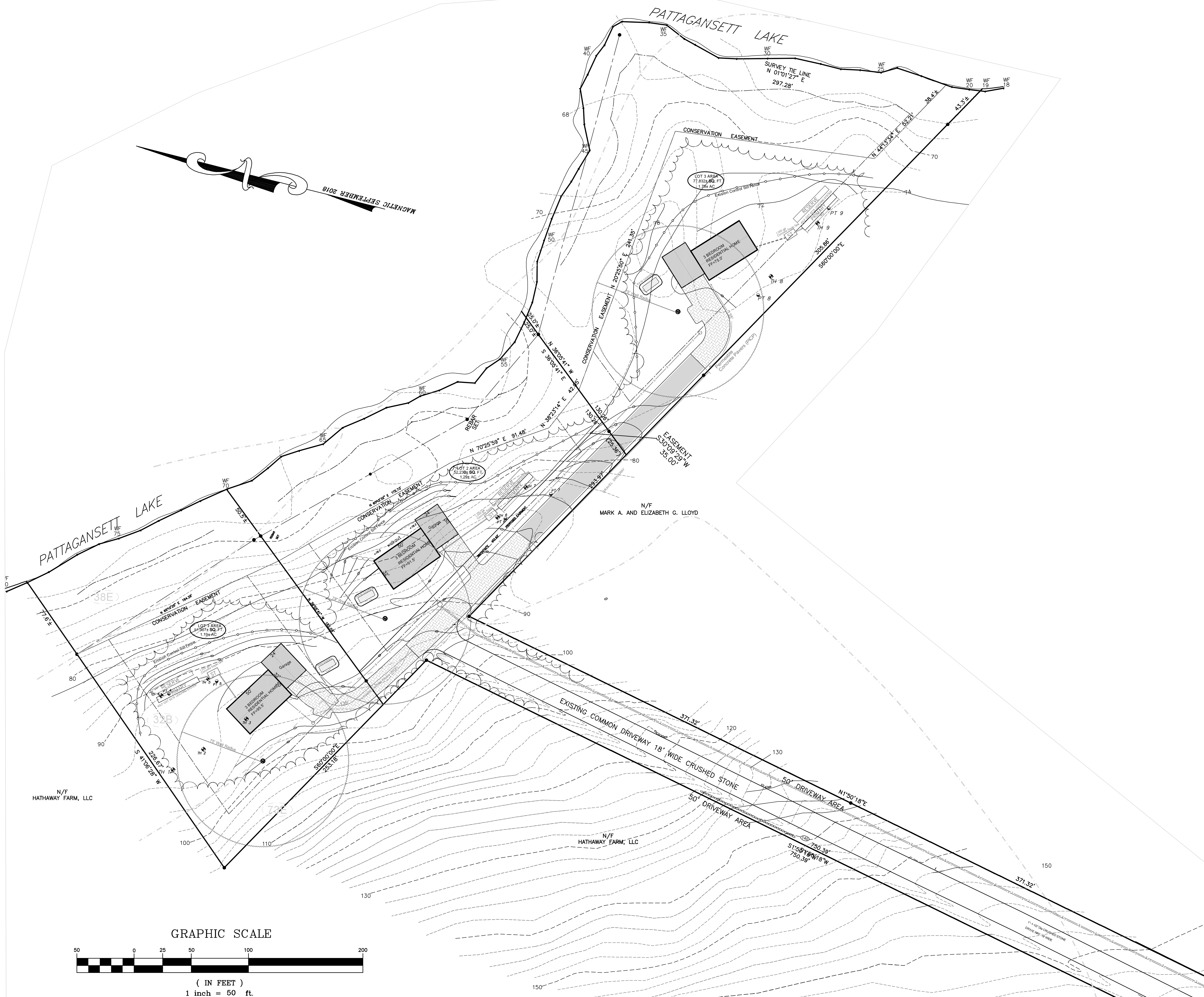


Legend:
- Monument
- Property Corner
- Utility Pole
- Erosion Crontrol Silt Fence
- Wetlands
- Proposed Grading
- + 393.0' Existing Spot Grade
- + 392.5' Proposed Spot Grade
- Stormwater Flow Direction

SOIL TYPES:
- W: WATER
- 38E: HINKLEY, GRAVELLY LOAM 15 TO 40% SLOPES
- 32B: HAVEN AND ENDFIELD 3 TO 8% SLOPES
- 73E: CHARLTON-CHATFIELS COMPLEX 15 TO 45% SLOPES VERY ROCKY

Rain Gardens

Water Quality Volume rainfall event 1.3” WQV rainfall

where:

