Sullivan Engineering Group, LLC
Civil Engineers & Land Development Consultants

NOTICE OF INTENT APPLICATION
288 GROVE STREET
"MEADOW BROOK GOLF CLUB"
READING, MASS.

STORAGE BUILDING REPLACEMENT

Project Summary:

The owner is seeking to demolish an existing 1 story storage building (40'x75') and construct a new 1 story storage building that is slightly larger (48'x100') in the same vicinity with the majority of the building within the 100 foot wetland buffer. The existing gravel driveway area will be expanded slightly within the 100 foot wetland buffer zone (the gravel surface will remain to limit impervious cover). The proposed storage building will have no interior plumbing, a water service exists to the existing building that will remain for an outdoor water spicket. The existing building is serviced by an overhead electric service which will remain for the new building. All proposed work is outside the 25 foot wetland buffer and there are no structures proposed within the 35 foot "No Structure" buffer. It should be noted a portion of the existing building is within the 35 foot No Structure buffer.

The roof area of the proposed building will have stormwater collected and infiltrated. Roof drains will convey roof runoff to an underground infiltration drainage field. The subsurface drainage system will consist of Cultec Contactor 100HD units bedded on stone to store & infiltrate the 2 & 10 year storm event. For larger storm events a NDS pop-up emitter has been provided to release excess water in a controlled manner. Soil testing was conducted onsite and the soils are highly suitable for groundwater recharge (medium-coarse sand & gravel) and have been assigned an exfiltration rate of 8.27 in/hr (Rawls Rate for sand soils). The bottom of the drainage system has been sited 2 feet above the seasonal high groundwater table per DEP requirements.

The wetland delineation was performed by Norse Environmental Services and the BVW determination forms are attached. 10 trees are to be removed within the 100 foot BVW buffer as part of this project. In accordance with the Con. Comm. tree removal policy 10 new native trees (3" caliper) will be planted and are shown on the plan.

Attached are the following:

1) Completed WPA Form 3 – Notice of Intent
2) NOI Wetland Fee Transmittal Form
3) Local Bylaw Fee worksheet
4) Locus Map
5) Affidivat of Service
6) Certified Abutters Lis
7) Assessor's Field Card
8) BVW Determination Form
9) Checklist for Stormwater Report
10) HydroCAD sizing report for the 2 & 10 year storm event
11) LTPPP
12) O&M plan

PO Box 2004 Woburn, MA 01888 (781) 854-8644 email: jacksull53@comcast.net

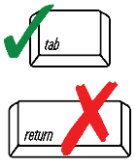
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
& READING WETLAND PROTECTION BYLAWS SECTION 7.1

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Reading
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):

288 Grove Street — a. Street Address
Reading — b. City/Town
01867 — c. Zip Code
Latitude and Longitude:
42.543383 — d. Latitude
-71.29524 — e. Longitude
Tax Map 37 — f. Assessors Map/Plat Number
Lot 4 — g. Parcel /Lot Number

2. Applicant:

c/o Ron — a. First Name
Rice (General Manager) — b. Last Name
Meadowbrook Golf Club — c. Organization
288 Grove Street — d. Street Address
Reading — e. City/Town
MA — f. State
01867 — g. Zip Code
781-942-1334 — h. Phone Number
i. Fax Number
Ron@meadowbrookgolfclub.org — j. Email Address

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

(Same as Applicant) — a. First Name
b. Last Name
c. Organization
d. Street Address
e. City/Town
f. State
g. Zip Code
h. Phone Number
i. Fax Number
j. Email address

4. Representative (if any):

John (Jack) — a. First Name
Sullivan, PE — b. Last Name
Sullivan Engineering Group, LLC — c. Company
PO Box 2004 — d. Street Address
Woburn — e. City/Town
MA — f. State
01888 — g. Zip Code
781-854-8644 — h. Phone Number
i. Fax Number
jacksull53@comcast.net — 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
& READING WETLAND PROTECTION BYLAWS SECTION 7.1

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Reading
City/Town

A. General Information (continued)

6. General Project Description:

The applicant is proposing to raze an existing storage building and construct a new 48'x100' storage building within 100 ft wetland buffer

Norse Environmental Services performed BVW delineation.

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)
Middlesex South	
c. Book	d. Page Number
6224	181

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
& READING WETLAND PROTECTION BYLAWS SECTION 7.1

Provided by MassDEP:
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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ 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.

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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
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Provided by MassDEP:
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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

Resource Area	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
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Provided by MassDEP:
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C. Other Applicable Standards and Requirements

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

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

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

a. ☐ Yes ■ No

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

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

MassGIS 2025
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
& READING WETLAND PROTECTION BYLAWS SECTION 7.1

Provided by MassDEP:
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Reading
City/Town

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

(c) ☐ MESA filing fee (fee information available at https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review).
Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address

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

(d) ☐ Vegetation cover type map of site

(e) ☐ Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

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

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

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

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. ☐ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

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

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

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 - Hull 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
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Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Reading
City/Town

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

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

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

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
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& READING WETLAND PROTECTION BYLAWS SECTION 7.1

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Reading
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.

288 Grove Street - Storage Building replacement
a. Plan Title

Sullivan Engineering Group, LLC
b. Prepared By

John D. Sullivan III, PE
c. Signed and Stamped by

3-30-2025
d. Final Revision Date

1"=20'
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:

012798
2. Municipal Check Number

3/31/2025
3. Check date

012797
4. State Check Number

3/31/2025
5. Check date

Meadow Brook Golf Club
6. Payor name on check: First Name

7. Payor name on check: Last Name

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
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Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Reading
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: 4-1-2025
3. Signature of Property Owner (if different)	4. Date
5. Signature of Representative (if any)	6. Date: 4-1-2025

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

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

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

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

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:

288 Grove Street	Reading
a. Street Address	b. City/Town
012797	$512.50
c. Check number	d. Fee amount

2. Applicant Mailing Address:

c/o Ron		Rice (General Manager)	
a. First Name		b. Last Name	
Meadowbrook Golf Club			
c. Organization			
288 Grove Street			
d. Mailing Address			
Reading		MA	01867
e. City/Town		f. State	g. Zip Code
781-942-1334		Ron@meadowbrookgolfclub.org	
h. Phone Number	i. Fax Number	j. Email Address	

3. Property Owner (if different):

(Same as applicant)			
a. First Name		b. Last Name	
c. Organization			
d. Mailing Address			
e. City/Town		f. State	g. Zip Code
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
Cat. 3B- each bldg	1	$1,050	$1,050.00

Step 5/Total Project Fee:

Step 6/Fee Payments:

Total Project Fee:	1,050.00
State share of filing Fee:	512.50
City/Town share of filling Fee:	537.50

a. Total Fee from Step 5
b. 1/2 Total Fee **less $**12.50
c. 1/2 Total Fee **plus** $12.50

