TOWN of WESTON, CONNECTICUT

Incorporated 1787

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: 10 Graylock Road

Assessor's Map # 30 **Block #** 6 **Lot #** 6

PROJECT DESCRIPTION *(general purpose)* Construct addition, deck and patio at grade in rear yard with associated stormwater management improvements.

Total Acres 2.00 Total Acres of Wetlands and Watercourses 1.30

Acreage of Wetlands and Watercourses Altered 0.00 Upland Area Altered 0.034 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: Christopher and Alexandra Morse Phone:

Address: 10 Graylock Road, Weston, CT 06883

Email: rawlsmorse@gmail.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: Mary Jaehnig Phone: (203) 431-8113

Address: 17 Fairview Ave., Ridgefield, CT 06877 Email: maryjaehnigsoils@gmail.com

Legal Counsel: _____ Phone: _____

Address: _____ Email: _____

Surveyor: Brautigam Land Surveyors, P.C. Phone: (203) 270-7810

Address: 90 S. Main St., Newtown, CT 06470 Email: steve@brautigamland.com

PROPERTY INFORMATION

Property Address: 10 Graylock Road

Existing Conditions *(Describe existing property and structures)*: Developed with single-family residence, driveway, screen room, deck and patio completely surrounded by inland wetlands.

Provide a detailed description and purpose of proposed activity *(attach sheet with additional information if needed)*: Remove existing screen room and deck and construct a new addition, deck and patio at grade in an area that is currently lawn with associated stormwater management improvements. See Site Development Plan for additional information.

Is this property within a subdivision *(circle)*: Yes or [No]

Square feet of proposed impervious surfaces *(roads, buildings, parking, etc.)*: 1500

Subject property to be affected by proposed activity contains:

- ☒ wetlands soils
- ☐ swamp
- ☐ floodplain
- ☐ marsh
- ☐ bog
- ☐ lake or pond
- ☒ stream or river
- ☐ other _____

The proposed activity will involve the following within wetlands, watercourse, and/or review area:

- ☒ Alteration
- ☐ Discharge to
- ☒ Removal of Materials
- ☒ Construction
- ☐ Discharge from
- ☒ Deposition of Materials
- ☐ Pollution
- ☐ Bridge or Culvert
- ☐ Other _____

Amount, type, and location of materials to be removed, deposited, or stockpiled:

Removal of material will be minimal as it is only required for sonotube foundations and the at grade patio base. There is no fill proposed, the only material that will be deposited will be landscape stone for the patio at grade.

Description, work sequence, and duration of activities:

The existing deck and screen room will be removed and the new addition and deck will subsequently be constructed. Disturbance will be minimal as both existing and proposed structures are on sonotube foundations. Permanent stormwater management improvements will be installed and erosions controls will be employed during construction. Duration of construction is anticipated to be approx. 6 months.

Describe alternatives considered and why the proposal described herein was chosen:

Multiple alternatives were considered but this proposal was ultimately chosen because it is generally in the same location as the structures that are to be removed, and no closer to the inland wetlands, maintaining the existing buffer distance.

Does the proposed activity involve the installation and/or repair of an existing septic system(s) *(circle)*: [Yes] or No B100a only, Application has been submitted to Health District.

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 Authorization

Signature of Owner(s) of Record — Date

Signature of Authorized Agent — 10/19/23 — Date

FOR OFFICE USE ONLY

Administrative Approval

Initials — Date

McChord Engineering Associates, Inc.
Civil Engineers and Land Planners

1 Grumman Hill Road
Wilton, CT 06897
(203) 834-0569

Christopher and Alexandra Morse
10 Graylock Road
Weston, CT 06883

October 11, 2023

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

Re: Proposed Site Development
10 Graylock Road
Map 30, Block 6, Lot 6

Dear Commissioners,

I hereby authorize McChord Engineering Associates, Inc. (MEA), to act as agent in regard to 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 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 Planning and Zoning Department.

