

February 18, 2025

Revised Stormwater Report
Submitted To: Town of Hingham

85 Tower Road, Hingham MA

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SECTION I

STORMWATER REPORT

Existing and Proposed Conditions

Doug Keach of ALR Homes is requesting permission to construct a single family dwelling on the property. The proposed work increases the impervious area by approximately 3,673 sf and the total disturbance area, including regraded lawn, will be 28,125 SF. The entire lot lies within FEMA Zone X and there is identified BVW in the back of the lot.

The subcatchment area to the north of the property was considered for analysis, which is approximately 62,688 sf. The lot is bound by abutting properties on the north, south, and east side of the property. To the east abutting the property is Tower Road and to the west is two Bordering Vegetated Wetlands. The property currently consists of a single dwelling with a brick walkway and multiple retaining walls. The topography of the lot slopes to the west and south from a highpoint that runs across the center of the property. The water follows a path of travel to one of the two wetlands on the site.

NRCS Soil Survey online data identifies the soils on site as Scarboro Coastal lowland (A soils). On site test pits determined that the soils on site more resembled A soils. Therefore, A soils were used for modeling purposes.

One subcatchment area was considered for the stormwater analysis. The HydroCAD results and subcatchment area are provided in Section IV of this report.

The proposed project complies with the Stormwater Management as follows:

Standard 1: No New Stormwater Conveyances of Untreated Stormwater or Erosion Offsite

The proposed changes to the lot will introduce new stormwater treatment and will improve the quality of the existing stormwater drainage. The entire 62,688 SF subcatchment area was considered for stormwater analysis, which includes all proposed areas of disturbance and the undisturbed areas to understand drainage patterns. All the existing and proposed runoff is either directed towards the wetland to the northeastern portion of the lot. The entire roof area from the 2,968 SF dwelling, as well as a majority of the paved driveway, will be collected and sent to subsurface infiltration systems. The driveway treatment will account for the increase in impervious pavement on site. Overall, the proposed stormwater mitigations will result in a decrease in peak flow and volume for the proposed conditions.

Standard 2: Peak Rate Attenuation

The overall peak rate and volume of runoff is reduced for all design storm events in the proposed design. This data is summarized below, and the HydroCAD report can be found in section IV.

1.0 METHODOLOGY

The adequacy of the proposed drainage structures and their ability to function properly were analyzed to minimize detrimental effects due to stormwater conditions. The impacts of storm water are mitigated through several mechanisms such as infiltration, transportation and evaporation. The remaining runoff was quantified through developed and accepted methods.

2.0 OVERVIEW

Merrill inc. has analyzed the existing conditions at the site utilizing the HydroCad Stormwater modeling program. Storm rainfall, run-off curve numbers, and other site characteristics are input into the program. The results of calculations are output into tables and graphs for each area and control structure.

3.0 DESIGN STORMS

Stormwater run-off calculations have been computer for the proposed site, for a 2, 10 and 100 year, 24-hour event. The intensity of these rain events is 3.20", 4.65" and 6.80" respectively.

4.0 DRAINAGE ANALYSIS

The following is the summary of the HydroCAD analysis:

Subcatchment area

Storm	Existing Conditions (cfs, af)	Post-Development Conditions (cfs, af)
2-Year-24 Hour (3.2")	0.00 cfs, 0.000 af	0.00 cfs, 0.000 af
10-Year-24 Hour (4.65")	0.02 cfs, 0.010 af	0.01 cfs, 0.006 af
100-Year-24 Hour (6.80")	0.35 cfs, 0.068 af	0.24 cfs, 0.051 af

The applicant proposes adequate infiltration for the lot as required by the Massachusetts Stormwater Handbook as follows:

Existing Impervious Area = 3,673 ft²
Proposed Impervious Area = 7,413 ft²
Increase in impervious area = 3673 ft²

A soils require 0.60" x impervious area of runoff to be recharged:
(0.60"/12"per ft)(3,673 ft²) = 184 ft³

The proposed infiltration system have a combined capacity of 977 ft³ below the inverts of the horizontal outlet, which exceeds the required 184 ft³ recharge volume.

Standard 4: Water Quality

The required Water Quality Volume (WQV) is calculated as follows:

Existing impervious vehicular areas: 186 SF
Proposed impervious vehicular areas: 3,053 SF

Net increase of pavement: 2,867 SF
WQV is calculated by multiplying 1.0 inch of runoff by the net increase in paved areas as follows:

$$WQV = (2,876 \text{ ft}^2) \left(\frac{1.0 \text{ in}}{\frac{12 \text{ in}}{1 \text{ ft}}} \right) = 239 \text{ ft}^3$$

The 239 ft³ combined capacity of the infiltration systems will account for the required water quality volume. Furthermore, a driveway sweeping schedule is included in the Long-Term Operation and Maintenance plan.

Standard 5: Land Uses with Higher Pollutant Loads (LUHPPLs)

The use of the property (residential) does not constitute a higher potential pollutant load use. This Standard 5 does not pertain to this project.

Standard 6: Critical Areas

The locus site is located in Zone II. To accommodate this, the proposed infiltration systems are designed to handle a 1.0" required Water Quality Volume.

Standard 7: Redevelopment

This project is considered redevelopment of an existing, residential lot.

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

The Operation and Maintenance Plan included with this submittal will ensure proper maintenance of the proposed pollution, erosion and sedimentation measures proposed during construction.

Standard 9: Long Term Operation and Maintenance Plan

The Long-Term Operation and Maintenance Plan is included within the Operation and Maintenance Plan enclosed in this submittal to ensure the proposed drainage improvements are maintained as intended.

Standard 10: Prohibition of Illicit Discharges

Routine visual inspections are scheduled as part of the Operations and Maintenance Plan to prevent illicit discharges into the stormwater system. Furthermore, an Illicit Compliance Statement is included in this submittal.

Improvement Over Existing Conditions

The addition of structural stormwater controls will help improve water quality. The proposed reduction of peak rate of runoff and volume will improve stormwater conditions offsite.

SECTION II

STORMWATER OPERATION AND MAINTENANCE PLAN

Construction Period Sequencing and Stormwater Operation and Maintenance Plans

Last Revised 2/18/25

***Proposed Residential Single Family Home
85 Tower Road Hingham, MA 02043
Stormwater Management System's Owner: ALR Homes
System Owner's Address: 85 Tower Road, Hingham, MA 02043
Party responsible for Operations and Maintenance: Owner of 85 Tower Road***

As part of any infrastructure improvement, the system must be maintained to work properly. The following Construction Sequencing Guideline and Operation and Maintenance plans are provided to upkeep the existing non-structural and structural best performance practices as outlined in the Massachusetts Department of Environmental Protection's Stormwater Management Policy.

Emergency Contact Information:

ALR Homes
213 Wompatuck Road
Hingham, MA 02043
Telephone: 508-245-1679
Emergency Telephone: 508-245-1679
Email: apfdevelopment@gmail.com

Construction Sequencing:

The following section provides construction details and highlights the construction sequence and timing of earth moving activities.

1. Installation of Erosion Controls

Erosion and sedimentation controls (i.e., silt sock, construction entrance) will be installed as shown on the Site Plan and inspected at the limits of the work area prior to the commencement of earth moving activities.

2. Utility Identification & Clearing

All utilities (including stubs) must be identified and marked in the field prior to disturbance. Identify the location of the sewer line that will be relocated to accommodate the proposed work. No large boulders or building materials will be buried on the site. All cleared vegetation, apart from any vegetation that may be deemed appropriate to be replanted, will be removed from the project site or mulched and stockpiled for future use on the site.

3. *Rough Grading*

During this phase of construction, rough grades will be established for the project site. If suitable topsoil is found, it will be removed and stockpiled in an upland area. The stockpiled topsoil will be stored until ready for re-use on site.

4. *Excavation and Utility Relocation*

The area will be carefully excavated to avoid damage to any utility lines and/or pipes located in the area of work. Relocate lines at this time.

5. *Installation of Infiltration Systems and Buried Drainage Pipes.*

The infiltration system shall be installed once the dwelling is constructed. If the contractor prefers to install the infiltration and/or drainage pipe system before the dwelling construction is completed, then the area above the buried infiltration and the drainage pipes should be roped off to avoid heavy equipment load on top of the infiltration and pipe system and to avoid disturbance of the infiltration materials.

6. *Installation of the Dwelling and Decks*

During this phase of construction, the proposed house will be installed

7. *Utility Installation*

In this phase of construction, any utilities associated with the dwelling and will be installed.

