Bank, a Massachusetts banking institution with a principal place of business at One Merrimack Street, Haverhill, Massachusetts 01830, named in the foregoing deed, being duly sworn, state as follows:

The principal and interest obligations mentioned in the mortgage referred to above were not paid or tendered, or performed when due or prior to the sale, and that I caused to be

published on the 21st and 28th days of December, 2017, and on the 4th day of January, 2018, in *The Haverhill Gazette*, a newspaper published by or by its title page purporting to be published in North Andover, Massachusetts, there being no newspaper published in Haverhill, Massachusetts, and *The Haverhill Gazette* having a general circulation in the Haverhill, Massachusetts, a notice of which the following is a true copy:

(See attached Exhibit A—Legal Advertisement)

I also complied with Chapter 244, Section 14 of the Massachusetts General Laws, as amended, causing to be mailed the required notices by certified mail, return receipt requested to parties listed on Exhibit B. Pursuant to said notice, at the time and place appointed, Pentucket Bank sold the mortgaged premises described in the foregoing deed together with certain personal property and equipment, at joint public auction and secured party public sale by Paul McInnis, CAI, AARE, a licensed auctioneer, of Paul McInnis, Inc., to Sterling Golf Management, Inc., a Massachusetts corporation, for the joint bid price of Nine Hundred Sixty Thousand Dollars ($960,000), being the highest bid made therefore at said joint auction and secured party public sale, which bid was later assigned in accordance with the Memorandum of Sale, as amended, to Sterling Golf Crystal Lake, LLC, a Massachusetts limited liability company, as evidenced by the assignment of bid ~~to be recorded herewith as Exhibit C,~~ of which One Hundred Thousand Dollars ($100,000) was allocated as proceeds of the secured party public sale and Eight Hundred Sixty Thousand Dollars ($860,000) was allocated as proceeds of the sale of the mortgaged premises.

The public auction and the contemporaneous secured party public sale of certain personal property and equipment (the "Collateral") were held and concluded on January 11, 2018. The

Collateral sold will be conveyed by separate secured party bill of sale, as is, where is, and without any representation or warranty, either express or implied.

Pentucket Bank is the current mortgagee and holder of the promissory note secured by said mortgage. M.G.L. ch. 244 §§ 35A, 35B, and 35C are not applicable.

I verify under oath that the foregoing statements are true to the best of my knowledge, information, and belief.

Date: May 17th, 2018

Gregory J. Shaw, in his capacity as
First Senior Vice President – Chief Risk Officer

STATE OF NEW HAMPSHIRE
COUNTY OF HILLSBOROUGH

On this the 17th day of May, 2018, before me, the undersigned officer, personally appeared Gregory J. Shaw, in his capacity as First Senior Vice President - Chief Risk Officer of Pentucket Bank, and made oath that the above statements subscribed by him are true to the best of his knowledge, information, and belief.

Notary Public
My commission expires:

EXHIBIT A TO AFFIDAVIT OF SALE

MORTGAGEE'S SALE OF REAL ESTATE

By virtue and in execution of the Power of Sale contained in a certain mortgage given by Michael J. Maroney, Trustee of Premiere Realty Trust, to Pentucket Bank dated January 27, 2010, and recorded with Essex County South District Registry of Deeds in Book 29244, Page 65, ("Mortgage") of which Mortgage the undersigned is the present holder, for breach of the conditions of said Mortgage and for the purpose of foreclosing the same will be sold

at Public Auction at
11:00 A.M. on January 11, 2018
at 890 (aka 940) North Broadway Haverhill MA 01832,

all and singular the premises described in said Mortgage, as affected by the following partial releases recorded in the Essex County South District Registry of Deeds ("Mortgaged Premises"),

Book	30290	Page	379
Book	30334	Page	596
Book	30336	Page	163
Book	30373	Page	70
Book	30691	Page	534

To wit: "The land together with the buildings thereon situated in said Haverhill on the westerly side of North Broadway so-called and more particularly bounded and described as follows:

1. Beginning at the northeasterly corner thereof by said North Broadway and by land of the Sisters of Saint Joseph;
2. Southeasterly by said North Broadway 2,145 feet, more or less, to Lake Street;
3. Westerly, northwesterly, southwesterly and again westerly 1,963.50 feet, more or less, all by said Lake Street to land of Lucien L. Bouvier;
4. Westerly, by land of said Bouvier 528 feet, more or less, to the land of the City of Haverhill;
5. Northerly 495 feet, northwesterly 231 feet, westerly 445.50 feet and northerly 330 feet all by land of said City of Haverhill;
6. Westerly again by land of said City of Haverhill 858 feet to Crystal Lake;
7. Northerly by said Crystal Lake 1,320 feet to land of the Sisters of St. Joseph;
8. Easterly by said land of the Sisters of Saint Joseph 2,689.50 feet to said North Broadway and the point of beginning.

Containing 137.2 acres, more or less."

Subject to all easements, restrictions, covenants, conditions, and other matters of record.

A deposit in the amount of ten percent (10%) of the purchase price, payable as follows:

FIFTY THOUSAND DOLLARS AND 00 CENTS ($50,000.00) in the form of a certified check, bank treasurer's check or money order will be required to be delivered at or before the time the bid is offered, and;

The balance of such deposit in the form of a certified check, bank treasurer's check, or money order will be required to be delivered within three (3) business days of the close of bidding.

The successful bidder will be required to execute a Foreclosure Purchase and Sale Agreement promptly after the close of the bidding. The balance of the purchase price shall be paid within forty-five (45) days from the close of bidding in the form of a certified check, bank treasurer's check, or other check satisfactory to Mortgagee's attorney. If the successful bidder fails to complete the purchase of the Mortgaged Premises on or before 45 days after the date of the close of bidding, then the Mortgagee may, at its option, retain the deposit in full as reasonable liquidated damages. TIME WILL BE OF THE ESSENCE. If the sale is set aside for any reason, the purchaser at the sale shall be entitled only to a return of the deposit paid. The purchaser shall have no further recourse against the mortgagor, the mortgagee or the mortgagee's attorney. Conveyance of the Mortgaged Premises shall be by foreclosure deed. The foreclosure deed shall be delivered to the successful bidder upon the Mortgagee's receipt of the balance of the purchase price.

The description of the premises contained in said Mortgage, subject to conveyances of record, therefrom shall control in the event of any and all errors in this publication. The Mortgaged Premises shall be sold subject to all liens and encumbrances entitled to precedence over the Mortgage, including but not limited to, any and all unpaid real estate taxes.

The conveyance of the Mortgaged Premises will be made by the Mortgagee and accepted by the successful bidder "as is" without any express or implied representations or warranties whatsoever including, without limitation, representations or warranties relating to title, zoning, subdivision, possession, recitation of acreage, environmental issues, and hazardous waste.

In addition, personal property, furniture, fixtures and other equipment of Crystal Lake Golf Club, LLC will be sold at public auction at the above-specified time and place ("Golf Club Assets"). The Mortgagee reserves the right to offer the Golf Club Assets with the Mortgaged Premises, individually, or in any combination. Such changes or amendments shall be binding on all bidders. The Golf Club Assets to be sold at the sale are "AS IS, WHERE IS," without any express or implied representations or warranties whatsoever including, without limitation, representations or warranties of merchantability and fitness for a particular use.

The Mortgagee reserves the right to (1) cancel or continue the foreclosure sale to such later date as the Mortgagee may deem desirable; (2) bid on and purchase the Mortgaged Premises at the foreclosure sale without producing a deposit; (3) reject any and all bids for the Mortgaged Premises; (4) waive reading this notice or any portion thereof at the foreclosure sale; and (5) amend or alter the terms of sale stated in this notice by oral or written announcement made at any time before or during the foreclosure sale.

Other terms to be announced at the sale.

For additional information, contact:
Paul McInnis, CAI, AARE | President
Paul McInnis, Inc.
One Juniper Road | North Hampton NH 03862
Phone 603-964-1301 | Fax 603-964-1302
paul@paulmcinnis.com | www.paulmcinnis.com

Pentucket Bank,
Present holder of the above-referenced mortgage,
By its Attorneys,
McLane Middleton, Professional Association
Attn: Joseph A. Foster, Esq.
300 TradeCenter
Suite 7000
Woburn, MA 01801-7419

Dated: December 11, 2017

HG - 12/21, 12/28/17, 1/4/18

EXHIBIT B

Via Certified Mail December 11, 2017

Michael J. Maroney, Trustee
Premiere Realty Trust
P.O. BOX 5469
Haverhill, MA 01830

Crystal Lake Open Space, Inc.
P.O. BOX 5469
Haverhill, MA 01830

Crystal Lake Open Space, Inc.
890-940 North Broadway
Haverhill, MA 01832

Sylvia Bonaccorso, Trustee
George Gelt Revocable Trust
c/o 25 Kenoza Avenue
Haverhill, MA 01830

Sylvia Bonaccorso
5 Marilyn Drive
Atkinson, NH 03811

Gloria Gelt
247 Colony Road
PO Box 315
Eastford, CT 06242

Massachusetts Electric Company
40 Sylvan Road
Waltham, MA 02451

J.G. Maclellan Concrete Co., Inc.
180 Phoenix Avenue
Lowell, MA 01852

Comcast of Massachusetts III, Inc.
55 Concord Street
North Reading, MA 01864

Mayor and City Council c/o City Clerk
City Hall, Room 118 City of Haverhill
4 Summer Street
Haverhill, MA 01830

Verizon New England Inc.
125 High Street
Oliver Tower, 7th Floor
Boston, MA 02110

William D. Cox, Jr., Esq.
City Solicitor
City of Haverhill
145 South Main Street
Bradford, MA 01835

Michael J. Maroney, Trustee
Association at Crystal Lake Golf Trust
P.O. BOX 5469
Haverhill, MA 01830

Planning Board
City of Haverhill
City Hall, Room 201
Haverhill, MA 01830

Conservation Commission
City of Haverhill
City Hall, Room 300
4 Summer Street
Haverhill, MA 01830

State Forester c/o Commissioner
Department of Conservation and Recreation
251 Causeway Street, Suite 900
Boston, MA 02114-2104

Herbert Weinberg
Rosenberg & Weinberg,
805 Turnpike St., Suite. 201
North Andover, MA 01845

Assessor's Office
City Hall, Room 115
4 Summer Street
Haverhill, MA 01830

Richard A. Mestone, Esq.
MESTONE & ASSOCIATES LLC
65 Flagship Drive, Unit A
North Andover, MA 01845

MA Office of Labor and Workforce Dev.
Dept. of Unemployment Assistance
Revenue Enforcement Dept.
19 Staniford Street
Boston, MA 02114

Massachusetts Dept. of Revenue
PO Box 7021
Boston, MA 02204

Office of Treasurer & Tax Collector
Attn: Alicia T. McOsker
City Hall, Room 114
4 Summer Street
Haverhill, MA 01830

Crystal Lake Golf Club LLC
890-940 North Broadway
Haverhill, MA 01832

Maroney Construction, Inc.
Michael J. Maroney, President
P.O. BOX 5469
Haverhill, MA 01830

Michael J. Maroney
P.O. BOX 5469
Haverhill, MA 01830

Michelle D. Watts
P.O. BOX 5469
Haverhill, MA 01830

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

NOTICE OF INTENT – MGL CH. 131S40

City of Haverhill Wetlands Protection Bylaw

SECTION IV

Drainage Report prepared by CDCI dated February 26, 2026

DRAINAGE REPORT

890 North Broadway (575-2-8)
Haverhill, Massachusetts 01832

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

APPLICANT:

Sterling Golf Management, Inc.
212 Kendrick Street
Newton, MA 02458

SUBMITTED TO:

City of Haverhill
4 Summer Street
Haverhill, MA 01830

ISSUED:

February 26, 2026

CDCI FILE #: 24-10594

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

TABLE OF CONTENTS

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

SECTION I - Project Summary

Project Narrative
Exhibit A (2008)
Exhibit B (2023)

DRAINAGE REPORT

Crystal Lake Golf Course
Haverhill, Massachusetts

PROJECT DESCRIPTION

The Applicant proposes improvements to a portion of the property located at 940 North Broadway in Haverhill, Massachusetts, also known as Crystal Lake Golf Course. The proposed work includes construction of a clubhouse, cart barn, and paved parking lot to support golf course operations. Portions of the proposed improvements are located within jurisdictional buffer zones to wetland resource areas.

SITE DESCRIPTION

The property is located within the Rural Residential zoning district and is presently developed and operated as a golf course. The overall parcel contains ±125-AC and has frontage along Front Nine Drive and North Broadway. The proposed limit of work is confined to ±3.1-AC in the vicinity of the existing clubhouse area.

Existing site conditions within the project area includes a temporary ±1,850-SF clubhouse and associated gravel and paved parking areas.

On-site resource areas within the limit of work area include two Bordering Vegetated Wetlands (BVWs) located to the east and west of the proposed work area. The 100-FT Wetland Buffer, the local 50-FT No Build Zone, and the 25-FT No Disturb Zone all extend into the proposed work area.

Elevations across the project area range from approximately 213-FT at the site's frontage along Front Nine Drive (about 550-FT from North Broadway) to approximately 190-FT near the eastern BVW. Wetland resource areas were delineated by Norse Environmental in April 2025.

According to the Natural Resource Conservation Service Soil Survey for Middlesex County, Massachusetts, on-site soils consist of Montauk fine sandy loam (300) and Ridgebury fine sandy loam. For the purposes of the drainage calculations, HSG-C was used. Test pits were conducted by this office in August of 2025 to determine soil texture and estimated seasonal high groundwater elevations. Test pit logs are provided under Tab 5 of this report. According to the Flood Insurance Rate Map for Middlesex County, Massachusetts Panels 25009C0067G, the site is not located within the any designated flood hazard area.

PROJECT SITE BACKGROUND AND PERMITTING HISTORY

In 2009, the Haverhill Conservation Commission issued an Order of Conditions (DEP File No. 033-1279) for the construction of residential development and golf course improvements on the project site. The approved project included the following:

- Developing a portion of the existing Crystal Lake Golf Couse into 50-single family homes.
- Construction of a ±2,400-FT roadway (Front Nine Drive) supporting 34-single family homes
- Construction of ±590-FT of roadway (Back Nine Drive) to support 16-single family homes
- A ±10,000-SF clubhouse
- A ±2,000-SF maintenance building

Stormwater runoff from impervious areas was collected and treated through structural stormwater management systems throughout the site prior to discharge to several on-site wetland resource areas. The stormwater management systems were designed to provide peak rate attenuation, water quality treatment and groundwater recharge, consistent with MassDEP Stormwater Management Standards.

As illustrated on Exhibits A (2008) and B (2023), portions of the site improvements associated with the clubhouse approved in 2009 were begun. A temporary gravel parking area and pro-shop were constructed but not completed.

In 2022, an amendment to the original Notice of Intent (DEP File No. 033-1476) was filed and approved by the Haverhill Conservation Commission. The amendment removed all work associated with the

previously approved clubhouse and its paved parking lot. Modifications were made to the stormwater management system, including the removal of Proposed Wet Swale-1 and its replacement with a smaller treatment pond designed to manage runoff from a limited segment of Front Nine Drive and an associated gravel parking area.

Following completion of the amended work, a Certification of Compliance was issued in 2024, confirming that the construction of the revised treatment pond had been completed in substantial compliance with approved amended plans. As-built drainage calculations were submitted as part of the compliance with approved design.

2026 PROPOSED CLUBHOUSE DEVELOPMENT AND DRAINAGE APPROACH

As of 2026, the Applicant intends to proceed with construction of a revised clubhouse facility. The current proposal includes a ±4,710-SF clubhouse, a ±5,000-SF cart barn, along with a paved parking lot and supporting utilities. Although the overall golf course layout has evolved from the 2009 approval, the proposed improvements remain generally consistent with the previously developed clubhouse footprint area.

The stormwater management strategy for the 2026 design is based on comparison to the 2009 post-development design rather than the original pre-development conditions. This approach is appropriate because the original 2009 project included a comprehensive system of BMPs that achieved compliance with MassDEP Stormwater Management Standards for peak flow attenuation, water quality treatment, and groundwater recharge.

Proposed Wet Swale-1, receives flow from the proposed parking area and existing Front Nine Drive consistent with the 2009 drainage design and Order of Conditions. The drainage analysis compares runoff flows directed to Wet Swale-1 under the 2026 design to the runoff predicted under the 2009 post-development condition, demonstrating that peak flows are consistent with, or reduced from, previously approved levels.