Sincerely,

Christopher and Alexandra Morse

Adjacent Property Owners within 100' of Property

10 Graylock Road
Weston, CT 06883
Map 30, Block 6, Lot 6

M-B-L	Property Owner	Mailing Address
30-6-29	Town of Weston	PO Box 1007 Weston, CT 06883
30-6-4	Eric William Braun & Alice Chen	34 Briar Oak Drive Weston, CT 06883
30-6-17	Joseph Barakat & Kathryn Plyler	33 High Acre Road Weston, CT 06883
30-6-20	Mark & Emily Glasberg	7 Tower Drive Weston, CT 06883
30-6-28	Betty Green	25 High Acre Road Weston, CT 06883
30-6-19	Alon Rosenthal	5 Tower Drive Weston, CT 06883
30-6-7	Ida Szeto	6 Graylock Road Weston, CT 06883
30-6-5	Andrew Padgett & Stephanie Savino	12 Graylock Road Weston, CT 06883

PFIZER – JÄHNIG
ENVIRONMENTAL CONSULTING

March 6, 2023

Wetland Delineation Report
10 Graylock Road
Weston, Connecticut

Introduction:
A wetland delineation was conducted at 10 Graylock Road on February 24, 2023 by Mary Jaehnig, soil scientist. The property is located to the southeast of the cul-de-sac and supports a single family dwelling.

The topography is nearly level to gently rolling. The edge of wetland was flagged in the field using chronologically labeled pink ribbon from number 1 to 25. Intermittent watercourses flow within the wetland from northwest to southeast on either side of the dwelling. The site is within the watershed to the Saugatuck River.

The Inland Wetlands and Watercourses Act (Connecticut General Statutes 22a-38) defines inland wetlands as "land...which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain." Watercourses are defined in the act as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." The act defines intermittent watercourses as having a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

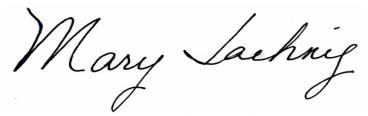
Soils:
Soil samples were obtained using a spade and auger. Features noted include color, texture and depth to wetland indicators. Soils were classified according to guidelines established by the USDA NRCS.

The upland soil is Charlton fine sandy loam, very stony. This soil is formed in glacial till and is deep and well drained. The depth to the water table usually exceeds 6 feet below grade and the depth to bedrock usually exceeds 5 feet below grade. Stones and boulders occur on the surface.

17 FAIRVIEW AVE. **RIDGEFIELD, CT 06877** **TEL. (203) 431-8113**
MaryJaehnigSoils@gmail.com

The wetland unit is Ridgebury, Leicester and Whitman loams, extremely stony. This group consists of the deep, poorly and very poorly drained soils formed in glacial till. The water table is located close to the surface from late fall into early spring. Stones and boulders occur on the surface.

