

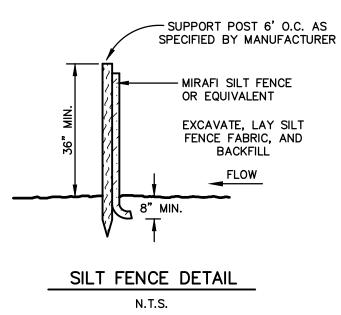
NOTE: INSTALLATION REQUIRES THE USE OF PROPRIETARY FORMS AND MUST BE SUPERVISED BY A REPRESENTATIVE FROM GEOMATRIX.

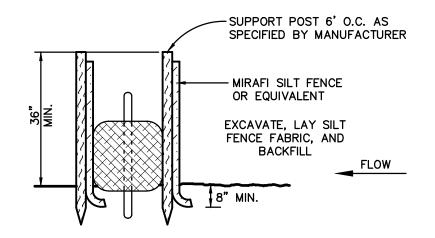
GEOMATRIX GST 6218 DETAIL

CONSTRUCTION SEQUENCE:

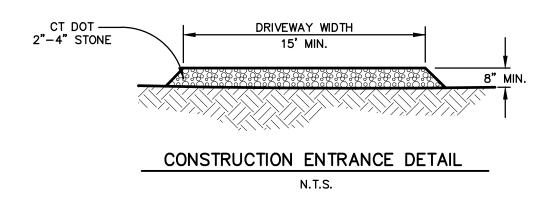
WORK SHALL COMMENCE IN THE FALL OF 2024 AND IS ANTICIPATED TO TAKE APPROXIMATELY SIX MONTHS TO COMPLETE.

- 1. PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION SITE MEETING SHALL BE HELD ON SITE WITH THE TOWN'S CONSERVATION PLANNER, SITE CONTRACTOR AND PROJECT ENGINEER.
- 2. ESTABLISH LIMITS OF DISTURBANCE AND INSTALL SOIL EROSION CONTROLS, INCLUDING ANTI TRACKING APRON FOR VEHICLE ACCESS AND DOUBLE ROW OF SILT FENCE WITH STAKED HAY BALES.
- 3. FIELD LOCATE EXISTING SEPTIC SYSTEM AND PROTECT FROM CONSTRUCTION ACTIVITY AS NECESSARY.
- 4. STRIP TOPSOIL WITHIN LIMITS OF DISTURBANCE AND STOCKPILE IN DESIGNATED AREA.
- 5. PERFORM POOL EXCAVATION. ALL EXCESS FILL MATERIAL SHALL BE REMOVED FROM THE SITE AS MINIMAL EARTHWORK IS PROPOSED.
- 6. FORM AND POUR POOL WALL. ONCE CURED, BACKFILL BEHIND WALLS.
- 7. INSTALL NEW UNDERGROUND DETENTION SYSTEM.
- 8. CONSTRUCT NEW HARDSCAPE AND DECKS.
- 9. INSTALL PROPOSED WETLANDS MITIGATION PLANTINGS.
- 10. FINISH GRADE AND SPREAD A MINIMUM OF 4" TOPSOIL OVER ALL DISTURBED AREAS. IMMEDIATELY SEED AND HAY ALL AREAS DESIGNATED
- 11. REMOVE SOIL AND EROSION CONTROLS ONLY AFTER PERMANENT VEGETATION





DOUBLE ROW SILT FENCE BACKED WITH STAKED HAYBALE DETAIL



GENERAL SEDIMENT AND EROSION CONTROL NOTES:

- 1. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION.
- 2. COORDINATE WITH THE TOWN/CITY LAND USE STAFF PRIOR TO THE BEGINNING
- 3. EXISTING TREES TO BE SAVED SHALL BE PROTECTED BY FLAGGING AND/OR SNOW FENCING AT THE DRIP LINE WHICH SHALL BE MAINTAINED DURING CONSTRUCTION.
- 4. DUE TO THE VARIABLE LOCATION OF CONSTRUCTION, THE USE OF ANTI-TRACKING APRONS WILL BE ON AN "AS-NEEDED" BASIS DETERMINED IN THE FIELD. WHEN ANTI-TRACKING APRONS ARE USED, THEY SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. APRONS SHALL CONSIST OF 2"- 4" CRUSHED STONE WITH A MINIMUM THICKNESS OF 8 INCHES. EACH APRON SHALL BE APPROXIMATELY 25 FEET LONG AND EXTEND THE WIDTH OF THE CONSTRUCTION ACCESS.
- 5. SILT FENCE AND OTHER SEDIMENT CONTROL MEASURES MUST BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFIC MANUFACTURER'S
- 6. SILT FENCE SHALL BE MIRAFI ENVIROFENCE OR EQUIVALENT APPROVED BY THE DESIGN ENGINEER.
- 7. ADDITIONAL SEDIMENT AND EROSION CONTROLS MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE INSPECTING ENGINEER OR ANY GOVERNING AGENCY.
- 8. AFTER EACH STORM EVENT OR AT LEAST ONCE WEEKLY, ALL SEDIMENT AND EROSION CONTROLS WILL BE INSPECTED. CORRECTIVE MEASURES TO MITIGATE ENVIRONMENTAL CONCERNS WILL BE ORDERED BY THE DESIGN ENGINEER AND/OR GOVERNING AGENCY, IF REQUIRED.
- 9. ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK, ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED FROM THE SITE AND ANY COLLECTED SEDIMENTS FROM THE DEVICES SHALL BE DISPOSED OF LEGALLY AND IN KEEPING WITH THE INTENT OF THIS PLAN.
- 10. LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED. APPLY GRASS SEED AT A RATE OF APPROXIMATELY 120 LBS/ACRE. SEED MIX WILL VARY FROM UPLAND TO WETLAND BUFFER AREAS. MULCH AFTER SEEDING UPLAND AT A RATIO OF 1000 LBS/ACRE.
- 11. EFFECTED PORTIONS OF OFFSITE ROADS MUST BE SWEPT CLEAN WHEN
- 12. ALL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL," DATED MAY 2002.

DESIGN CRITERIA:

- 1. PERCOLATION RATE: PT-A = 1:10
- A. DESIGN RATE FOR PRIMARY SYSTEM: 1:10
- B. DESIGN RATE FOR RESERVE SYSTEM: N/A
- 2. MINIMUM LEACHING SYSTEM SPREAD (MLSS):
- A. HYDRAULIC FACTOR (HF)
- 1) HYDRAULIC GRADIENT = 9.1%
- 2) DEPTH OF RESTRICTIVE LAYER = 32.25" (AVERAGE DT2 THRU 5)
- 3) HYDRAULIC FACTOR = 24'
- B. FLOW FACTOR (FF): 4 BEDROOM = 1.75
- C. PERCOLATION FACTOR (PF): 1:10 = 1.0
- D. MINIMUM LEACHING SYSTEM SPREAD = $24' \times 1.75 \times 1.0 = 42'$
- E. LEACHING SYSTEM SPREAD PROVIDED = 44'
- SYSTEM DESCRIPTION:
- A. NUMBER OF BEDROOMS: 4
- B. REQUIRED LEACHING AREA: 577.5 SF @ 14.0 SF/LF = 41.3 LF
- C. SYSTEM COMPONENTS: EX. 1250 GALLON SEPTIC TANK AND 44 LF OF GST 6218.
- D. TOTAL FIELDS PROPOSED:
- 1) PRIMARY SYSTEM: 1 x 44 LF = 44 LF @ 14.0 SF/LF = 616 SF
- 2) RESERVE SYSTEM: N/A
- 4. DEPTH OF SYSTEM CONTROL: RESTRICTIVE LAYER @ 33" IN DEEP TEST 2 WILL CONTROL THE DEPTH OF THE SYSTEM.

DEEP TEST AND PERCOLATION TEST DATA:

DEEP TEST 1 DEEP TEST 2 DEEP TEST 3 0"-45" MISC. JUNK FILL 0"- 6" TOPSOIL 0"- 6" TOPSOIL NO NATURAL SOIL 6"-40" RED BROWN SILTY 6"-33" DARK BROWN SILTY LOAM WITH ROOTS 33"-40" MOTTLED DARK BROWN 40"-60" MOTTLED DARK BROWN SILTY LOAM SILTY LOAM GROUNDWATER @ 33" GROUNDWATER @ 52" GROUNDWATER @ 23" MOTTLING @ 33" MOTTLING @ 40" MOTTLING @ 23" NO LEDGE LEDGE @ 40" NO LEDGE RESTRICTIVE @ 40" RESTRICTIVE @ 23" RESTRICTIVE @ 33" DEEP TEST 4 DEEP TEST 5 DEEP TEST 6 0"- 6" TOPSOIL 0"- 6" TOPSOIL 0"-48" MISC. FILL 6"-24" DARK BROWN SILTY LOAM 6"-32" RED BROWN SILTY LOAM WITH ROOTS 32"-52" MOTTLED DARK BROWN 24"-44" MOTTLED TAN SILTY SILTY LOAM GROUNDWATER @ 20" GROUNDWATER @ 45" GROUNDWATER @ 38"

MOTTLING @ 24"

RESTRICTIVE @ 24"

LEDGE @ 44"

PEROCLATION TEST A

MOTTLING @ 32"

RESTRICTIVE @ 32"

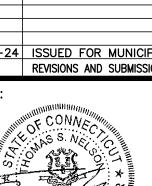
NO LEDGE

DEPTH: 18" DIAMETER: 8" PRESOAK @ 11:15 AM

TIME DEPTH
12: 30 12 1/2"
12: 40 15 1/2"
12: 50 16 3/4"
1: 00 DRY
1: 00 11" 1:10 15" 1: 20 16 1/2" 1: 30 DRY 1 1/2" 1 1/2"