Groundwater recharge is also consistent with the 2009 post-development design. In the original 2009 design, recharge was provided for rooftop runoff from the clubhouse via a subsurface chamber system. For the 2026 design, recharge will similarly be limited to rooftop runoff from the proposed clubhouse and cart barn; however, due to shallow estimated seasonal high groundwater conditions identified during recent test pit investigations, recharge will be provided via an infiltration basin rather than a subsurface chamber system. The proposed infiltration basin has been sized to provide slightly greater recharge volume than what was proposed in the 2009 design.

DRAINAGE ANALYSIS METHODOLOGY

The 2009 post-development drainage analysis divided the project site into nine (9) separate watershed areas, each draining to one of the three (3) design points. For purposes of the current 2026 evaluation, the analysis focuses specifically on watershed PWA-2D, which drains to the proposed Wet Swale-1.

Under the 2009 post-development design, PWA-2D encompassed a portion of Front Nine Drive adjacent to the clubhouse, as well as the clubhouse itself and its associated parking lot. The 2009 PWA-2D watershed consisted of ±2.80-AC, with a weighted Curve Number of 87, and a time of concentration of 12.1-minutes. Proposed Wet Swale-1 functioned as the primary BMP for water quality treatment and detention prior to discharge to downstream wetland resource areas.

Under the 2026 proposal, PWA-2D consists of±2.85-AC, with a weighted Curve Number of 89, and a time of concentration of 12.1-minutes.The 2026 analysis compares runoff entering proposed Wet Swale-1 from

a portion of Front Nine Drive, the proposed paved parking lot, and overflows from the proposed infiltration basin, to the 2009 post-development PWA-2D conditions.

Peak Discharge Comparison

The 2026 stormwater management design reinstates the originally approved wet swale, provides recharge consistent with the previously approved methodology, and results in peak discharge rates that are reduced relative to the 2009 post-development condition.

As illustrated in the following table, the impacts of the proposed improvements have been mitigated through the use of best management practices including: deep-sump catch basins, a wet swale, and an infiltration basin for up to and including the 100-year, 24-hour storm event.

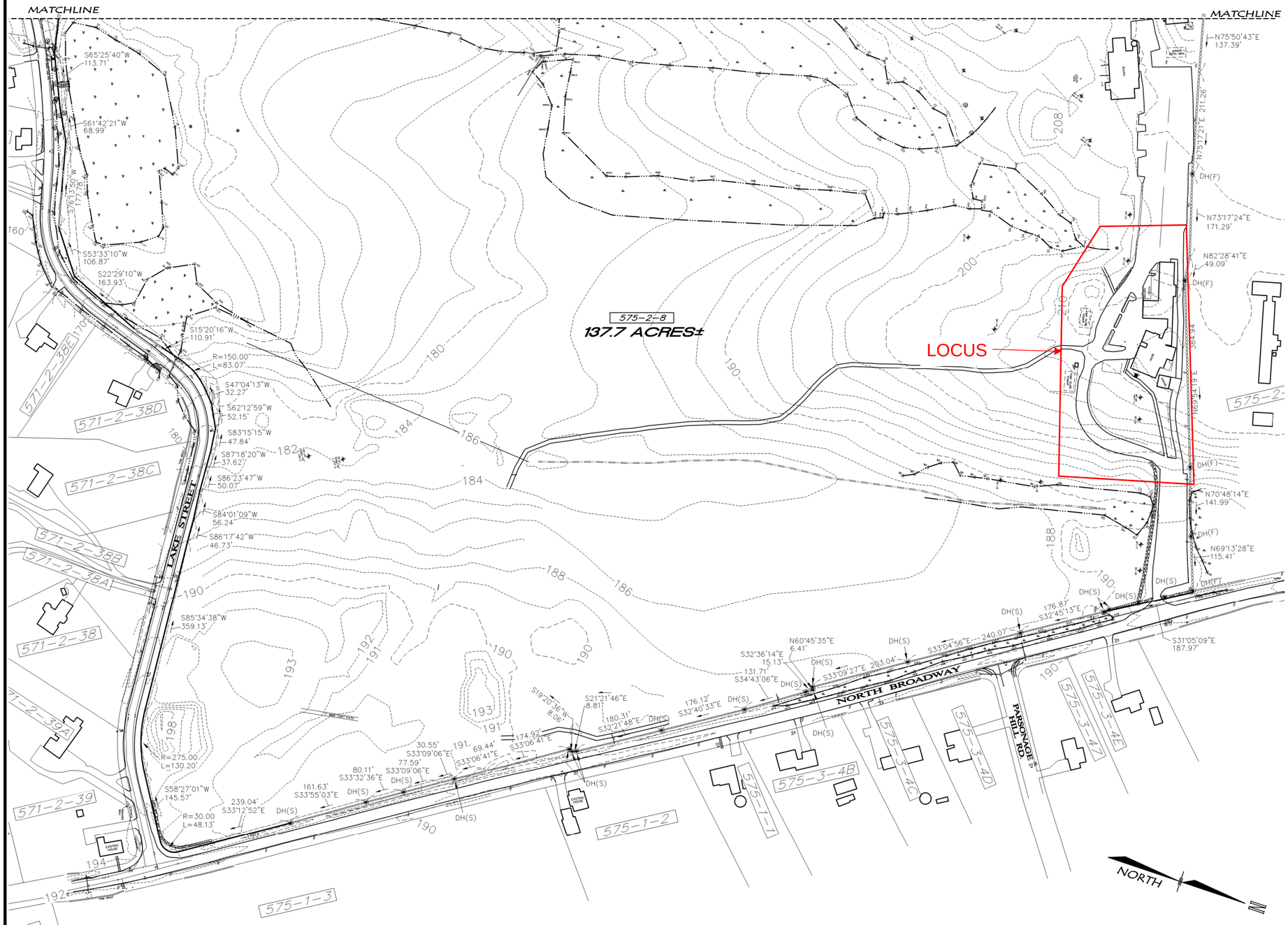
Design Point #2

	2-YR	10-YR	25-YR	100-YR
	(3.10-IN)	(4.50-IN)	(5.40-IN)	(6.50-IN)
	CFS	CFS	CFS	CFS
2009 PWA-2D	4.9	8.2	10.3	13.0
2026 PWA-2D	3.7	7.1	9.1	11.4

METHODOLOGY

Drainage calculations were performed using the computer program HydroCAD by HydroCAD Software Solutions, LLC based upon Technical Release 20 (TR-20), developed by the NRCS, formerly the Soils Conservation Service. Drainage calculations were prepared for the 2-YR, 10-YR, 25-YR, and 100-YR, Type III 24-hour storm events developed by the National Weather Service and published in Technical Paper 40. Curve numbers were generated using the information provided in TR-55 and the SCS Soils Survey.

EXHIBIT A - 2008



GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

FOR REGISTRY USE ONLY

I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

ALBERT T. TRUDEL P.L.S. # 36869 DATE

APPROVED BY THE CITY OF HAVERHILL PLANNING BOARD

DATE OF APPLICATION _____

DATE OF HEARING _____

DATE OF APPROVAL _____

DATE OF ENDORSEMENT _____

NOTES:

1. SEE SHEET C1 & C2 FOR SUBJECT PARCEL NOTES.
2. SITE TOPOGRAPHY FOR THIS PLAN IS A COMPILATION OF ACTUAL FIELD SURVEY DATA PROVIDED BY THIS OFFICE AND TOPOGRAPHIC DATA ACQUIRED FROM THE CITY OF HAVERHILL TOPOGRAPHIC PLANS.
3. LOCATION OF EXISTING SEPTIC COMPONENTS IS APPROXIMATE. THE CONTRACTOR IS TO CONFIRM THE LOCATIONS AND ABANDON ALL COMPONENTS IN COMPLIANCE WITH TITLE 310 CMR 15.000.

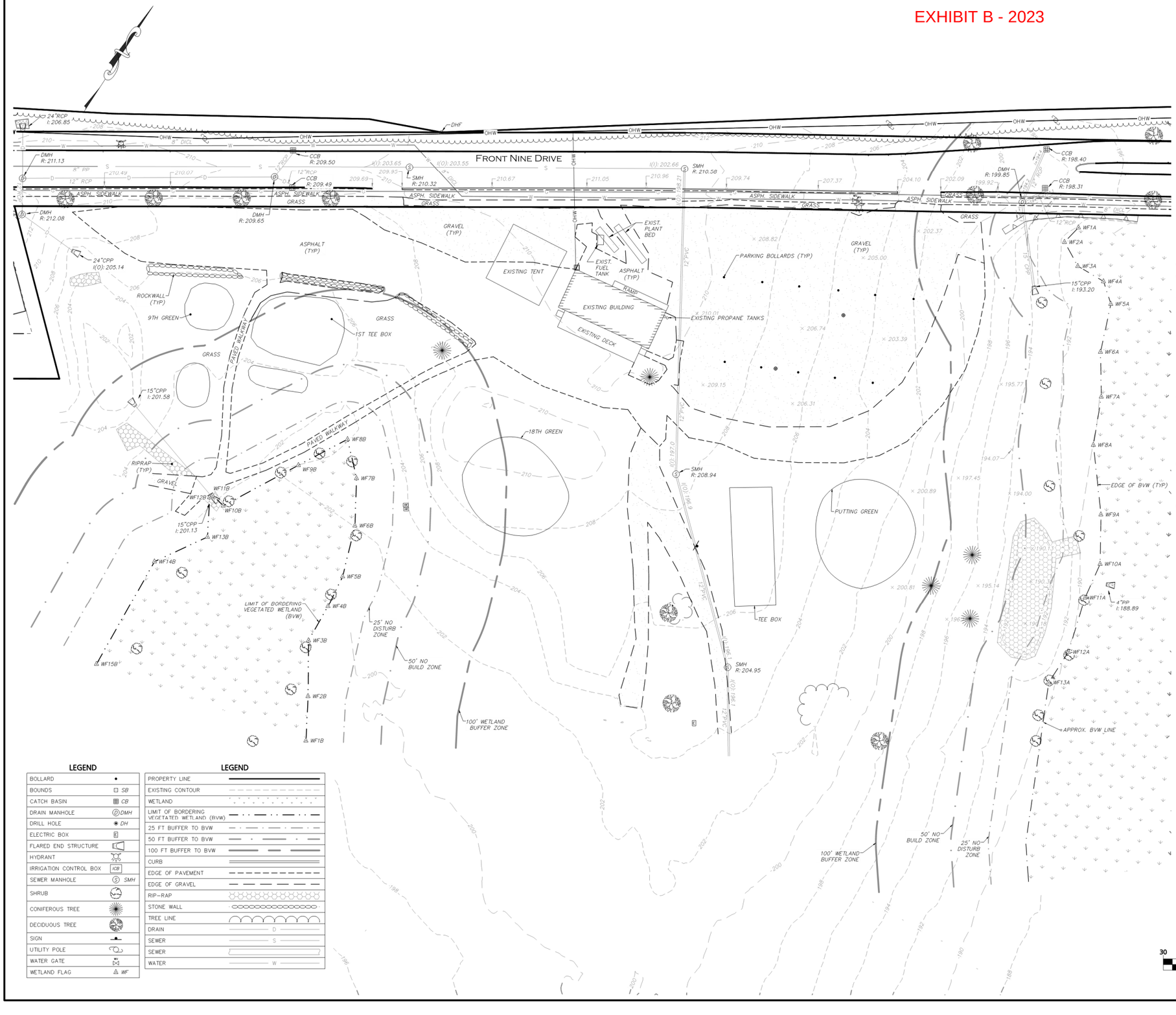
LEGEND

- STONE BOUND FOUND
- IRON PIN FOUND
- DRILL HOLE FOUND
- EDGE OF PAVEMENT
- EDGE OF WETLANDS
- RR ZONE — ZONING BOUNDARY
- SOILS LINE TYPE
- BUILDING SETBACK LINE
- BOUNDARY LINE
- 102 — 2 FOOT CONTOUR
- 100 — 10 FOOT CONTOUR
- UTILITY POLE W/GUY
- STONE WALL
- TREE LINE

EXISTING CONDITIONS PLAN

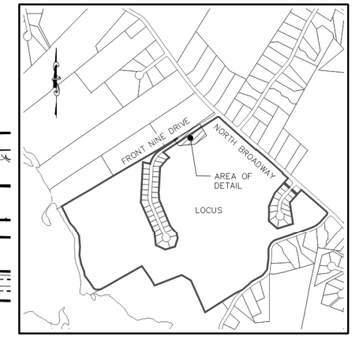
PROJECT: **TAX MAP 52 BLOCK 1 LOT 3** CRYSTAL SPRINGS HAVERHILL, MASSACHUSETTS		
SCALE: 1" = 100'	DRAWN BY: JSS	
DATE:	REVISED: 1. 08-11-09	2. 09-16-09
APPLICANT: *PREMIERE REALTY TRUST* *423 EAST BROADWAY* *HAVERHILL, MA 01830*		3. 10-14-09 4. 5.
PREPARED BY: **S.E.C. & ASSOCIATES, INC.** *SURVEYING & ENGINEERING CONSULTANTS* P.O. BOX 1337 ~ PLAISTOW, NH 03865 PHONE: (603)-382-5065 FAX: (603)-382-5216 ~ SERVING N.H. & MA. ~		JOB NO. 08-1563 C4

EXHIBIT B - 2023



LOCUS MAP

(SCALE: 1:1,000)



NOTES:

1. LOCATION: 890–940 NORTH BROADWAY HAVERHILL, MA 01832 PARCEL ID: M 575–2–8
2. DEED: SOUTHERN ESSEX DISTRICT REGISTRY OF DEEDS BOOK 36727 PAGE 171
3. ZONE: RURAL RESIDENTIAL (RR)
4. USE GOLF COURSE
5. APPLICANT: STERLING GOLF MANAGEMENT INC. 212 KENRICK STREET NEWTON, MA 02458
6. OWNER: STERLING GOLF CRYSTAL LAKE LLC 212 KENRICK ST. NEWTON, MA 02458
7. EXISTING CONDITIONS INFORMATION GENERATED FROM AN ON THE GROUND SURVEY PERFORMED BY SEC & ASSOCIATES, INC. IN JUNE 2024 AND CIVIL DESIGN CONSULTANTS INC. IN MAY 2025.
8. PROPERTY IS NOT LOCATED WITHIN A DESIGNATED FLOOD HAZARD AREA PER FLOOD INSURANCE RATE MAP NUMBER 25009C0067G DATED JULY 8, 2025.
9. ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM (NAVD88), PER GPS OBSERVATIONS.
10. UTILITY LOCATIONS ARE SHOWN PER READILY AVAILABLE RECORD INFORMATION AND OBSERVABLE FIELD EVIDENCE. OTHER UNDERGROUND UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THIS PLAN. CDCI MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITY INFORMATION. 72 HOURS PRIOR TO ANY EXCAVATION ON SITE, THE CONTRACTOR SHALL CONTACT DIG–SAFE AT 811.
11. WETLANDS DELINEATED BY NORSE ENVIRONMENTAL SERVICES, INC., 2100 LAKEVIEW AVE UNIT 3A DRACUT, MA 01826, IN APRIL 2025.

LEGEND

BOLLARD	•
BOUNDS	⊡ SB
CATCH BASIN	⊞ CB
DRAIN MANHOLE	Ⓓ DMH
DRILL HOLE	◉ DH
ELECTRIC BOX	E
FLARED END STRUCTURE	
HYDRANT	
IRRIGATION CONTROL BOX	ICB
SEWER MANHOLE	Ⓢ SMH
SHRUB	
CONIFEROUS TREE	
DECIDUOUS TREE	
SIGN	
UTILITY POLE	
WATER GATE	
WETLAND FLAG	◬ WF

LEGEND

PROPERTY LINE	
EXISTING CONTOUR	
WETLAND	
LIMIT OF BORDERING VEGETATED WETLAND (BVW)	
25 FT BUFFER TO BVW	
50 FT BUFFER TO BVW	
100 FT BUFFER TO BVW	
CURB	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
RIP–RAP	
STONE WALL	
TREE LINE	
DRAIN	D
SEWER	S
SEWER	
WATER	W

HORIZONTAL SCALE

30 0 15 30 60 120

(IN FEET)

1"=30'

DATE	
REVISIONS	

PREPARED FOR:

STERLING GOLF MANAGEMENT, INC

212 KENRICK STREET
NEWTON, MA 02458

PROJECT:

890 NORTH BROADWAY

HAVERHILL, MA 01832

DATE ISSUED:	FEBRUARY 26, 2026
PROJECT #:	24-10594
PREPARED BY:	MEY / LRD

COMMONWEALTH OF MASSACHUSETTS
EDWARD A. CUOCO SR. No. 58441 REGISTERED PROFESSIONAL LAND SURVEYOR

2/26/26

PROFESSIONAL LAND SURVEYOR FOR CIVIL DESIGN CONSULTANTS, INC.