8. *Driveway and Hardscape Installation*

Once the drainage pipes leading to the infiltration system and the utilities associated with the pool area are installed, the driveway and patio will be installed. The location of the drainage pipes, infiltration system, and utility lines should be marked to avoid heavy equipment/loading over these pipes and lines that can cause damage.

9. *Site Stabilization*

The final phase of the project is the restoration and stabilization of all exposed surfaces. Disturbed areas will be landscaped or seeded as necessary only after all other construction is final. In the event that weather conditions prevent final restoration, temporary erosion and sedimentation measures will be employed until the weather is suitable for final cleanup. Should final ground stabilization be postponed due to winter conditions, the exposed ground shall be covered in an erosion control blanket to prevent erosion. A final inspection will ensure that the project site is cleared of all project debris and that erosion and sedimentation controls are functioning properly. Erosion and sedimentation controls will not be removed until the site is stabilized and the final inspection is completed.

Stormwater Operation and Maintenance During Construction:

Sediment and Erosion Control

- Silt socks shall be inspected at least once a week and after each rainfall event. Make any required repairs immediately. Repair damaged areas of the sock at this time to prevent future problems.
- Should the fabric of the silt sock tear, decompose or otherwise become ineffective, replace it within 24 hours of discovery.
- Remove silt deposits once they reach 20 to 30 percent of the height of the silt sock to provide adequate storage volume for the next rain event and to reduce pressure on the fence. Care should be taken to avoid undermining the fence during cleanout process.
- Silt socks are to be removed upon stabilization of the contributing drainage area. Accumulated sediment may be spread to form a surface for turf or other vegetation establishment, or disposed of elsewhere. The area should be reshaped to permit natural drainage.
- Any sediment tracked from the construction site onto the street during construction shall be removed immediately.

Infiltration System

Per MA DEP Stormwater Guidelines, the following work shall be done to stabilize the site prior to installing the subsurface structures:

- Do not allow runoff from any disturbed areas on the site to flow to the exposed subsurface structures.
- Accomplish any required excavation with equipment placed just outside the area. If the size of the area intended for exfiltration is too large to accommodate this approach, use trucks with low-pressure tires to minimize compaction. Do not allow any other vehicles within the area to be excavated.
- Keep the area above and immediately surrounding the subsurface system roped off to all construction vehicles until the final top surface is installed.
- At no time shall the area for the infiltration system be used as a temporary sediment basin. Stockpiles shall be placed away from the subsurface infiltration system and silt socks shall be placed around the perimeter of the infiltration area to prevent the accumulation of sediment within the native soils.

Dust Control

Sprinkle water as necessary to control dust during construction.

Material Stockpiling

Stockpiles of material must be placed within the area confined by the silt sock. If left overnight, material stockpiling must be protected from the weather.

Good Housekeeping

The following good housekeeping BMP's will be implemented in order to prevent pollution during construction:

- Petroleum products will be stored in tightly sealed containers which are clearly labeled.
- Any asphalt substances on site will be applied according to the manufacturer's specifications.
- If portable sanitary units are used, sanitary waste will be removed as necessary to avoid overfilling.
- All paint and other hazardous waste materials will be tightly sealed and stored when not in use. Excess material will not be discharged into the public stormwater system but will be properly disposed of according to the manufacturer's specifications. If spray guns are used, they will be cleaned on a removable tarp.

Long-Term Pollution Prevention Plan

Last Revised 1/22/25

Proposed Residential Raze and Rebuild

85 Tower Road, Hingham, MA 02043

Stormwater Management System's Owner: ALR Homes

System Owner's Address: 85 Tower Road, Hingham, MA 02043

Party responsible for Operations and Maintenance: Owner of 85 Tower Road

As part of any infrastructure improvement the system must be maintained in order to work properly. The following is an Operation and Maintenance plan to upkeep the proposed non-structural and structural best performance practices as outlined in the Massachusetts Department of Environmental Protection's Stormwater Management Policy and in accordance with the approved design drawing. The following is an Operation and Maintenance plan to follow after construction activities have been completed.

Emergency Contact Information:

ALR Homes
213 Wompatuck Road
Hingham, MA 02043
Telephone: 508-245-1679
Emergency Telephone: 508-245-1679
Email: apfdevelopment@gmail.com

Stormwater Operation and Maintenance After Construction:

Subsurface Infiltration Systems:

Inspect inspection port at least quarterly and after every major storm event during the first year. Inspections after every major storm event shall take notice of any water standing after 72 hours after the storm ended. After the first year, inspections must be done at least twice yearly. Remove any debris or sediment within reach that may be clogging the system. Inspect and clean filter fabric of infiltration trench quarterly and after every major storm event.

Pipes:

All pipe cleanouts shall be inspected to ensure that they are free of all obstructions.

Roof Drains:

All roof drains shall be cleaned and inspected in late winter or early spring after the snow melts. Inspections should include the gutters, downspouts and all accessible piping.

Driveway Sweeping:

Driveway shall be swept at least four times a year primarily in spring and fall.

Snow Management:

Any snow and ice buildup on the proposed roof drains will be removed in a timely fashion. Snow plowed from the driveways or parking area will be temporarily stored in available lawn areas.

Roof Drain Cleaning:

Any buildup of leaves in the roof drains should be cleaned out in the late fall.

Estimated Operation and Maintenance Budget:

Maintenance cost is estimated to be around \$800.00 per year.

Illicit Discharges:

At no time will the owner or any other individual utilize the stormwater management system for any purpose other than its intended use. The stormwater management system as shown on the attached site plan at no time shall receive discharges other than stormwater, this includes “wastewater discharges and discharges of stormwater contaminated by contact with process wastes, raw materials, raw materials, toxic pollutants, hazardous substances, oil or grease.”



Property Owner (Signature)

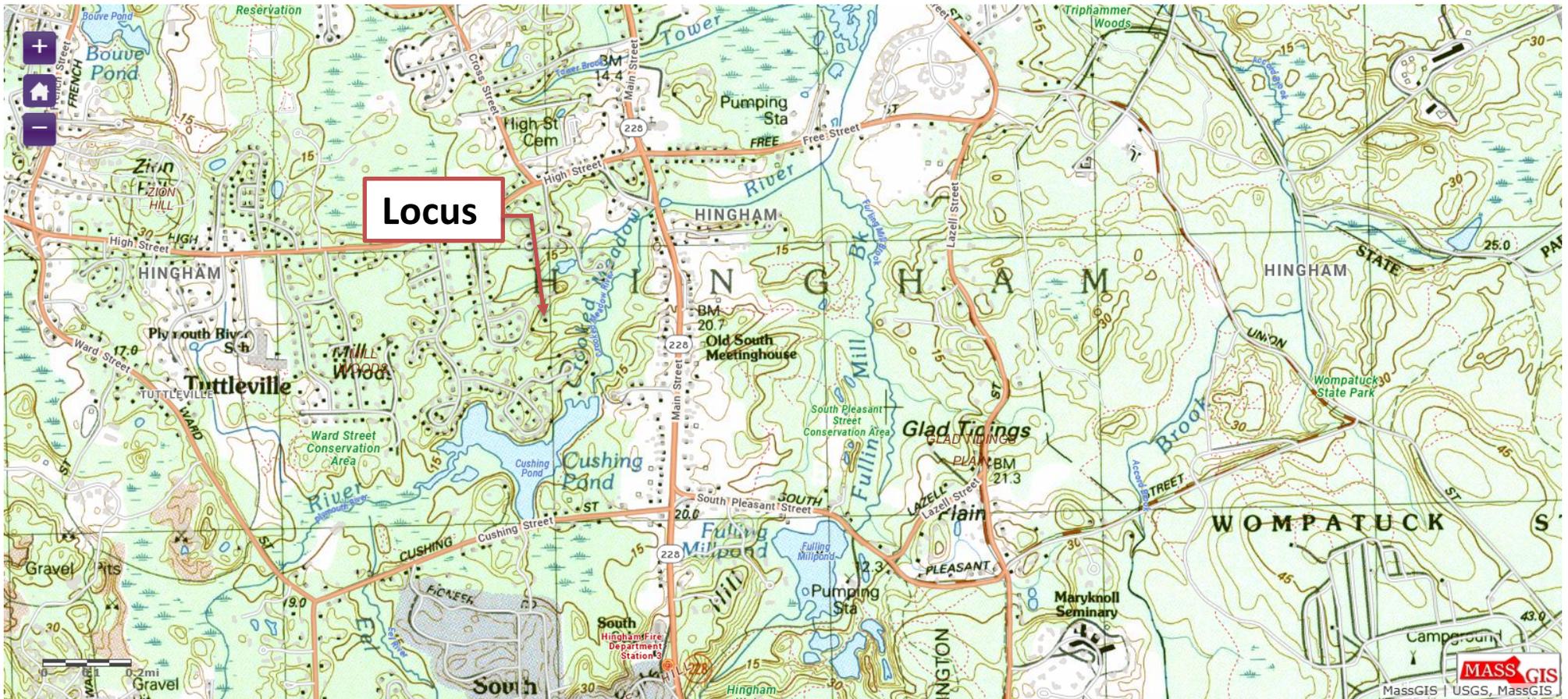
ALR Homes

Property Owner (Print)