P = design precipitation, inches (1.3” for water quality storm)
A = drainage area (*acres*) roof area 2,200 sf >> 0.045 ac
V = runoff volume CF
V= (1.3”/12)ft x 2200 sf = ***200 CF***

Rain Garden size 10-feet wide X 20 -feet long x 1’ 3”- deep= 250CF

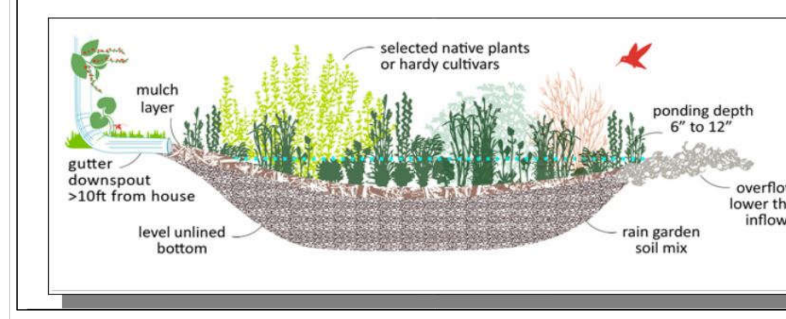
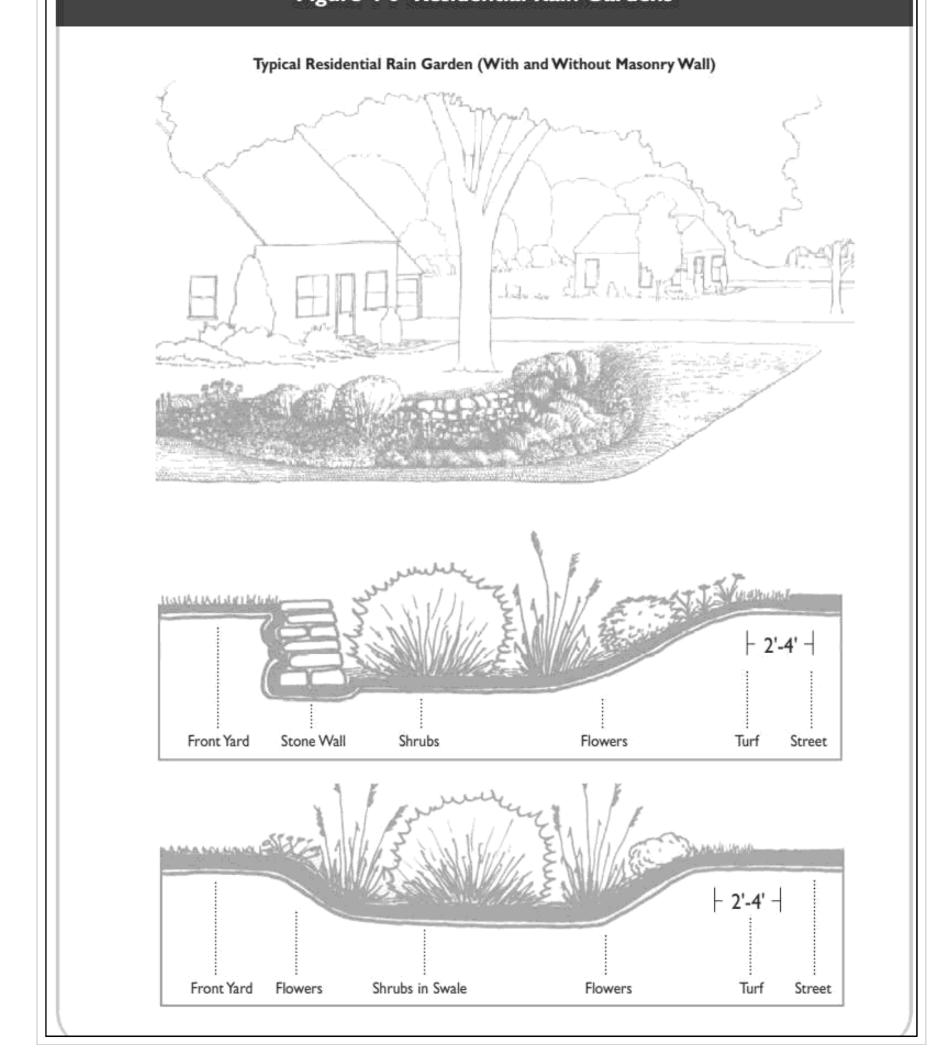
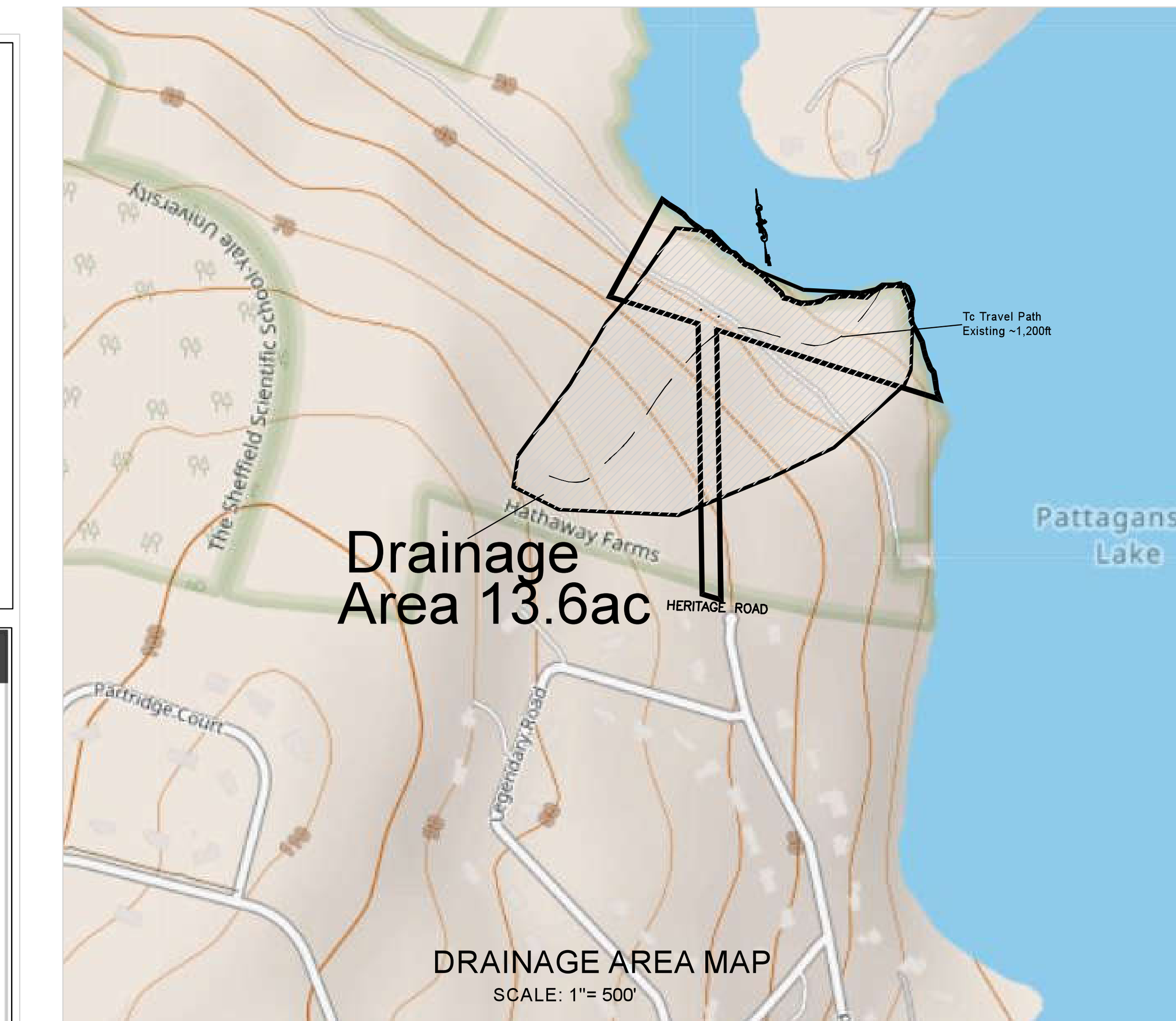