DESIGN RATE 1:10

NOTE: DEEP TESTS WERE PERFORMED BY McCHORD ENGINEERING ASSOCIATES, INC. ON SEPTEMBER 16, 2024 AND WITNESSED BY THE ASPETUCK HEALTH DISTRICT. PERCOLATION TEST A WAS PERFORMED BY McCHORD ENGINEERING ASSOCIATES, INC. ON SEPTEMBER 16,



THIS DRAWING AND DETAILS ON IT, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ENGINEER AND MAY BE USED FOR THIS SPECIFIC PROJECT AND SHALL NOT BE LOANED, COPIED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER. 1 10-10-24 ISSUED FOR MUNICIPAL APPROVAL NO. DATE REVISIONS AND SUBMISSIONS DRAWING NO:

MOTTLING @ 20"

RESTRICTIVE @ 20"

NO LEDGE

SIGNATURE:

McChord Engineering Associates, Inc. Civil Engineers and Land Planners 1 Grumman Hill Road Wilton, CT 06897 (203) 834-0569

PLAN PREPARED FOR LEI MENG WESTON, CONNECTICUT

CONSTRUCTION NOTES AND DETAILS 30 VALLEY FORGE ROAD WESTON, CONNECTICUT

DATE: OCTOBER 10, 2024



Conservation Commission

INLAND WETLANDS AND WATERCOURSES APPLICATION

This Application is for a five-year permit to conduct a regulated activity or activities pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Weston ("The Regulations")

PROPERTY ADDRESS: 30 Valley Forge Road
Assessor's Map #18 Block #1 Lot #16
PROJECT DESCRIPTION (general purpose) Construct new pool, wood deck and walkway.
Total Acres 2.1669 Total Acres of Wetlands and Watercourses 0.9073
Acreage of Wetlands and Watercourses Altered 0.032 Upland Area Altered 0.090 ac
Acres Linear Feet of Stream Alteration 0.00 Total Acres Proposed Open Space 0.00
OWNER(S) OF RECORD: (Please list all owners, attach extra sheet if necessary)
Name: _Lei Meng Phone: _ (917) 572-8635
Address: 30 Valley Forge Road, Weston, CT 06883
Email:lei_meng_us@yahoo.com
APPLICANT/AUTHORIZED AGENT:
Name: Harry Rocheville (McChord Engineering Assoc., Inc.) Phone: (203) 834-0569
Address: 1 Grumman Hill Road, Wilton, CT 06897
Email: hrocheville@mcchordengineering.com
CONSULTANTS: (Please provide, if applicable)
Engineer: McChord Engineering Assoc., Inc. Phone: (203) 834-0569
Address: 1 Grumman Hill Road, Wilton, CT 06897 Email: hrocheville@mcchordengineering.com
Soil Scientist: Paul J. Jaehnig Phone: (203) 438-9993

Address: P.O. Box 1071, Ridgefield, CT 06877	Email: pjaehnig76@gmail.com					
Legal Counsel:	Phone:					
Address:	Email:					
Surveyor: William W. Seymour & Associates, P.C.	Phone: (203) 655-3331					
Address: 199 West Avenue, Darien, CT 06820	Email: sriefe@seymoursurveying.com					
PROPERTY INFORMATION	,					
Property Address: 30 Valley Forge Road						
Existing Conditions (Describe existing property and	d structures): Currently developed with a					
single-family residence, driveway, hardscape and	l lawn.					
Provide a detailed description and purpose of pr	oposed activity (attach sheet with additional					
information if needed): Construct new pool, wood deck and walkway with associated site grading, erosion controls and utilities. See B100a Septic System/Site Development Plan and Stormwater Management Report for additional information. Is this property within a subdivision (circle): Yes or No Square feet of proposed impervious surfaces (roads, buildings, parking, etc.): 840						
Subject property to be affected by proposed ac wetlands soils swamp floodplain marsh	tivity contains: bog lake or pond stream or river other					
The proposed activity will involve the following wing area:	thin wetlands, watercourse, and/or review					
✓ Alteration ✓ Construction	ction Pollution					
	ge from Bridge or Culvert					
Removal of Depositi						
Materials Material						
Amount, type, and location of materials to be related by the stripped and stockpiled near the pool area. Material material will be hauled off-site as there is only minimal filling propied clean gravel for below the decking. Description, work sequence, and duration of active striptions.	al will be excavated for the construction of the pool and excess osed. The only material that will be deposited from off-site will vifies:					
Construction entrance and erosion controls will be installed first. The proposed pool will then be excavated and constructed, and excessfill material will be removed from the site. Next the hardscape and wood deck will be constructed. Then mitigation plantings will be installed and disturbed areas will be stabilized with seed and hay. Erosion controls will be remain in place until the site is stabilized. Duration of construction is anticipated to be approx. 6 months. See construction sequence on attached plans for more information. Describe alternatives considered and why the proposal described herein was chosen:						
Multiple alternatives were considered but ultimately this lay be located outside of the flood zone and as far from the Sa	out was chosen to minimize earthwork and disturbance,					
Does the proposed activity involve the installation						
(circle) Yes or No B100a only, Application has b						
The Westport/Weston Health District Approval:						

ADJOINING MUNICIPALITIES AND NOTICE:

If any of the situations below apply, the applicant is required to give written notice of his/her application to the Inland Wetlands Agency of the adjoining municipality, on the same day that he/she submits this application. Notification must be sent by Certified Mail with Return Receipt Requested.

The property is located within 500 feet of any town boundary line;

A significant portion of the traffic to the completed project will use streets within the adjoining municipality to enter or exit the site;

A portion of the water drainage from the project site will flow through and significantly impact the sewage system or drainage systems within the adjoining municipality; or Water runoff from the improved site will impact streets or other municipal or private property within the adjoining municipality

AQUARION WATER COMPANY

Pursuant to Section 8.4 of the Weston regulations, the Aquarion Water Company must be notified of any regulated activity proposed within its watersheds. Maps showing approximate watershed boundaries are available at the office of the Commission. If the project site lies within these boundaries, send notice, site plan, and grading and erosion control plan via certified mail, return receipt requested, within seven (7) days of submitting application to the Commission, to:

George S. Logan, Director – Environmental Management Aquarion Water Company 714 Black Rock Turnpike Easton, CT 06612

The Commissioner of the Connecticut Department of Public Health must also be notified in the same manner in a format prescribed by that commissioner.

The undersigned, as owner(s) of the property, hereby consents to necessary and proper inspections of the above mentioned property by Commissioners and agents of the Conservation Commission, Town of Weston, at reasonable times, both before and after a final decision has been issued by the Commission.

The undersigned hereby acknowledges to have read the "Application Requirements and Procedures" in completing this application.

The undersigned hereby certifies that the information provided in this application, including its supporting documentation is true and he/she is aware of the penalties provided in Section 22a-376 of the Connecticut General Statues for knowingly providing false or misleading information.

See attached Letter of Auth	norization	
Signature of Owner(s) of Recor	d	Date
1 Any 70	mh	10/10/24
Signature of Authorized Agent		Date
V		
	FOR OFFICE USE ONLY	
Administrative Approval		
	Initials	Date



October 4, 2024

Town of Weston Conservation Commission Town Hall Annex – 24 School Road Weston, CT 06883

Re: Inland Wetlands and Watercourses Application

Proposed Site Development

30 Valley Forge Road, Weston, CT

Map 18, Block 1, Lot 6

Dear Commissioners,

I hereby authorize McChord Engineering Associates, Inc. (MEA), to act as agent regarding the referenced Conservation Commission application and authorize all subject property activities associated with the proposed site development at the subject property.

I hereby consent to all necessary and proper inspections of the property by the Town of Weston Conservation Department and Commissioners at all reasonable times, both before and after the applied permit has been granted, and until the permitted activity has been completed in accordance with the conditions of the permit and verified by the Conservation Department.

Sincerely,



Lei Meng Property Owner

Adjacent Property Owners of Property 30 Valley Forge Road Weston, CT 06883

M/B/L 18/1/7	Property Owner Jonathan Ross & Amy Colbert	Mailing Address 22 Valley Forge Road Weston, CT 06883
18/1/11	Scott A Hersey & Susan Valentino	17 Davis Hill Road Weston, CT 06883
18/1/10	Robert Walker & Carleen Lyden	21 Davis Hill Road Weston, CT 06883
18/1/12	Michael Tobin	25 Davis Hill Road Weston, CT 06883
18/1/13	Jaime Rose Roche	29 Davis Hill Road Weston, CT 06883
18/1/4	Lawrence & Michele Marsh	40 Valley Forge Road Weston, CT 06883
18/2/3	Lawrence Scott Perry & Carol Matheson	43 Valley Forge Road Weston, CT 06883
18/2/17	Daniel M & Ellen P Crown	222 North La Salle Street, Ste 300 Chicago, IL 60601
18/2/10	Peter & Samantha Knight	24 Kellogg Hill Road Weston, CT 06883