SECTION III

FIGURES

USGS Map

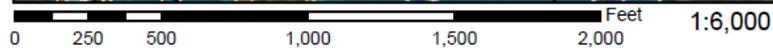


FEMA Flood Map

National Flood Hazard Layer FIRMette



70°53'42"W 42°12'52"N



Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
OTHER FEATURES		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



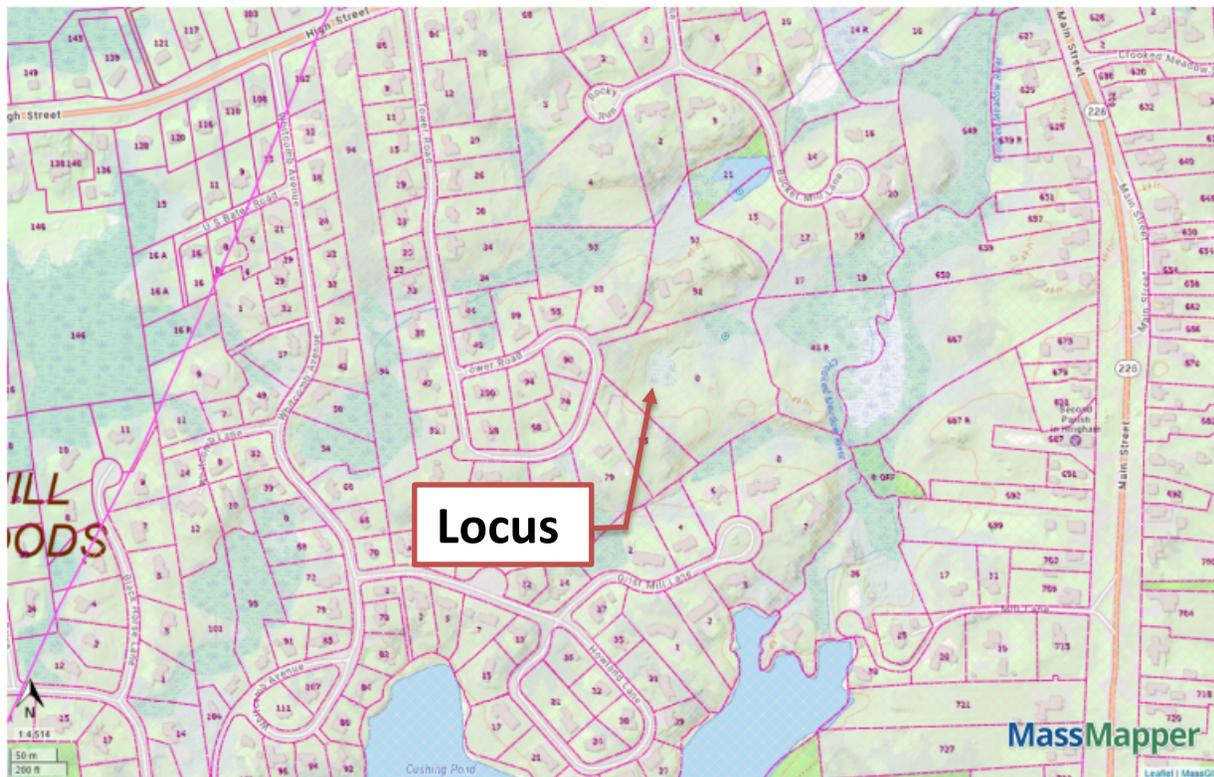
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/20/2025 at 3:49 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

NHESP Map



Areas of Critical Environmental Concern
ACECs



Areas of Critical Environmental Concern
ACECs Boundaries

- ROAD/RAIL BASED
- RIVER BASED
- WETLAND BASED
- FLOODPLAIN BASED
- TIDAL BASED
- CONTOUR BASED
- POLITICAL BOUNDARY
- PROPERTY LINE BASED
- OTHER
- NOT DEFINED