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 466-0920 | www.civildci.com

DRAWING TITLE:

EXISTING CONDITIONS PLAN

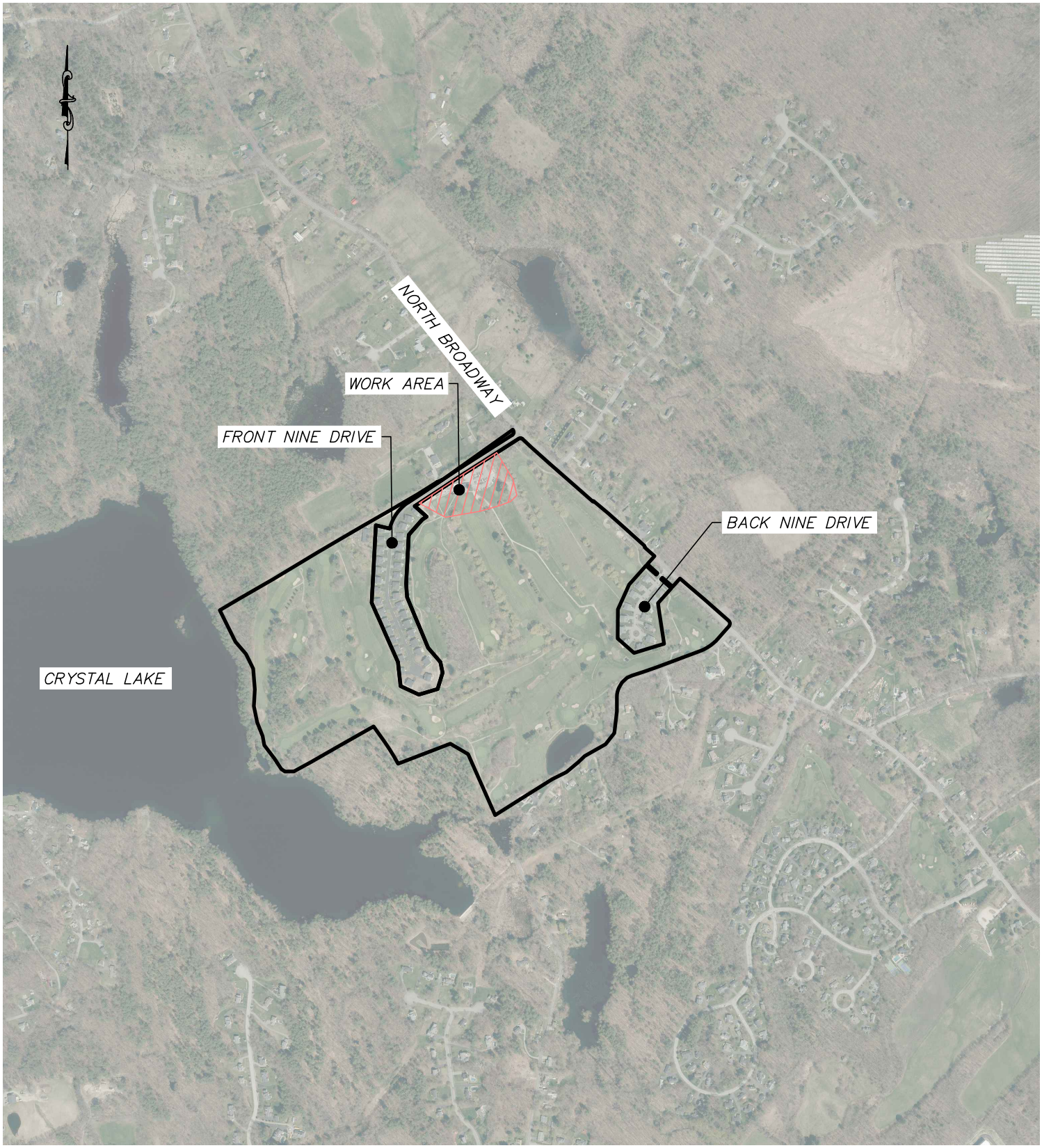
DRAWING #:

C-2

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

SECTION II - Maps

Locus Orthophoto
USGS Topographic Map
Parcel Map
Soils Map
FEMA Flood Map
NHESP Map
HPRSI Map



CIVIL DESIGN CONSULTANTS, INC

344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:

STERLING GOLF MANAGEMENT, INC

212 KENRICK STREET
NEWTON, MA 02458

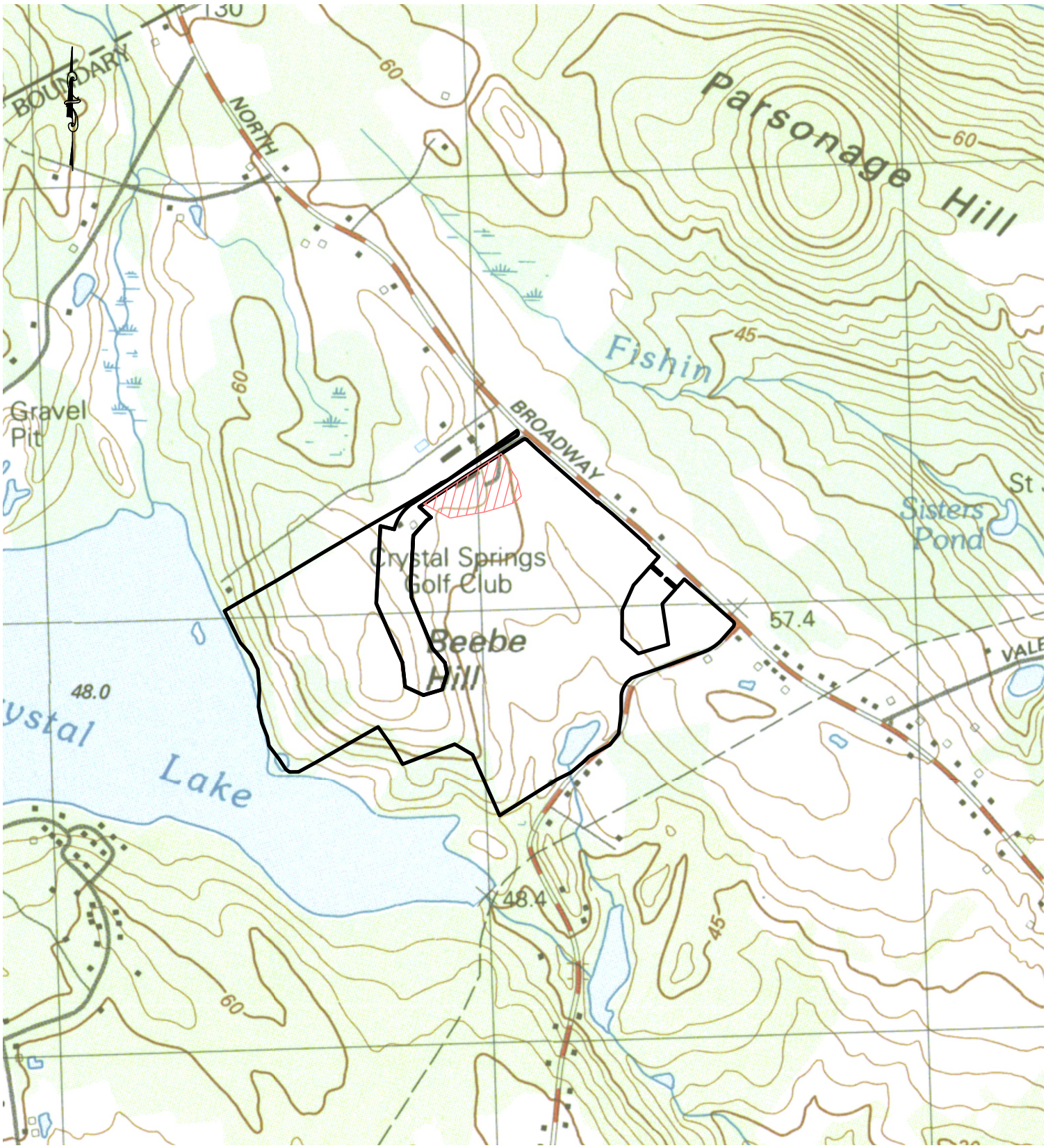
PREPARED FOR:

890 NORTH BROADWAY

HAVERHILL, MA 01832

FIGURE 1: ORTHO

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



CIVIL DESIGN CONSULTANTS, INC

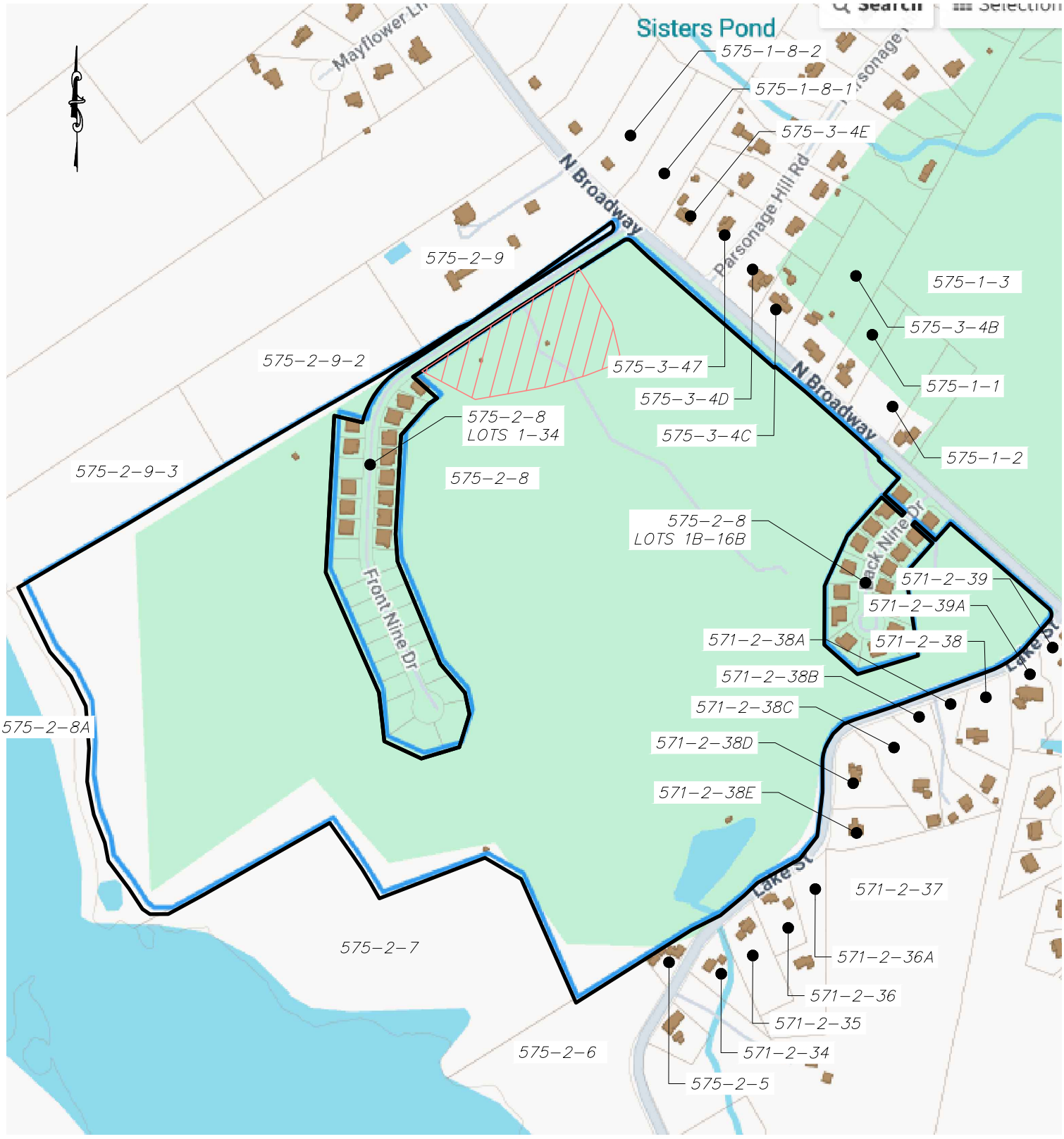
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 2: USGS

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

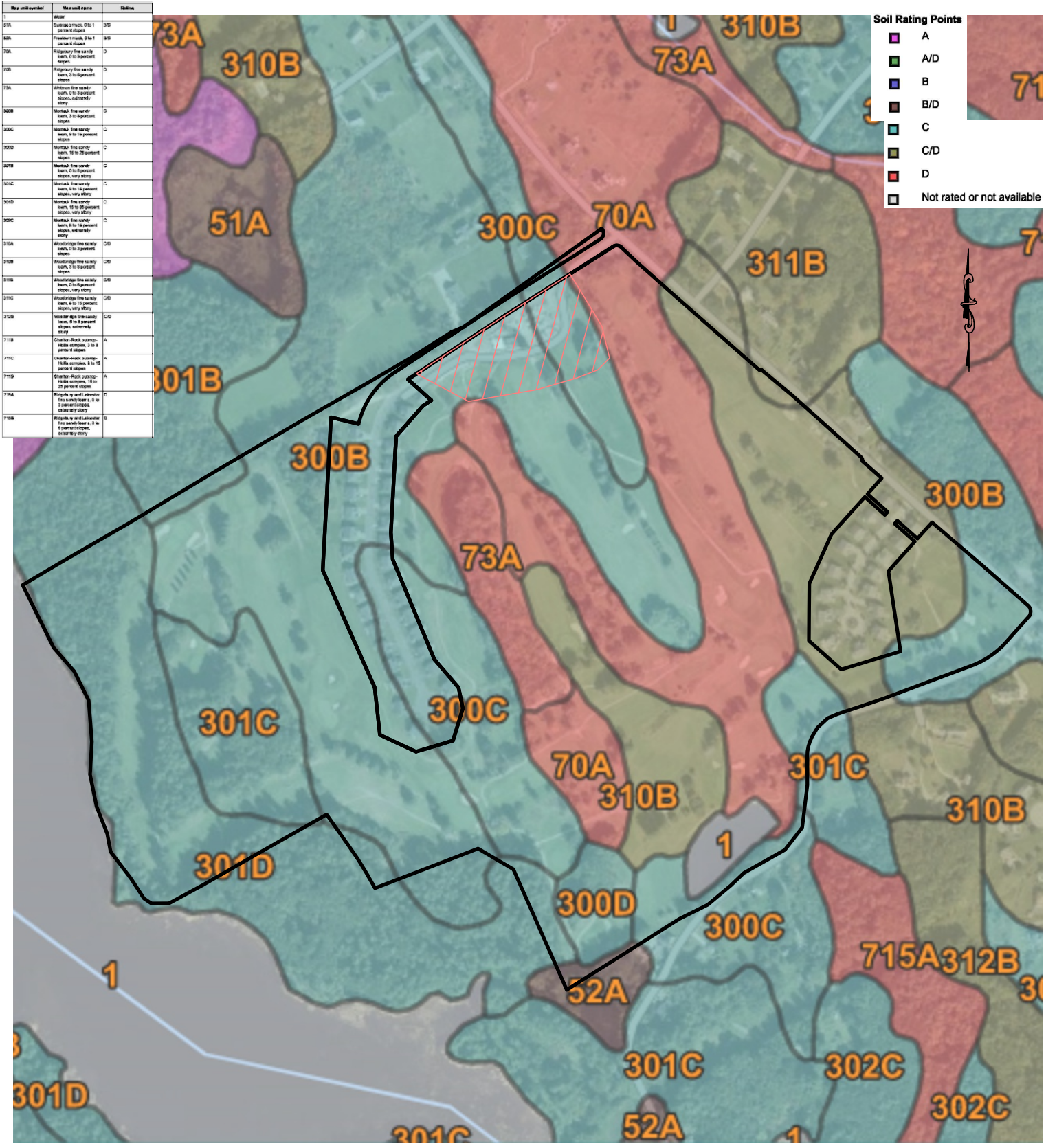
PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 3: PARCEL MAP

PREPARED BY: TJS
SCALE: 1"=500'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026