C. Submittal Requirements

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

Department of Environmental Protection
Box 4062
Boston, MA 02211

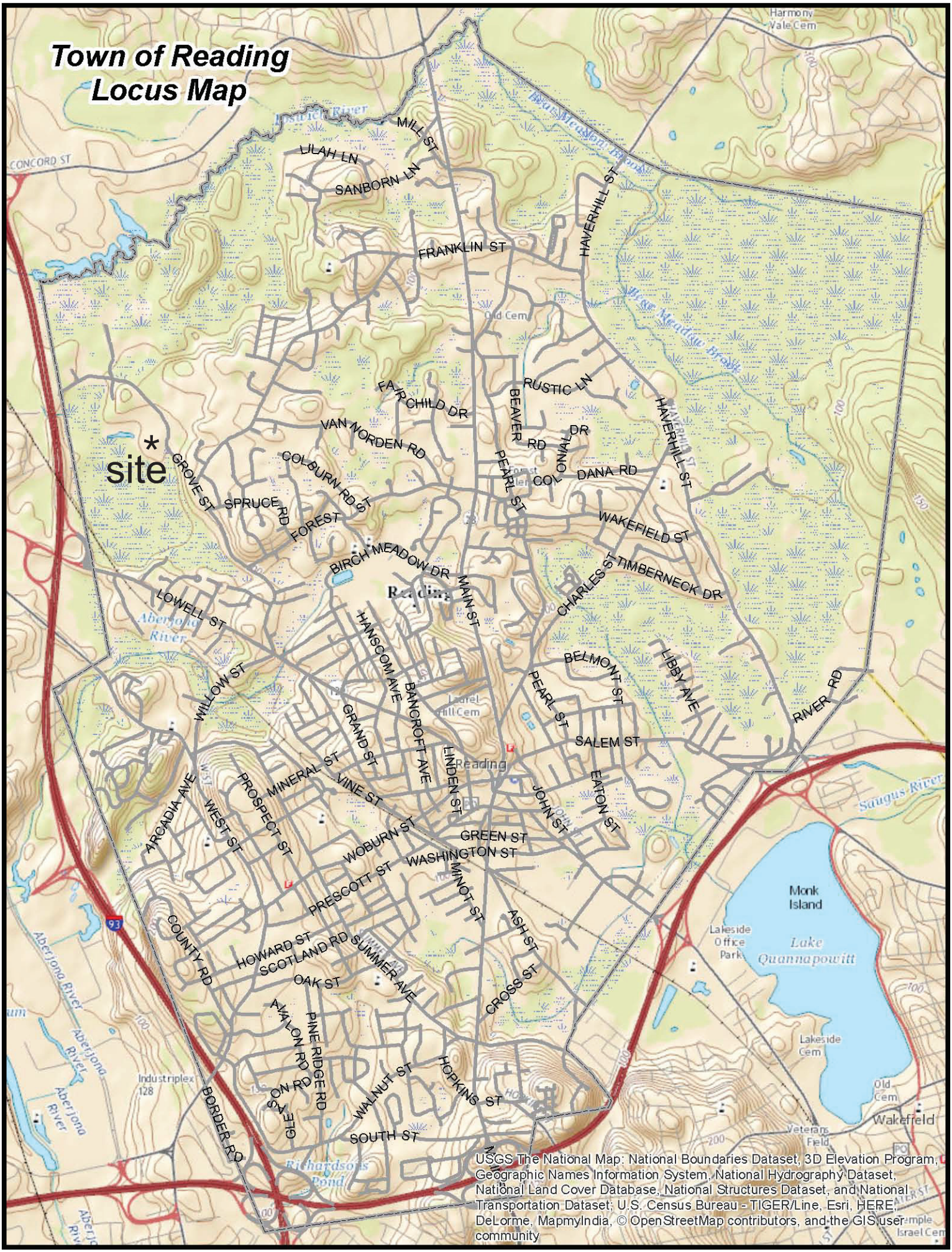
b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

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

Reading Wetlands Protection Bylaw Fee Calculation Form

Type of Activity	NOI Filing Fee	Calculated Fee
A. Each addition to or accessory use activity Associated with an existing single-family or Multi-family residential dwelling, including but not limited to driveways, sheds, swimming pools, athletic courts, additions to existing houses, grading, and landscaping	$125.00 plus all applicable fees listed in lines F though K	
B. Each new single-family dwelling, including associated driveway, utilities, grading, landscaping, and drainage structures	$600.00 plus all applicable fees listed in lines F though K	
C. Each new multi-family dwelling	$600.00 plus $125.00 per unit located in any Resource Area or Buffer Zone, plus all applicable fees listed in lines F though K	
D. Each subdivision roadway, or other roadway, or driveway (other than for a single-family dwelling), and all associated drainage structures, utilities, grading, curbing, landscaping, and other associated work exclusive of dwellings	$1,000.00 plus $600.00 per house, plus all applicable fees listed in lines F though K	
E. Each commercial, industrial, institutional or other non-residential project	$1,000.00 , plus all applicable fees listed in lines F though K	$1,000.00
F. Boundary delineation for any Resource Area	$1.25 per linear foot of Resource Area boundary, up to a maximum of $125 for a single-family lot and $1,250 for any other lot.	
G. Temporary and /or permanent alteration of land within the Buffer Zone	$1.25 per square foot of Buffer Zone altered for any temporary or permanent alteration within 25 feet of a Resource Area or any permanent structure within 35 feet of a Resource Area	$715.00 572 l.f. of bvw Flags A64 thru A95
H. Work in Floodplain	$1.25 per square foot of Floodplain temporarily or permanently altered outside of any other Resource Area and Buffer Zone	
I. Work in Vernal Pool habitat	$11.00 per square foot of Vernal Pool habitat temporarily or permanently altered.	
J. Work in Freshwater Wetland, Wet Meadow, Bog, Swamp, Marsh, Creek, River, Stream, Pond, Lake, Land Under Waterbody	$11.00 per square foot of Resource Area temporarily or permanently altered	
K. Work in Bank	$11.00 per linear foot of Bank temporarily or permanently altered	
	Total Fee Calculated	$1,715 • 00

Town of Reading
Locus Map



USGS The National Map: National Boundaries Dataset, 3D Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act, M.G.L., c.131, s.40 and Reading General Bylaws, Section 7.1

(To be submitted to the Conservation Commission when filing a Notice of Intent or Abbreviated Notice of Resource Area Delineation or Request for Determination of Applicability)

I, Ron Rice (Name), hereby certify under the pains and penalties of perjury that on April 14, 2025 (Date), I gave notification to abutters in compliance with the second paragraph of Massachusetts General Laws, c.131, s.40, and the **DEP Guide to Abutter Notification** dated April 8, 1994, and Reading General Bylaws, Section 7.1 in connection with the following matter:

(Check the applicable form.)

- [x] Notice of Intent
- [ ] Abbreviated Notice of Resource Area Delineation
- [ ] Request for Determination of Applicability

filed under M.G.L., c.131, s.40 and R.G.B., s.7.1 by Meadowbrook Golf Club (Applicant) with the Town of Reading Conservation Commission on April 9, 2025 (Date) for property located at 288 Grove Street (Location).

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

Ron Rice

Name

4-14-2025

Date

Patriot Properties

Reading

03/11/2025

Abutters List

2:36:26PM

Filter Used: DataProperty.AccountNumber in (7601,6904,7604,6915,6916,6917,6999,7632,7613,6912,7011,7602,7001,6907,7603,6908,6913,7612,6911,7610,6910,7000,7611,6909,6905,7663,7600,6914,6903,6906,7002)

Reading
Abutters List

Subject Parcel ID: ***288 Grove Street Report***

Subject Property Location:

ParcelID	Location	Owner	Co-Owner	Mailing Address	City	State	Zip
037.0-0000-0001.0	RAILROAD E OF	MASS BAY TRANS AUTHORITY		500 ARBORWAY	BOSTON	MA	02130
037.0-0000-0002.0	OFF GROVE ST	READING OPEN LAND TRUST INC		P.O. BOX 15	READING	MA	01867
037.0-0000-0003.0	GROVE ST	HARIKA GURSHER	KANTHARAJ KRITHICA TE	256 GROVE ST	READING	MA	01867
037.0-0000-0004.0	288 GROVE ST	MEADOW BROOK GOLF CLUB		288 GROVE ST	READING	MA	01867
037.0-0000-0005.0	260 GROVE ST	CARROLL THOMAS G JR	PAPPALARDO CYNTHIA M J	260 GROVE STREET	READING	MA	01867
037.0-0000-0006.0	256 GROVE ST	KANTHARAJ HARIKA LIVING TRUS	HARIKA GURSHER S TRUST	256 GROVE ST	READING	MA	01867
037.0-0000-0007.0	OFF GROVE ST	HARIKA GURSHER	KANTHARAJ KRITHICA TE	256 GROVE ST	READING	MA	01867
037.0-0000-0008.0	259 GROVE ST	COX CRAIG	SUZANNE E KAY	259 GROVE ST	READING	MA	01867
037.0-0000-0009.0	267 GROVE ST	ROBERT J MCISAAC IRR TRUST L	HUSSEY JENNIFER E TRUS	267 GROVE ST	READING	MA	01867
037.0-0000-0010.0	GROVE ST	MEADOW BROOK GOLF CLUB		288 GROVE ST	READING	MA	01867
037.0-0000-0011.0	273 GROVE ST	PEDDLE EDWARD K	DENISE A PEDDLE	273 GROVE STREET	READING	MA	01867
037.0-0000-0012.0	283 GROVE ST	BONANNO NICHOLAS J TRUSTEE		283 GROVE ST	READING	MA	01867
037.0-0000-0013.0	293 GROVE ST	CRAVEN SCOTT A	CRAVEN STACEY A C TE	293 GROVE ST	READING	MA	01867
038.0-0000-0001.0	244 GROVE ST	CENTRELLA ALESSANDRO	DANIELLE B CENTRELLA	244 GROVE ST	READING	MA	01867
038.0-0000-0002.0	240 GROVE ST	LETENDRE JEFFREY E ETAL TRTE	JEFFREY E LETENDRE TRU	240 GROVE ST	READING	MA	01867
038.0-0000-0084.0	12 MEADOW BROOK LN	HUGO JOHN T	KATHRYN REGAN HUGO	12 MEADOW BROOK LN	READING	MA	01867
038.0-0000-0085.0	255 GROVE ST	JOHNSON DAVID	DIANA JOHNSON	255 GROVE ST	READING	MA	01867
038.0-0000-0086.0	16 MEADOW BROOK LN	BURKE MICHAEL T	PATRICIA BURKE	16 MEADOW BROOK LN	READING	MA	01867
038.0-0000-0087.0	20 MEADOW BROOK LN	HAND RICHARD A	JANE G HAND	20 MEADOWBROOK LN	READING	MA	01867
038.0-0000-0096.0	249 GROVE ST	KRAMER LLOYD G LE ETAL	KRAMER JUDITH E TE LE	249 GROVE ST	READING	MA	01867
043.0-0000-0001.0	368 GROVE ST	FREEMAN DANIEL KENNETH		368 GROVE ST	READING	MA	01867
043.0-0000-0002.0	374 GROVE ST	BARRA PETER P	SANDRA M BARRA	374 GROVE ST	READING	MA	01867
043.0-0000-0003.0	386 GROVE ST	VIGEANT MARY D TRUSTEE	MARY D VIGEANT LIVING TF	386 GROVE ST	READING	MA	01867
043.0-0000-0004.0	392 GROVE ST	ROCHE WILLIAM K LE	KAREN M ROCHE	392 GROVE ST	READING	MA	01867
043.0-0000-0005.0	23 FAMILY CIR	BRIERE SHAUN W	BRIERE BRIDGET B TE	23 FAMILY CIRCLE	READING	MA	01867-1209
043.0-0000-0011.0	454 GROVE ST	NAPIER STEPHEN E	CALLAHAN JOSEPH M TC	112 BORDER RD	MEDFORD	MA	02155
043.0-0000-0012.0	456 GROVE ST	AMARAL EMANUEL ANTONIO	AMARAL STEPHANIE ALEXA	456 GROVE ST	READING	MA	01867
043.0-0000-0013.0	15 FAMILY CIR	ZANNI GREGORY S ETAL TRUSTE	ZANNI FAMILY TRUST	15 FAMILY CIR	READING	MA	01867
043.0-0000-0014.0	18 FAMILY CIR	ZANNI WENDY J		18 FAMILY CIR	READING	MA	01867
043.0-0000-0035.0	GROVE ST	TOWN OF READING	WATER DEPT.	16 LOWELL ST	READING	MA	01867
044.0-0000-0024.0	GROVE ST	MEADOW BROOK GOLF CLUB		288 GROVE ST	READING	MA	01867

Parcel Count: **31**

End of Report

037.0	0000	0004.0		1 of 3	COMMERCIAL
Map	Lot	Sub	Sublot	CARD	*Reading*

	Total Card	/	Total Parcel
APPRAISED:	4,077,740	/	4,692,740
USE VALUE:	3,618,635	/	4,233,635
ASSESSED:	3,618,635	/	4,233,635

PROPERTY LOCATION

No	Alt No	Direction/Street/City
288		GROVE ST, READING

OWNERSHIP

Unit #:

Owner 1:	MEADOW BROOK GOLF CLUB
Owner 2:	
Owner 3:	
Street 1:	288 GROVE ST
Street 2:	
Twn/City:	READING
St/Prov:	MA Cntry: Own Occ:
Postal:	01867 Type:

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	Cntry:
Postal:	

NARRATIVE DESCRIPTION

This parcel contains 60. ACRES of land mainly classified as 038 with a CLUB HOUSE Building built about 2022, having primarily CLAPBOARD Exterior and 13844 Square Feet, with 1 Unit, 0 Bath, 2 3/4 Baths, 4 HalfBaths, 0 Rooms, and 0 Bdrm.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Description	%	Item	Code	Description
Z	S40	SINGLE FA	100	water	PS	PUBLIC-SYS
o				Sewer	SP	SEPTIC
n				Electri		
Census:				Exmpt		
Flood Haz:						
D	READ	READ	100	Topo		
s				Street	P	PAVED
t				Gas:	M	MEDIUM

IN PROCESS APPRAISAL SUMMARY

Use Code	Land Size	Building Value	Yard Items	Land Value	Total Value
805	59.000		259,900	153,035	412,935
380	1.000	2,552,800	44,400	608,500	3,205,700
Total Card	60.000	2,552,800	304,300	761,535	3,618,635
Total Parcel	60.000	3,167,800	304,300	761,535	4,233,635

Source: Market Adj Cost | Total Value per SQ unit /Card: 261.39 | /Parcel: 258.8

Legal Description

Entered Lot Size	
Total Land:	60
Land Unit Type:	AC

User Acct: 1500000000010

GIS Ref:

GIS Ref:

Insp Date: 05/04/23

Patriot Properties Inc.

PREVIOUS ASSESSMENT

Parcel ID: 037.0-0000-0004.0

!6906!

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date
2025	038	FV	3,167,800	304300	60.	1,220,640	4,692,740		Year End	12/11/2024
2024	038	FV	3,033,100	304300	60.	1,172,640	4,510,040		Year end	1/10/2024
2024	038	PTCH	2,765,000	304300	60.	1,057,300	4,126,600	3,728,950	patch	4/27/2023
2023	038	FV	1,305,800	304300	60.	1,057,300	2,667,400	2,269,750	Year end	1/9/2023
2022	038	FV	1,188,700	304300	60.	961,200	2,454,200	2,092,700	Year end	12/20/2021
2021	038	FV	1,049,600	293000	60.	1,056,780	2,399,380	1,951,120	Year End Roll	12/15/2020
2020	038	FV	997,000	293000	60.	1,005,660	2,295,660	1,869,090	Year End Roll	12/17/2019
2019	038	FV	950,200	293000	60.	957,968	2,201,168	1,794,842	YER	12/12/2018

PRINT

Date	Time
03/11/25	14:40:38

LAST REV

Date	Time
05/04/23	14:30:38
jc	

PAT ACCT.: 6906

SALES INFORMATION

TAX DISTRICT:

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Notes
	06224-0181		7/22/1938			No	No		

USER DEFINED

Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
ASR Map:	
Fact Dist:	
Reval Dist:	
Year:	
LandReason:	
BldReason:	
CivilDistrict:	
Ratio:	

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	Last Visit	Fed Code	F. Descrip	Comment
4/5/2023	B2398	ADDN	74,999	C				CONSTRUCT NEW COMP
8/10/2022	B22771	MANUAL	10,740	C				INSTALL 4 TENTS (1
10/9/2021	B21819	MANUAL	110,000	C				INSTALL COMPLETE W
5/12/2021	B21414	MANUAL	55,000	C				DEMOLITION OF REMN
3/17/2021	B21190	MANUAL	5,000	C				INSTALL TENT APRIL
12/21/2020	B201076	MANUAL	99,900	C				PROVIDE COMPLETE W
11/30/2020	B201024	REMOD	20,000	C				REMODEL INTERIOR O
11/30/2020	B201024	REMOD	20,000	C				REMODEL INTERIOR O
9/24/2020	B20663	DWELLING	4,100,000	O				NEW CONSTRUCTION -
7/6/2020	B20390	MANUAL		C				INSTALL 30 X 50 TE

ACTIVITY INFORMATION

Date	Result	By	Name
5/4/2023	INSPECTED	JC	JC
3/1/2023	PERMIT VISIT	PC	PC
2/16/2021	IE RESPOND	TG	Theresa
1/30/2020	IE RESPOND	TG	Theresa
2/20/2018	IE RESPOND	TG	Theresa
7/27/2015	PERMIT VISIT	VPS	VPS
5/23/2006	EXTRIOR-ONLY	BCM	BCM
5/23/2006	EXTRIOR-ONLY	BCM	BCM