GIS CODE #:	 	 	 	
For DEEP Use Only				

79 Elm Street • Hartford, CT 06106-5127

www.ct.gov/deep

Affirmative Action/Equal Opportunity Employer

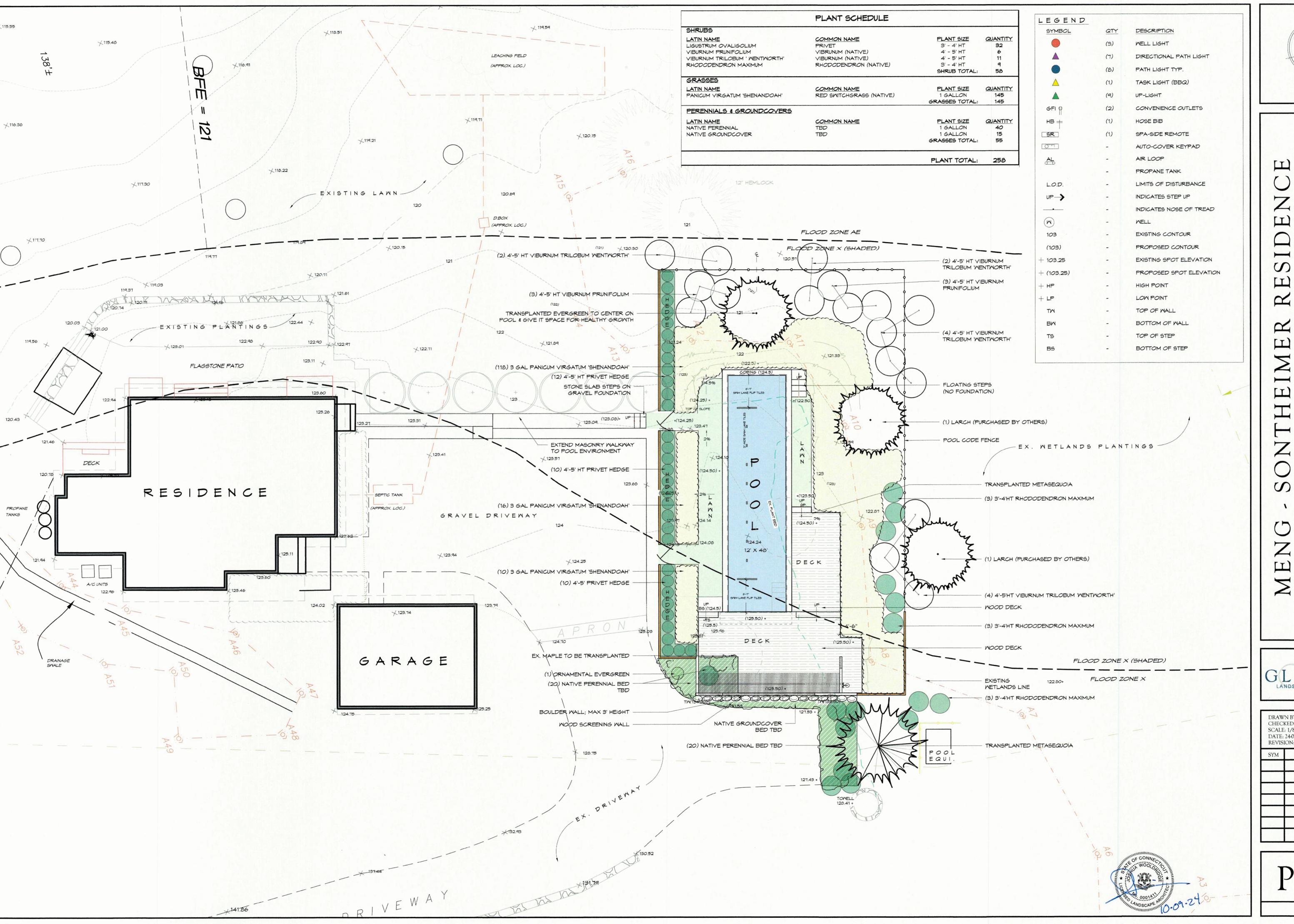
Statewide Inland Wetlands & Watercourses Activity Reporting Form

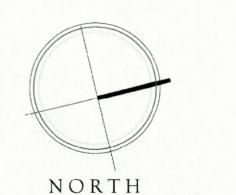
Please complete and mail this form in accordance with the instructions on pages 2 and 3 to:

DEEP Land & Water Resources Division, Inland Wetlands Management Program, 79 Elm Street, 3rd Floor, Hartford, CT 06106

Incomplete or incomprehensible forms will be mailed back to the inland wetlands agency.

	PART I: Must Be Completed By The Inland Wetlands Agency
1.	DATE ACTION WAS TAKEN: year: month:
2.	ACTION TAKEN (see instructions, only use one code):
3.	WAS A PUBLIC HEARING HELD (check one)? yes ☐ no ☐
4.	NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:
	(print name) (signature)
	PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant
5.	TOWN IN WHICH THE ACTION IS OCCURRING (print name): Weston
	does this project cross municipal boundaries (check one)? yes \(\square\) no \(\mathbb{X} \)
	if yes, list the other town(s) in which the action is occurring (print name(s)):,,
6.	LOCATION (see instructions for information): USGS quad name: Westport or number: 108
	subregional drainage basin number: 7200
7.	NAME OF APPLICANT, VIOLATOR OR PETITIONER (print name): Lei Meng
8.	NAME & ADDRESS / LOCATION OF PROJECT SITE (print information): 30 Valley Forge Road
	briefly describe the action/project/activity (check and print information): temporary permanent X description: Construction of new pool and wood deck.
9.	ACTIVITY PURPOSE CODE (see instructions, only use one code): A
10.	ACTIVITY TYPE CODE(S) (see instructions for codes):1,12,14
	. WETLAND / WATERCOURSE AREA ALTERED (must provide acres or linear feet):
	wetlands: 0.032 acres open water body: 0 acres stream: 0 linear feet
12.	. UPLAND AREA ALTERED (must provide acres):0.090 acres
13.	AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (must provide acres): acres
DA	ATE RECEIVED: PART III: To Be Completed By The DEEP DATE RETURNED TO DEEP:
FC	DRM COMPLETED: YES NO FORM CORRECTED / COMPLETED: YES NO





DRAWN BY: RB CHECKED: JW SCALE: 1/8" = 1' - 0" DATE: 24-05-10 **REVISION: 10-09-24** DATE

NOTE

PLANTING PLAN

Wetlands Survey

The Meng-Sontheimer Site

30 Valley Forge Road

Weston, CT

Approx. 2.18-Acres Total Study Area

Prepared for

Lei Meng and Ben Sontheimer

Jan. 25, 2021



21 meng-sontheimer. 30 valley forgerd. westonctwirep

Introduction

A wetland investigation was completed Jan. 25, 2021 on property identified as 30 Valley Forge Road in the Town of Weston, CT by Paul J. Jaehnig, Certified Professional Scientist, and Wetland Scientist. The work consisted of the taking of soil borings to identify the presence of wetland or hydric soils, and the marking or flagging of the wetlands boundary. The work was conducted in accordance with the Town of Weston Wetland Law. The work was done at the request of the clients and property owners Lei Meng and Ben Sontheimer.

Site Description

The site is an approx. 2.18 acres study area located at the west side of Valley Forge Road. The site is situated in a low-density residential community where properties are typically separated from neighbors by woodland buffers. The site consists of: a residence; detached garage; surrounding lawn; woodland borders; and wetlands (see enclosed *Wetland and Soils Map* and *photos 1-10* in Appendix I). The Saugatuck River flows through the western edge of the site.

Slopes on the site vary from nearly level and gently sloping to steep-sloping. Most of the site is gently sloping. The land slopes down to the west across most of the site. The central-southern portion of the site slopes down to the southwest. Steep slopes occur on the eastern edge of the site. A narrow strip of steep sloped land is also along the western edge of the site where land borders the Saugatuck River. Gently sloped areas occur on the central and some western portions of the site. Nearly level areas occur on the northern, central-southern, and some central portions of the site. Topography around the residence, yard, and along the driveway has been modified by past man-made cut, fill, and grading of the soil, carried-out during the development of the site.

A paved driveway comes off of the west side of Valley Forge Road and into the southeast corner of the site (see *photo 1* in Appendix I). The driveway continues northwest, traversing a steep slope on the eastern edge of the site, before leveling-off near the northeast-central portion of the site. A small parking area for vehicles splays off of the driveway at his point (see *photo 1 & 2* in Appendix I). The driveway turns west and then south, widening to form a wider courtyard area for vehicle parking located on the central portion of the site (see *photo 2* in Appendix I). The residence is located on the southcentral portion of the site, just south of the courtyard (see *photo 3* in Appendix I). A detached garage is located east of the courtyard and northeast of the residence.

Lawn area covers the central and much of the central-western portions of the site (see *photos 4 & 5* in Appendix I).

Non-wetland woodland borders are on the eastern edge of the site, as well as, the southwest corner and northwest corner of the site (see *photo* 6 in Appendix I). Woodlands have a tree canopy primarily of hemlocks and lesser amounts of black birch. The woodland understory is open except for a few barberry shrubs as understory. Twig and hemlock or pine needle litter covers the woodland floor.

Wetlands and Watercourses

Introduction

The wetland boundary was delineated in the field with consecutively numbered flags (WL-A-1, WL-A-2, etc.) and plotted on the enclosed *Wetland and Soils Map*. Wetlands consist of swampland, wetland lawn, and a watercourse.

Watercourse

The Saugatuck River flows southerly along the western edge of the site (see *photo* 7 in Appendix I). The watercourse has a well-defined channel, approx. 80 ft. wide and 3.5 ft. deep. There is approx. 1.5 to 2 ft. deep water flowing in the channel at this time. The side banks steep, nearly vertical in many places. The channel bed of the river is rocky in places. The river gradient is nearly flat. Flow is mainly laminar and smooth, other than spots of turbulence where cobbles and stones have been purposefully arranged across the channel bed to form a baffle below the water line. The water quality appears to be good, as it is possible to see the channel bottom from the shore. There is no appreciable floodplain along this section of the river, as there is a good elevation relief between the water line of the river and adjacent land. Small points of inundation would be limited to lands in close proximity to the river, and during major storm events. These areas are near the northwest edge of the site.

Wetlands

Wetlands cover the northern portion of the site, as well as, the central-southern portion of the site. Wetlands consist primarily of swampland, with lesser amount of wetland lawn. Wetlands are nearly level to very gently sloping for the most part. Small areas of moderately sloped hillside wetlands are on the northeast edge of the site, as well as, southeast edge of the site. Diffuse seeps and springs, as well as, small drainage courses, are associated with the hillside wetlands on the northeast and southeast edges of the site, and some of the wetland lawn on the central-southern portion of the site.