Map unit symbol	Map unit name	Rating
1	Water	
51A	Swansea muck, 0 to 1 percent slopes	B/D
52A	Freetown muck, 0 to 1 percent slopes	B/D
70A	Ridgebury fine sandy loam, 0 to 3 percent slopes	D
70B	Ridgebury fine sandy loam, 3 to 8 percent slopes	D
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D
300B	Montauk fine sandy loam, 3 to 8 percent slopes	C
300C	Montauk fine sandy loam, 8 to 15 percent slopes	C
300D	Montauk fine sandy loam, 15 to 25 percent slopes	C
301B	Montauk fine sandy loam, 0 to 8 percent slopes, very stony	C
301C	Montauk fine sandy loam, 8 to 15 percent slopes, very stony	C
301D	Montauk fine sandy loam, 15 to 35 percent slopes, very stony	C
302C	Montauk fine sandy loam, 8 to 15 percent slopes, extremely stony	C
310A	Woodbridge fine sandy loam, 0 to 3 percent slopes	C/D
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D
311B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	C/D
311C	Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony	C/D
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	C/D
711B	Charlton-Rock outcrop-Hollis complex, 3 to 8 percent slopes	A
711C	Charlton-Rock outcrop-Hollis complex, 8 to 15 percent slopes	A
711D	Charlton-Rock outcrop-Hollis complex, 15 to 25 percent slopes	A
715A	Ridgebury and Leicester fine sandy loams, 0 to 3 percent slopes, extremely stony	D
715B	Ridgebury and Leicester fine sandy loams, 3 to 8 percent slopes, extremely stony	D



CIVIL DESIGN CONSULTANTS, INC

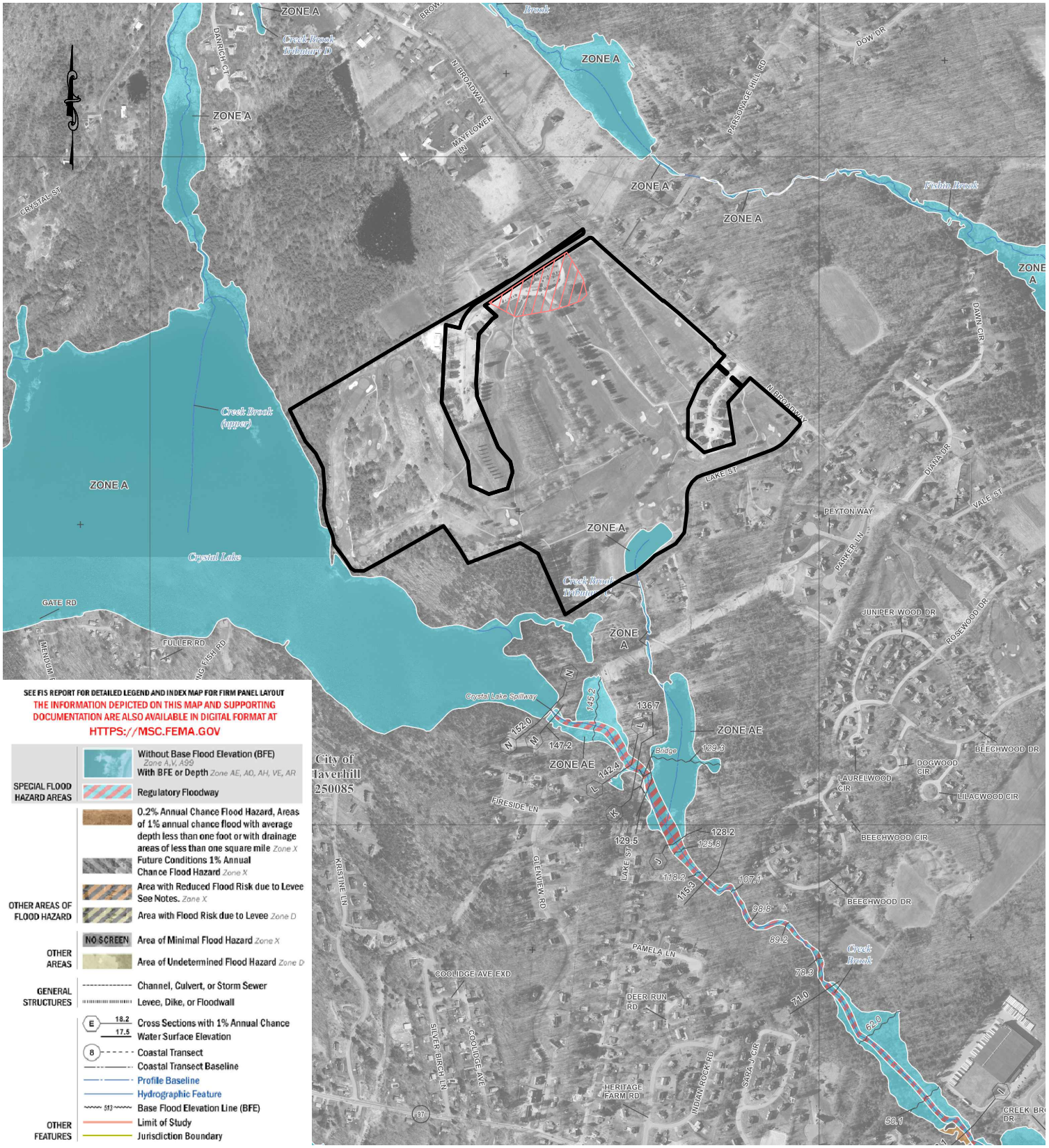
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 4: SOILS MAP

PREPARED BY: TJS
SCALE: 1"=500'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



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

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

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
	Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary

CIVIL DESIGN CONSULTANTS, INC

344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:

STERLING GOLF MANAGEMENT, INC

212 KENRICK STREET
NEWTON, MA 02458

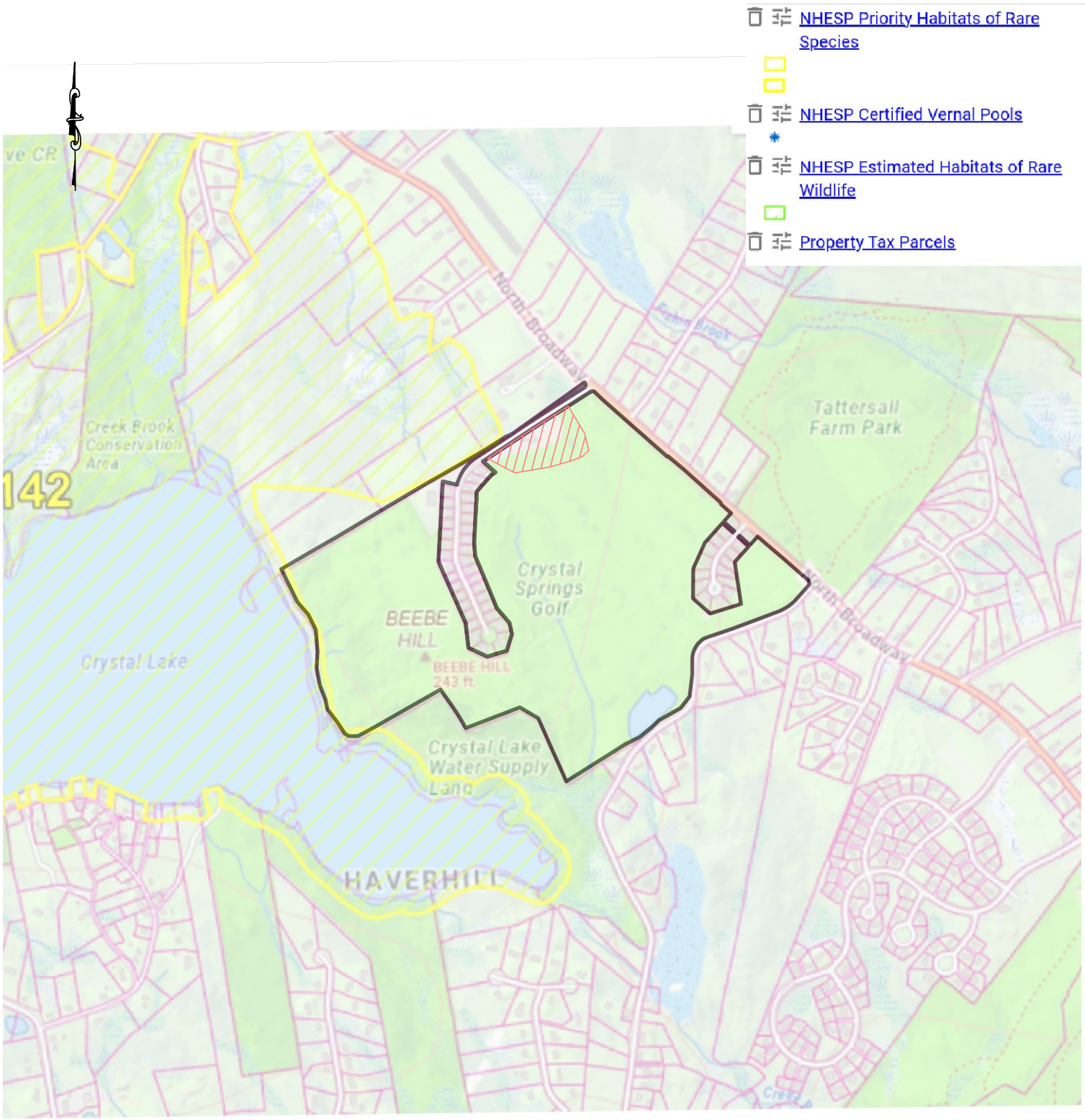
PREPARED FOR:

890 NORTH BROADWAY

HAVERHILL, MA 01832

FIGURE 5: FEMA MAP

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



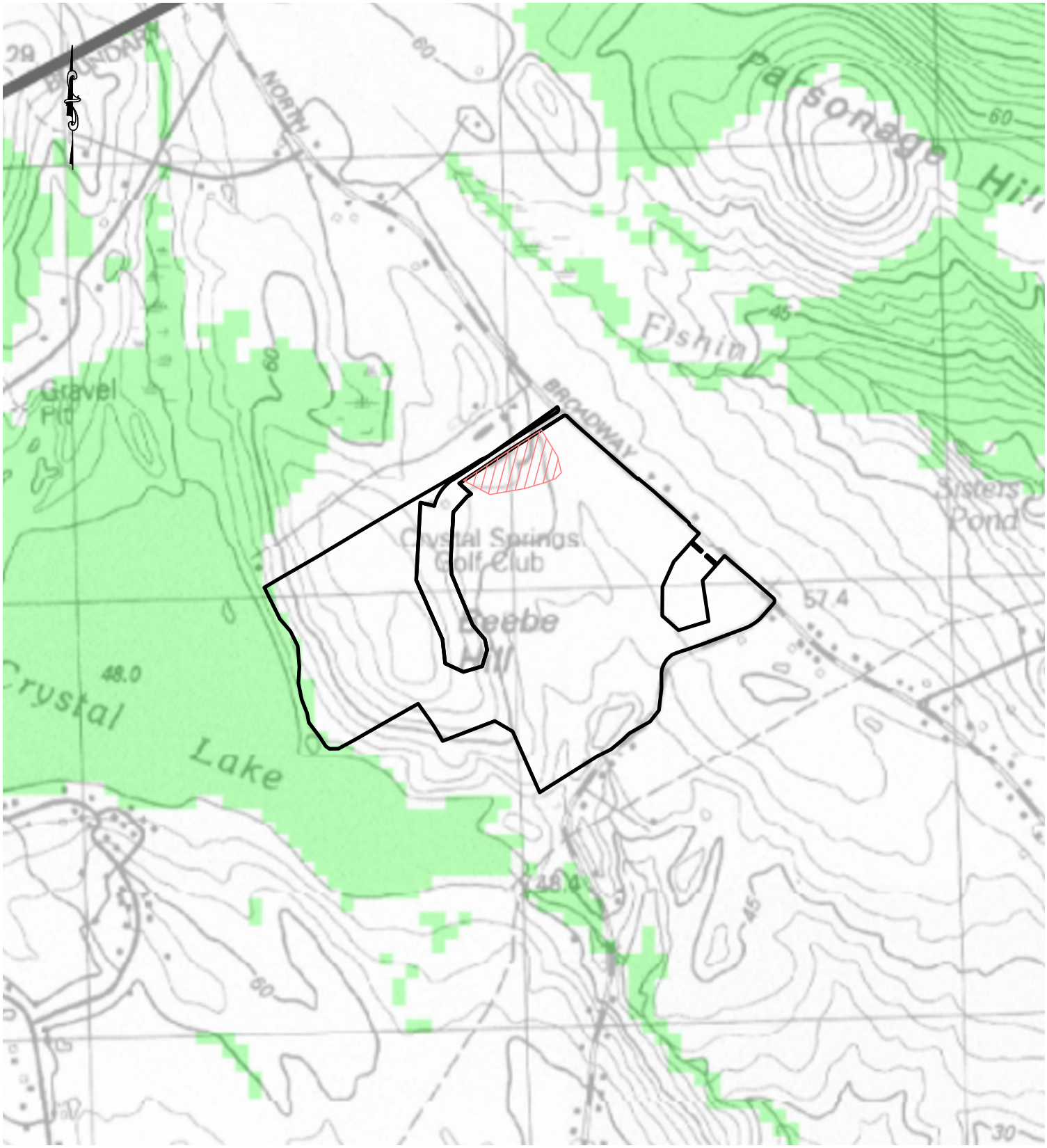
CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 6: NHESP MAP

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026



CIVIL DESIGN CONSULTANTS, INC

344 North Main Street | Andover · MA 01810
(978) 416-0920 | www.civildci.com

PROJECT:
STERLING GOLF MANAGEMENT, INC
212 KENRICK STREET
NEWTON, MA 02458

PREPARED FOR:
890 NORTH BROADWAY
HAVERHILL, MA 01832

FIGURE 7: HPRSI MAP

PREPARED BY: TJS
SCALE: 1"=1000'
CDCI FILE #: 24-10594
DATE: FEBRUARY 26, 2026

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

SECTION III – 2009 Post-Development

Drainage Calculations (HydroCAD Data)
2-Yr Storm Event Summary
10-Yr Storm Event Summary
25-Yr Storm Event Summary
100-Yr Storm Event Summary

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PWA-2D: EWA-1 Runoff Area=2.80 ac 53.57% Impervious Runoff Depth=1.83"
Flow Length=338' Tc=12.1 min CN=87 Runoff=4.9 cfs 0.43 af

Total Runoff Area = 2.80 ac Runoff Volume = 0.43 af Average Runoff Depth = 1.83"
46.43% Pervious = 1.30 ac 53.57% Impervious = 1.50 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

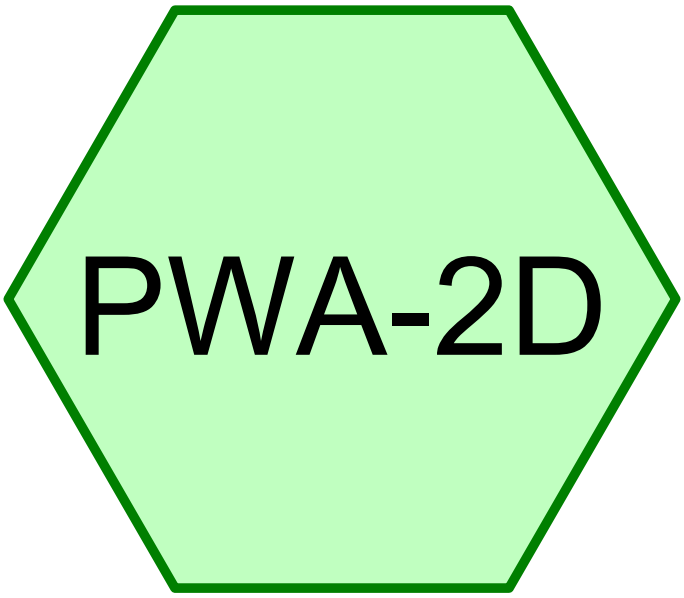
Subcatchment PWA-2D: EWA-1 Runoff Area=2.80 ac 53.57% Impervious Runoff Depth=3.10"
Flow Length=338' Tc=12.1 min CN=87 Runoff=8.2 cfs 0.72 af

Total Runoff Area = 2.80 ac Runoff Volume = 0.72 af Average Runoff Depth = 3.10"
46.43% Pervious = 1.30 ac 53.57% Impervious = 1.50 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PWA-2D: EWA-1 Runoff Area=2.80 ac 53.57% Impervious Runoff Depth=3.95"
Flow Length=338' Tc=12.1 min CN=87 Runoff=10.3 cfs 0.92 af

Total Runoff Area = 2.80 ac Runoff Volume = 0.92 af Average Runoff Depth = 3.95"
46.43% Pervious = 1.30 ac 53.57% Impervious = 1.50 ac



Subcat Reach Pond Link

Routing Diagram for 2008 Post-Development
Prepared by Civil Design Consultants, Inc, Printed 2/26/2026