Sign: VERIFICATION OF VISIT NOT DATA __/__/__

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
380	GOLF		43560		SQ FEET	PRIMARY	1.0	0	11.	1.27	MG	1.27								608,533						608,500	
805	61BGOLF		36		ACRES	PRIMARY	1.0	0	10,000.	0.89	MG	1.27		WETLAN	-30					320,040			0.25			80,010	
805	61BGOLF		23		ACRES	PRIMARY	1.0	0	10,000.	1.27	MG	1.27								292,100			0.25			73,025	

Total AC/HA:	60.00000	Total SF/SM:	2613600	Parcel LUC:	038	038	Prime NB Desc:	MOD AV	Total:	1,220,673	Spl Credit	459,105	Total:	761,535

EXTERIOR INFORMATION

Type:	881 - CLUB HOUSE		
Sty Ht:	1 - 1		
(Liv) Units:	1	Total:	2
Foundation:	6 - SLAB		
Frame:	1 - WOOD		
Prime Wall:	2 - CLAPBOARD		
Sec Wall:			%
Roof Struct:	3 - GAMBREL		
Roof Cover:	13 - COMPOSITION		
Color:			
View / Desir:			

GENERAL INFORMATION

Grade:	C - AVERAGE		
Year Blt:	2022	Eff Yr Blt:	
Alt LUC:		Alt %:	
Jurisdict:		Fact:	.
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	STD		
Prim Int Wall	1 - DRYWALL		
Sec Int Wall:			%
Partition:	T - TYPICAL		
Prim Floors:	8 - AVERAGE		
Sec Floors:			%
Bsmnt Flr:			
Subfloor:			
Bsmnt Gar:			
Electric:	3 - TYPICAL		
Insulation:	1 - TYPICAL		
Int vs Ext:			
Heat Fuel:	1 - OIL		
Heat Type:	1 - FORCED H/A		
# Heat Sys:	1		
% Heated:	100	% AC:	
Solar HW:	NO	Central Vac:	NO
% Com Wall		% Sprinkled:	

BATH FEATURES

Full Bath		Rating:	
A Bath:		Rating:	
3/4 Bath:	2	Rating:	AVERAGE
A 3QBth		Rating:	
1/2 Bath:	4	Rating:	AVERAGE
A HBth:		Rating:	
OthrFix:	2	Rating:	AVERAGE

OTHER FEATURES

Kits:	1	Rating:	AVERAGE
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Total Units:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	AV - Average	0.0	%
Functional:			%
Economic:			%
Special:	NC - NEWCON	0.0	%
Override:			%
Total:		0	%

CALC SUMMARY

Basic $ / SQ:	160.00
Size Adj.:	0.87223345
Const Adj.:	1.01999998
Adj $ / SQ:	142.349
Other Features:	26400
Grade Factor:	1.00
NBHD Inf:	1.26999998
NBHD Mod:	
LUC Factor:	1.00
Adj Total:	2552847
Depreciation:	0
Depreciated Total:	2552847

COMMENTS

CLUB HOUSE REBUILT IN 2022 FULL BAR AND FUNCTION HALL MEMBER BATHROOM/SHOWER FULL CATERING KITCHEN FULL LAUNDRY SERVICE.

RESIDENTIAL GRID

1st Res Grid	Desc:		# Units	

Level	FY	LR	DR	D	K	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:		BRs:		Baths:		HB	4

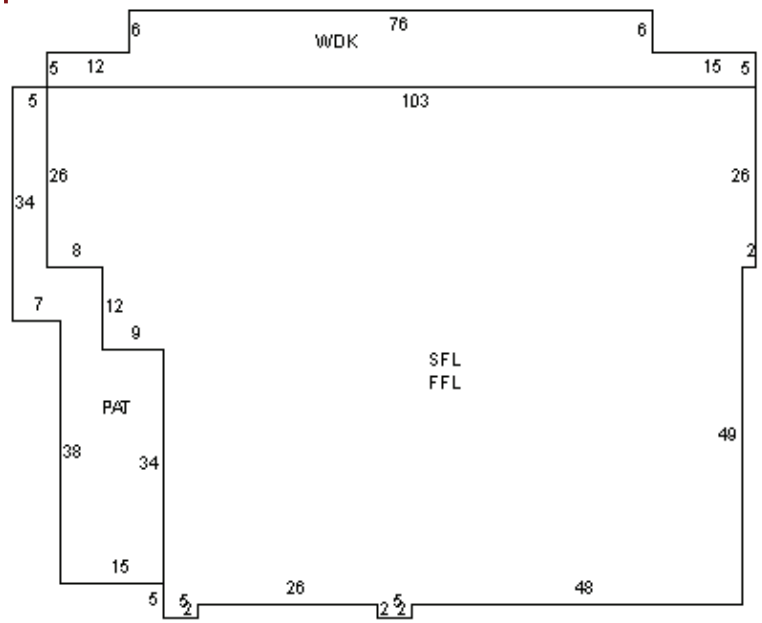
REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
Totals			

SKETCH



COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:	Ind.Val

Juris. Factor:		Before Depr:	180.78
Special Features:	0	Val/Su Net:	163.82
Final Total:	2552800	Val/Su SzAd	184.40

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
FFL	1ST FLOOR	6,922	142.350	985,336
SFL	2ND FLOOR	6,922	142.350	985,336
WDK	WOOD DECK	971	10.540	10,239
PAT	PATIO	768	3.650	2,804

Net Sketched Area:	15,583			Total:	1,983,715
Size Ad	13844	Gross Are	15583	FinArea	13844

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

MOBILE HOME

Make:		Model:		Serial #:		Year:		Color:	

SPEC FEATURES/YARD ITEMS

PARCEL ID 037.0-0000-0004.0

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
92	GOLF CRS	D	Y	9	1	C	AV	1982	115,500.00	M	75	805			259,900			259,900
2	SHED/FR	D	Y	1	168	A	AV	1985	8.99	T	36	380			1,000			1,000
10	POOL I-C	D	Y	1	40X50	G	GD	2005	24.38	T	12	380			42,900			42,900
22	WOOD DK	D	Y	21	1	A	AG	2007	24.00	T	1	380			500			500

More:	N	Total Yard Items:	304,300	Total Special Featues:		Total:	304,300

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: 292 Grove Street - Reading (Meadow Brook Golf Club) City/Town: Reading Sampling Date: 2-9-24

Applicant/Owner: Jack Sullivan Sampling Point or Zone: SP-1

Investigator(s): Norse Environmental Services, Inc. - Maureen Herlad Latitude / Longitude: 42.54227 / -71.12718

Soil Map Unit Name: Hinckley / Freetown NWI or DEP Classification:

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

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

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

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

Wetland vegetation criterion met?	Yes [✓] No [ ]	**Is the Sampled Area within a Wetland?**	**Yes** [✓] **No** [ ]
Hydric Soils criterion met?	Yes [✓] No [ ]		
Wetlands hydrology present?	Yes [✓] No [ ]		

Remarks, Photo Details, Flagging, etc.:

Above normal year for precipitation.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [✓]	No [ ]	Depth (inches)
Water Table Present?	Yes [✓]	No [ ]	Depth (inches) 10.00
Saturation Present (including capillary fringe)?	Yes [✓]	No [ ]	Depth (inches)

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[✓] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[ ] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[✓] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[✓] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[✓] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[ ] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

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

Form Revised July 2023

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Red Maple	Acer rubrum	FAC	30.0	Yes	Yes
2. White Pine	Pinus strobus	FACU	20.0	Yes	No
3. Red Oak	Quercus rubra	FACU	10.0	No	No
4.					
5.					
6.					
7.					
8.					
9.					

60.0 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Glossy Buckthorn	Rhamnus frangula	FAC	30.0	Yes	Yes
2. Highbush Blueberry	Vaccinium corymbosum	FACW	10.0	Yes	Yes
3.					
4.					
5.					
6.					
7.					
8.					
9.					

40.0 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Sensitive Fern	Onoclea sensibilis	FACW	10.0	Yes	Yes
2. Cinnamon Fern	Osmunda cinnamomea	FACW	10.0	Yes	Yes
3. Skunk Cabbage	Symplocarpus foetidus	OBL	5.0	Yes	Yes
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

25.0 = Total Cover

VEGETATION – continued.