Swampland

Level to very gently sloping swampland cover the northern portion of the site (see *photo* 8 in Appendix I). The swampland is poorly drained. Micro-topography is developed in core portions of the swampland. The swampland is not inundated by the river, however, at wetter periods of the year puddled water collects in many slight concave pockets throughout the core of the swampland. The vegetative cover consists of: thin to absent tree canopy of red maple, few tall tulip, and few hemlock trees; thin shrub understory of few barberry, few multiflora rose, few viburnum, and few spicebush; and herbaceous growth of small tussock sedge, common Japanese stilt grass, goldenrod, skunk cabbage sprouts, local wool grass, fireweed, cinnamon fern, and sensitive fern. The tree canopy is nearly absent in the swampland on the central-northern portion of the site. The tree roots are shallow and exposed.

Small drainage courses are associated with the swampland. There are two small drainage courses on the hillside wetlands: one on the northeast corner of the site; another on the southeast edge of the site. Both drainage courses are intermittent. The drainage course channels are poorly defined, varying from 2 to 3 ft. across and 1.0 to 0.5 ft. deep.

Intermittent storm-water generated from the roadway to the east of the site, likely provides surges of concentrated flow and causes scouring action along these drainage course channels. The drainage courses associated with the hillside wetland areas dissipate prior to reaching the Saugatuck River. A nearly level to very gently drainage course flows southwest to west across the very northwest corner of the site. This drainage course has a rocky channel, approx. 6 ft. wide and less than 2.0 ft. wide. Approx. 1 inch deep water flows in the channel at this time. The drainage course comes from a swampland located on the adjoining property to the north of the site. Where the drainage course meets the Saugatuck River, the adjacent non-wetlands banks flanking the drainage course form side banks approx. 3.0 to 3.5 ft. in height.

Wetland Lawn

Wetland lawn covers the central-southern portion of the site, covering a broad area of lawn just to the south of the residence, as well as, a narrower strip of lawn just to the east of the residence (see *photo 9* in Appendix I) The wetland lawn is nearly level to very gently sloping. The direction of surface drainage is to the southwest. The wetland lawn is poorly drained and has some weakly developed micro-topography in places. The wetland lawn has been previously disturbed by man-made activity carried-out in order to control the flow of both overland and subsurface drainage flow where in close proximity to the residence. These disturbance include: removal of previous natural wetland vegetative cover and replacement with lawn cover and sphagnum moss groundcover; mixing of natural wetland soil profiles; and construction of a small swale to direct concentrated drained around and away from the east and southeast sides of the residence.

A swale, approx. 1.0 to 2.0 ft. wide and less than 0.5 ft. deep, begins at the edge of the nearly level wetland lawn, approx. 20 ft. to the east of the back of the residence, and at the base of the steep woodland slope (see *photo 10* in Appendix I). The swale has a nearly flat gradient and carries less than 0.5 inch deep of water in its channel at this time. The flow is very sluggish. The swale comes close to the southeast corner of the residence, continues southwest along the east edge of the wetland lawn, and to the central-southern property line. At the property line, the swale continues into a small area of nearly level swampland on the neighboring property. The swale tapers off in the off-site swampland. Vegetative growth in and along the swale includes pachysandra, few skunk cabbage, few sensitive fern, few fireweed, sphagnum moss, Japanese silt grass, and cinnamon fern. Pachysandra groundcover forms a nearly complete vegetative blanket over the northern portion of the swale, where close to the residence.

<u>Soils</u>

Shallow soil borings were taken using a spade and Dutch auger at selected locations throughout the site in order to identify wetland soils. Soil boring locations (SS-1, SS-2, etc.) were plotted approx. on the enclosed *Wetland and Soils Map*. Soil borings were logged noting soil profile color, texture, redoximorphic (wetland soil) indicators, and water table. Detailed descriptions of soil borings are provided in Appendix II. Soils described with "relic" mottling are areas where a wetland profile has been filled over with a well-drained soil cover and the hydrology in the area has been altered by man such that the area is no longer functioning as a wetland system.

Soils encountered on the study area include: non-wetland, well drained Charlton fine sandy loam (ChB), slopes 3 to 8 %, in the undisturbed, very gently sloped woodlands on the northwest and southwest portions of the site; non-wetland, well drained Charlton fine sandy loam (ChD), slopes 15 to 25 %, in the undisturbed, moderate to steep sloping woodlands on the eastern edge of the site; non-wetland, well drained Udorthents, cut, fill, & graded soil (Ud1), slopes varied, to describe areas around the residence, detached garage, yard, and along the driveway, where past man-made disturbances, including placement and grading of fill soil, has been carried-out as part of the development of the property; non-wetland, moderately well drained Udorthents (Ud2), slopes varied, to describe areas of past man-made disturbance, including placement and grading of fill soil, adjacent to wetlands; wetland, poorly drained Aquents soils (Aq), slopes 0 to 3 %, to describe wetland soils where the natural wetland soil profiles have mixed or otherwise disturbed by past man-made activity; wetland, poorly drained Leicester loam (LcA), slopes 0 to 3 %, in the undisturbed, nearly level swamplands; wetland, poorly drained Leicester loam (LcB), slopes 3 to 8 %, in the undisturbed, hillside wetlands on the northern and southeast edge of the site; and wetland, poorly drained Rippowam fine sandy loam (Ro), slopes 0 to 3 %, in the undisturbed, nearly and slightly concave wetlands along the edge of the Saugatuck River. The distribution of these soil-types is depicted on the enclosed Wetland and Soils Map.

Appendix I

Selected Site Photos

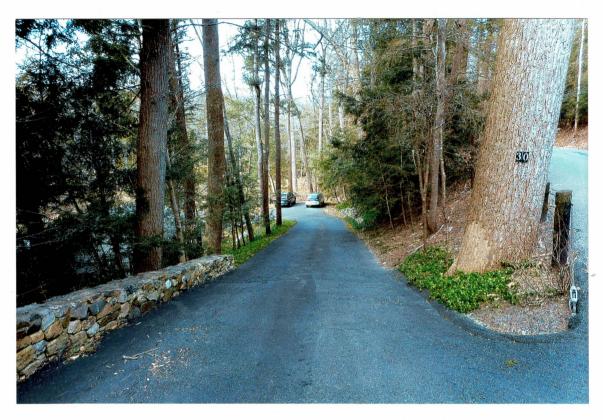


Photo 1 Looking northwest and downslope long driveway. Note small area for vehicle parking that splays off of the driveway in the center background of photo.



Photo 2 Looking southeast toward courtyard for vehicle parking and toward residence. Note detached garage to the left of the residence.

Jan. 2021- The Meng-Sontheimer Site, 30 Valley Forge Rd, Weston, CT

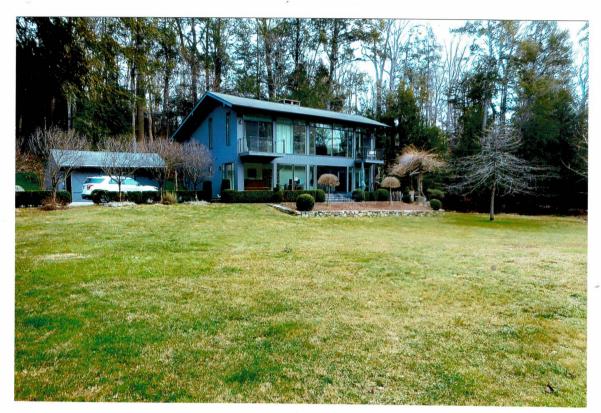


Photo 3 Looking southeast and upslope across lawn and toward the residence.

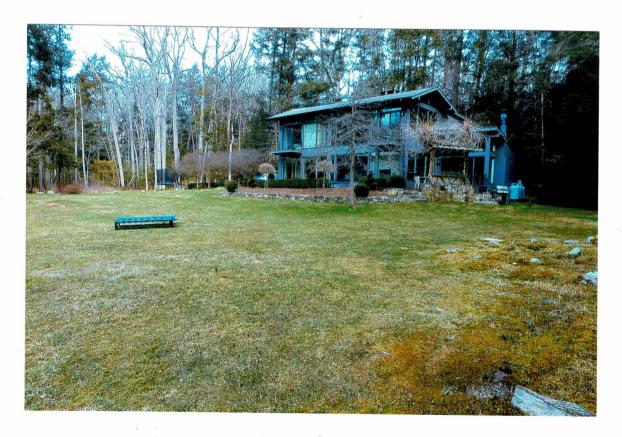


Photo 4 Looking northeast and upslope across lawn and toward residence.

Jan. 2021- The Meng-Sontheimer Site, 30 Valley Forge Rd., Weston, CT



Photo 5 Looking west and downslope across lawn and toward Saugatuck River



Photo 6 Looking northeast across gently sloped woodlands and toward the residence.

Jan. 2021- The Meng-Sontheimer Site, 30 Valley Forge Rd., Weston, CT



Photo 7 Looking northerly and upstream along shore of Saugatuck River. Notice lands slopes up from river to lawn.

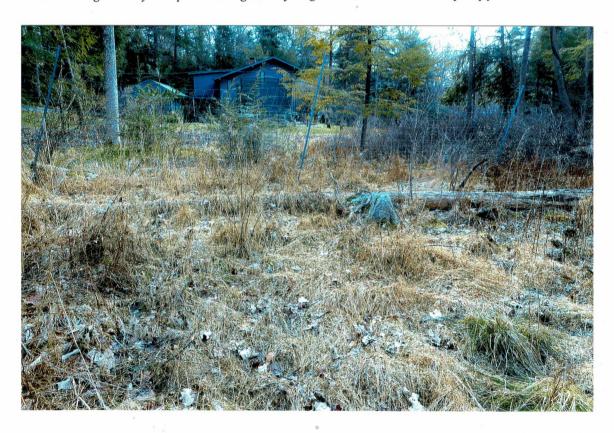


Photo 8 Looking south across swampland on the northern portion of the site. Note residence in background of photo.