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-Year	Type III 24-hr		Default	24.00	1	6.50	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.30	74	>75% Grass cover, Good, HSG C (PWA-2D)
1.50	98	Paved parking, HSG C (PWA-2D)
2.80	**87**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.00	HSG A	
0.00	HSG B	
2.80	HSG C	PWA-2D
0.00	HSG D	
0.00	Other	
2.80		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.00	0.00	1.30	0.00	0.00	1.30	>75% Grass cover, Good	PWA-2D
0.00	0.00	1.50	0.00	0.00	1.50	Paved parking	PWA-2D
0.00	**0.00**	**2.80**	**0.00**	**0.00**	**2.80**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PWA-2D: EWA-1 Runoff Area=2.80 ac 53.57% Impervious Runoff Depth=5.00"
Flow Length=338' Tc=12.1 min CN=87 Runoff=13.0 cfs 1.17 af

Total Runoff Area = 2.80 ac Runoff Volume = 1.17 af Average Runoff Depth = 5.00"
46.43% Pervious = 1.30 ac 53.57% Impervious = 1.50 ac

Summary for Subcatchment PWA-2D: EWA-1

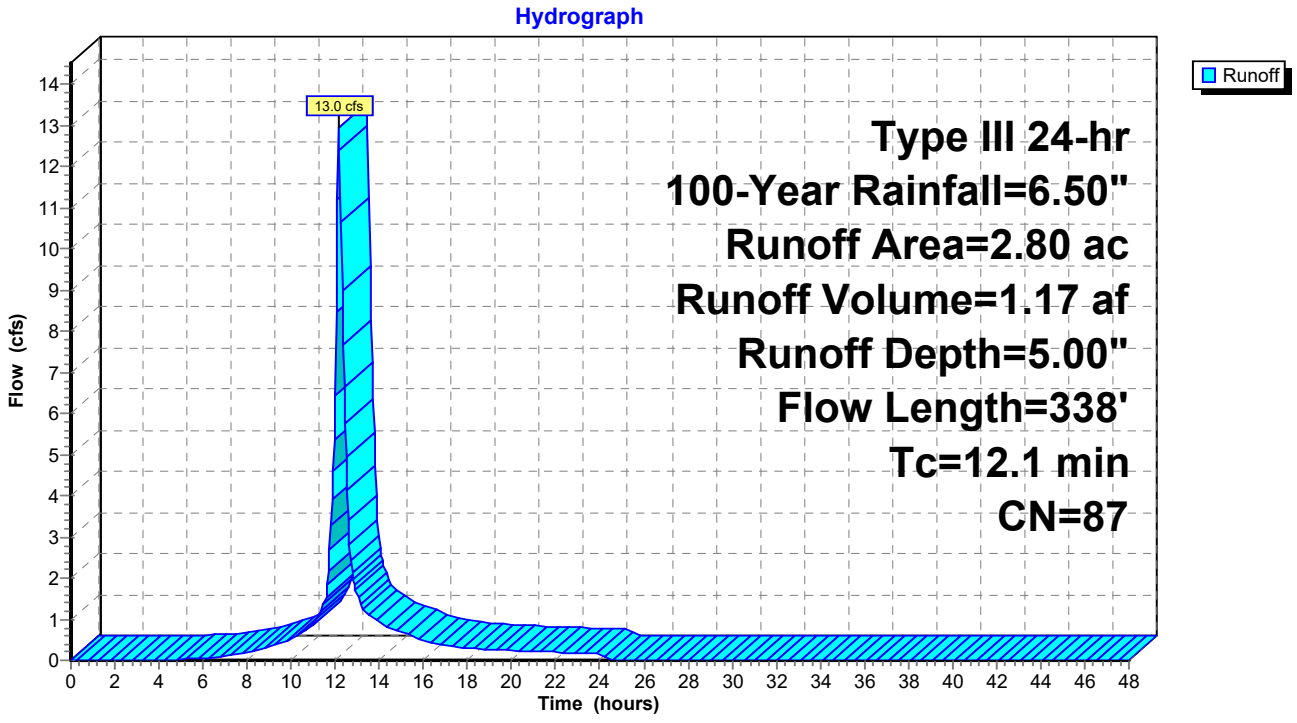
Runoff = 13.0 cfs @ 12.16 hrs, Volume= 1.17 af, Depth= 5.00"
Routed to nonexistent node DP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (ac)	CN	Description
1.50	98	Paved parking, HSG C
1.30	74	>75% Grass cover, Good, HSG C
2.80	87	Weighted Average
1.30		46.43% Pervious Area
1.50		53.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0400	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.11"
1.1	238	0.0460	3.45		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.1	338	Total			

Subcatchment PWA-2D: EWA-1



CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

SECTION IV – Proposed Conditions

Drainage Calculations (HydroCAD Data)
2-Yr Storm Event Summary
10-Yr Storm Event Summary
25-Yr Storm Event Summary
100-Yr Storm Event Summary

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PWA-2D-1: (new Subcat) Runoff Area=2.52 ac 63.89% Impervious Runoff Depth=1.99"
Flow Length=338' Tc=12.1 min CN=89 Runoff=4.8 cfs 0.42 af

Subcatchment PWA-2D-2: (new Subcat) Runoff Area=0.33 ac 69.70% Impervious Runoff Depth=2.16"
Tc=6.0 min CN=91 Runoff=0.8 cfs 0.06 af

Reach DP-2: Inflow=4.0 cfs 0.46 af
Outflow=4.0 cfs 0.46 af

Pond IB-1: Peak Elev=193.36' Storage=694 cf Inflow=0.8 cfs 0.06 af
Discarded=0.0 cfs 0.01 af Primary=0.6 cfs 0.05 af Outflow=0.6 cfs 0.06 af

Pond WET SWALE: Peak Elev=192.97' Storage=4,103 cf Inflow=5.4 cfs 0.47 af
Outflow=4.0 cfs 0.46 af

Total Runoff Area = 2.85 ac Runoff Volume = 0.48 af Average Runoff Depth = 2.01"
35.44% Pervious = 1.01 ac 64.56% Impervious = 1.84 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PWA-2D-1: (new Subcat) Runoff Area=2.52 ac 63.89% Impervious Runoff Depth=3.30"
Flow Length=338' Tc=12.1 min CN=89 Runoff=7.8 cfs 0.69 af

Subcatchment PWA-2D-2: (new Subcat) Runoff Area=0.33 ac 69.70% Impervious Runoff Depth=3.50"
Tc=6.0 min CN=91 Runoff=1.3 cfs 0.10 af

Reach DP-2: Inflow=7.1 cfs 0.77 af
Outflow=7.1 cfs 0.77 af

Pond IB-1: Peak Elev=193.47' Storage=818 cf Inflow=1.3 cfs 0.10 af
Discarded=0.0 cfs 0.01 af Primary=1.1 cfs 0.08 af Outflow=1.1 cfs 0.10 af

Pond WET SWALE: Peak Elev=193.22' Storage=5,430 cf Inflow=8.8 cfs 0.78 af
Outflow=7.1 cfs 0.77 af

Total Runoff Area = 2.85 ac Runoff Volume = 0.79 af Average Runoff Depth = 3.32"
35.44% Pervious = 1.01 ac 64.56% Impervious = 1.84 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PWA-2D-1: (new Subcat) Runoff Area=2.52 ac 63.89% Impervious Runoff Depth=4.16"
Flow Length=338' Tc=12.1 min CN=89 Runoff=9.7 cfs 0.87 af

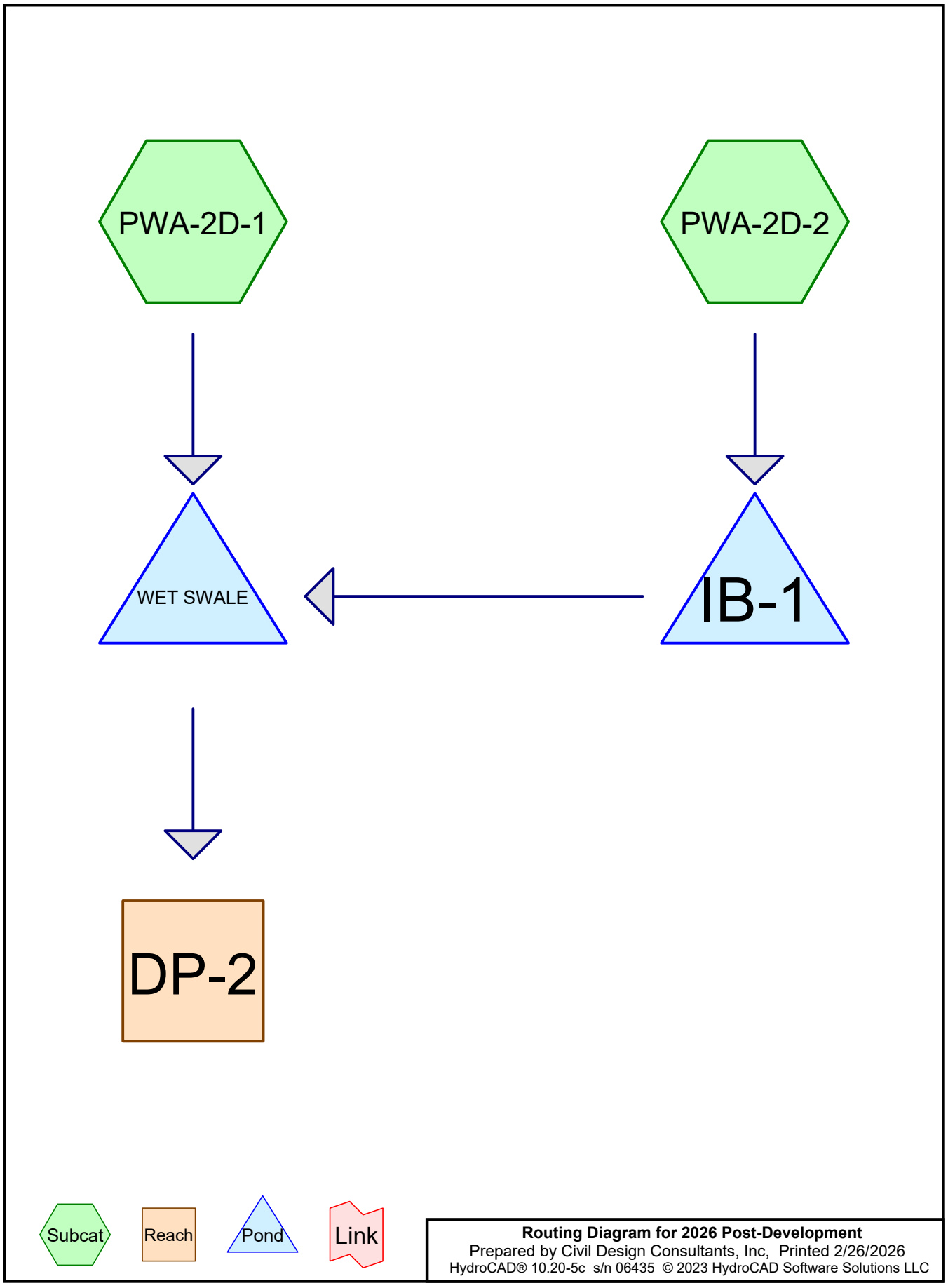
Subcatchment PWA-2D-2: (new Subcat) Runoff Area=0.33 ac 69.70% Impervious Runoff Depth=4.37"
Tc=6.0 min CN=91 Runoff=1.6 cfs 0.12 af

Reach DP-2: Inflow=9.1 cfs 0.98 af
Outflow=9.1 cfs 0.98 af

Pond IB-1: Peak Elev=193.53' Storage=884 cf Inflow=1.6 cfs 0.12 af
Discarded=0.0 cfs 0.01 af Primary=1.3 cfs 0.11 af Outflow=1.3 cfs 0.12 af

Pond WET SWALE: Peak Elev=193.35' Storage=6,151 cf Inflow=11.0 cfs 0.98 af
Outflow=9.1 cfs 0.98 af

Total Runoff Area = 2.85 ac Runoff Volume = 0.99 af Average Runoff Depth = 4.18"
35.44% Pervious = 1.01 ac 64.56% Impervious = 1.84 ac



Routing Diagram for 2026 Post-Development
Prepared by Civil Design Consultants, Inc, Printed 2/26/2026

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-Year	Type III 24-hr		Default	24.00	1	6.50	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.01	74	>75% Grass cover, Good, HSG C (PWA-2D-1, PWA-2D-2)
1.62	98	Paved parking, HSG C (PWA-2D-1, PWA-2D-2)
0.22	98	Roofs, HSG C (PWA-2D-2)
2.85	**89**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.00	HSG A	
0.00	HSG B	
2.85	HSG C	PWA-2D-1, PWA-2D-2
0.00	HSG D	
0.00	Other	
2.85		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.00	0.00	1.01	0.00	0.00	1.01	>75% Grass cover, Good	PWA-2D-1, PWA-2D-2
0.00	0.00	1.62	0.00	0.00	1.62	Paved parking	PWA-2D-1, PWA-2D-2
0.00	0.00	0.22	0.00	0.00	0.22	Roofs	PWA-2D-2
0.00	**0.00**	**2.85**	**0.00**	**0.00**	**2.85**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	No Na
1	IB-1	191.18	191.10	17.0	0.0047	0.013	0.0	12.0	0.0	
2	WET SWALE	190.11	190.00	22.0	0.0050	0.013	0.0	24.0	0.0	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PWA-2D-1: (new Subcat) Runoff Area=2.52 ac 63.89% Impervious Runoff Depth=5.22"
Flow Length=338' Tc=12.1 min CN=89 Runoff=12.1 cfs 1.10 af

Subcatchment PWA-2D-2: (new Subcat) Runoff Area=0.33 ac 69.70% Impervious Runoff Depth=5.45"
Tc=6.0 min CN=91 Runoff=1.9 cfs 0.15 af

Reach DP-2: Inflow=11.4 cfs 1.23 af
Outflow=11.4 cfs 1.23 af

Pond IB-1: Peak Elev=193.60' Storage=960 cf Inflow=1.9 cfs 0.15 af
Discarded=0.0 cfs 0.01 af Primary=1.6 cfs 0.14 af Outflow=1.6 cfs 0.15 af

Pond WET SWALE: Peak Elev=193.48' Storage=6,955 cf Inflow=13.6 cfs 1.23 af
Outflow=11.4 cfs 1.23 af

Total Runoff Area = 2.85 ac Runoff Volume = 1.25 af Average Runoff Depth = 5.25"
35.44% Pervious = 1.01 ac 64.56% Impervious = 1.84 ac

Summary for Subcatchment PWA-2D-1: (new Subcat)

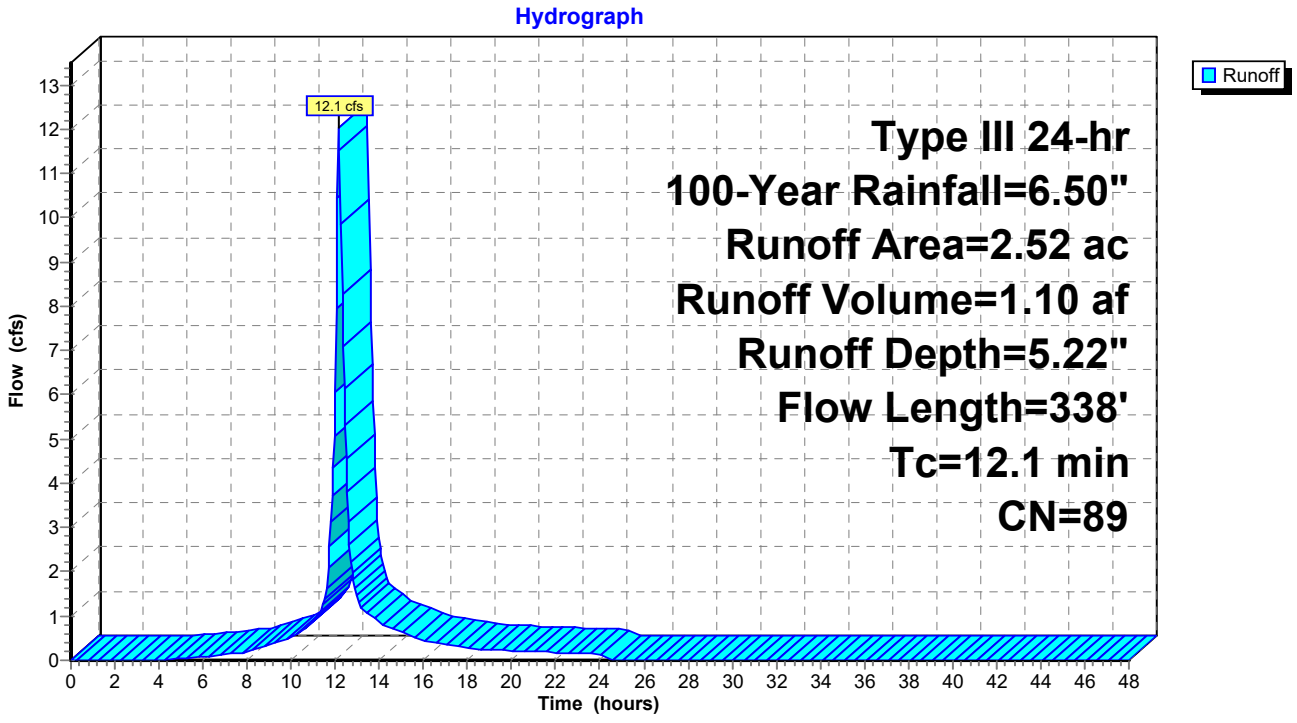
Runoff = 12.1 cfs @ 12.16 hrs, Volume= 1.10 af, Depth= 5.22"
Routed to Pond WET SWALE :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (ac)	CN	Description
1.61	98	Paved parking, HSG C
0.91	74	>75% Grass cover, Good, HSG C
2.52	89	Weighted Average
0.91		36.11% Pervious Area
1.61		63.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0400	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.11"
1.1	238	0.0460	3.45		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.1	338	Total			