Woody Vine Stratum	Plot size None				
Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1.					
2.					
3.					
4.					
		0.0 = Total Cover			

Rapid Test:	Do all dominant species have an indicator status of OBL or FACW?			Yes ☐ No ☑
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants		Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes ☐ No ☐
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species	5	X 1	= 5.00
	FACW species	30	X 2	= 60.00
	FAC species	60	X 3	= 180.00
	FACU species	30	X 4	= 120.00
	UPL species		X 5	= 0.00
	Column Totals	(A) 125		(B) 365
	Prevalence Index	B/A = 2.92		Is the Prevalence Index ≤ 3.0? Yes ☐ No ☑
Wetland vegetation criterion met?		**Yes** ☑ **No** ☐		

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

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

SOIL

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Location[2]	Texture	Remarks
0-10"	10YR 2/2						FSL	
10-20"	10YR 3/2		7.5YR 6/6	15.00	C	M	LS	

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

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☑ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

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

Remarks:

Hydric Soils criterion met? **Yes** ☑ **No** ☐

BORDERING VEGETATED WETLAND DETERMINATION FORM

Project/Site: 292 Grove Street - Reading (Meadow Brook Golf Club) City/Town: Reading Sampling Date: 2-9-24

Applicant/Owner: Jack Sullivan Sampling Point or Zone: SP-2

Investigator(s): Norse Environmental Services, Inc. - Maureen Herlad Latitude / Longitude: 42.54227 / -71.12718

Soil Map Unit Name: Hinckley / Freetown NWI or DEP Classification:

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

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

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

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

Wetland vegetation criterion met?	Yes [ ] No [✓]	**Is the Sampled Area within a Wetland?**	**Yes** [ ] **No** [✓]
Hydric Soils criterion met?	Yes [ ] No [✓]		
Wetlands hydrology present?	Yes [ ] No [✓]		

Remarks, Photo Details, Flagging, etc.:

Above normal year for precipitation.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches)
Water Table Present?	Yes [ ]	No [✓]	Depth (inches)
Saturation Present (including capillary fringe)?	Yes [ ]	No [✓]	Depth (inches)

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[ ] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[ ] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[ ] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[ ] Geographic position (depression, toe of slope, fringing lowland
[ ] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

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

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30 ft.

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Red Maple	Acer rubrum	FACW	15.0	Yes	Yes
2. White Pine	Pinus strobus	FACU	30.0	Yes	No
3. Red Oak	Quercus rubra	FACU	15.0	Yes	No
4.					
5.					
6.					
7.					
8.					
9.					

60.0 = Total Cover

Shrub/Sapling Stratum Plot size 15'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Glossy Buckthorn	Rhamnus frangula	FAC	15.0	Yes	Yes
2. Highbush Blueberry	Vaccinium corymbosum	FACW	10.0	Yes	Yes
3.					
4.					
5.					
6.					
7.					
8.					
9.					

25.0 = Total Cover

Herb Stratum Plot size 5'

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Sensitive Fern	Onoclea sensibilis	FACW	10.0	Yes	Yes
2. Cinnamon Fern	Osmunda cinnamomea	FACW	10.0	Yes	Yes
3. Tall Golden-Rod	Solidago altissima	FACU	5.0	Yes	No
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

25.0 = Total Cover

VEGETATION – continued.

Woody Vine Stratum	Plot size None				
Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1.					
2.					
3.					
4.					
		0.0 = Total Cover			

Rapid Test:	Do all dominant species have an indicator status of OBL or FACW?			Yes ☐ No ☑
Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants		Do wetland indicator plants make up ≥ 50% of dominant plant species? Yes ☐ No ☐
Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species		X 1	= 0.00
	FACW species	4	X 2	= 8.00
	FAC species	1	X 3	= 3.00
	FACU species	3	X 4	= 12.00
	UPL species		X 5	= 0.00
	Column Totals	(A) 8		(B) 23
	Prevalence Index	B/A = 2.88		Is the Prevalence Index ≤ 3.0? Yes ☐ No ☑
Wetland vegetation criterion met?		**Yes** ☐ **No** ☑		

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

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

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0-8"	10YR 2/2						FSL	
8-16"	10YR 4/4						LS	

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

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
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☐ Black Histic (A3)	☐ Loamy Gleyed Matrix (F2)	☐ Iron-Manganese Masses (F12)
☐ Hydrogen Sulfide (A4)	☐ Depleted Matrix (F3)	☐ Mesic Spodic (A17)
☐ Stratified Layers (A5)	☐ Redox Dark Surface (F6)	☐ Red Parent Material (F21)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (F22)
☐ Thick Dark Surface (A12)	☐ Redox Depressions (F8)	
☐ Sandy Mucky Mineral (S1)		
☐ Sandy Gleyed Matrix (S4)		
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

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

Remarks:

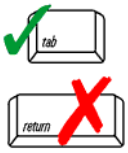
Hydric Soils criterion met? **Yes** ☐ **No** ☑

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.

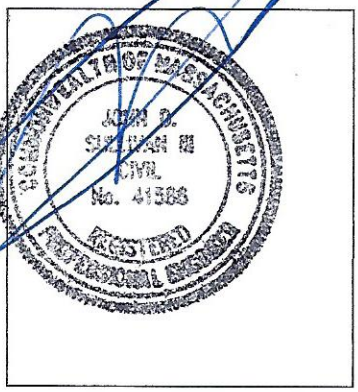
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the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



4-7-2025

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:

- [X] No disturbance to any Wetland Resource Areas
- [ ] Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- [X] Reduced Impervious Area (Redevelopment Only) (use gravel instead of pavement)
- [ ] 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
- [X] Bioretention Cells (includes Rain Gardens)
- [ ] Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- [ ] Treebox Filter
- [ ] Water Quality Swale
- [ ] Grass Channel
- [ ] Green Roof
- [ ] Other (describe): _____

Standard 1: No New Untreated Discharges

- [X] 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:

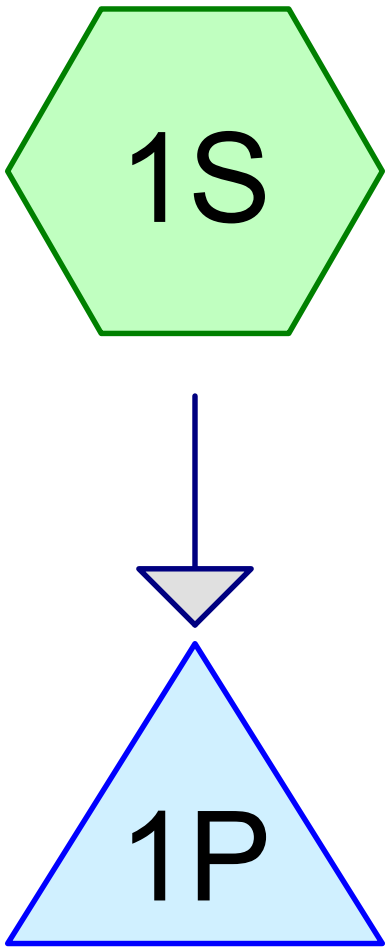
- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity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



Subcat Reach Pond Link

Drainage Diagram for Maintenance Building_04072025
Prepared by Sullivan Engineering Group, LLC 4/7/2025

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=4,800 sf Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.025 af

Pond 1P: Peak Elev=80.65' Storage=138 cf Inflow=0.33 cfs 0.025 af
Discarded=0.13 cfs 0.025 af Primary=0.00 cfs 0.000 af Outflow=0.13 cfs 0.025 af

Total Runoff Area = 0.110 ac Runoff Volume = 0.025 af Average Runoff Depth = 2.77"

Subcatchment 1S:

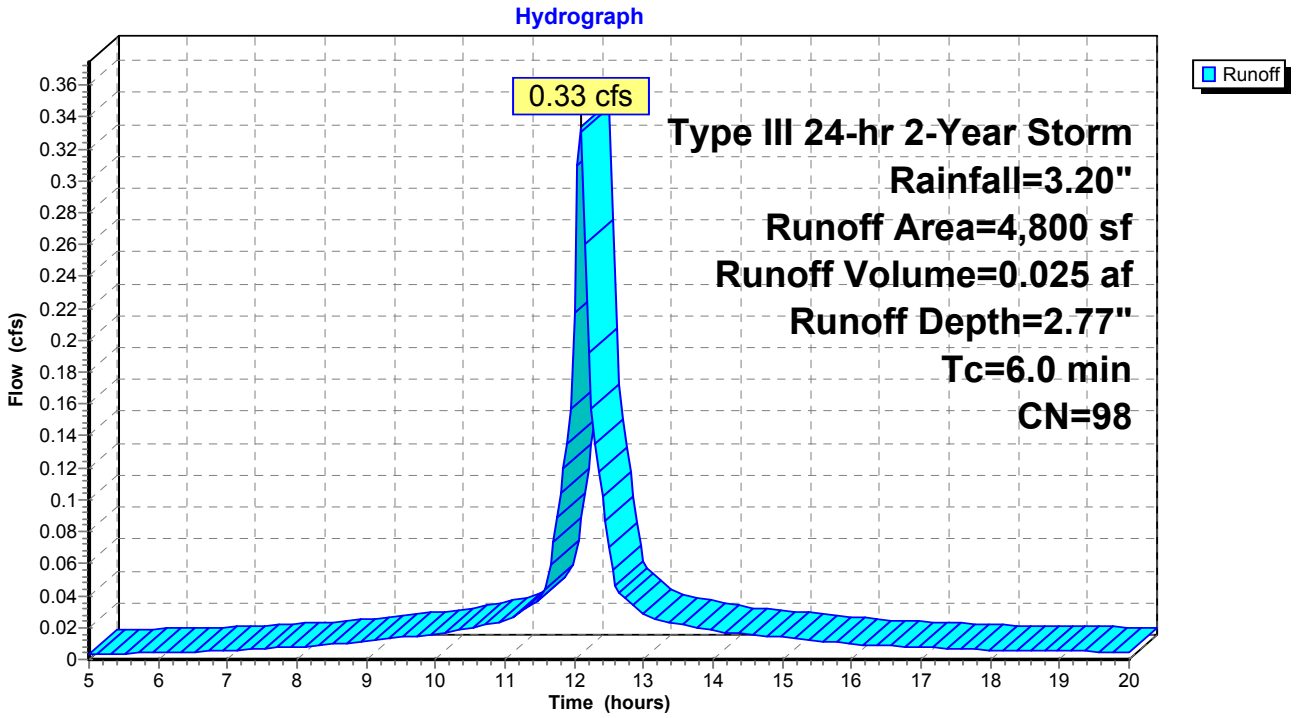
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Storm Rainfall=3.20"

Area (sf)	CN	Description
4,800	98	Roof Area

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

Subcatchment 1S:



Pond 1P:

Inflow Area = 0.110 ac, Inflow Depth = 2.77" for 2-Year Storm event
Inflow = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af
Outflow = 0.13 cfs @ 11.90 hrs, Volume= 0.025 af, Atten= 62%, Lag= 0.0 min
Discarded = 0.13 cfs @ 11.90 hrs, Volume= 0.025 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 80.65' @ 12.32 hrs Surf.Area= 667 sf Storage= 138 cf
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

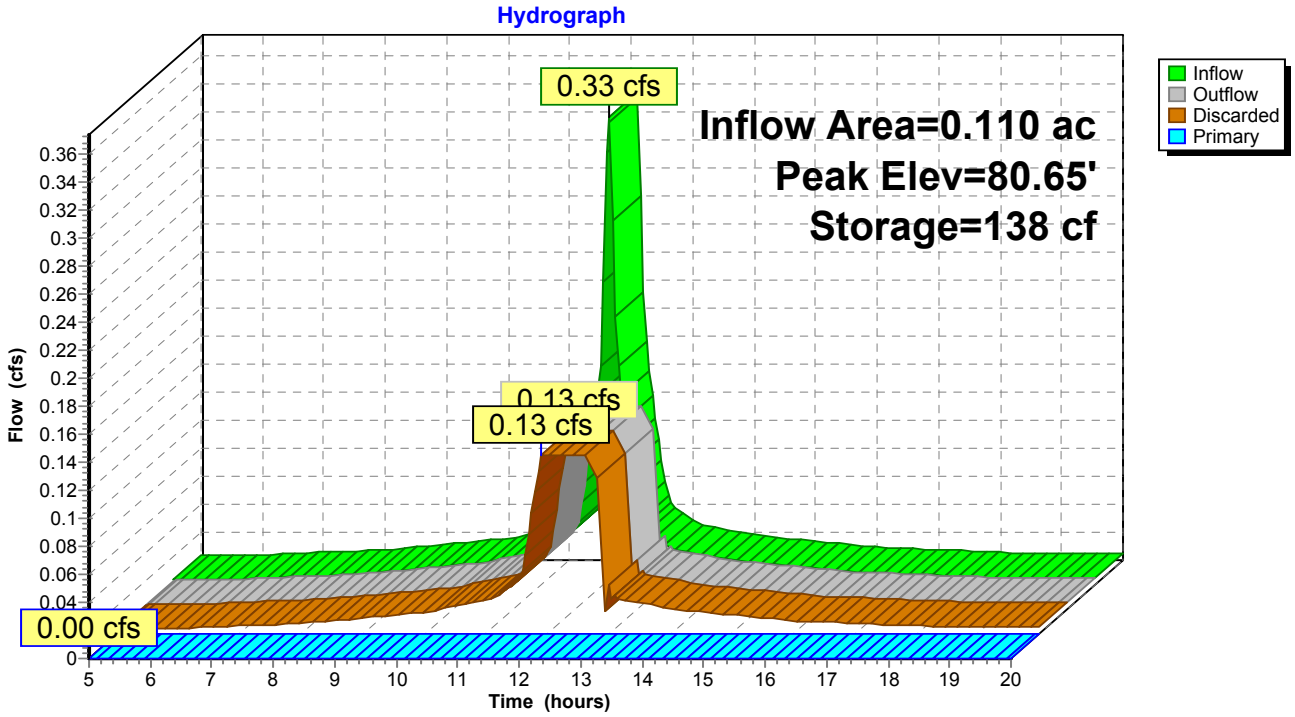
#	Invert	Avail.Storage	Storage Description
1	80.30'	194 cf	**14.50'W x 46.00'L x 1.29'H Prismatoid** 860 cf Overall - 375 cf Embedded = 485 cf x 40.0% Voids
2	80.50'	375 cf	**36.0"W x 12.5"H x 7.50'L Parabolic Arch** x 24 Inside #1
		569 cf	Total Available Storage

#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.011486 fpm Exfiltration over entire Surface area**
2	Primary	82.00'	**4.0" Horiz. Orifice/Grate** Limited to weir flow C= 0.600

Discarded OutFlow Max=0.13 cfs @ 11.90 hrs HW=80.32' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=80.30' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P:


Hydrograph
Inflow
Outflow
Discarded
Primary
0.33 cfs
Inflow Area=0.110 ac
Peak Elev=80.65'
Storage=138 cf
0.13 cfs
0.13 cfs
0.00 cfs
Flow (cfs)
0.36
0.34
0.32
0.3
0.28
0.26
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Time (hours)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=4,800 sf Runoff Depth=4.33"
Tc=6.0 min CN=98 Runoff=0.52 cfs 0.040 af

Pond 1P: Peak Elev=81.06' Storage=358 cf Inflow=0.52 cfs 0.040 af
Discarded=0.13 cfs 0.040 af Primary=0.00 cfs 0.000 af Outflow=0.13 cfs 0.040 af

Total Runoff Area = 0.110 ac Runoff Volume = 0.040 af Average Runoff Depth = 4.33"

Subcatchment 1S:

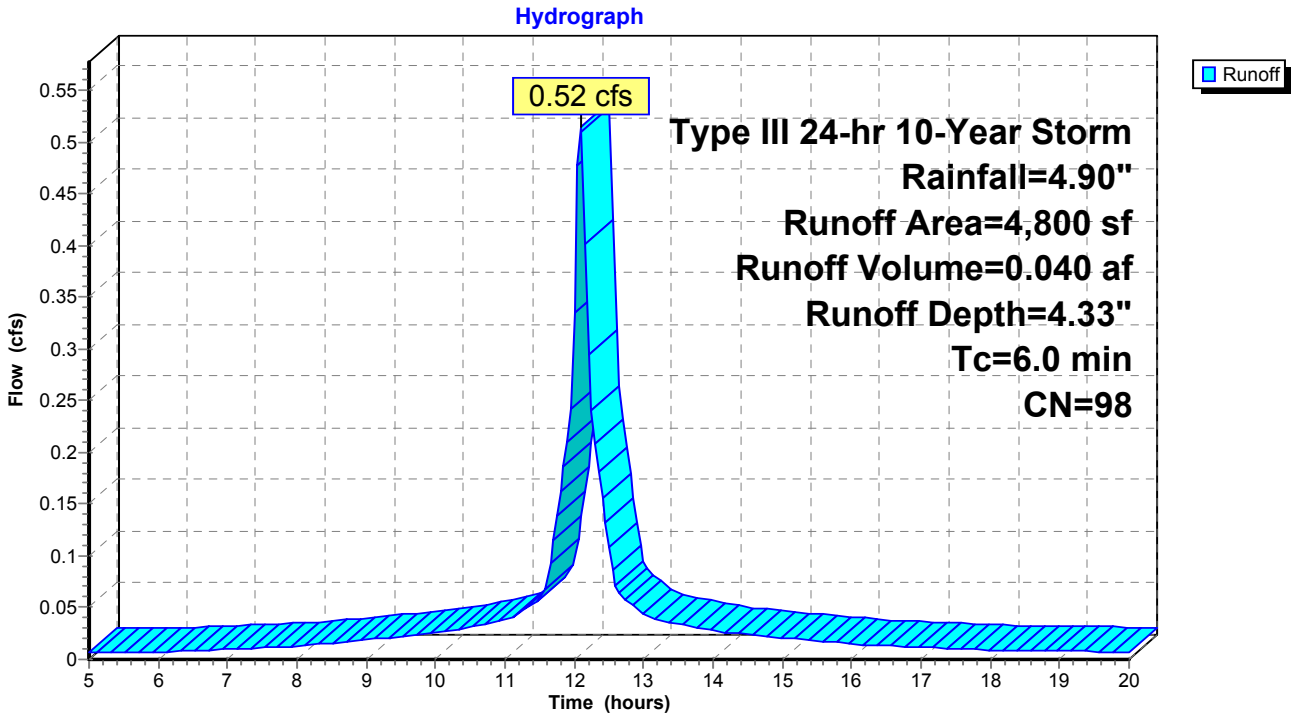
Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 4.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Storm Rainfall=4.90"

Area (sf)	CN	Description
4,800	98	Roof Area

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

Subcatchment 1S:



Pond 1P:

Inflow Area = 0.110 ac, Inflow Depth = 4.33" for 10-Year Storm event
Inflow = 0.52 cfs @ 12.09 hrs, Volume= 0.040 af
Outflow = 0.13 cfs @ 11.75 hrs, Volume= 0.040 af, Atten= 75%, Lag= 0.0 min
Discarded = 0.13 cfs @ 11.75 hrs, Volume= 0.040 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 81.06' @ 12.46 hrs Surf.Area= 667 sf Storage= 358 cf
Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= (not calculated)

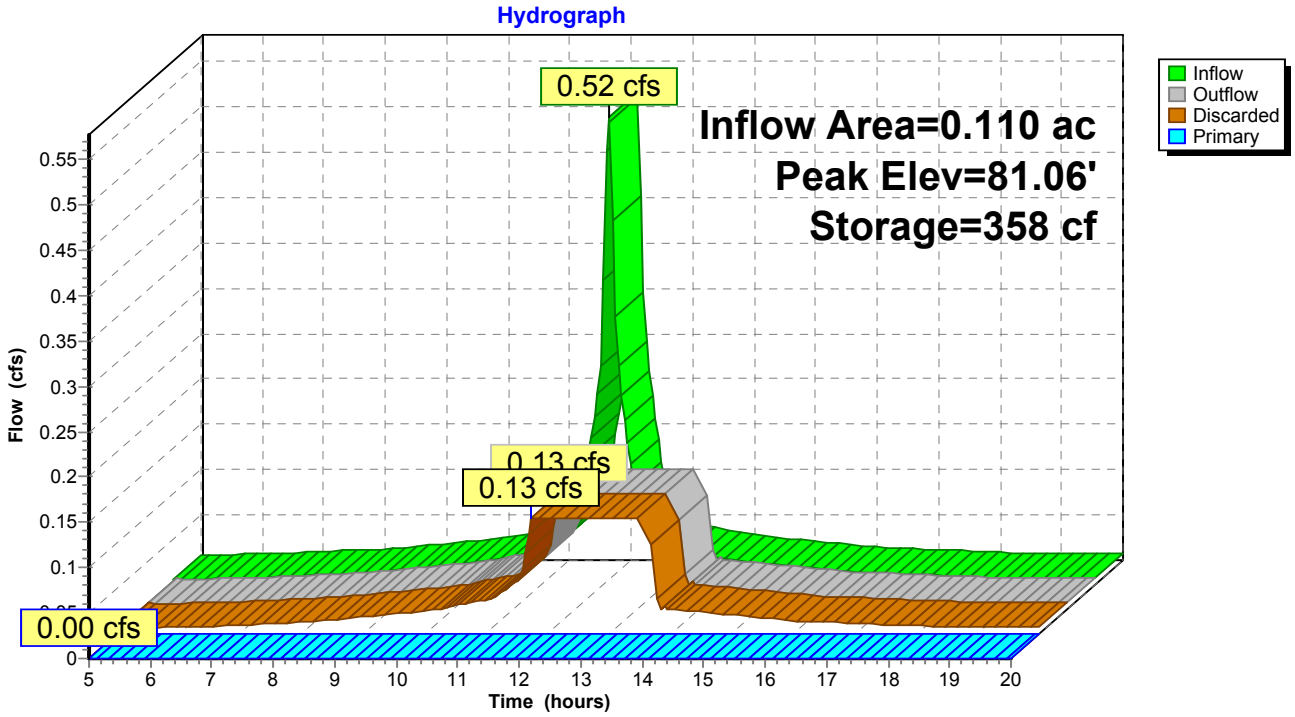
#	Invert	Avail.Storage	Storage Description
1	80.30'	194 cf	**14.50'W x 46.00'L x 1.29'H Prismatoid** 860 cf Overall - 375 cf Embedded = 485 cf x 40.0% Voids
2	80.50'	375 cf	**36.0"W x 12.5"H x 7.50'L Parabolic Arch** x 24 Inside #1
		569 cf	Total Available Storage

#	Routing	Invert	Outlet Devices
1	Discarded	0.00'	**0.011486 fpm Exfiltration over entire Surface area**
2	Primary	82.00'	**4.0" Horiz. Orifice/Grate** Limited to weir flow C= 0.600

Discarded OutFlow Max=0.13 cfs @ 11.75 hrs HW=80.32' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=80.30' (Free Discharge)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P:


Hydrograph
Inflow
Outflow
Discarded
Primary
0.52 cfs
0.13 cfs
0.13 cfs
0.00 cfs
Inflow Area=0.110 ac
Peak Elev=81.06'
Storage=358 cf
Flow (cfs)
0
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0.55
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Time (hours)

Sullivan Engineering Group, LLC
Civil Engineers & Land Development Consultants

LONG-TERM POLLUTION PREVENTION PLAN

For

288 Grove Street
(Meadowbrook Storage Building Replacement)

In

Reading, Massachusetts

April 8, 2025

Prepared For:

Meadow Brook Golf Club
288 Grove Street
Reading, MA 01867

LTPPP Coordinator

The construction site LTPPP coordinator for the facility is Meadow Brook Golf Club – c/o Ron Rice – General Manager (phone number: (781) 942-1334. The mailing address for Mr. Rice is:
288 Grove Street, Reading, MA 01867

LTPPP Content

This LTPPP 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 BMP's
- 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
- 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
- Training for staff or personnel involved with implementing the LTPPP
- List of Emergency Contacts

Good Housekeeping Practices

Activity	Best Management Practices
Pavement Sweeping	Parking lot sweeping is required periodically (see Parking Lot Sweeping schedule). Dispose of debris in the garbage
Litter Control	Pick-up litter and other wastes periodically from outside areas including storm drain inlet grates and wetland resource areas.
Waste Disposal	* Inspect dumpsters and other waste containers periodically. repair or replace leaky dumpsters and containers. * Cover dumpsters and other waster containers * Never dispose of waster products in storm drain outlets * Recycle wastes or dispose properly.
Materials Storage	* Store materials such as grease, paints, detergents, metals, &

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	raw materials in appropriate, labeled containers * Make sure all outdoor containers have lids, and that the lids are are adequately closed. * Store stockpiled materials inside a building, under a roof, or covered with a tarp to prevent contact with rain
Training	* Train employees (including subcontractors) regularly on good housekeeping practices. * Assign a person to be responsible for effective implementation Of BMP's
Equipment/Vehicle Cleaning	* Maintain equipment and vehicles regularly. check for and fix leaks * Use drip pans to collect leaks or spills during maintenance activities * Wash equipment/vehicles in a designated and/or covered area where the wash water is collected to be recycled or discharged to the sanitary sewer.