Potential Vernal Pools



Zone IIs



NHESP Priority Habitats of Rare Species



NHESP Natural Communities



NHESP Estimated Habitats of Rare
Wildlife



NHESP Ecoregions

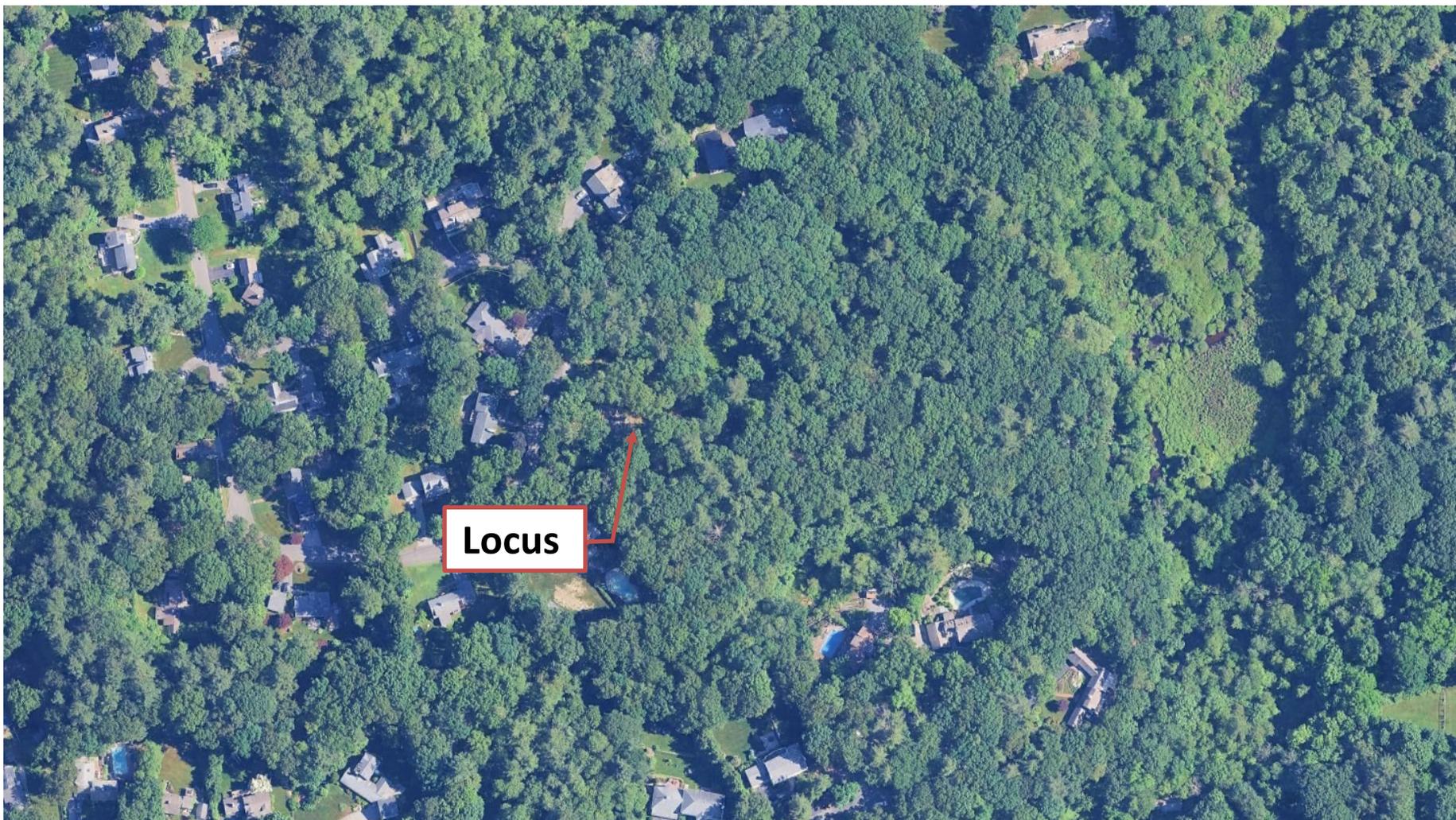


NHESP Certified Vernal Pools



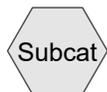
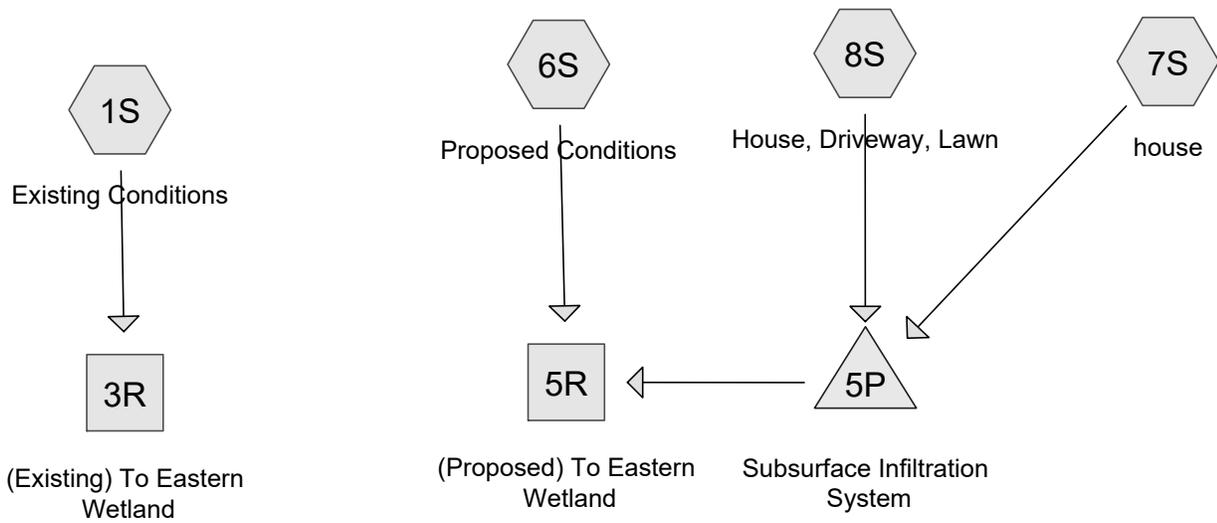
Property Tax Parcels

Aerial Photography



SECTION IV

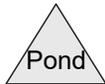
DRAINAGE CALCULATIONS & SUPPLEMENTAL DRAINAGE INFORMATION



Subcat



Reach



Pond



Link

85 tower Hydrocad (1.21.25)

Type III 24-hr 2 Year Storm Rainfall=3.20"

Prepared by Merrill Associates Inc

Printed 1/24/2025

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Conditions Runoff Area=62,688 sf 5.97% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=37 Runoff=0.00 cfs 0.000 af

Subcatchment 6S: Proposed Conditions Runoff Area=53,528 sf 2.60% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=36 Runoff=0.00 cfs 0.000 af

Subcatchment 7S: house Runoff Area=2,968 sf 100.00% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=98 Runoff=0.21 cfs 0.017 af

Subcatchment 8S: House, Driveway, Lawn Runoff Area=6,192 sf 49.31% Impervious Runoff Depth=0.73"
Tc=5.0 min CN=68 Runoff=0.11 cfs 0.009 af

Reach 3R: (Existing) To Eastern Wetland Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Reach 5R: (Proposed) To Eastern Wetland Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond 5P: Subsurface Infiltration System Peak Elev=46.41' Storage=116 cf Inflow=0.31 cfs 0.026 af
Discarded=0.13 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.13 cfs 0.026 af

Total Runoff Area = 2.878 ac Runoff Volume = 0.026 af Average Runoff Depth = 0.11"
91.10% Pervious = 2.622 ac 8.90% Impervious = 0.256 ac

Summary for Subcatchment 1S: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
 Routed to Reach 3R : (Existing) To Eastern Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Storm Rainfall=3.20"

Area (sf)	CN	Description
1,822	98	Roofs, HSG A
* 140	98	Retaining Wall, HSG A
* 409	98	Brick Walkway, HSG A
* 1,183	98	Ledge, HSG A
44,631	30	Woods, Good, HSG A
1,658	77	Woods, Good, HSG D
12,659	39	>75% Grass cover, Good, HSG A
186	98	Paved parking, HSG A
62,688	37	Weighted Average
58,948		94.03% Pervious Area
3,740		5.97% Impervious Area

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

Summary for Subcatchment 6S: Proposed Conditions

[49] Hint: Tc<2dt may require smaller dt

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
 Routed to Reach 5R : (Proposed) To Eastern Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Storm Rainfall=3.20"

Area (sf)	CN	Description
* 518	98	Ledge, HSG A
34,595	30	Woods, Good, HSG A
1,658	77	Woods, Good, HSG D
15,883	39	>75% Grass cover, Good, HSG A
* 582	98	Impervious Patio, HSG A
* 292	98	Impervious steps & retaining walls, HSG A
53,528	36	Weighted Average
52,136		97.40% Pervious Area
1,392		2.60% Impervious Area

85 tower Hydrocad (1.21.25)

Type III 24-hr 2 Year Storm Rainfall=3.20"

Prepared by Merrill Associates Inc

Printed 1/24/2025

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

Summary for Subcatchment 7S: house

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.21 cfs @ 12.07 hrs, Volume= 0.017 af, Depth= 2.97"
 Routed to Pond 5P : Subsurface Infiltration System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Storm Rainfall=3.20"

Area (sf)	CN	Description
2,968	98	Roofs, HSG A
2,968		100.00% Impervious Area

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

Summary for Subcatchment 8S: House, Driveway, Lawn

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.11 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 0.73"
 Routed to Pond 5P : Subsurface Infiltration System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Storm Rainfall=3.20"

Area (sf)	CN	Description
3,053	98	Paved parking, HSG A
3,139	39	>75% Grass cover, Good, HSG A
6,192	68	Weighted Average
3,139		50.69% Pervious Area
3,053		49.31% Impervious Area

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

Summary for Reach 3R: (Existing) To Eastern Wetland

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.439 ac, 5.97% Impervious, Inflow Depth = 0.00" for 2 Year Storm event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 5R: (Proposed) To Eastern Wetland

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.439 ac, 11.83% Impervious, Inflow Depth = 0.00" for 2 Year Storm event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Pond 5P: Subsurface Infiltration System

Inflow Area = 0.210 ac, 65.73% Impervious, Inflow Depth = 1.46" for 2 Year Storm event
 Inflow = 0.31 cfs @ 12.08 hrs, Volume= 0.026 af
 Outflow = 0.13 cfs @ 12.00 hrs, Volume= 0.026 af, Atten= 57%, Lag= 0.0 min
 Discarded = 0.13 cfs @ 12.00 hrs, Volume= 0.026 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 5R : (Proposed) To Eastern Wetland

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 2

Peak Elev= 46.41' @ 12.31 hrs Surf.Area= 700 sf Storage= 116 cf

Plug-Flow detention time= 5.3 min calculated for 0.026 af (100% of inflow)

Center-of-Mass det. time= 4.6 min (803.1 - 798.6)

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	749 cf	Custom Stage Data (Irregular) Listed below (Recalc) 2,100 cf Overall - 227 cf Embedded = 1,873 cf x 40.0% Voids
#2	47.00'	227 cf	Cultec C-100HD x 16 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap Row Length Adjustment= +0.50' x 1.86 sf x 4 rows
#3	49.00'	1 cf	0.50'D x 2.00'H Vertical Cone/Cylinder x 2 -Impervious
		977 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.00	700	110.0	0	0	700
47.00	700	110.0	700	700	810
48.00	700	110.0	700	1,400	920
49.00	700	110.0	700	2,100	1,030

Device	Routing	Invert	Outlet Devices
#1	Discarded	46.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	50.00'	4.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

85 tower Hydrocad (1.21.25)

Type III 24-hr 2 Year Storm Rainfall=3.20"

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Discarded OutFlow Max=0.13 cfs @ 12.00 hrs HW=46.07' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=46.00' (Free Discharge)

↑**2=Orifice/Grate** (Controls 0.00 cfs)

85 tower Hydrocad (1.21.25)

Type III 24-hr 10 Year Storm Rainfall=4.65"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Conditions Runoff Area=62,688 sf 5.97% Impervious Runoff Depth=0.08"
Tc=5.0 min CN=37 Runoff=0.02 cfs 0.010 af

Subcatchment 6S: Proposed Conditions Runoff Area=53,528 sf 2.60% Impervious Runoff Depth=0.06"
Tc=5.0 min CN=36 Runoff=0.01 cfs 0.006 af