Subcatchment PWA-2D-1: (new Subcat)



Summary for Subcatchment PWA-2D-2: (new Subcat)

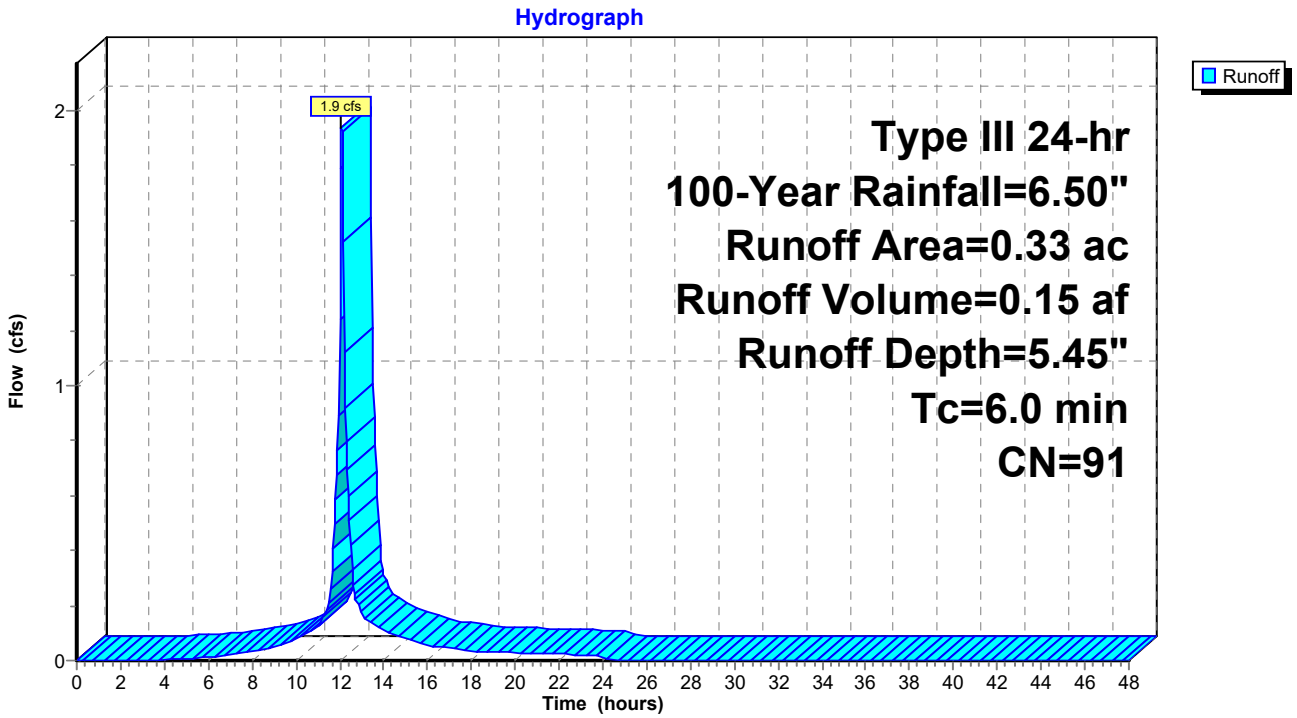
Runoff = 1.9 cfs @ 12.09 hrs, Volume= 0.15 af, Depth= 5.45"
Routed to Pond IB-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (ac)	CN	Description
0.22	98	Roofs, HSG C
0.01	98	Paved parking, HSG C
0.10	74	>75% Grass cover, Good, HSG C
0.33	91	Weighted Average
0.10		30.30% Pervious Area
0.23		69.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PWA-2D-2: (new Subcat)

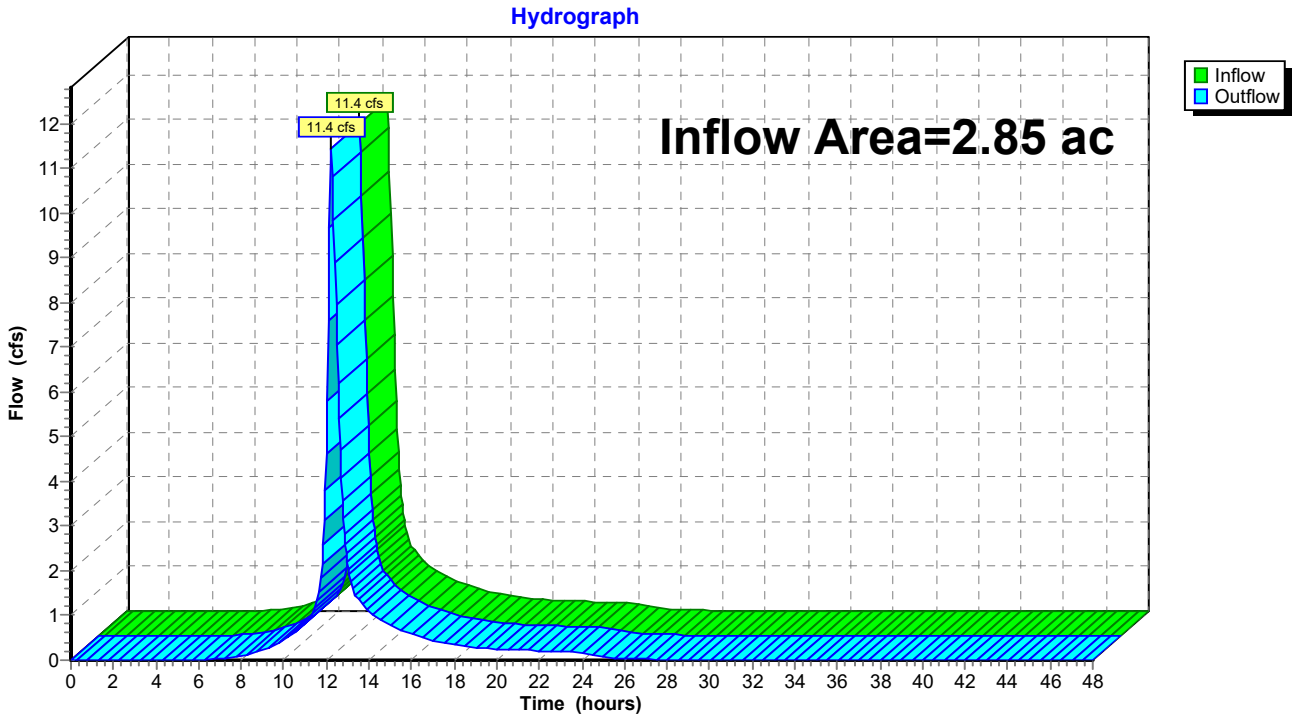


Summary for Reach DP-2:

Inflow Area = 2.85 ac, 64.56% Impervious, Inflow Depth = 5.18" for 100-Year event
Inflow = 11.4 cfs @ 12.24 hrs, Volume= 1.23 af
Outflow = 11.4 cfs @ 12.24 hrs, Volume= 1.23 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach DP-2:



Summary for Pond IB-1:

Inflow Area = 0.33 ac, 69.70% Impervious, Inflow Depth = 5.45" for 100-Year event
Inflow = 1.9 cfs @ 12.09 hrs, Volume= 0.15 af
Outflow = 1.6 cfs @ 12.13 hrs, Volume= 0.15 af, Atten= 15%, Lag= 2.5 min
Discarded = 0.0 cfs @ 12.15 hrs, Volume= 0.01 af
Primary = 1.6 cfs @ 12.13 hrs, Volume= 0.14 af
Routed to Pond WET SWALE :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 193.60' @ 12.15 hrs Surf.Area= 1,156 sf Storage= 960 cf

Plug-Flow detention time= 95.2 min calculated for 0.15 af (100% of inflow)
Center-of-Mass det. time= 93.4 min (872.0 - 778.6)

Volume	Invert	Avail.Storage	Storage Description
#1	192.60'	2,322 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

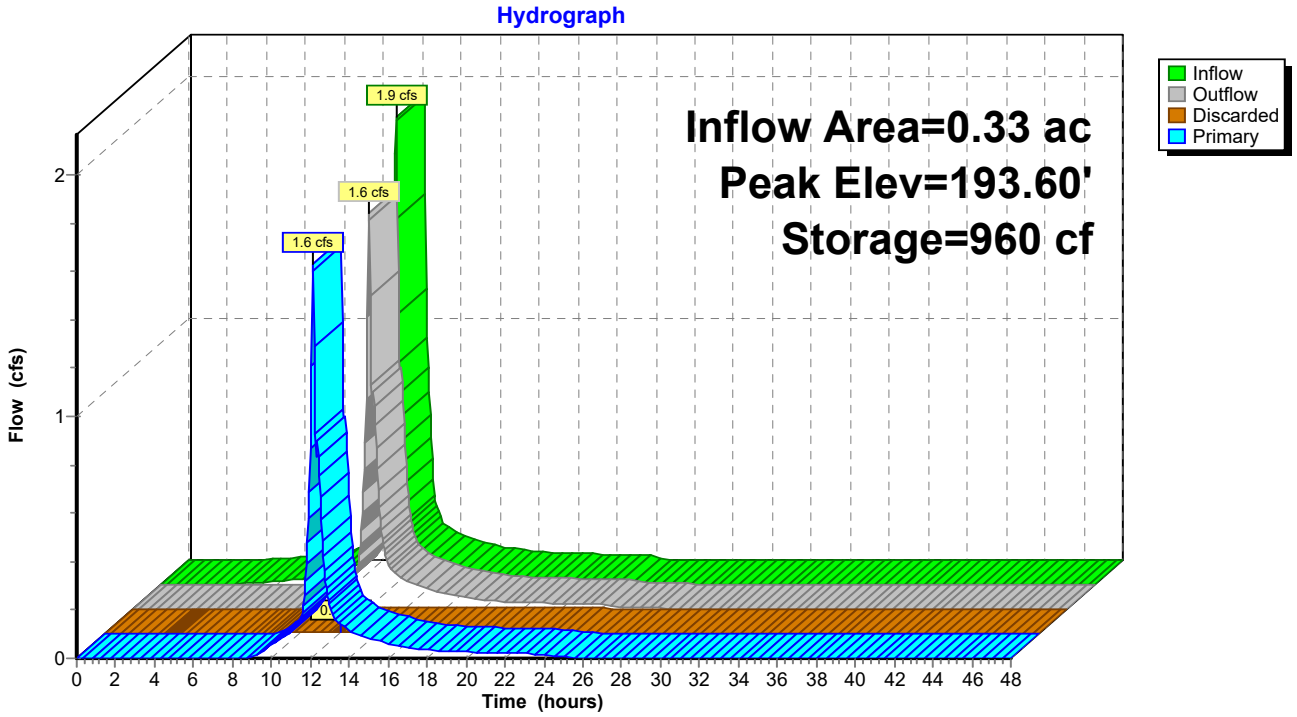
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
192.60	781	0	0	781
193.00	925	341	341	931
194.00	1,327	1,120	1,461	1,350
194.60	1,548	862	2,322	1,585

Device	Routing	Invert	Outlet Devices
#1	Discarded	192.60'	**0.170 in/hr Exfiltration over Wetted area**
#2	Primary	191.18'	**12.0" Round Culvert** L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.18' / 191.10' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	192.90'	**120.0 deg Sharp-Crested Vee/Trap Weir** Cv= 2.48 (C= 3.10)

Discarded OutFlow Max=0.0 cfs @ 12.15 hrs HW=193.60' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=1.5 cfs @ 12.13 hrs HW=193.59' TW=193.33' (Dynamic Tailwater)
└**2=Culvert** (Passes 1.5 cfs of 1.5 cfs potential flow)
└**3=Sharp-Crested Vee/Trap Weir** (Weir Controls 1.5 cfs @ 1.78 fps)

Pond IB-1:


Hydrograph
Inflow Area=0.33 ac
Peak Elev=193.60'
Storage=960 cf
1.9 cfs
1.6 cfs
1.6 cfs
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Stage-Area-Storage for Pond IB-1:

Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)	
192.60	781	781	0	
192.65	798	799	39	
192.70	816	817	80	
192.75	834	836	121	
192.80	851	854	163	
192.85	870	873	206	
192.90	888	892	250	← LOWEST INVERT
192.95	906	911	295	
193.00	925	931	341	
193.05	943	950	388	
193.10	962	969	435	
193.15	981	989	484	
193.20	1,000	1,009	533	
193.25	1,019	1,029	584	
193.30	1,038	1,049	635	
193.35	1,057	1,069	687	
193.40	1,077	1,089	741	
193.45	1,097	1,110	795	
193.50	1,117	1,131	851	
193.55	1,137	1,152	907	
193.60	1,158	1,173	964	
193.65	1,178	1,195	1,023	
193.70	1,199	1,216	1,082	
193.75	1,220	1,238	1,143	
193.80	1,241	1,260	1,204	
193.85	1,262	1,282	1,267	
193.90	1,284	1,305	1,330	
193.95	1,305	1,327	1,395	
194.00	1,327	1,350	1,461	
194.05	1,345	1,369	1,528	
194.10	1,363	1,388	1,595	
194.15	1,381	1,407	1,664	
194.20	1,399	1,426	1,733	
194.25	1,417	1,446	1,804	
194.30	1,435	1,465	1,875	
194.35	1,454	1,485	1,947	
194.40	1,472	1,505	2,020	
194.45	1,491	1,525	2,094	
194.50	1,510	1,545	2,170	
194.55	1,529	1,565	2,245	
194.60	**1,548**	**1,585**	**2,322**	

Summary for Pond WET SWALE:

Inflow Area = 2.85 ac, 64.56% Impervious, Inflow Depth = 5.19" for 100-Year event
Inflow = 13.6 cfs @ 12.16 hrs, Volume= 1.23 af
Outflow = 11.4 cfs @ 12.24 hrs, Volume= 1.23 af, Atten= 16%, Lag= 4.9 min
Primary = 11.4 cfs @ 12.24 hrs, Volume= 1.23 af
Routed to Reach DP-2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 193.48' @ 12.24 hrs Surf.Area= 6,360 sf Storage= 6,955 cf

Plug-Flow detention time= 36.3 min calculated for 1.23 af (100% of inflow)
Center-of-Mass det. time= 35.8 min (829.3 - 793.5)