Jan. 2021- The Meng-Sontheimer Site, 30 Valley Forge Rd., Weston, CT

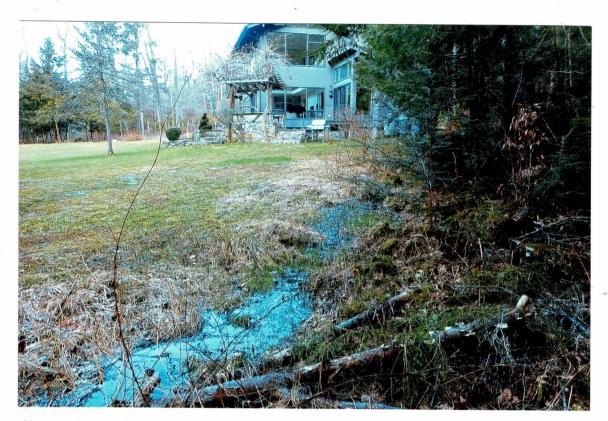


Photo 9 Looking northeast and upslope along swale and wetland lawn located just to the south of the residence.



Photo 10 Looking northeast and upslope along swale flowing adjacent to southeast corner of the residence. Note pachysandra groundcover blanketing path of swale.

Jan. 2021- The Meng-Sontheimer Site, 30 Valley Forge Rd., Weston, CT

Appendix II

Soil Boring Logs

KEY TO BORING LOGS

SS-1 SOIL BORING

0-4" DEPTH IN INCHES FROM

THE GROUND SURFACE

MUNSELL COLOR NOTATION COLOR

VALUE/ CHROMA VERY DARK GRAY HUE

10YR 3 / 1

SS-1

SITE: LEVEL SWAMPLAND; POORLY DRAIED; WEAK MICRO-TOPOGRAPHY; VERY TO ABSENT THIN TREE CANOPY OF FEW RED MAPLE AND FEW TULIP; OPEN UNDERSTORY EXCEPT FOR CLUSTERS OF MULTIFLORA ROSE AND A FEW BARBERRY SHRUBS; LUSH HERBACEOUS COVER OF TUSSOCK SEDGE, SKUNK CABBAGE SPROUTS, FEW WOOL GRASS, AND JAPANESE STILT GRASSES; SPHAGNUM MOSS COVERS COBBLES AND STONES.

- 0-8" DARK GRAY 10YR 4/1 SILT LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).
- 8-26" BLUISH GRAY 5PB 6/1 SANDY LOAM WITH 20% DARK YELLOW BROWN 10YR 4/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 0".

SS-2

SITE: LEVEL SWAMPLAND; SIMILAR TO SS-1; ADJACENT TO METAL FENCE.

- 0-10" DARK GRAY 10YR 4/1 SILT LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).
- 10-14" BLUISH GRAY 5PB 6/1 LOAM WITH 20% DARK YELLOW BROWN 10YR 4/6 MOTTLES (REDOX CONCENTRATIONS).
- 14-28" BLUISH GRAY 5PB 6/1 FINE SANDY LOAM WITH 20% DARK YELLOW BROWN 10YR 4/6 MOTTLES (REDOX CONCENTRATIONS).

WATERTABLE AT 0".

SS-3

SITE: LEVEL SWAMPLAND; POORLY DRAINED; WEAK MICRO-TOPOGRAPHY; NO TREE CANOPY; FEW BARBERRY SHRUBS LUSH HERBACEOUS GROWTH OF JAPANSES STILT GRASS, FEW SKUNK CABBAGE SPROUTS.

- 0-10" DARK GRAY 106YR 4/1 SILT LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).
- 10-12" GRAY 10YR 6/1 LOAM WITH 20% DARK YELLOW BROWN 10YR 4/6 MOTTLES (REDOX CONCENTRATONS).

(SS-3 cont.)

12-28" BLUISH GRAY 5PB 6/1 FINE SANDY LOAM WITH 20% DARK YELLOW BROWN 10YR 4/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 1".

SS-4

SITE: LEVEL SWAMPLAND; POORLY DRAINED; WEAK MICRO-TOPOGRAPHY; ADJACENT TO HEMLOCK TREES; FEW BARBERRY SHRUBS AS UNDERSTORY; HERBACEOUS GROWTH OF JAPANSE STILT GRASS; FEW SKUNK CABBAGE SPROUTS; MATTED LEAF LITTER.

- 0-12" DARK GRAY 10YR 4/1 SILT LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).
- 12-14" GRAY 10YR 6/1 LOAM WITH 20% DARK YELLOW BROWN 10YR 4/6 MOTTLES (REDOX CONCENTRATIONS).
- 14-28" BLUISH GRAY 5PB 6/1 FINE SANDY LOAM WITH 20% DARK YELLOW BROWN 10YR 4/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 1".

SS-5

SITE: SLIGHTLY CONCAVE AND LEVEL WETLAND LAWN; SPHAGNUM MOSS GROUNDCOVER; POORLY DRAINED; NO MICRO-TOPOGRAPHY.

- 0-12" VERY DARK GRAY 10YR 3/1 SILT LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).
- 12-14" GRAY 10YR 5/1 LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).
- 14-26" BLUISH GRAY 5PB 6/1 FINE SANDY LOAM WITH 20% DARK YELLOW BROWN 10YR 4/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 4".

<u>SS-6</u>

SITE: NEARLY LEVEL WETLAND LAWWN; POORLY DRAINED; NO MICRO-TOPOGRAPHY; DIFFUSE SEEPS AND SPRINGS; SPHAGNUM MOSS GROUNDCOVER BLANKETS SOME OF LAWN AREA.

0-4" MIXED BROWN 10YR 4/3 LOAM.

(SS-6 cont.)

- 4-8" MIXED LIGHT YELLOW BROWN 10YR 6/4 FINE SANDY LOAM WITH 5% GRAVEL.
- 8-16" MIXED BLACK 2.5Y 2.5/1 SILT LOAM AND INCLUSIONS OF GREENISH GRAY 10Y 5/1 LOAM.
- 16-18" MIXED LIGHT BLUISH GRAY 5PB 7/1 FINE SANDY LOAM.
- 18-28" GREENISH GRAY 10Y 5/1 SANDY LOAM WITH 20% DIFFUSE YELLOW BROWN 10YR 5/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 0".

SS-7

SITE: NEARLY LEVEL WETLAND LAWN; POORLY DRAINED; WEAK MICROTOPOGRAPHY; WEAK MICRO-TOPOGRAPHY; ADJACENT DRAINAGE SWALE NEAR WOODLAND EDGE; SWALE CHANNEL IS 1.5 FT. WIDE AND LESS THAN 0.5 FT. DEEP WITH APPROX. 2 INCHES DEEP FLOWING WATER; SWALE CHANNEL VEGETATED WITH FEW WINGED EUONYMUS, CINNAMON FERN, AND JAPANESE STILT GRASS, AND FIREWEED.

- 0-12" MIXED BLACK 2.5Y 2.5/1 SILT LOAM WITH INCLUSONS OF BROWN 7.5YR 5/2 PEATY SILT LOAM.
- 12-21" BLACK 2.5Y 2.5/1 SILT LOAM.
- 21-29" BLUISH GRAY 5PB 6/1 SANDY LOAM WITH 20% YELLOW BROWN 10YR 5/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 0".

SS-8

SITE: SIMILAR TO SS-6; POORLY DRAINED; WEAK MICRO-TOPOGRAPHY; ADJACENT SWALE WITH CHANNEL 2 FT. WIDE AND LESS THAN 0.5 FT. DEEP WITH 1 INCH DEEP FLOWING WATER; SWALE CHANNEL VEGETATED WITH JAPANESE STILT GRASS, SKUNK CABBAGE SPROUTS, FIREWEED, AND SHAGNUM MOSS.

0-6" GRAY BROWN 10YR 5/2 LOAM WITH 5% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).

(SS-9 cont.)

6-28" BLUISH GRAY 5PB 6/1 LOAM WITH 20% YELLOW BROWN 10YR 5/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 2".

SS-9

SITE: GENTLY SLOPED WOODLANDS; TREE CANOPY OF HEMLOCK; OPEN UNDERSTORY EXCEPT FOR YOUNG WINGED EUONYMUS SHRUBS; STONES COVER 5% OF GROUND; HEMLOCK NEEDLE LITTER COVERS WOODLAND FLOOR.

- 0-3" DARK BROWN 7.5YR 4/2 LOAM AND BROWN 7.5YR 4/2 LOAM.
- 3-6" BROWN 10YR 5/3 LOAM.
- 6-28" BROWNISH YELLOW 10YR 6/6 LOAM.

WATER TABLE NOT ENCOUNTERED.

<u>SS-10</u>

SITE: VERY GENTLY SLOPED AND UNDULATING LAWN.

- 0-7" BROWN 10YR 4/3 LOAM.
- 7-28" MIXED PALE BROWN 10YR 6/1 AND LIGHT YELLOW BROWN 2.5Y 6/4 LOAM WITH 5% GRAVEL.

WATER TABLE NOT ENCOUNTERED.

SS-11

SITE: GENTLY SLOPED LAWN.

- 0-3" BROWN 10YR 4/3 LOAM.
- 3-28" MIXED LIGHT YELLOW BROWN 10YR 6/4 FINE SANDY LOAM WITH 5% GRAVEL.

WATER TABLE NOT ENCOUNTERED.

<u>SS-12</u>

SITE: LEVEL TERRACE OF LAND WITH UNEVEN GROUND LOCATED JUS ABOVE RIVER; PARTIAL LAWN COVER.

0-10" DARK GRAY 10YR 4/1 LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).

10-12" VOID.

- 12-16" DARK GRAY 10YR 4/1 SILT LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).
- 16-28" GRAY 10YR 6/1 SILT LOAM WITH 20% YELLOW BROWN 10YR 5/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 14".