Subcatchment 7S: house Runoff Area=2,968 sf 100.00% Impervious Runoff Depth=4.41"
Tc=5.0 min CN=98 Runoff=0.31 cfs 0.025 af

Subcatchment 8S: House, Driveway, Lawn Runoff Area=6,192 sf 49.31% Impervious Runoff Depth=1.63"
Tc=5.0 min CN=68 Runoff=0.26 cfs 0.019 af

Reach 3R: (Existing) To Eastern Wetland Inflow=0.02 cfs 0.010 af
Outflow=0.02 cfs 0.010 af

Reach 5R: (Proposed) To Eastern Wetland Inflow=0.01 cfs 0.006 af
Outflow=0.01 cfs 0.006 af

Pond 5P: Subsurface Infiltration System Peak Elev=47.27' Storage=403 cf Inflow=0.57 cfs 0.044 af
Discarded=0.13 cfs 0.044 af Primary=0.00 cfs 0.000 af Outflow=0.13 cfs 0.044 af

Total Runoff Area = 2.878 ac Runoff Volume = 0.061 af Average Runoff Depth = 0.25"
91.10% Pervious = 2.622 ac 8.90% Impervious = 0.256 ac

Summary for Subcatchment 1S: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.02 cfs @ 15.03 hrs, Volume= 0.010 af, Depth= 0.08"
 Routed to Reach 3R : (Existing) To Eastern Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 Year Storm Rainfall=4.65"

Area (sf)	CN	Description
1,822	98	Roofs, HSG A
* 140	98	Retaining Wall, HSG A
* 409	98	Brick Walkway, HSG A
* 1,183	98	Ledge, HSG A
44,631	30	Woods, Good, HSG A
1,658	77	Woods, Good, HSG D
12,659	39	>75% Grass cover, Good, HSG A
186	98	Paved parking, HSG A
62,688	37	Weighted Average
58,948		94.03% Pervious Area
3,740		5.97% Impervious Area

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

Summary for Subcatchment 6S: Proposed Conditions

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.01 cfs @ 15.35 hrs, Volume= 0.006 af, Depth= 0.06"
 Routed to Reach 5R : (Proposed) To Eastern Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 Year Storm Rainfall=4.65"

Area (sf)	CN	Description
* 518	98	Ledge, HSG A
34,595	30	Woods, Good, HSG A
1,658	77	Woods, Good, HSG D
15,883	39	>75% Grass cover, Good, HSG A
* 582	98	Impervious Patio, HSG A
* 292	98	Impervious steps & retaining walls, HSG A
53,528	36	Weighted Average
52,136		97.40% Pervious Area
1,392		2.60% Impervious Area

85 tower Hydrocad (1.21.25)

Type III 24-hr 10 Year Storm Rainfall=4.65"

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

Summary for Subcatchment 7S: house

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.31 cfs @ 12.07 hrs, Volume= 0.025 af, Depth= 4.41"
 Routed to Pond 5P : Subsurface Infiltration System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 Year Storm Rainfall=4.65"

Area (sf)	CN	Description
2,968	98	Roofs, HSG A
2,968		100.00% Impervious Area

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

Summary for Subcatchment 8S: House, Driveway, Lawn

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 1.63"
 Routed to Pond 5P : Subsurface Infiltration System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 Year Storm Rainfall=4.65"

Area (sf)	CN	Description
3,053	98	Paved parking, HSG A
3,139	39	>75% Grass cover, Good, HSG A
6,192	68	Weighted Average
3,139		50.69% Pervious Area
3,053		49.31% Impervious Area

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

Summary for Reach 3R: (Existing) To Eastern Wetland

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.439 ac, 5.97% Impervious, Inflow Depth = 0.08" for 10 Year Storm event
 Inflow = 0.02 cfs @ 15.03 hrs, Volume= 0.010 af
 Outflow = 0.02 cfs @ 15.03 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 5R: (Proposed) To Eastern Wetland

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.439 ac, 11.83% Impervious, Inflow Depth = 0.05" for 10 Year Storm event
 Inflow = 0.01 cfs @ 15.35 hrs, Volume= 0.006 af
 Outflow = 0.01 cfs @ 15.35 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Pond 5P: Subsurface Infiltration System

Inflow Area = 0.210 ac, 65.73% Impervious, Inflow Depth = 2.54" for 10 Year Storm event
 Inflow = 0.57 cfs @ 12.08 hrs, Volume= 0.044 af
 Outflow = 0.13 cfs @ 11.80 hrs, Volume= 0.044 af, Atten= 77%, Lag= 0.0 min
 Discarded = 0.13 cfs @ 11.80 hrs, Volume= 0.044 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routed to Reach 5R : (Proposed) To Eastern Wetland

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 2

Peak Elev= 47.27' @ 12.49 hrs Surf.Area= 700 sf Storage= 403 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 15.8 min (811.1 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	749 cf	Custom Stage Data (Irregular) Listed below (Recalc) 2,100 cf Overall - 227 cf Embedded = 1,873 cf x 40.0% Voids
#2	47.00'	227 cf	Cultec C-100HD x 16 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap Row Length Adjustment= +0.50' x 1.86 sf x 4 rows
#3	49.00'	1 cf	0.50'D x 2.00'H Vertical Cone/Cylinder x 2 -Impervious
		977 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.00	700	110.0	0	0	700
47.00	700	110.0	700	700	810
48.00	700	110.0	700	1,400	920
49.00	700	110.0	700	2,100	1,030

Device	Routing	Invert	Outlet Devices
#1	Discarded	46.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	50.00'	4.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

85 tower Hydrocad (1.21.25)

Type III 24-hr 10 Year Storm Rainfall=4.65"

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Discarded OutFlow Max=0.13 cfs @ 11.80 hrs HW=46.05' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=46.00' (Free Discharge)

↑**2=Orifice/Grate** (Controls 0.00 cfs)

85 tower Hydrocad (1.21.25)

Type III 24-hr 100 Year Storm Rainfall=6.80"

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Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Conditions Runoff Area=62,688 sf 5.97% Impervious Runoff Depth=0.56"
Tc=5.0 min CN=37 Runoff=0.35 cfs 0.068 af

Subcatchment 6S: Proposed Conditions Runoff Area=53,528 sf 2.60% Impervious Runoff Depth=0.50"
Tc=5.0 min CN=36 Runoff=0.24 cfs 0.051 af

Subcatchment 7S: house Runoff Area=2,968 sf 100.00% Impervious Runoff Depth=6.56"
Tc=5.0 min CN=98 Runoff=0.46 cfs 0.037 af

Subcatchment 8S: House, Driveway, Lawn Runoff Area=6,192 sf 49.31% Impervious Runoff Depth=3.25"
Tc=5.0 min CN=68 Runoff=0.54 cfs 0.038 af

Reach 3R: (Existing) To Eastern Wetland Inflow=0.35 cfs 0.068 af
Outflow=0.35 cfs 0.068 af

Reach 5R: (Proposed) To Eastern Wetland Inflow=0.24 cfs 0.051 af
Outflow=0.24 cfs 0.051 af

Pond 5P: Subsurface Infiltration System Peak Elev=50.02' Storage=977 cf Inflow=0.99 cfs 0.076 af
Discarded=0.13 cfs 0.075 af Primary=0.01 cfs 0.000 af Outflow=0.15 cfs 0.075 af

Total Runoff Area = 2.878 ac Runoff Volume = 0.195 af Average Runoff Depth = 0.81"
91.10% Pervious = 2.622 ac 8.90% Impervious = 0.256 ac

Summary for Subcatchment 1S: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.35 cfs @ 12.30 hrs, Volume= 0.068 af, Depth= 0.56"
 Routed to Reach 3R : (Existing) To Eastern Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 Year Storm Rainfall=6.80"

Area (sf)	CN	Description
1,822	98	Roofs, HSG A
* 140	98	Retaining Wall, HSG A
* 409	98	Brick Walkway, HSG A
* 1,183	98	Ledge, HSG A
44,631	30	Woods, Good, HSG A
1,658	77	Woods, Good, HSG D
12,659	39	>75% Grass cover, Good, HSG A
186	98	Paved parking, HSG A
62,688	37	Weighted Average
58,948		94.03% Pervious Area
3,740		5.97% Impervious Area

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

Summary for Subcatchment 6S: Proposed Conditions

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.24 cfs @ 12.33 hrs, Volume= 0.051 af, Depth= 0.50"
 Routed to Reach 5R : (Proposed) To Eastern Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 Year Storm Rainfall=6.80"