Provisions for storing materials and waste products

See "Material Storage" in the Good Housekeeping Practices section.

Vehicle Washing Controls

See "Equipment/Vehicle Cleaning" in the Good Housekeeping Practices section

Requirements for routine inspection and maintenance of stormwater BMP's

Meadow Brook Golf Club shall maintain the site in accordance with the following schedule;

a. Roof drain inlets, downspouts, and roof drain pipes - All components of the roof drain collection system shall be inspected at least 2 times per year. Sediments and debris shall be removed and disposed of in accordance with all applicable federal, state, and local laws. Any components that become damaged shall be repaired or replaced immediately upon discovery to assure proper functionality.
b. Vegetation shall be maintained in healthy condition to prevent erosion and sedimentation in the drainage collection system.
c. Infiltration chambers – The level of water in the infiltration chambers shall be monitored during and after heavy rain storms at least 2 times per year during the first year of operation and at least twice annually thereafter for evidence of clogging or other problems. If water does not leave the chambers within 72 hours after the storm, or if water breaks out on the surface above the system, or if the roof collection system begins to overflow frequently (for the 10 year storm intensity or less intense storms), the infiltration bed is likely clogged. The infiltration bed shall be cleaned and repaired or replaced as needed to maintain proper functioning.
d. The NDS Pop-up emitter shall be inspected at least 2 times per year to insure it is free to open with no restrictions.

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Spill Prevention and Response Plan

All vehicles on site will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage.

Petroleum products will be stored in tightly sealed containers which are clearly labeled.

Spill kits will be included with all fueling sources and maintenance activities.

Any asphalt substances used onsite will be applied according to the manufacturer's recommendation.

All spills will be cleaned up immediately upon discovery. Spills large enough to reach the storm system will be reported to the National Response Center at 1-800-424-8802.

Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on the site.

Any asphalt substances used onsite will be applied according to the manufacturer's recommendation.

Sanitary waste will be collected from portable units a minimum of two times a week to avoid overfilling.

A covered dumpster will be used for all waste materials.

All paint containers and curing compounds will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm system, but will be properly disposed according to the manufacturer's instructions.

Materials and equipment necessary for spill cleanup will be kept in the temporary material storage trailer onsite. Equipment will include, but not be limited to, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, saw dust, and plastic and metal trash containers.

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Provisions for maintenance of lawns, gardens, and other landscaped areas

Grassed, landscaped, and garden areas will require routine maintenance such as watering, cutting, pruning, etc…Grass clippings, weeds, raked leaves, or tree branches should not be disposed of in wetland resource areas. These items should be disposed in a dumpster, trash can, or contact the Reading DPW to see if the Town has a designated disposal area.

Requirements for storage and use of fertilizers, herbicides, and pesticides

Fertilizers, herbicides, and pesticides should be stored in a weather-tight enclosure and in accordance with manufacturer's requirements. The use of fertilizers, herbicides, and pesticides should be used in small amounts and if possible, more environmentally sensitive alternatives would be preferred. Table 1 provides common trade name materials and the storm water pollutants associated with these materials.

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Table 1

Potential Construction Site Storm Water Pollutants

Trade Name Material	Chemical/Physical Description (1)	Storm Water Pollutants(1)
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Various colored to colorless liquid, powder, pellets, or grains	Chlorinated hydrocarbons, organophosphates, carbonates, arsenic
Fertilizer	Liquid or solid grains	Nitrogen, phosphorous
Plaster	White granules or powder	Calcium sulphate, calcium carbonate, sulfuric acid
Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates
Asphalt	Black solid	Oil, petroleum distillates
Concrete	White solid	Limestone, sand
Glue, adhesives	White or yellow liquid	Polymers, epoxies
Paints	Various colored liquid	Metal oxides, stoddard solvent, talc, calcium carbonate, arsenic
Curing compounds	Creamy white liquid	Naphtha
Wastewater from construction equipment washing	Water	Soil, oil & grease, solids
Wood preservatives	Clear amber or dark brown liquid	Stoddard solvent, petroleum distillates, arsenic, copper, chromium
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE
Diesel Fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil & grease, naphthalene, xylenes
Kerosene	Pale yellow liquid petroleum hydrocarbon	Coal oil, petroleum distillates
Antifreeze/coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)
Erosion	Solid Particles	Soil, Sediment

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Provisions for Solid Waste Management

All solid waste materials during construction will be collected and stored in a securely lidded metal dumpster. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied as needed offsite. No construction materials will be buried on-site. All personnel will be instructed regarding the correct procedure for waste disposal. All sanitary waste will be collected from the portable units a minimum of two times per week. Good housekeeping and spill control practices will be followed during construction to minimize storm water contamination from petroleum products, fertilizers, paints, and concrete.

Snow disposal and plowing plans relative to Wetland Resource Areas

Snow disposal and plowing will be the responsibility of the owner and snow shall be stockpiled in areas designated on the design plans. In heavy snow events it may be necessary to haul snow offsite. Under no circumstance shall snow be disposed of in a wetland resource area.

Winter Road salt and/or Sand use and storage restrictions

The owner may use winter road salt and/or sand for treatment of the driveway surfaces. The use of the sand and/or salt shall be provided to the minimum extent to provide safety. Sand and/or winter salt shall be stored off-site.

Street Sweeping Schedules

The gravel parking lot shall be cleaned off any accumulated debris, sticks annually. Gravel shall be added as needed for repair or routine maintenance to insure a stable wearing course.

Provisions for Prevention of Illicit Discharges to Stormwater Management System

Table 1 details numerous materials which should not be discharged to the Stormwater Management System. If a "spill" occurs, please refer to the "Spill Prevention and Response" section of this report. The materials listed in Table 1 should be stored in a weather-tight enclosure to reduce the risk of discharge to the stormwater management system. In the event of a discharge to the Stormwater System, the drywells should be pumped off contents by a licensed contractor.

Training for staff or personnel involved with implementing the LTPPP

Employees will be educated about the requirements of the LTPPP. This will include background on the components and goals of the LTPPP and hands-on-training in erosion controls, spill prevention and response, good housekeeping, proper material handling, disposal and control of waste, equipment fueling, and proper storage, washing, and inspection procedures. All employees will be trained prior to their first day on the site.

List of Emergency Contacts

Ron Rice 781-942-1334

Sullivan Engineering Group, LLC
Civil Engineers & Land Development Consultants

Post-Construction -Stormwater Maintenance Plan
288 Meadowbrook – Maintenance Building

Beginning with the construction of the drainage system, and continuing in perpetuity thereafter, the owner(s) of the site shall maintain in accordance with the following schedule:

a. Roof drain inlets, downspouts, and roof drain pipes - All components of the roof drain collection system shall be inspected at least 2 times per year. Sediments and debris shall be removed and disposed of in accordance with all applicable federal, state, and local laws. Any components that become damaged shall be repaired or replaced immediately upon discovery to assure proper functionality.
b. Vegetation shall be maintained in healthy condition to prevent erosion and sedimentation in the drainage collection system.
c. Infiltration chambers – The level of water in the infiltration chambers shall be monitored during and after heavy rain storms at least 2 times per year during the first year of operation and at least twice annually thereafter for evidence of clogging or other problems. If water does not leave the chambers within 72 hours after the storm, or if water breaks out on the surface above the system, or if the roof collection system begins to overflow frequently (for the 10 year storm intensity or less intense storms), the infiltration bed is likely clogged. The infiltration bed shall be cleaned and repaired or replaced as needed to maintain proper functioning.
d. The NDS Pop-up emitter shall be inspected at least 2 times per year to insure it is free to open with no restrictions.

The Annual Stormwater Report (and repair information if performed) shall be submitted to the Town of Reading Engineering Department by January 15th of each calendar year.

PO Box 2004 Woburn, MA 01888 (781) 854-8644 e-mail: jacksull53@comcast.net