SS-13

SITE: SIMILAR TO SS-12

- 0-12" DARK GRAY 10YR 4/1 LOAM WITH 10% BROWN 7.5YR 4/4 MOTTLES (REDOX CONCENTRATIONS).
- 12-28" GRAY 10YR 6/1 LOAM WITH 20% YELLOW BROWN 10YR 5/6 MOTTLES (REDOX CONCENTRATIONS).

WATER TABLE AT 14".

SS-14

SITE: VERY GENTLY SLOPED LAWN APPROX. 30 FT. UPSLOPE OF RIVER.

0-19" MIXED DARK BROWN 10YR 3/3 LOAM WITH 40% GRAVEL.

WATER TABLE NOT ENCOUNTERED.

SS-15

SITE: VERY GENTLY SLOPED LAWN.

- 0-2" BROWN 10YR 4/3 LOAM.
- 2-28" MIXED BROWN 10YR 4/3 AND LIGHT YELLOW BROWN 2.5Y 6/4 LOAM WITH 30% GRAVEL.

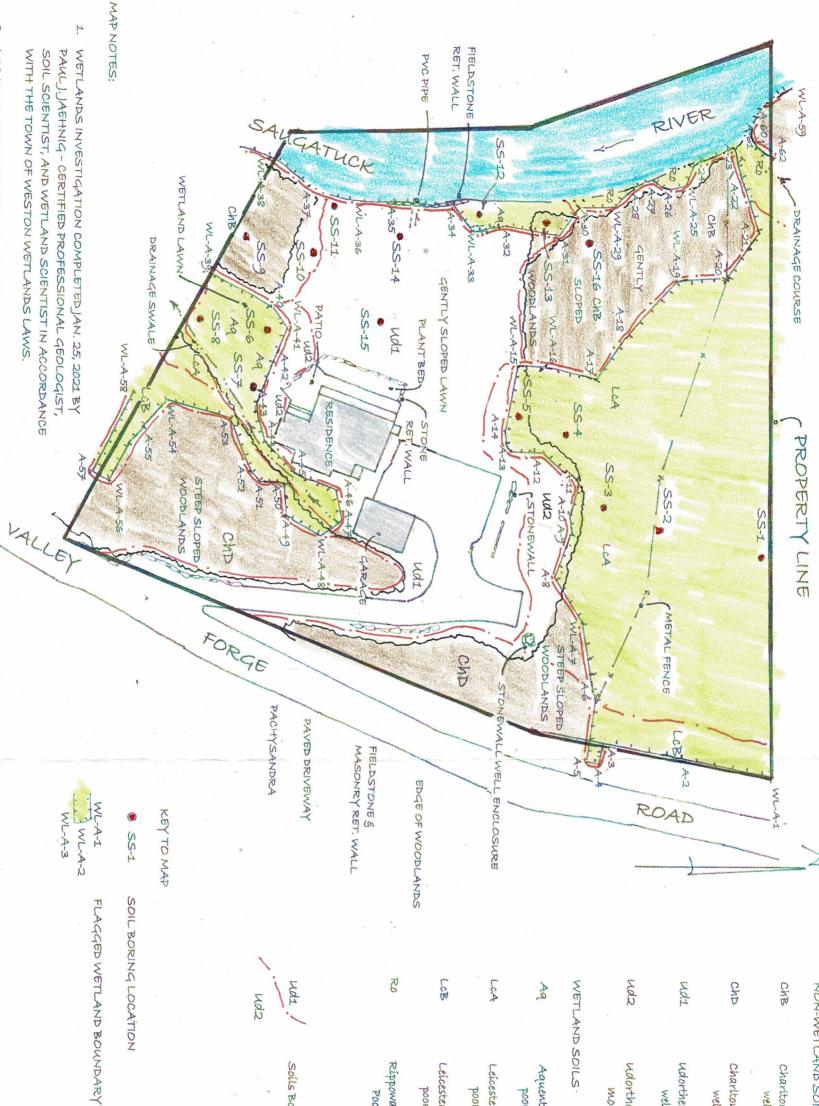
WATER TABLE NOT ENCOUNTERED.

SS-16

SITE: VERY GENTLY SLOPED WOODLANDS; TALL HEMLOCK, BLACK BIRCH, AND RED MAPLE TREES; OPEN UNDERSTORY; TWIG, LEAF AND HEMLOCK NEEDLE LITTER COVERS GROUND.

- 0-2" VERY DARK GRAY BROWN 10YR 3/2 LOAM.
- 2-5" BROWN 10YR 5/3 LOAM.
- 5-28" BROWNISH YELLOW 10YR 6/6 LOAM.

WATER TABLE NOT ENCOUNTERED.



NON-WETLAND SOILS

Chariton fine sandy loam well drained, slopes 3 to 8 %

Charlton fine sandy loam well drained, slopes 15 to 25 %

udorthents soils well drained, slopes varied

udorthents moderately well drained, slopes varied

WETLAND SOILS

Aquents soils poorly drained, slopes o to 3 %

Leicester Loam poorly drained, slopes 0 to 3 %

Leicester Loana poorly drained, slopes 3 to 8 %

Rippowam fine sandy loam Poorly drained, slopes 0 to 3 %

The Meng-Sontheimer Site Wetland & Soils Map 30 Valley Forge Road

Soils Boundary

Weston, CT

Approx. 2.18 Acres Area Total

Lei Meng and Ben Sontheimer Prepared for

Jan. 25, 2021

Paul J. Jaehnig-Wetlands and Soils Consulting P.O. Box 1071 Ridgefield, CT06877 Prepared By

Map Scale: 1 inch = 50 ft.

W

BY B.G. ROOT, SURVEYOR

DRAINAGE SWALE, AND FENCE FROM SURVEY PREPARED

DRIVEWAY, WALLS, SAUGATUCK RIVER CHANNEL

DRAINAGE PLOTTED ONTO MAP DURING WETLAND INVESTIGATION.

EDGE OF WOODLANDS, PVC PIPE, AND ADDITIONAL HILLSIDE

N

LOCATION OF PROPERTY LINE, RESIDENCE, DETACHED GARAGE,

WITH THE TOWN OF WESTON WETLANDS LAWS.



STORMWATER MANAGEMENT REPORT

Prepared For

PROPOSED SITE DEVELOPMENT

30 VALLEY FORGE ROAD, WESTON, CT

October 10, 2024



Table of Contents

Introduction	1
Scope of Study	2
Analysis Methodology	2
Stormwater Management Strategy	2
Analysis & Results	3
Conclusions	3
Appendix A: Peak Flow Computations	

1. Introduction

McChord Engineering Associates, Inc. has been commissioned by Lei Meng to perform stormwater management computations for the proposed site development at 30 Valley Forge Road in Weston, Connecticut. The property consists of 2.1669-acres and is located on the west side of Valley Forge Road. It is in the Saugatuck River watershed basin and outside of any public water supply watersheds. Figure 1 shows the location of the property on the United States Geological Survey (USGS) map.

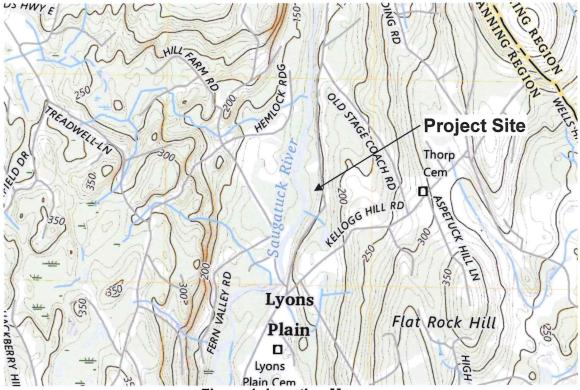


Figure 1: Location Map

The property is currently developed with a single-family residence, driveway, hardscape and lawn. The edges of the property are adjacent residences, the Saugatuck River and Valley Forge Road. The north and south portions of the lot are comprised of inland wetlands. Topography on the site consists of moderate slopes that generally drain west to the Saugatuck River. The property is currently served by an on-site septic system and private well.

The proposed site development includes the construction of a new pool, walkway extension and wood deck in an area that currently exists as lawn. Minimal earthwork is required as the proposed pool is designed to work with existing grade. Low impact development stormwater management measures are proposed to improve runoff from the property. Soil and erosion controls will be employed to protect downgradient properties and watercourses during construction.

2. Scope of Study

This stormwater management report contains studies comparing peak rate and volume of runoff between the existing conditions and the proposed development to ensure that the proposed development will have no adverse impact on adjoining property owners or downstream drainage systems.

3. Analysis Methodology

Runoff was modeled with HydroCAD 8.50 software produced by HydroCAD Software Solutions LLC. This software uses the NRCS TR-20 method for analyzing stormwater runoff. Soil characteristics, cover conditions, slope, time of concentration, and historical rainfall data are all parameters that are utilized by this method. The analysis considered the 2, 10, 25 and 50-year storm events. Precipitation depth for each storm event was taken from the National Oceanic and Atmospheric Administration's (NOAA) Atlas 14 Point Precipitation Frequency Estimates specific to the subject property.

4. STORMWATER MANAGEMENT STRATEGY

Currently, rooftop runoff from the existing house is captured by roof leaders and discharged to an unknown location on site. Driveway runoff is not captured and generally drains west towards the Saugatuck River following the topography. Runoff from the remainder of the property also generally sheet flows west towards the Saugatuck River following the topography.

The proposed stormwater management plan maintains existing drainage patterns on the site. Deep soil tests were performed on the property since it is encompassed by inland wetlands. These tests confirmed that there are poor upland soil conditions with a high groundwater table incapable of supporting an underground detention system. Due to this, several low impact development (LID) measures are proposed to improve the stormwater runoff on site. For instance, the proposed impervious area was minimized. There is no hardscape proposed around the pool area besides an extension of the existing walkway. A wood deck is proposed in lieu of a patio to further minimize the proposed impervious surfaces. There will be 12" of gravel installed below the proposed deck to provide temporary storage of runoff and promote infiltration. Mitigation plantings are proposed around the proposed pool area to filter runoff before it discharges to the inland wetlands and ultimately the Saugatuck River. Runoff from the remainder of the property will continue to sheet flow generally west conforming to existing conditions.