Area (sf)	CN	Description
* 518	98	Ledge, HSG A
34,595	30	Woods, Good, HSG A
1,658	77	Woods, Good, HSG D
15,883	39	>75% Grass cover, Good, HSG A
* 582	98	Impervious Patio, HSG A
* 292	98	Impervious steps & retaining walls, HSG A
53,528	36	Weighted Average
52,136		97.40% Pervious Area
1,392		2.60% Impervious Area

85 tower Hydrocad (1.21.25)

Type III 24-hr 100 Year Storm Rainfall=6.80"

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

Summary for Subcatchment 7S: house

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.46 cfs @ 12.07 hrs, Volume= 0.037 af, Depth= 6.56"
 Routed to Pond 5P : Subsurface Infiltration System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 Year Storm Rainfall=6.80"

Area (sf)	CN	Description
2,968	98	Roofs, HSG A
2,968		100.00% Impervious Area

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

Summary for Subcatchment 8S: House, Driveway, Lawn

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.54 cfs @ 12.08 hrs, Volume= 0.038 af, Depth= 3.25"
 Routed to Pond 5P : Subsurface Infiltration System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100 Year Storm Rainfall=6.80"

Area (sf)	CN	Description
3,053	98	Paved parking, HSG A
3,139	39	>75% Grass cover, Good, HSG A
6,192	68	Weighted Average
3,139		50.69% Pervious Area
3,053		49.31% Impervious Area

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

Summary for Reach 3R: (Existing) To Eastern Wetland

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.439 ac, 5.97% Impervious, Inflow Depth = 0.56" for 100 Year Storm event
 Inflow = 0.35 cfs @ 12.30 hrs, Volume= 0.068 af
 Outflow = 0.35 cfs @ 12.30 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Reach 5R: (Proposed) To Eastern Wetland

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.439 ac, 11.83% Impervious, Inflow Depth = 0.43" for 100 Year Storm event
 Inflow = 0.24 cfs @ 12.33 hrs, Volume= 0.051 af
 Outflow = 0.24 cfs @ 12.33 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Summary for Pond 5P: Subsurface Infiltration System

Inflow Area = 0.210 ac, 65.73% Impervious, Inflow Depth = 4.32" for 100 Year Storm event
 Inflow = 0.99 cfs @ 12.08 hrs, Volume= 0.076 af
 Outflow = 0.15 cfs @ 12.60 hrs, Volume= 0.075 af, Atten= 85%, Lag= 31.5 min
 Discarded = 0.13 cfs @ 11.70 hrs, Volume= 0.075 af
 Primary = 0.01 cfs @ 12.60 hrs, Volume= 0.000 af

Routed to Reach 5R : (Proposed) To Eastern Wetland

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 2

Peak Elev= 50.02' @ 12.60 hrs Surf.Area= 700 sf Storage= 977 cf

Plug-Flow detention time= 50.5 min calculated for 0.075 af (100% of inflow)

Center-of-Mass det. time= 48.3 min (838.1 - 789.8)

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	749 cf	Custom Stage Data (Irregular) Listed below (Recalc) 2,100 cf Overall - 227 cf Embedded = 1,873 cf x 40.0% Voids
#2	47.00'	227 cf	Cultec C-100HD x 16 Inside #1 Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap Row Length Adjustment= +0.50' x 1.86 sf x 4 rows
#3	49.00'	1 cf	0.50'D x 2.00'H Vertical Cone/Cylinder x 2 -Impervious
		977 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.00	700	110.0	0	0	700
47.00	700	110.0	700	700	810
48.00	700	110.0	700	1,400	920
49.00	700	110.0	700	2,100	1,030

Device	Routing	Invert	Outlet Devices
#1	Discarded	46.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	50.00'	4.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

85 tower Hydrocad (1.21.25)

Type III 24-hr 100 Year Storm Rainfall=6.80"

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Discarded OutFlow Max=0.13 cfs @ 11.70 hrs HW=46.07' (Free Discharge)

↳ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.01 cfs @ 12.60 hrs HW=50.02' (Free Discharge)

↳ **2=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.43 fps)

**SUPPLEMENTAL
INFORMATION**

SECTION V

*LOCUS DEAD
EASEMENT STATEMENT*

*** Electronic Recording ***
Doc#: 00853883
Bk: 00685 Pg: 82 Cert: 137082
Rec Date: 08/02/2024 12:04 PM
Also Noted On: 127699
ATTEST: John R. Buckley, Jr. Register
Plymouth County Registry of Deeds

MASSACHUSETTS EXCISE TAX
Plymouth District ROD #11 001
Date: 08/02/2024 12:04 PM
Ctrl# 174242 08364
Fee: \$4,115.40 Cons: \$902,500.00

LAND COURT, BOSTON. The Land
herein described will be shown on
our approved plan to follow as
REFERRED TO
JUL 3 1 2024

Plan **16875⁰** Lot **55**
(EXAMINED DESCRIPTION ONLY)
STL CHIEF SURVEYOR (**JAN**)

QUITCLAIM DEED

Property Address: Lot 55, Tower Road, Hingham, MA

85 Tower Road LLC, a Massachusetts Limited Liability Company with a business address of 41 Brewster Road, Hingham, MA (hereinafter referred to as the "Grantor")

For consideration paid and in full consideration of Nine Hundred Two Thousand Five Hundred and 00/100 (\$902,500.00) Dollars,

Grants to ALR Homes LLC, a Massachusetts Limited Liability Company with a business address of 47G Street, Boston, MA 02127 (hereinafter referred to as the "Grantee"),

With QUITCLAIM COVENANTS:

The land identified as Lot 55 on a plan filed June 17, 2024 and entitled "Plan of Land, 0 Tower Road, Assessors Parcel 126 0 8, Hingham, MA, by Merrill Engineers and Land Surveyors, 427 Columbia Road, Hanover, Ma 02339," as registered with the Plymouth County District of the Land Court as Plan Number 16875-O.

The above sale does not constitute a sale of all or substantially all of the assets of 85 Tower Road LLC in the Commonwealth of Massachusetts.

The named herein do hereby voluntarily release all rights of homestead on this property, if any, as set forth in M.G.L. Chapter 188, and state under the pains and penalties of perjury that there is no other person entitled to such rights.

Meaning and intending to convey a portion of the premises deeded to the Grantor by deed dated October 13, 2018 and registered with the Plymouth County District of the Land Court as Document Number 778176, as noted on Certificate of Title Number 127699.

SIGNATURE ON FOLLOWING PAGE

Witness my hand and seal this 26th day of July, 2024.

GRANTOR:
85 TOWER ROAD LLC

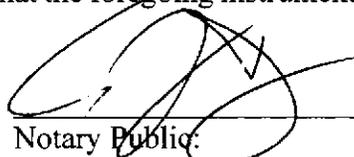


Gerard Rankin, Manager

COMMONWEALTH OF MASSACHUSETTS

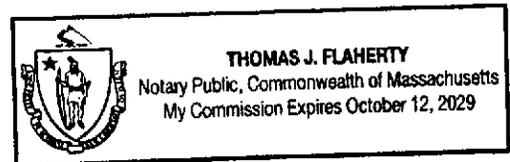
Norfolk, ss

On this 26th day of July, 2024, before me, the undersigned notary public, personally appeared the above-named Gerard Rankin, Manager of 85 Tower Road LLC, and proved to me through satisfactory evidence of identification, which was his driver's license, to be the person whose name is signed on the preceding document, and acknowledged to me that he signed it voluntarily for its stated purpose as Manager of aforesaid and that the foregoing instrument was his free act and deed.



Notary Public:

My commission expires: 10-12-2029





The Commonwealth of Massachusetts
Secretary of the Commonwealth
State House, Boston, Massachusetts 02133

William Francis Galvin
Secretary of the
Commonwealth

July 10, 2024

TO WHOM IT MAY CONCERN:

I hereby certify that a certificate of organization of a Limited Liability Company was filed in this office by

85 TOWER ROAD LLC

in accordance with the provisions of Massachusetts General Laws Chapter 156C on **October 4, 2018.**

I further certify that said Limited Liability Company has filed all annual reports due and paid all fees with respect to such reports; that said Limited Liability Company has not filed a certificate of cancellation; that there are no proceedings presently pending under the Massachusetts General Laws Chapter 156C, § 70 for said Limited Liability Company's dissolution; and that said Limited Liability Company is in good standing with this office.

I also certify that the names of all managers listed in the most recent filing are:
GERARD RANKIN

I further certify, the names of all persons authorized to execute documents filed with this office and listed in the most recent filing are: **GERARD RANKIN**

The names of all persons authorized to act with respect to real property listed in the most recent filing are: **GERARD RANKIN**



In testimony of which,

I have hereunto affixed the

Great Seal of the Commonwealth

on the date first above written.