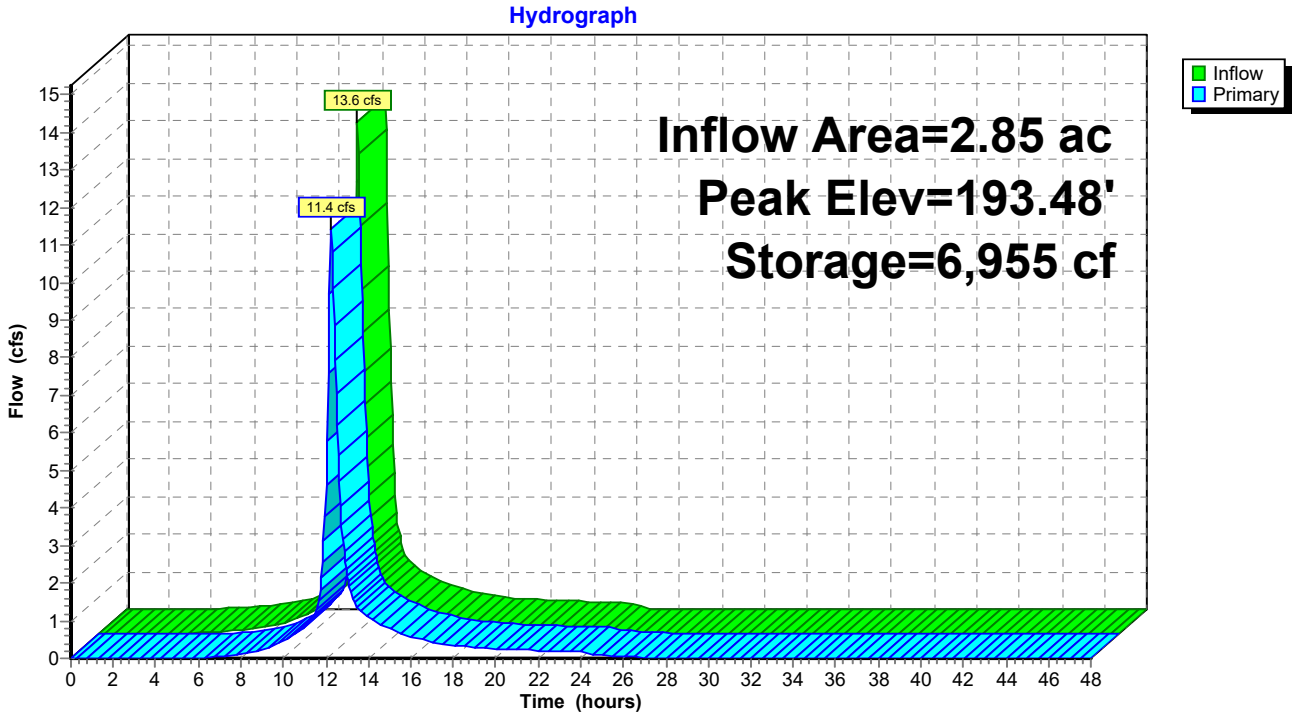
Volume	Invert	Avail.Storage	Storage Description
#1	192.00'	10,707 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
192.00	3,603	0	0	3,603
193.00	4,935	4,252	4,252	4,955
194.00	8,106	6,455	10,707	8,139

Device	Routing	Invert	Outlet Devices
#1	Primary	190.11'	**24.0" Round Culvert** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 190.11' / 190.00' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	192.00'	**120.0 deg Sharp-Crested Vee/Trap Weir** Cv= 2.48 (C= 3.10)

Primary OutFlow Max=11.4 cfs @ 12.24 hrs HW=193.48' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 11.4 cfs of 18.4 cfs potential flow)
↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 11.4 cfs @ 3.01 fps)

Pond WET SWALE:



Stage-Area-Storage for Pond WET SWALE:

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
192.00	3,603	0
192.02	3,628	72
192.04	3,652	145
192.06	3,677	218
192.08	3,702	292
192.10	3,727	366
192.12	3,752	441
192.14	3,777	517
192.16	3,802	592
192.18	3,827	669
192.20	3,853	745
192.22	3,878	823
192.24	3,904	901
192.26	3,929	979
192.28	3,955	1,058
192.30	3,981	1,137
192.32	4,006	1,217
192.34	4,032	1,297
192.36	4,058	1,378
192.38	4,085	1,460
192.40	4,111	1,542
192.42	4,137	1,624
192.44	4,163	1,707
192.46	4,190	1,791
192.48	4,216	1,875
192.50	4,243	1,959
192.52	4,270	2,044
192.54	4,296	2,130
192.56	4,323	2,216
192.58	4,350	2,303
192.60	4,377	2,390
192.62	4,404	2,478
192.64	4,431	2,566
192.66	4,459	2,655
192.68	4,486	2,745
192.70	4,513	2,835
192.72	4,541	2,925
192.74	4,569	3,016
192.76	4,596	3,108
192.78	4,624	3,200
192.80	4,652	3,293
192.82	4,680	3,386
192.84	4,708	3,480
192.86	4,736	3,575
192.88	4,764	3,670
192.90	4,792	3,765
192.92	4,821	3,861
192.94	4,849	3,958
192.96	4,878	4,055
192.98	4,906	4,153
193.00	4,935	4,252
193.02	4,991	4,351
193.04	5,047	4,451
193.06	5,103	4,553
193.08	5,160	4,655
193.10	5,217	4,759
193.12	5,274	4,864
193.14	5,332	4,970
193.16	5,390	5,077
193.18	5,448	5,186
193.20	5,507	5,295
193.22	5,565	5,406
193.24	5,625	5,518
193.26	5,684	5,631
193.28	5,744	5,745
193.30	5,804	5,861
193.32	5,865	5,977
193.34	5,925	6,095
193.36	5,986	6,214
193.38	6,048	6,335
193.40	6,109	6,456
193.42	6,171	6,579
193.44	6,234	6,703
193.46	6,296	6,828
193.48	6,359	6,955
193.50	6,423	7,083
193.52	6,486	7,212
193.54	6,550	7,342
193.56	6,614	7,474
193.58	6,679	7,607
193.60	6,744	7,741
193.62	6,809	7,877
193.64	6,874	8,013
193.66	6,940	8,152
193.68	7,006	8,291
193.70	7,073	8,432
193.72	7,139	8,574
193.74	7,206	8,717
193.76	7,274	8,862
193.78	7,341	9,008
193.80	7,409	9,156
193.82	7,477	9,305
193.84	7,546	9,455
193.86	7,615	9,607
193.88	7,684	9,760
193.90	7,754	9,914
193.92	7,824	10,070
193.94	7,894	10,227
193.96	7,964	10,385
193.98	8,035	10,545
194.00	**8,106**	**10,707**

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

SECTION V – Supplemental Information

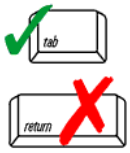
Stormwater Checklist
Stormwater Management Calculations
Soil Logs
Construction Period Pollution Prevention & Erosion and Sedimentation Control Plan
Long-Term Operation and Maintenance Program

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

Checklist for Stormwater Report

A. Introduction

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



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

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

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

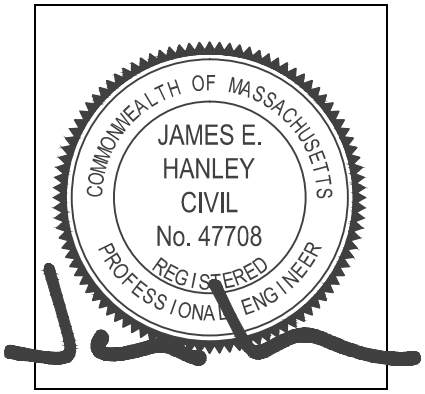
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



02/26/2026

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☐ Redevelopment

☒ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☐ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
  - ☐ Credit 1
  - ☐ Credit 2
  - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☒ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☒ Other (describe): Subsurface Infiltration Systems

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☒ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☐ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

Project: Crystal Lake Golf Course
Location: Haverhill, MA
Client: Sterling Golf

Project Number: 24-10594
Prepared By: MAC
Date: February 23, 2026

STORMWATER MANAGEMENT STANDARDS CALCULATIONS

Standard 1: Stormwater Discharge

Conclusion: This project does not propose any new untreated stormwater discharges. The Stormwater Management System conforms to Standard 1.

Standard 2: Peak Discharge Summary

Design Point 1	2-Year (3.10-IN)	10-Year (4.50-IN)	25-Year (5.40-IN)	100-Year (6.50-IN)
2008 Post-Development Conditions:	4.9	8.2	10.3	13.0
2026 Post Development Conditions:	4.0	7.1	9.1	11.4

Conclusion: The Stormwater Management System conforms to Standard 2.

Standard 3: Recharge Calculations (Static Method)

Infiltration Basin-1

Hydrologic Soils Group:	A	B	C	D		
Total Proposed Roof Area:	0.00	0.00	0.22	0.00	0.22	AC
Target Factor:	0.60	0.35	0.25	0.10		
Required Recharge Volume:	0	0	200	0	200	CF

Volume Below Lowest Outlet:	**250**	CF
Elevation of Lowest Invert:	192.90	FT

Determine Drawdown Time

Saturated Hydraulic Conductivity (Rawls Rate):	0.17	IN/HR
Bottom Area of Infiltration Basin:	781	SF
Drawdown Time:	**22.6**	HRS

Standard 4: Water Quality Volume Calculations

Water Quality Depth:	0.5	IN
Impervious Area Draining to Wet Swale:	1.61	Acres
Required Water Quality Volume:	2,922	CF
Provided Water Quality Volume:	**2,999**	**CF**

TSS Removal Rate Calculations

Wet Swale Treatment Train

	TSS Removal Rate	Starting TSS Load	Amount Removed	Remaining Load	
Street Sweeping:	10%	1.00	0.10	0.90	
Deep Sump Catch Basins (w/ hood)	25%	0.90	0.23	0.68	
Sediment Forebay & Wet Swale	70%	0.68	0.47	0.20	
TSS Removed:				80.0%	**OK**

Conclusion: The wet swale treats the required Water Quality Volume and the Weighted Average TSS Removal Rate meets the 80% requirement. The Stormwater Management System conforms to Standard 4.

Standard 5: Land Uses With Higher Potential Pollutant Loads

Conclusion: The proposed use is not considered a Land Use with Higher Potential Pollutant Loads. This Standard is NOT Applicable.

Standard 6: Critical Areas

Conclusion: The proposal is not located within a Critical Area. This Standard is NOT Applicable.

Standard 7: Redevelopment

Conclusion: The project is not considered a redevelopment project . This Standard is NOT Applicable.

Standard 8: Construction Period Controls

Conclusion: The project will require a NPDES Construction General Permit. The SWPPP will be submitted prior to construction to address construction period pollution prevention measures and to reduce the potential for erosion and sedimentation. The Stormwater Management System Conforms to Standard 8.

Standard 9: Operations and Maintenance Plan

Conclusion: An Operations and Maintenance Plan has been prepared and provided with this summary. The Stormwater Management System Conforms to Standard 9.

Standard 10: Illicit Discharges to Drainage System

Conclusion: All off-site discharges are comprised entirely of stormwater. The Stormwater Management System Conforms to Standard 10.

Project: Crystal Lake Golf Course
Location: Haverhill, MA
Client: Sterling Golf

Project Number: 24-10594
Prepared By: MAC
Date: February 23, 2026

WET SWALE FOREBAY SIZING:

Watershed Characteristics

Impervious Area (Ai):	1.61	Acres
Required (0.1-IN x Ai):	584	CF
Sediment Forebay Volume:	591	CF
	OK	

Stage / Storage Tables

Sediment Forebay:

Elevation	Surface Area (SF)	Incremental Storage (CF)	Total Storage (CF)
191.0	402	0	0
192.0	780	591	591

INFILTRATION BASIN FOREBAY SIZING:

Watershed Characteristics

Impervious Area (Ai):	0.22	Acres
Required (0.1-IN x Ai):	80	CF
Sediment Forebay Volume:	289	CF
	OK	

Stage / Storage Tables

Sediment Forebay:

Elevation	Surface Area (SF)	Incremental Storage (CF)	Total Storage (CF)
192.6	95	0	0
193.0	148	49	49
194.0	332	240	289

WETPOND PERMANENT POOL SIZING CALCULATIONS

Watershed Characteristics

Impervious Area (Ai):	1.61	Acres
Water Quality Depth:	0.5	IN
Required Water Quality Volume (WQV):	2922	CF
Provided Permanent Pool Volume:	**2999**	**CF**
	OK	

Stage / Storage Table:

Elevation	Surface Area (SF)	Incremental Storage (CF)	Total Storage (CF)
91.00	2394	0	0
92.00	3603	2999	2999

Address: CRYSTAL GOLF COURSE
Date: AUGUST 7 2025
S.E.: Thomas Schomburg
Witness: N/a

TP-1

Depth	Horizon	Color	Texture
0-78	FILL		
78-90	C	10YR6/2	Very Fine Loamy Sand

Mottles @ 20"
No water observed

TP-2

Depth	Horizon	Color	Texture
0-30	FILL		
30-98	C	10YR5/2	Loamy Sand

Mottles @ 32"
No water observed

TP-3

Depth	Horizon	Color	Texture
0-40	FILL		
40-60	C	10YR5/2	Loamy Sand

Mottles @ 40"
No water observed
Refusal @ 60
Lots of boulders

TP-4

Depth	Horizon	Color	Texture
0-16	A	10YR3/2	Loamy Sand
16-26	B	10YR5/6	Loamy Sand
26-80	C	10YR6/2	Fine Loamy Sand

Mottles @ 42"
No water observed

CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN

February 26, 2026

This plan has been prepared for the contractor to utilize in preparation of the Stormwater Pollution Prevention Plan (SWPPP) as required by the EPA National Pollutant Discharge Elimination System (NDPES). A SWPPP will be submitted to the Conservation Department at least fourteen (14) days prior to start of construction.

Good Housekeeping BMPs

Minimize the potential for contaminants to enter or runoff the site during construction activities. Fuel and other equipment-related fluids will be properly stored. The Contractor shall establish secure storage areas that collect any spillage to meet requirements of the City of Haverhill Fire Department regarding the storage of flammable materials. The Contractor shall complete and submit the plans to the Engineer.

General Requirements

The following presents a proactive approach to all of the best management practices, erosion and sedimentation controls, mitigation measures, and monitoring activities for this Project.

Compost Filter Sock

A compost filter sock is a type of contained compost filter berm. It is a mesh tube filled with composted material that is placed perpendicular to sheet-flow runoff to control erosion and retain sediment in disturbed areas. The filter sock can be used in place of a traditional sediment and erosion control tool such as a silt fence or straw bale barrier.

Compost filter socks are flexible and can be placed along the perimeter of a site, or at intervals along a slope, to capture and treat stormwater that runs off as sheet flow. Filter socks can also be used on pavement as inlet protection for storm drains and to slow water flow in small ditches. Filter socks used for erosion control are usually 12 inches in diameter. The smaller, 8 inch–diameter filter socks are commonly used for stormwater inlet protection. The outer shell of a compost filter sock is typically biodegradable and can remain on pervious surfaces post construction versus having to be removed as construction waste.

Temporary Stabilized Construction Vehicle Entrance/Exit

The purpose of stabilized entrances to a construction site is to minimize the amount of sediment leaving the area as mud and sediment attached to vehicles. Installing a pad of gravel over filter cloth where construction traffic leaves a site can help stabilize a construction entrance. As a vehicle drives over the pad, the pad removes mud and sediment from the wheels and reduces soil transport off the site. The filter cloth separates the gravel from the soil below, keeping the gravel from being ground into the soil. The fabric also reduces the amount of rutting caused by vehicle tires. It spreads the vehicle's weight over a soil area larger than the tire width.

Storm Drain Inlet Protection

Storm drain inlet protection measures prevent soil and debris from entering storm drain inlets. These measures will be implemented before the Site is disturbed by using silt sacks, compost filter socks, or staked bales in combination with silt fence. Storm drain inlet protection will be installed at all down gradient catch basins adjacent to the project site outside the protection of other erosion control barriers, all catch basins within the construction site, and at low points within the construction site that are connected to the storm drainage system.

Pavement Sweeping

Paved areas within the active construction site can be swept on a regular basis to remove larger sediment particles from construction activities. Pavement areas adjacent to the Site will be swept if dirt and debris is tracked from the construction site.

Temporary Seeding and Slope Stabilization

Seeding shall be used to temporarily stabilize areas that will not be brought to final grade for a period of more than 30 working days and to stabilize disturbed areas before final grading or in a season not suitable for permanent seeding. Stabilization of open soil surfaces will be implemented within 14 days after grading or

construction activities have temporarily or permanently ceased, unless there is sufficient snow cover to prohibit implementation.

Vegetative slope stabilization will be used to minimize erosion on slopes of 3:1 or flatter. Annual grasses, such as annual rye, will be used to ensure rapid germination and production of root mass. Permanent stabilization will be completed with the planting of perennial grasses or legumes. Establishment of temporary and permanent vegetative cover may be established by hydro-seeding or sodding. A suitable topsoil, good seedbed preparation, and adequate lime, fertilizer, and water will be provided for effective establishment of these vegetative stabilization methods. Root systems restrain the soils so that they are less apt to be dislodged and carried offsite by stormwater runoff or wind. Temporary seeding also reduces the problems associated with mud and dust from bare soil surfaces during construction. Mulch will also be used after permanent seeding to protect soil from the impact of falling rain and to increase the capacity of the soil to absorb water.

Spill Prevention and Control

A spill recovery kit shall be readily accessible at the facility at all times. Contact information for an emergency cleanup vendor shall be visible and apparent at the facility. All employees shall be briefed on clean-up response and procedures. In the event of petroleum or other deleterious substance spill, action will be taken by the Contractor to contain and remove the spill. The Contractor will comply with the relevant section(s) of the Oil Pollution Prevention Act, 40 CFR 112.7.