Detailed information on the size and configuration of the proposed stormwater management measures is available on the most recent revision of the "B100a Septic/Site Development Plan" prepared by this office.

5. Analysis & Results

Runoff from the property was analyzed under existing and proposed conditions. The existing and proposed conditions analyses modeled the entire property as a whole.

Using the NRCS TR-20 method, the peak rate of runoff for the 2, 10, 25 and 50-year storm events was computed for the site. Soils on the property were determined using the NRCS Web Soil Survey. Cover conditions were derived from site observations and the "B100a Septic/Site Development Plan" prepared by this office, dated October 10, 2024. The resulting peak flow rates and volumes under both the existing and proposed conditions are summarized in Table 1. For detailed computations see Appendix A.

Table 1: Peak Flows

Storm	Ex	isting	Proposed		
Event	Rate (cfs)	Volume (ft³)	Rate (cfs)	Volume (ft³)	
2-year	1.64	6,544	1.64	6,544	
10-year	4.15	15,226	4.15	15,226	
25-year	5.91	21,392	5.91	21,392	
50-year	7.28	26,320	7.28	26,320	

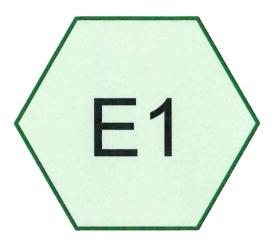
The analysis shows that there is no increase in the peak rate or volume of runoff from the property during any of the analyzed storm events.

6. Conclusions

Based on our analysis, McChord Engineering Associates, Inc. has demonstrated that there will be no increase in runoff from the proposed development at 30 Valley Forge Road in Weston, Connecticut. It is the opinion of this office and the conclusion of this report that the proposed low impact development stormwater management measures will renovate runoff from the property and that the proposed development will have no adverse impacts to the adjoining property owners, inland wetlands, watercourses or any downstream drainage systems.

APPENDIX A:

PEAK FLOW COMPUTATIONS



Entire Area of Study









Existing Conditions - 30 Valley Forge
Prepared by McChord Engineering Associates, Inc.
HydroCAD® 8.50 s/n 004801 © 2007 HydroCAD Software Solutions LLC

Printed 10/9/2024 Page 2

Area Listing (all nodes)

Are	a CN	Description
(sq-f	t)	(subcatchment-numbers)
20,37	0 55	Woods, Good, HSG B (E1)
23,87	0 61	>75% Grass cover, Good, HSG B (E1)
27,54	0 77	Woods, Inland Wetlands (E1)
2,01	5 85	Gravel Drive (E1)
60	0 98	Garage (E1)
89	0 98	Hardscape (E1)
1,82	.0 98	House (E1)
3,19	5 98	Paved Drive (E1)
80,30	0	TOTAL AREA

Page 3

Existing Conditions - 30 Valley Forge

Prepared by McChord Engineering Associates, Inc.

HydroCAD® 8.50 s/n 004801 © 2007 HydroCAD Software Solutions LLC

Summary for Subcatchment E1: Entire Area of Study

Runoff = 7.28 cfs @ 12.15 hrs, Volume=

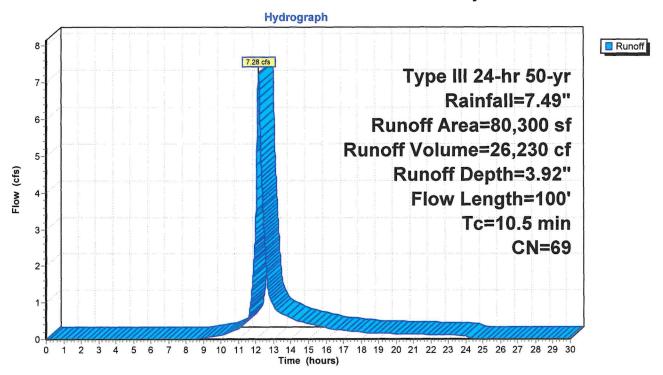
26,230 cf, Depth= 3.92"

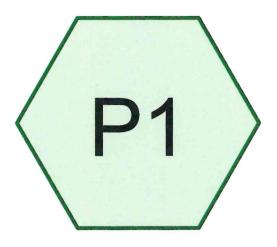
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs Type III 24-hr 50-yr Rainfall=7.49"

	Α	rea (sf)	CN [Description	1					
*		1,820	98 H	98 House						
*		600	98 (3arage						
*		3,195	98 F	Paved Drive	е					
*		2,015	85 (Gravel Driv	е					
*		890	98 H	Hardscape						
		20,370	55 \	Voods, Go	od, HSG B					
		23,870	61 >	·75% Gras	s cover, Go	ood, HSG B				
*	100	27,540	77 \	Voods, Inla	and Wetlan	ds				
		80,300	69 \	Veighted A	verage					
		73,795	F	Pervious Ai	rea					
		6,505	l	mpervious	Area					
		22 8		8 8 8 81	Gas of the second					
	Тс	Length	Slope		Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	2.0	20	0.1000	0.17		Sheet Flow, AB				
						Grass: Dense n= 0.240	P2= 3.45"			
	5.3	45	0.0440	0.14		Sheet Flow, BC				
						Grass: Dense n= 0.240	P2= 3.45"			
	2.6	25	0.0800	0.16		Sheet Flow, CD				
						Grass: Dense n= 0.240	P2= 3.45"			
	0.6	10	0.5000	0.28		Sheet Flow, DE	DO 0.45II			
						Grass: Dense n= 0.240	P2= 3.45"			
_	10.5	100	Total							

Page 4

Subcatchment E1: Entire Area of Study





Entire Area of Study









Proposed Conditions - 30 Valley Forge
Prepared by McChord Engineering Associates, Inc.
HydroCAD® 8.50 s/n 004801 © 2007 HydroCAD Software Solutions LLC

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
20,370	55	Woods, Good, HSG B (P1)
22,295	61	>75% Grass cover, Good, HSG B (P1)
27,540	77	Woods, Inland Wetlands (P1)
2,015	85	Existing Gravel Drive (P1)
735	85	Proposed Deck (P1)
600	98	Existing Garage (P1)
890	98	Existing Hardscape (P1)
1,820	98	Existing House (P1)
3,195	98	Existing Paved Drive (P1)
685	98	Proposed Pool (P1)
155	98	Proposed Walkway Extension (P1)
80,300		TOTAL AREA

Page 3

Summary for Subcatchment P1: Entire Area of Study

Runoff = 7.28 cfs @ 12.15 hrs, Volume=

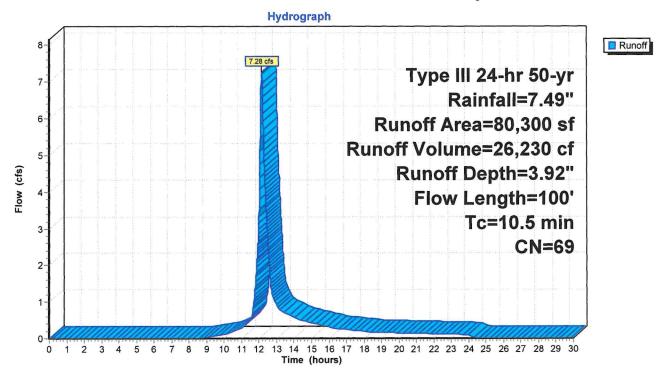
26,230 cf, Depth= 3.92"

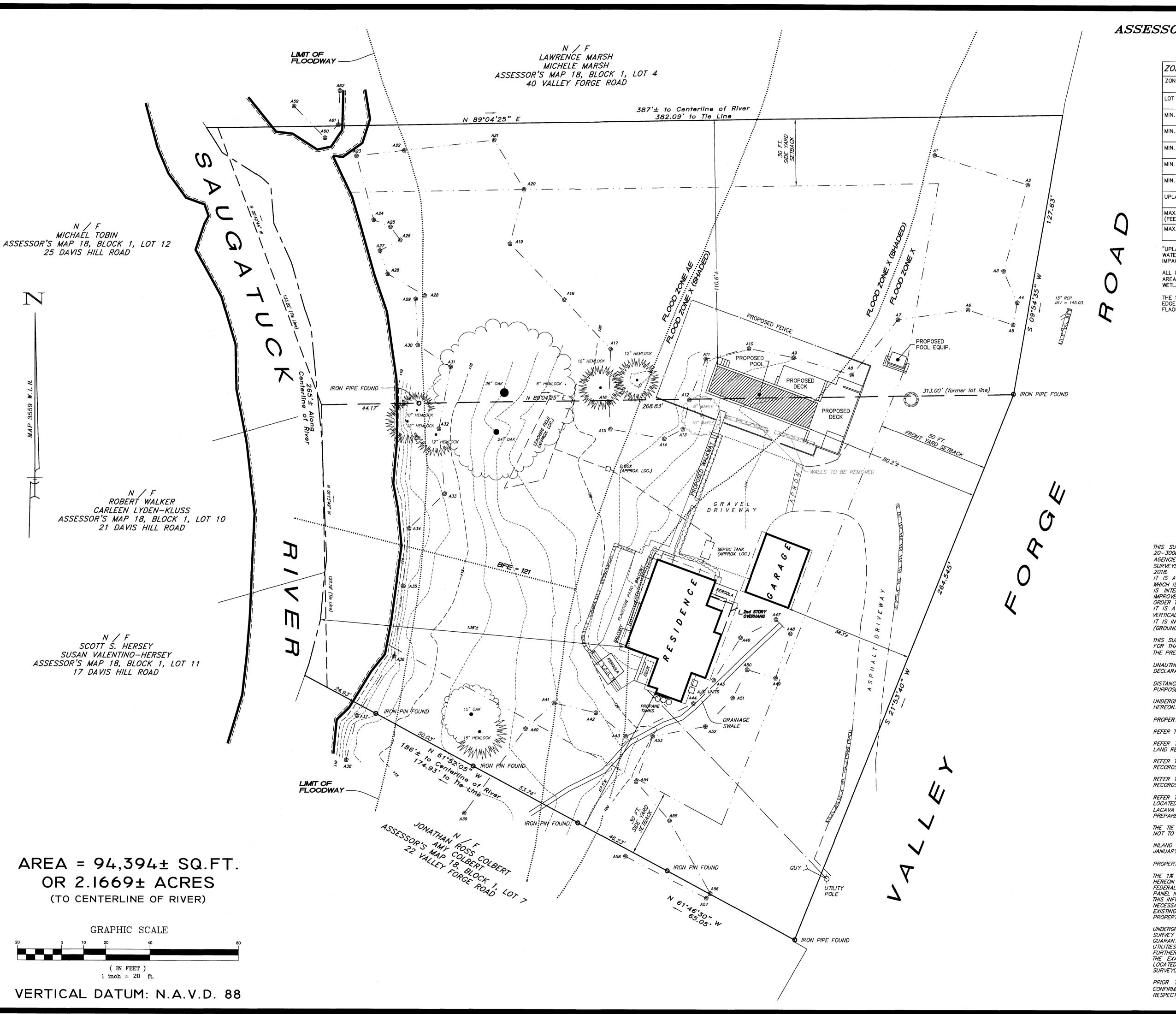
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs Type III 24-hr 50-yr Rainfall=7.49"