William Francis Galvin

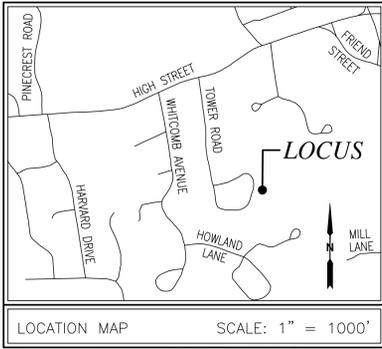
Secretary of the Commonwealth

Easement Statement

There are no proposed or known existing **stormwater** easements on the locus site.

SECTION VI

*PROJECT PLANS
SEE ATTACHED*

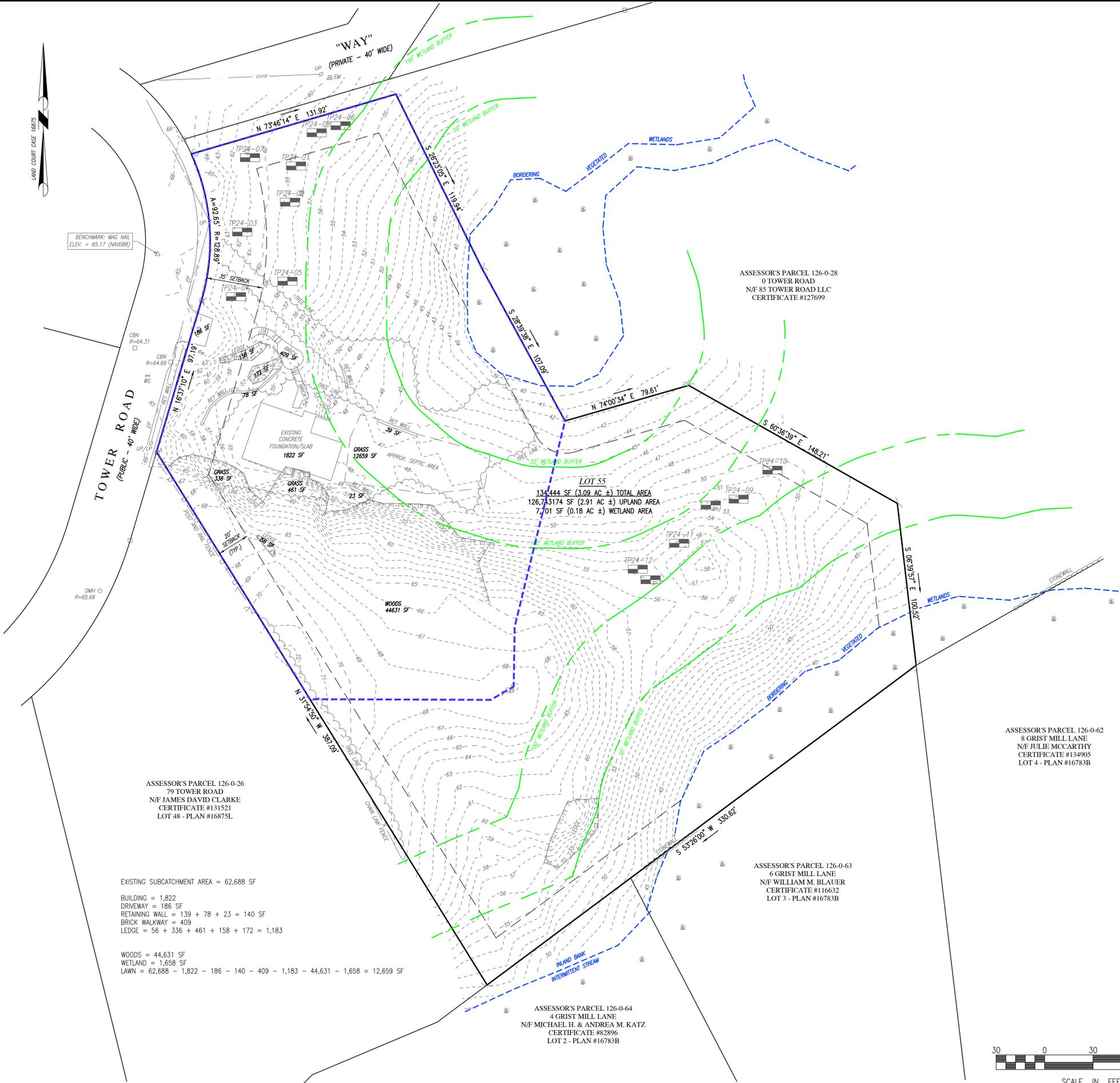


RECORD OWNER:
 ASSESSOR'S PARCEL 126-0-31
 85 TOWER ROAD
 ALR HOMES
 47 G STREET
 BOSTON, MA 02127
 CERTIFICATE #137082
 LOT 55 - ON A LAND COURT PLAN NUMBER 16875-0

- NOTES:**
- PLAN REFERENCES:
 - LAND COURT CASES 16875 & 16783
 - PLAN RECORDED WITH CERTIFICATE 127699.
 - TOPOGRAPHIC AND DETAIL INFORMATION SHOWN HEREON IS BASED UPON AN ON THE GROUND SURVEY PERFORMED BY MERRILL ENGINEERS AND LAND SURVEYORS DURING APRIL AND JUNE OF 2024.
 - ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
 - WETLAND RESOURCE AREAS SHOWN ON THIS PLAN WERE DELINEATED BY ENVIRONMENTAL CONSULTING AND RESTORATION, LLC DURING APRIL OF 2024 AND FIELD LOCATED BY MERRILL ENGINEERS AND LAND SURVEYORS.
 - SUBJECT SITE IS IN THE "RESIDENCE B" DISTRICT AS DEPICTED ON THE TOWN OF HINGHAM ZONING MAP.
 - EXISTING UTILITIES, WHERE SHOWN, HAVE BEEN COMPILED BASED ON OBSERVED ABOVE GROUND EVIDENCE AND AVAILABLE RECORD PLANS AND ARE TO BE CONSIDERED APPROXIMATE. MERRILL ENGINEERS AND LAND SURVEYORS DOES NOT GUARANTEE THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN OR THAT ALL EXISTING UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN.
 - EXISTING SEPTIC SYSTEM COMPONENTS SHOWN HEREON TAKEN FROM RECORDS ON FILE WITH THE TOWN OF HINGHAM BOARD OF HEALTH.
 - ONLY OBSERVED ABOVE GROUND LEDGE OUTCROP LOCATIONS SHOWN HEREON. ADDITIONAL SUBSURFACE LEDGE AND LEDGE IN UNMAPPED AREAS MAY EXIST THAT WOULD REQUIRE FURTHER INVESTIGATION TO ACCURATELY DEPICT ON PLAN.

FLOOD NOTE:
 BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS LOCATED IN ZONE "X" OF THE FLOOD INSURANCE RATE MAP, AS SHOWN ON COMMUNITY MAP No. 2502300084J, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 2012, AND IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA.

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ASSESSOR'S PARCEL 126-0-26
 79 TOWER ROAD
 N/F JAMES DAVID CLARKE
 CERTIFICATE #131521
 LOT 48 - PLAN #16875L

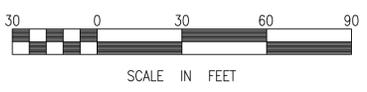
EXISTING SUBCATCHMENT AREA = 62,688 SF

BUILDING = 1,822 SF
 DRIVEWAY = 186 SF
 RETAINING WALL = 139 + 78 + 23 = 140 SF
 BRICK WALKWAY = 493 SF
 LEDGE = 56 + 336 + 461 + 158 + 172 = 1,183 SF

WOODS = 44,631 SF
 WETLAND = 1,658 SF
 LAWN = 62,688 - 1,822 - 186 - 140 - 409 - 1,183 - 44,631 - 1,658 = 12,659 SF

ASSESSOR'S PARCEL 126-0-63
 6 GRIST MILL LANE
 N/F WILLIAM M. BLAUER
 CERTIFICATE #116632
 LOT 3 - PLAN #16783B

ASSESSOR'S PARCEL 126-0-64
 4 GRIST MILL LANE
 N/F MICHAEL H. & ANDREA M. KATZ
 CERTIFICATE #82896
 LOT 2 - PLAN #16783B



REVISIONS:

DRAWN BY:
TRT

DESIGNED BY:

CHECKED BY:
BPS

SCALE:
1" = 30'