Responsibility

In the event of an emergency spill, the Contractor will be responsible for retaining the environmental Subcontractor. The selected environmental subcontractor will develop a Hazardous Materials Health and Safety Plan, which will be referenced when a spill or release is discovered, and the control of the spill or release is beyond the scope of the Spill Prevention Control and Countermeasure plan. The Contractor's Project Manager is responsible for giving the SSHO directions for initiating the Hazardous Materials Health and Safety Plan.

Alert and reporting procedures will become effective immediately upon observance and indication of a spill or discharge of oil or other substances on the project.

Reportable observations are:

1. Leaks or spills
2. Soils which are discolored or have an odor
3. Discharge of oil or other similar substances from drain pipes

The Engineer will be informed immediately of all substantial spills, releases, or other substance discharges. All telephone numbers for the Emergency Response agencies will be posted on site. The Contractor or its Subcontractors will implement control and countermeasures immediately.

Fuel and Oil Delivery Trucks

The equipment superintendent or designee will monitor all truck unloading procedures to verify all hoses are tight and do not leak, and if necessary, will tighten, adjust, or replace them to prevent a release of any kind. In the event of a major spill, alert and initial report procedures will be implemented, and an emergency response contractor will be called in to perform the cleanup.

Equipment

Motorized equipment that requires fuel and oil to operate will be inspected prior to the start of each work shift by the operator (in the field) to ensure there is no leakage of oil, fuel, or other material. Trucks will be inspected prior to use for potential leaks or drips. If a leak is found, repairs will be made immediately, and spillage will be cleaned up manually using sorbent material. Vehicles that are found to be leaking will be immediately taken out of service until repairs can be made.

Drum Storage

Drum storage, if any, will be located in a secure area within the Project limits away from environmental areas of concern. Petroleum liquids and other substances stored in drums will be kept in a drum container that consists of a drum rack and drip containment pan that is capable of containing 110% of the stored volume should the drum rupture.

Dust Control

Standard industry practices will be utilized at the project site to control dust generation including a water truck, sweeper, and stone at construction entrances. Dust control measures will be applied to disturbed and work areas as necessary. The Operator will be required to provide equipment to blanket disturbed areas with moisture or sweep, as necessary. Site housekeeping practices will be employed to remove dust and debris from paved and concrete surfaces.

OPERATIONS AND MAINTENANCE PLAN

February 26, 2026

This Long-Term Operations and Maintenance Program Plan has been prepared for the proposed redevelopment located at 890 North Broadway in Haverhill, MA. Upon a period beginning twelve months after the completion of the driveway, all structural BMPs shall be inspected twice annually, once in April and once in November. The inspection shall be performed as indicated below:

Street Sweeping

Street sweeping can be an effective method to reduce pollutant loading in runoff generated from pavement. Street sweeping shall be performed monthly (on average), with sweeping scheduled primarily in the spring and fall, by a high efficiency vacuum sweeper.

Snow Storage / Removal

Snow plowed from the proposed roadway will be placed or disposed of in accordance with the policy developed by DEP. Any snow that accumulates over the grates of each catch basin shall be removed to ensure that the drainage systems functions properly. Under no circumstances shall snow plowed or removed from the road be stockpiled within wetland resource areas or the 50 ft wetland buffer.

Catch Basins

The sump/hooded catch basins will be inspected and/or cleaned at least four times per year and at the end of the foliage and snow removal seasons. Sediment shall be removed four times per year or whenever the depth of the deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin. Sediment shall be removed and disposed of with a truck-mounted vacuum unit or other appropriate apparatus. The sediment will be disposed of at an approved offsite location in accordance with all applicable local, state, and federal regulations.

Drainage Outfalls

The outlets of the storm water management system will be inspected biannually. Any evidence of erosion or other damage will be reported to the appropriate town representative and repaired as soon as possible. Any sediment should be removed from the outlet structures.

Sediment Basins

Sediments and associated pollutants are removed only when sediment forebays are actually cleaned out, so regular maintenance is essential. Frequently removing accumulated sediments will make it less likely that sediments will be re-suspended. At a minimum, inspect sediment forebays monthly and clean them out at least four times per year. Stabilize the floor and sidewalls of the sediment forebay before making it operational, otherwise the practice will discharge excess amounts of suspended sediments. When mowing grasses, keep the grass height no greater than 6 inches. Set mower blades no lower than 3 to 4 inches. Check for signs of rilling and gullying and repair as needed. After removing the sediment, replace any vegetation damaged during the clean-out by either reseeding or resodding. When reseeding, incorporate practices such as hydroseeding with a tackifier, blanket, or similar practice to ensure that no scour occurs in the forebay, while the seeds germinate and develop roots.

Infiltration Ponds

Infiltration basins are prone to clogging and failure, so it is imperative to develop and implement aggressive maintenance plans and schedules. Installing the required pretreatment BMPs will significantly reduce maintenance requirements for the basin. The Operation and Maintenance Plan required by Standard 9 must include inspections and preventive maintenance at least twice a year, and after every time drainage discharges through the high outlet orifice. The Plan must require inspecting the pretreatment BMPs in accordance with the minimal requirements specified for those practices and after every major storm event. A major storm event is defined as a storm that is equal to or greater than the 2-year, 24-hour storm.

Once the basin is in use, inspect it after every major storm for the first few months to ensure it is stabilized and functioning properly and if necessary take corrective action. Note how long water remains standing in the basin after a storm; standing water within the basin 48 to 72 hours after a storm indicates that the infiltration

capacity may have been overestimated. If the ponding is due to clogging, immediately address the reasons for the clogging (such as upland sediment erosion, excessive compaction of soils, or low spots).

Thereafter, inspect the infiltration basin at least twice per year. Important items to check during the inspection include:

- Signs of differential settlement,
- Cracking,
- Erosion,
- Leakage in the embankments,
- Tree growth on the embankments,
- Condition of riprap,
- Sediment accumulation and
- The health of the turf.

At least twice a year, mow the buffer area, side slopes, and basin bottom. Remove grass clippings and accumulated organic matter to prevent an impervious organic mat from forming. Remove trash and debris at the same time. Use deep tilling to break up clogged surfaces, and revegetate immediately. Remove sediment from the basin as necessary, but wait until the floor of the basin is thoroughly dry. Use light equipment to remove the top layer so as to not compact the underlying soil. Deeply till the remaining soil, and revegetate as soon as possible. Inspect and clean pretreatment devices associated with basins at least twice a year, and ideally every other month.

Wet Ponds

Inspect wet basins at least once per year to ensure they are operating as designed. Inspect the outlet structure for evidence of clogging or excessive outflow releases. Potential problems to check include: subsidence, erosion, cracking or tree growth on the embankment, damage to the emergency spillway, sediment accumulation around the outlet, inadequacy of the inlet/outlet channel erosion control measures, changes in the condition of the pilot channel, erosion within the basin and banks, and the emergence of invasive species. Make any necessary repairs immediately. During inspections, note any changes to the wet basin or the contributing watershed area because these may affect basin performance. At least twice a year, mow the upper-stage, side slopes, embankment and emergency spillway. At this time, also check the sediment forebay for accumulated material, sediment, trash, and debris and remove it. Remove sediment from the basin as necessary, and at least once every 10 years. Providing an on-site sediment disposal area will reduce the overall sediment removal costs.

Water Quality Swales

Incorporate a maintenance and inspection schedule into the design to ensure the effectiveness of water quality swales. Inspect swales during the first few months after installation to make sure that the vegetation in the swales becomes adequately established. Thereafter, inspect swales twice a year. During the inspections, check the swales for slope integrity, soil moisture, vegetative health, soil stability, soil compaction, soil erosion, ponding and sedimentation.

Regular maintenance includes mowing, fertilizing, liming, watering, pruning, and weed and pest control. Mow swales at least once per year. Do not cut the grass shorter than three to four inches, otherwise the effectiveness of the vegetation in reducing flow velocity and removing pollutants may be reduced. Do not let grass height exceed 6 inches.

Owner / Responsible Party: Sterling Golf Management, Inc.
212 Kendrick Street
Newton, MA 02458

Estimated Operations and Maintenance Budget

It is anticipated that the stormwater management system will require an annual budget of $5,000 to maintain.

X_____ Date:_____

Owner's Signature

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 416-0920 | www.civildci.com

SECTION VI – Watershed Plans

Pre-Development Watershed Plan
Post-Development Watershed Plan

LEGEND - PROPOSED WATERSHED PLAN

EXISTING PROPERTY LINE	
WATERSHED BOUNDARY	
Tc FLOW PATH	
Tc FLOW PATH SEGMENT I.D.	• B
SOIL BOUNDRY	
SOIL DESIGNATION	

NOTES:

1. EXISTING CONDITIONS INFORMATION COMPILED FROM FROM AN ON THE GROUND SURVEY PERFORMED BY S.E. CUMMINGS & ASSOCIATES, INC. OF PLAISTOW, NH AS WELL AS RECORD DOCUMENTS AND SITE OBSERVATION.

2. SOILS INFORMATION GENERATED FROM THE NATURAL RESOURCES CONSERVATION SERVICES (NRCS) WEBSOILSURVEY.COM FOR ESSEX COUNTY MASSACHUSETTS, NORTHERN PART – VERSION 8, DATED AUGUST 11, 2008. THE FOLLOWING SOIL SUMMARY IS PROVIDED TO CORRESPOND WITH THE SOIL DESIGNATION PROVIDED ON THE PLAN.

SOIL	DESCRIPTION	HSG
70A	RIDGEBURY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	C
73A	WHITMAN LOAM, 0 TO 3 PERCENT SLOPES, EXTREMELY STONY	D
300B	MONTAUK FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	C
300C	MONTAUK FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES	C
300D	MONTAUK FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES	C
301C	MONTAUK FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES, V. STONY	C
301D	MONTAUK FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES, V. STONY	C
311B	WOODBRIDGE FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES, V. STONY	C
310B	WOODBRIDGE FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES	C

GRAPHIC SCALE

150 0 75 150 300 600

(IN FEET)

1 inch = 150 ft. HORIZONTAL

PROPOSED WATERSHED PLAN

PROJECT: *TAX LOT 575-2-8 - CRYSTAL SPRINGS NORTH BROADWAY HAVERHILL, MASSACHUSETTS*

SCALE: AS NOTED | DRAWN BY: JEH

DATE: MAY 10, 2009 | REVISED: 1. 10-14-09 | 2. | 3. | 4. | 5. | 6. | 7. | 8.

APPLICANT: *MARONEY CONSTRUCTION 423 EAST BROADWAY HAVERHILL, MA 01830*

ENGINEERING SERVICES PROVIDED BY: CIVIL DESIGN Consultants, Inc. 37 PLAISTOW ROAD, UNIT 7 / #235 PLAISTOW, NH 03865-2856 TEL: (603) 276-5369 FAX: (603) 382-1818

PREPARED BY: *S.E.C. & ASSOCIATES, INC.* SURVEYING & ENGINEERING CONSULTANTS P.O. BOX 1337 – PLAISTOW, NH 03865 PHONE: (603)-382-5065 FAX: (603)-382-5216 ~ SERVING N.H. & MA. ~

JOB NO. 08-1563

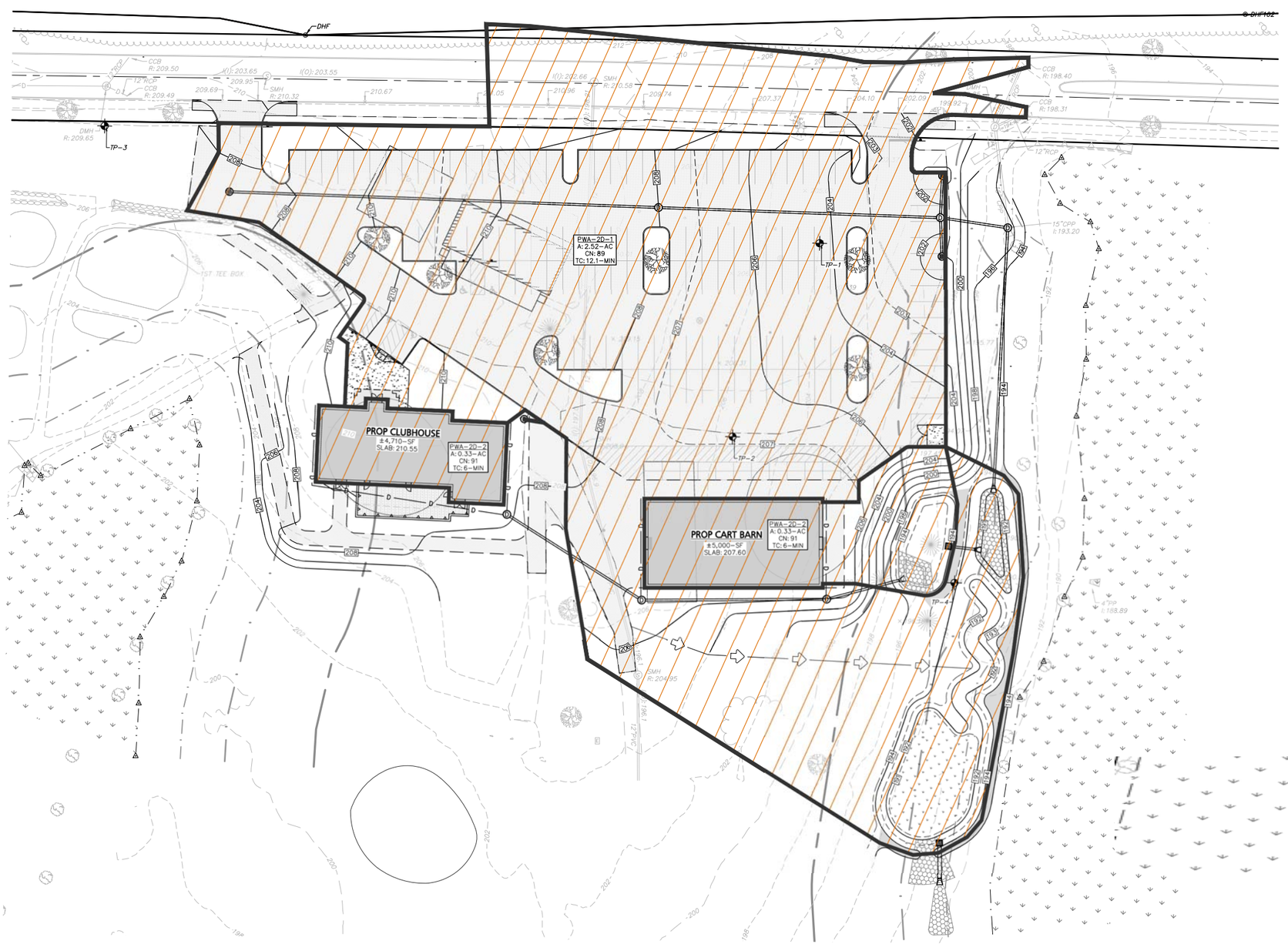
SHEET 2

LEGEND

PROPERTY LINE	
PROPOSED BUILDING	
PROPOSED CONTOUR	140
PROPOSED SPOT GRADE	161.00
PROPOSED SPOT GRADE (TW/BW)	TW: 159.57 BW: 155.67
PROPOSED DRAIN	D
PROPOSED CATCH BASIN	
PROPOSED DRAIN MANHOLE	
PROPOSED RETAINING WALL	
PROPOSED WATERSHED BOUNDARY	
PROPOSED TC	
PROPOSED IMPERVIOUS SURFACE	
HYDROLOGIC SOILS GROUP A	
HYDROLOGIC SOILS GROUP B	
HYDROLOGIC SOILS GROUP C	
HYDROLOGIC SOILS GROUP D	

SOILS SUMMARY:

SYMBOL	DESCRIPTION	HSG
300B	MONTAUK FINE SL, 3–8%	C
300C	MONTAUK FINE SL, 8–15%	C
70A	RIDGEBURY FINE SL, 0–3%	D



HORIZONTAL SCALE

30 0 15 30 60 120

(IN FEET)

1"=30'

DATE	DESCRIPTION
REVISIONS	

OWNER / APPLICANT:
STERLING GOLF MANAGEMENT, INC.
212 KENDRICK STREET
NEWTON, MA 02458

PROJECT:
940 NORTH BROADWAY
HAVERHILL, MA 01832

DATE ISSUED:	FEBRUARY 26, 2026
PROJECT #:	24-10594
PREPARED BY:	MAC

ISSUED FOR REVIEW FEBRUARY 26, 2026

FESSIONAL ENGINEER FOR CIVIL DESIGN
SULTANTS, INC.

CIVIL DESIGN CONSULTANTS, INC
344 North Main Street | Andover - MA 01810
(978) 446-0920 | www.civildci.com

DRAWING TITLE:
PROPOSED WATERSHED PLAN

DRAWING #:
PWP