	А	rea (sf)	CN	Description		
*		1,820	98	Existing Ho		
*		600	98	Existing Ga	rage	
*		3,195	98	Existing Par	ved Drive	
*		2,015	85	Existing Gra	avel Drive	
*		890	98	Existing Ha	rdscape	
*		685	98	Proposed P	ool	
*		155	98	Proposed V	Valkway Ex	ctension
*		735	85	Proposed D	eck	
		20,370	55	Woods, Go	od, HSG B	
		22,295	61	>75% Gras	s cover, Go	ood, HSG B
*		27,540	77	Woods, Inla	and Wetlan	ds
		80,300	69	Weighted A	verage	
		72,955		Pervious Ar	_	
		7,345		Impervious	Area	
				,		
	Tc	Length	Slope	e Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)) (ft/sec)	(cfs)	·
	2.0	20	0.1000	0.17		Sheet Flow, AB
						Grass: Dense n= 0.240 P2= 3.45"
	5.3	45	0.0440	0.14		Sheet Flow, BC
						Grass: Dense n= 0.240 P2= 3.45"
	2.6	25	0.0800	0.16		Sheet Flow, CD
						Grass: Dense n= 0.240 P2= 3.45"
	0.6	10	0.5000	0.28		Sheet Flow, DE
						Grass: Dense n= 0.240 P2= 3.45"
	10.5	100	Total			

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Subcatchment P1: Entire Area of Study





ASSESSOR'S MAP 18, BLOCK 1, LOT 6

ZONING CHART	R-2A	ZONE	
ZONING ELEMENT	MIN/MAX	EXISTING	PROPOSED
LOT AREA	2.0000 ACRES 87,120 SQ. FT.	2.1669± ACRES 94,394± SQ. FT.	NO CHANGE
MIN. RECTANGLE	170 x 200 FEET	> 170 x 200 FT.	NO CHANGE
MIN. FRONTAGE	170 FEET	392.175 FEET	NO CHANGE
MIN. FRONT YARD	50 FEET	58.3± FEET	NO CHANGE
MIN. SIDE YARD	30 FEET	67.5± FEET	NO CHANGE
MIN. REAR YARD	30 FEET	138± FEET TO € RIVER	NO CHANGE
UPLAND REVIEW AREA	100 FEET	SEE BELOW	NO CHANGE
MAX. BUILDING HEIGHT (FEET)	35 FEET	25.2± FEET	NO CHANGE
MAX. BUILDING COVERAGE	15 PERCENT 14,159 SQ. FT.	3.11± PERCENT 2,943± SQ. FT.	3.72± PERCEN 3,519 SQ. FT.

"UPLAND REVIEW AREA" MEANS AN AREA WITHIN 100 FEET OF ANY WETLANDS OR WATERCOURSE OR A FURTHER DISTANCE IF THE PROPOSED ACTIVITY IS LIKELY TO IMPACT OR AFFECT IMPACT TO THE REGULATED AREA.

ALL UPLAND AREAS ON THIS PROPERTY FALL WITHIN THE 100 FT. UPLAND REVIEW AREA WHEN MEASURED FROM BOTH THE RIVER'S EDGE AND THE FLAGGED WETLANDS.

THE SOUTHWESTERLY CORNER OF THE HOUSE IS $106\pm$ FEET FROM THE RIVER'S EDGE. THE SOUTHEASTERLY CORNER OF THE HOUSE IS $3\pm$ FEET FROM THE FLAGGED WETLANDS NEAR FLAG A44.

THIS SURVEY AND MAP HAVE BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THROUGH 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS OF ACCURACY, CONTENT AND CERTIFICATION FOR SURVES AND MAPS" IN THE STATE OF CONNECTICUT AS AMENDED ON OCTOBER 26,

IT IS A ZONING LOCATION SURVEY THE BOUNDARY DETERMINATION CATEGORY OF WHICH IS A RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS 'A — 2' AND IS INTENDED TO DEPICT OR NOTE THE POSITION OF EXISTING OR PROPOSED IMPROVEMENTS WITH RESPECT TO APPLICABLE MUNICIPAL SETBACK REQUIREMENTS IN ORDER TO ENABLE DETERMINATION OF COMPLIANCE WITH SAID REGULATIONS.

IT IS A TOPOGRAPHIC SURVEY OF A PORTION OF THE PROPERTY CONFORMING TO VERTICAL ACCURACY CLASS 'V — 2' AND TOPOGRAPHIC ACCURACY CLASS 'T — 2.

IT IS INTENDED TO DEPICT THE CONFIGURATION (RELIEF) OF THE EARTH'S SURFACE (GROUND) AND THE LOCATION OF NATURAL AND ARTIFICIAL OBJECTS THEREON.

THIS SURVEY WAS PREPARED FOR A SPECIFIC PURPOSE. ANY USE OTHER THAN FOR THAT WHICH WAS INTENDED IS A MISUSE OF THIS INFORMATION AND RENDERS THE PREPARER'S DECLARATION NULL AND VOID.

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS MAP RENDERS THE PREPARER'S DECLARATION NULL AND VOID.

DISTANCES NOTED +/- FROM BUILDINGS TO PROPERTY LINES ARE FOR REFERENCE PURPOSES ONLY AND ARE NOT TO BE USED TO ESTABLISH PROPERTY BOUNDARIES.

UNDERGROUND IMPROVEMENTS OR ENCROACHMENTS, IF ANY, ARE NOT DEPICTED

PROPERTY IS LOCATED IN A 'R-2A' ZONE.

REFER TO MAPS 2101 & 3559 OF THE WESTON LAND RECORDS.

REFER TO A WARRANTY DEED RECORDED IN BK. 625, PG. 636 OF THE WESTON

REFER TO A RIGHT OF WAY RECORDED IN BK. 51, PG. 281 OF THE WESTON LAND RECORDS.

REFER TO AN AGREEMENT RECORDED IN BK. 304, PG. 680 OF THE WESTON LAND RECORDS.

REFER TO AN UNRECORDED MAP TITLED "ZONING PLOT PLAN, MAP OF PROPERTY LOCATED AT 30 VALLEY FORGE ROAD PREPARED FOR JOHN J. & KATHERINE M. LACAVA WESTON, CONN." DATED DECEMBER 17, 2014, REVISED APRIL 16, 2015 AND PREPARED BY B.G. ROOT, SURVEYOR — WESTPORT.

THE TIE LINE IS A RANDOM SURVEY LINE USED FOR TECHNICAL PURPOSES AND IS NOT TO BE CONSTRUED AS A PROPERTY LINE.

INLAND WETLANDS WERE FIELD IDENTIFIED AND FLAGGED BY PAUL J. JAEHNIG ON JANUARY 25, 2021 AND FIELD LOCATED BY THIS OFFICE ON FEBRUARY 17, 2021.

PROPERTY LIES OUTSIDE ANY LEVEL 'A' MAPPING AQUIFER PROTECTION AREA.

THE 1% ANNUAL CHANCE FLOOD ZONE BOUNDARIES AND THE FLOODWAY DEPICTED HEREON WAS PLOTTED BY STATE PLANE COORDINATES AND ARE DEPICTED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY — FLOOD INSURANCE RATE MAP — PANEL NO. 09001C0401F EFFECTIVE JUNE 18, 2010.

THIS INFORMATION IS PROVIDED FOR REFERENCE PURPOSES ONLY AND DOES NOT NECESSARILY REPRESENT THE ACTUAL POTENTIAL FOR FLOOD DAMAGE TO ANY EXISTING OR PROPOSED STRUCTURES OR IMPROVEMENTS LOCATED ON THIS PROPERTY

UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES DEPICTED ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

PRIOR TO EXCAVATION THE EXACT LOCATION OF THE UTILITIES SHOULD BE CONFIRMED WITH 'CALL BEFORE YOU DIG' @ 1-800-922-4455 AND/OR THE RESPECTIVE UTILITY COMPANIES.

REVISION DATE

URNEYORS CONSULTANTS
WEST AVENUE COSS-655-3331 CONSULTANTS
WS-LS.COM CONFO@SEYMOURSURVEYING.CON

30 VALLEY FORGE ROAD
WESTON, CONNECTICUT
PREPARED FOR

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SUBSTANTIALLY CORRECT AS NOTED HEREON
SUBSTANTIALLY CORRECT AS NOTED HEREON
OF THE STANTIAL S

SCALE: DATE: 10/07/2024

DRAWN BY: CHECKED BY: MSL

DWG. NO: 20-147