STAMP:

DRAFT



427 Columbia Road
 Hanover, MA 02339
 781-826-9200

362 Court Street
 Plymouth, MA 02360
 508-746-6060

Marine Division:
 26 Union Street
 Plymouth, MA 02360
 508-746-6060

448 N. Falmouth Hwy, Unit A
 North Falmouth, MA 02556
 508-563-2183

PROJECT #:
24-142.1

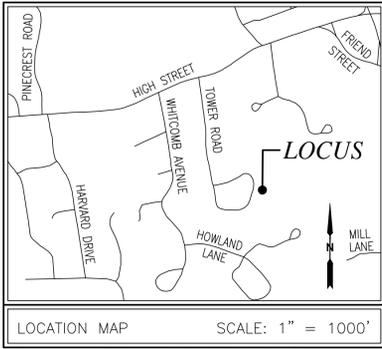
PROJECT:
85 TOWER ROAD
 ASSESSOR'S PARCEL:
126-0-31
 HINGHAM, MASSACHUSETTS

CLIENT:
ADF DEVELOPMENT GROUP
 213 WOMPATUCK ROAD
 HINGHAM, MA 02043

DRAWING PATH:
H:\24-142.1\DESIGN\24-142.1 EX SUBCATCHMENT.DWG

DATE:
FEBRUARY 18, 2025

EXISTING
SUBCATCHMENT PLAN

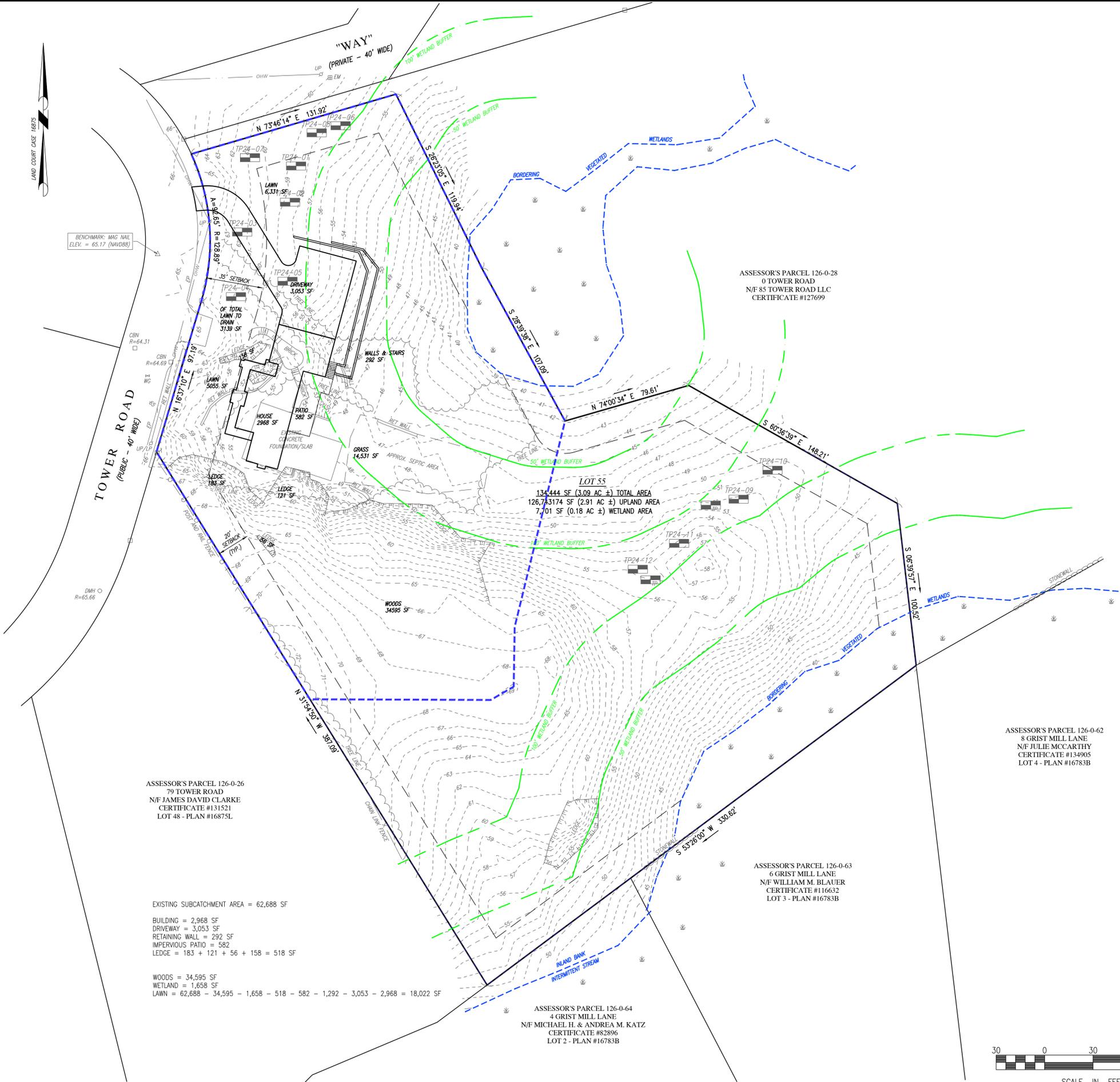


RECORD OWNER:
 ASSESSORS PARCEL 126-0-31
 85 TOWER ROAD
 ALR HOMES
 47 G STREET
 BOSTON, MA 02127
 CERTIFICATE #137082
 LOT 55 - ON A LAND COURT PLAN NUMBER 16875-0

- NOTES:**
1. PLAN REFERENCES:
 - 1.1. LAND COURT CASES 16875 & 16783
 - 1.2. PLAN RECORDED WITH CERTIFICATE 127699.
 2. TOPOGRAPHIC AND DETAIL INFORMATION SHOWN HEREON IS BASED UPON AN ON THE GROUND SURVEY PERFORMED BY MERRILL ENGINEERS AND LAND SURVEYORS DURING APRIL AND JUNE OF 2024.
 3. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
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BENCHMARK: MAG NAIL
 ELEV. = 65.17 (NAVD88)



TOWER ROAD
 (PUBLIC - 40' WIDE)

ASSESSOR'S PARCEL 126-0-26
 79 TOWER ROAD
 N/F JAMES DAVID CLARKE
 CERTIFICATE #131521
 LOT 48 - PLAN #16875L

EXISTING SUBCATCHMENT AREA = 62,688 SF
 BUILDING = 2,968 SF
 DRIVEWAY = 3,053 SF
 RETAINING WALL = 292 SF
 IMPERVIOUS PATIO = 582 SF
 LEDGE = 183 + 121 + 56 + 158 = 518 SF
 WOODS = 34,595 SF
 WETLAND = 1,658 SF
 LAWN = 62,688 - 34,595 - 1,658 - 518 - 582 - 1,292 - 3,053 - 2,968 = 18,022 SF

ASSESSOR'S PARCEL 126-0-28
 0 TOWER ROAD
 N/F 85 TOWER ROAD LLC
 CERTIFICATE #127699

LOT 55
 134,444 SF (3.09 AC ±) TOTAL AREA
 126,743,174 SF (2.91 AC ±) UPLAND AREA
 7,701 SF (0.18 AC ±) WETLAND AREA

ASSESSOR'S PARCEL 126-0-63
 6 GRIST MILL LANE
 N/F WILLIAM M. BLAUER
 CERTIFICATE #116632
 LOT 3 - PLAN #16783B

ASSESSOR'S PARCEL 126-0-64
 4 GRIST MILL LANE
 N/F MICHAEL H. & ANDREA M. KATZ
 CERTIFICATE #82896
 LOT 2 - PLAN #16783B

ASSESSOR'S PARCEL 126-0-62
 8 GRIST MILL LANE
 N/F JULIE MCCARTHY
 CERTIFICATE #134905
 LOT 4 - PLAN #16783B



SCALE IN FEET

REVISIONS:

DRAWN BY:
TRT

DESIGNED BY:

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PROJECT #:
24-142.1

PROJECT:
85 TOWER ROAD
 ASSESSOR'S PARCEL:
 126-0-31
 HINGHAM, MASSACHUSETTS

CLIENT:
ADF DEVELOPMENT GROUP
 213 WOMPATUCK ROAD
 HINGHAM, MA 02043

DRAWING PATH:
H:\24-142.1\DESIGN\24-142.1 PROPOSED SUBCATCHMENT.DWG
 DATE:
FEBRUARY 18, 2025

PROPOSED
SUBCATCHMENT PLAN