Figure 4-6 Residential Rain Gardens





DRAINAGE AREA MAP
SCALE: 1"= 500'

SITE DESCRIPTION:

The site is a 4.27-acre parcel located on the northern end of Heritage Rd and along the southwest shoreline of Pattagansett Lake in the Town of East Lyme, CT. The existing parcel is an undeveloped wooded parcel that has mature deciduous trees and several small grassed areas. The parcel has average slopes ranging from 5% to 14%. There is an existing gravel driveway that provides access to the proposed three lots. The soil type is primarily a hydraulic soil group B consisting of HINCKLEY - GRAVELLY LOAM, CHARLTON-CHATFIELD and HAVEN AND ENDFIELD gravelly sandy loam. The soil types were evaluated for their permeability and have a moderate-to-high infiltration rate, referencing the USDA Natural Resource Conservation Service Soil Survey for this parcel.

The existing parcel contains no Directly Connected Impervious Areas (DCIA) that convey stormwater. All stormwater flows from the western side to the northeastern side of the parcel and then into Pattagansett Lake. The existing gravel driveway directs flows from the western side of the parcel, traveling northeast towards the property line. The existing gravel drive has a ditch on each side that facilitates stormwater channelization and infiltration. Existing conditions were verified after several large rainfalls in the spring and summer of 2024. After these rainfall events, onsite inspection noted very little soil migration of fines, or acute channelization that resulted in little evidence of soil erosion. This further demonstrates that the onsite soil has a high infiltration capacity and the soil conditions at the site are stable.

The proposed three-lot subdivision design will have approximately 0.56 ac of disturbance for the 4.27-ac parcel. The drainage area for the 4.27-ac parcel is contained in a 13.65-ac sub-catchment drainage area. HydroCad Stormwater modeling software using Soil Conservation Service (SCS/NRCS) methods was used to develop existing/undeveloped stormwater conditions, which were then compared to proposed/developed conditions.
Water quality volumes (WQV), Required Retention volumes (RRV), Water Quality Flows (WQF) and pollutant reduction BMPs are evaluated and accomplished by the implementation of stormwater infiltration and retention devices to achieve the required 90% reduction in total suspended solids (TSS) and pollutant reduction. Stormwater from roof drains will be discharged to rain gardens designed to infiltrate storm water to reduce WQV and WQF. Permeable Interlocking Concrete Pavers (PICP) are incorporated in the driveway design to provide stormwater infiltration, storage and treatment to attenuate stormwater volumes and provide pollution reduction. Stormwater estimates have been modeled and estimated to ensure sufficient reduction of stormwater WQV.

DESIGN METHODOLOGY AND EVALUATION

The existing 4.27-ac site as proposed, consists of three parcels (Lot #1- 1.19 ac; Lot #2-1.29 ac & Lot #3-1.79 ac) of proposed developed areas which contains 9,300 sf (0.21 ac) permeable driveway and 6,810 sf (0.15 ac) of roof impervious areas, and 60,263 sf (1.4 ac) of grassed lawn area. The remaining 116,566 sf (2.67 ac) is undisturbed woodlands.

Storm water discharges from roofs are diverted to rain gardens sized to accommodate 730 cf (0.0167 ac-ft) of WQV removal. PICP as designed provide 22,000 gal (2940 cf) storage/ infiltration, combined with the rain garden volume for a total of 27,460 gal (3673 cf) or 0.084 acre-ft of WQV treatment / infiltration of stormwater. This stormwater treatment design methodology is in excess of the Required Retention Volume (RRV) for the site, which is calculated to be 0.069 acre-ft or 3005 cf (22,478 gal).

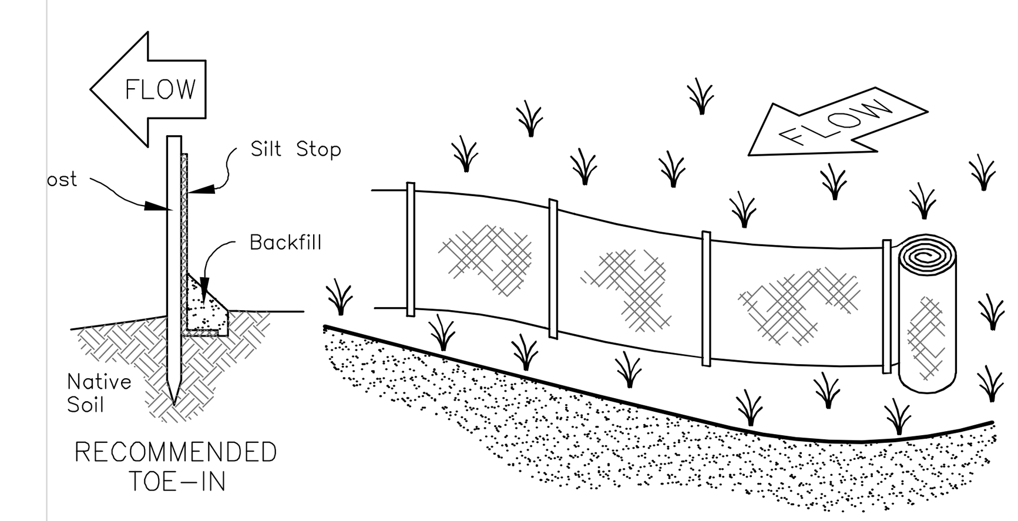
The Permeable Interlocking Concrete Pavers (PICP) provide Stormwater BMPs, specifically stormwater infiltration that is designed to retain stormwater and provide treatment and peak runoff attenuation. PICP provide dual functions, including retention (volume reduction), groundwater recharge, treatment, and stormwater quantity control.
PICP provide pollutant removal of:

- Sediments - High (includes sediment-bound pollutants)
- Phosphorus - Moderate
- Nitrogen - Moderate
- Bacteria - High

Summary

The proposed subdivision plan as designed has incorporated stormwater BMPs and reduction practices to mitigate stormwater impacts. Water Quality Volumes and Required Retention Volumes are achieved and implemented with standard design practices that are within parameters of the existing site conditions using standard stormwater designs- Best Management Practices (2023 CT Stormwater Design Manual). The proposed Heritage Rd. Subdivision – Lake Shore Point has an overall stormwater reduction of 14% in peak runoff attenuation and exceed WQV requirements.

Zoning Compliance Chart Zone = RU40 Conservation Design Development				
	Required	Lot 1	Lot 2	Lot 3
Minimum Lot Site	40,000 SF	51,967 SF	52,230 SF	77,832 SF
Minimum Frontage (cul de sac)	NA			
Minimum Front Yard	10'	65'	94'	54'
Minimum Side Yard (East)	30'	37'	159'	153'
Minimum Side Yard (West)	30'	80.4'	66'	125'
Minimum Rear Yard	50'	144'	100'	104'
Maximum Building Coverage	25%	4.6%	8.7%	` 1.7%
Maximum Building Height	30'	<30'	<30'	<30'
Existing Lot Size	4.27 ac	1.19 ac	1.29 ac	1.79 ac



PREASSEMBLED SILT FENCE

SOIL EROSION & SEDIMENTATION CONTROL NOTES

E & S plan is based on Connecticut Guidelines for Soil Erosion and Sediment Control”

Install Erosion Control silt fence as depicted on this plan
All disturbed areas shall have erosion control installed down gradient to stop soil migration. After each rainfall event erosion control shall be inspected and repaired to insure silt fence integrity to stop silt migration off site.

Unnecessary clearing of any vegetation or ground cover will be avoided. Any disturbed area left unvegetated will be covered with a hay or straw mulch to minimize erosion material.

Following final grading, all disturbed areas will be covered with 6" loam and seeded as described below. If final grading occurs past October 15, disturbed areas will be seeded with winter rye- grass and mulched with hay or straw at a rate of 1.5 - 2 tons per acre.

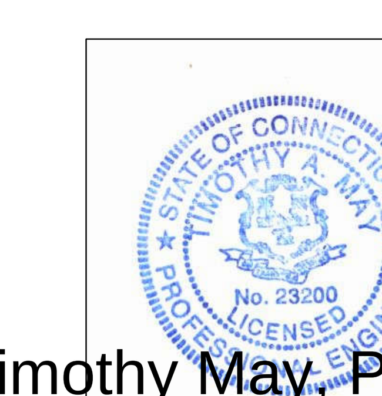
Seed Mixture Seeding Rate	% by Wt. Lbs./Ac.
Red Fescue	75-100
Colonial Bentgrass-Exeter	5
Perennial Ryegrass	5
Birdsfoot Trefoil-Empire	15

Any proposed vegetation which has not survived one growing season will be replaced.

All suitable material excavated for roadway construction to be used elsewhere on site.
Unsuitable material will be removed from the site and deposited in a suitable location.

All construction activity to occur between March 15 and October 15 to avoid adverse impacts on downstream flows.

Less than (1/2) of an acre of disturbance is proposed for each lot on this site plan.



Timothy May, PE

Digitally signed by Timothy May, PE
DN: O="May Engineering, LLC", CN="Timothy May, PE", E=mayengineering@sbcglobal.net
Reason: I am the author of this document
Location: Office
Date: 2025-03-05 13:00:14
Foxit PhantomPDF Version: 9.7.5

May Engineering LLC
Civil Engineering and Site Planning
1297 RT 163 Oakdale, CT 06370
860 884-9671

PLAN SHOWING
PROPERTY OF
PORTSIDE HOLDINGS, INC
AND
ENGLISH HARBOR CAPITAL PARTNERS, LLC
TENNANTS IN COMMON
HERITAGE ROAD
EAST LYME, CONNECTICUT

LAKE SHORE POINT SUBDIVISION

SCALE: 1"=50'
DATE: 06 JAN 2025 Rev 03/05/2025

JOB NUMBER	SHEET
	4 of 7

SUBDIVISION DRAINAGE
EROSION CONTROL PLAN