Submitted by,



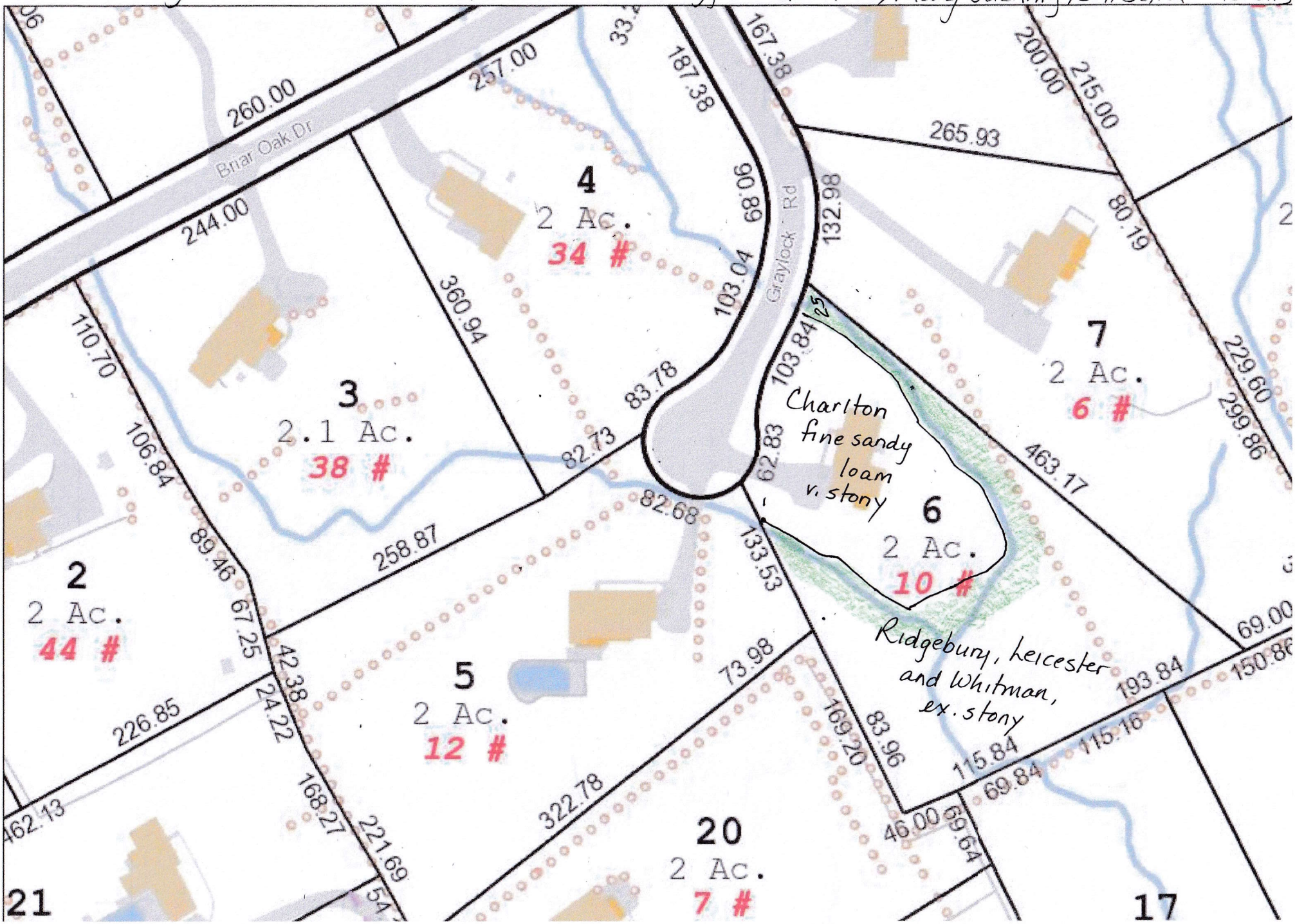
Mary Jaehnig
soil scientist

17 FAIRVIEW AVE. **RIDGEFIELD, CT 06877** **TEL. (203) 431-8113**
MaryJaehnigSoils@gmail.com

10 Graylock Road

Town of Weston, CT

Saugatuck River watershed Wetland flagged 2/24/23, Mary Jaehnig, soil sci. 203 431 8113



Connecticut Department of
ENERGY & ENVIRONMENTAL PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

GIS CODE #: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
For DEEP Use Only

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 ☐ no ☒
   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: **Norwalk North** or number: **107**
   subregional drainage basin number: **7200**
7. NAME OF APPLICANT, VIOLATOR OR PETITIONER (print name): **Christopher and Alexandra Morse**
8. NAME & ADDRESS / LOCATION OF PROJECT SITE (print information): **10 Graylock Road**
   briefly describe the action/project/activity (check and print information): temporary ☐ permanent ☒ description:
   Construction of addition and wood deck to residence with patio at grade.
9. ACTIVITY *PURPOSE* CODE (see instructions, only use one code): **A**
10. ACTIVITY *TYPE* CODE(S) (see instructions for codes): **2**, **10**, **12**, **14**
11. WETLAND / WATERCOURSE AREA ALTERED (must provide acres or linear feet):
    wetlands: **0** acres open water body: **0** acres stream: **0** linear feet
12. UPLAND AREA ALTERED (must provide acres): **0.034** acres
13. AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (must provide acres): **0** acres

PART III: To Be Completed By The DEEP

DATE RECEIVED: DATE RETURNED TO DEEP:

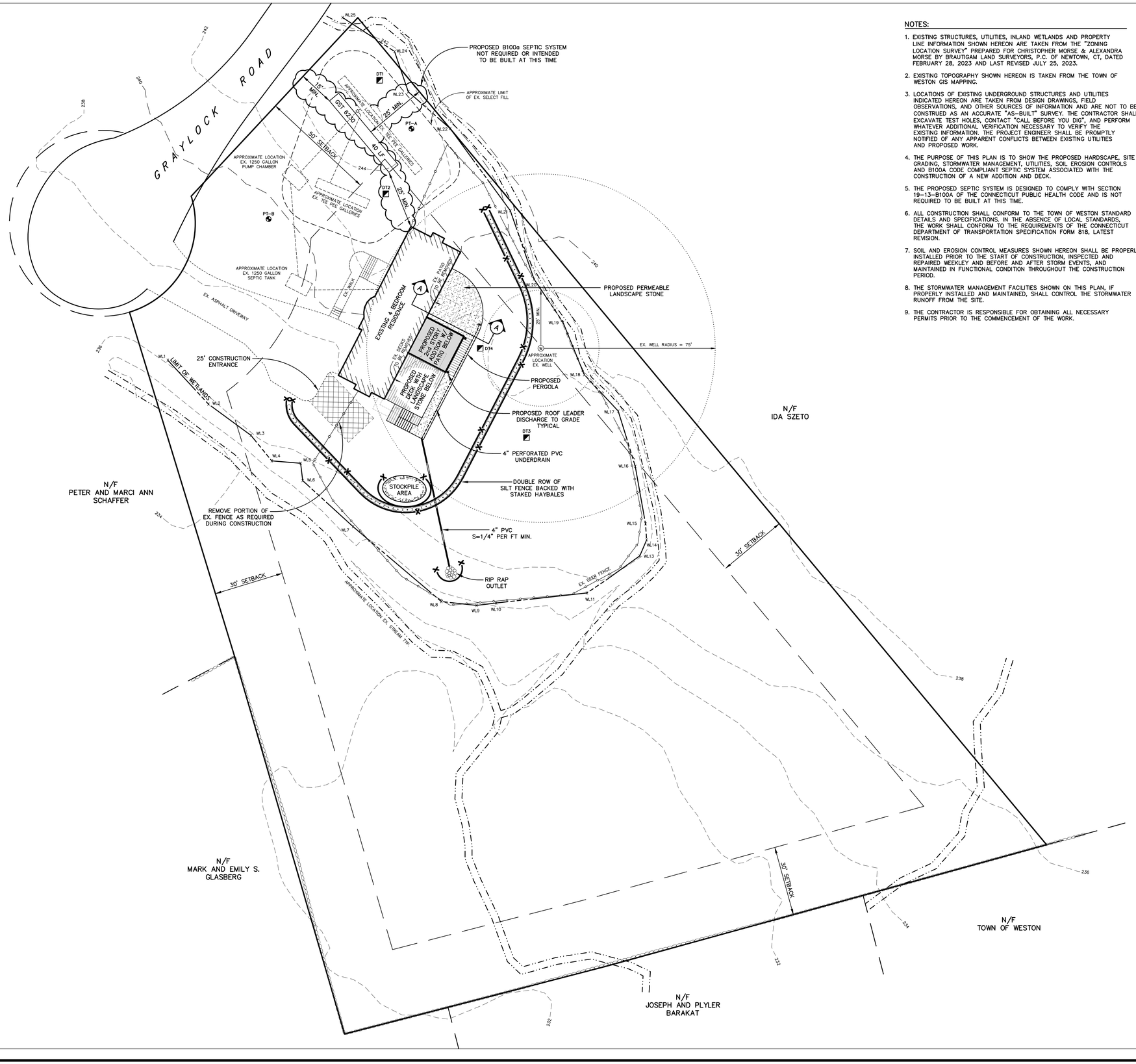
FORM COMPLETED: YES NO FORM CORRECTED / COMPLETED: YES NO

LEGEND

EXISTING	ITEM	PROPOSED
	CATCH BASIN	
	MANHOLE	
	DRAIN	
	SANITARY SEWER	
	STORM SEWER	
W	WATER SERVICE	WS
440	CONTOUR	440
× 337.9	SPOT ELEVATION	× 439.5
N.A.	SILT FENCE	X
N.A.	DOUBLE SILT FENCE	XX
	TREE TO REMAIN	N.A.
	POLE	N.A.

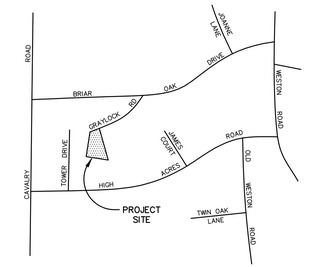
AREA = 2.00 ACRES

MAP 30, BLOCK 6, LOT 6



NOTES:

1. EXISTING STRUCTURES, UTILITIES, INLAND WETLANDS AND PROPERTY LINE INFORMATION SHOWN HEREON ARE TAKEN FROM THE "ZONING LOCATION SURVEY" PREPARED FOR CHRISTOPHER MORSE & ALEXANDRA MORSE BY BRAUTIGAM LAND SURVEYORS, P.C. OF NEWTOWN, CT, DATED FEBRUARY 28, 2023 AND LAST REVISED JULY 25, 2023.
2. EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM THE TOWN OF WESTON GIS MAPPING.
3. LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES INDICATED HEREON ARE TAKEN FROM DESIGN DRAWINGS, FIELD OBSERVATIONS, AND OTHER SOURCES OF INFORMATION AND ARE NOT TO BE CONSTRUED AS AN ACCURATE "AS-BUILT" SURVEY. THE CONTRACTOR SHALL EXCAVATE TEST HOLES, CONTACT "CALL BEFORE YOU DIG", AND PERFORM WHATEVER ADDITIONAL VERIFICATION NECESSARY TO VERIFY THE EXISTING INFORMATION. THE PROJECT ENGINEER SHALL BE PROMPTLY NOTIFIED OF ANY APPARENT CONFLICTS BETWEEN EXISTING UTILITIES AND PROPOSED WORK.
4. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED HARDSCAPE, SITE GRADING, STORMWATER MANAGEMENT, UTILITIES, SOIL EROSION CONTROLS AND B100A CODE COMPLIANT SEPTIC SYSTEM ASSOCIATED WITH THE CONSTRUCTION OF A NEW ADDITION AND DECK.
5. THE PROPOSED SEPTIC SYSTEM IS DESIGNED TO COMPLY WITH SECTION 19-13-B100A OF THE CONNECTICUT PUBLIC HEALTH CODE AND IS NOT REQUIRED TO BE BUILT AT THIS TIME.
6. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN OF WESTON STANDARD DETAILS AND SPECIFICATIONS. IN THE ABSENCE OF LOCAL STANDARDS, THE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION SPECIFICATION FORM 818, LATEST REVISION.
7. SOIL AND EROSION CONTROL MEASURES SHOWN HEREON SHALL BE PROPERLY INSTALLED PRIOR TO THE START OF CONSTRUCTION, INSPECTED AND REPAIRED WEEKLEY AND BEFORE AND AFTER STORM EVENTS, AND MAINTAINED IN FUNCTIONAL CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
8. THE STORMWATER MANAGEMENT FACILITIES SHOWN ON THIS PLAN, IF PROPERLY INSTALLED AND MAINTAINED, SHALL CONTROL THE STORMWATER RUNOFF FROM THE SITE.
9. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO THE COMMENCEMENT OF THE WORK.



SCALE: 1" = 750'

Orientation

No.	Date	Revisions or Submissions
1	10-19-23	ISSUED FOR MUNICIPAL APPROVAL

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

PLAN PREPARED FOR
CHRISTOPHER MORSE
WESTON, CONNECTICUT

B100a SEPTIC SYSTEM/ SITE DEVELOPMENT PLAN 10 GRAYLOCK ROAD WESTON, CONNECTICUT

JOB NO.: 2311A-1	DATE: OCTOBER 19, 2023
DRAWN BY: DRS	CHECKED BY: TSN, HMR
SCALE: 1" = 20'	

20 0 10 20 40

SIGNATURE:

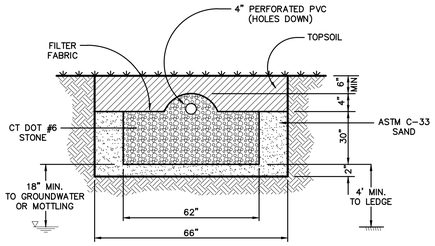
STATE OF CONNECTICUT THOMAS S. NIELSON No. 26555 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.:

SE1

SHEET 1 OF 2

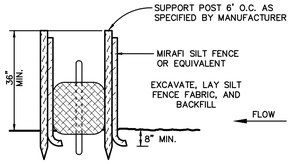
file: 2311se1



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

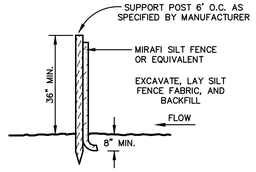
GEOMATRIX GST 6230 DETAIL

N.T.S.



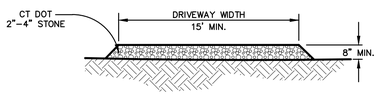
DOUBLE ROW SILT FENCE BACKED WITH STAKED HAYBALE DETAIL

N.T.S.



SILT FENCE DETAIL

N.T.S.



CONSTRUCTION ENTRANCE DETAIL

N.T.S.

DESIGN CRITERIA B100a:

1. PERCOLATION RATE: PT-A = 1:20
   - A. DESIGN RATE FOR PRIMARY SYSTEM: 1:20 (SYSTEM IN SELECT FILL)
   - B. DESIGN RATE FOR RESERVE SYSTEM: N/A
2. MINIMUM LEACHING SYSTEM SPREAD (MLSS):
   - A. HYDRAULIC FACTOR (HF)
     1) HYDRAULIC GRADIENT = 9.8%
     2) DEPTH OF RESTRICTIVE LAYER = (60 + 33)/2 = 46.5"
        a) WITHIN THE SYSTEM = 60" (AVERAGE DT2 + 24" SELECT FILL) *
        b) DOWN GRADIENT = 33" (DT1) *
     3) HYDRAULIC FACTOR = 18'
   - B. FLOW FACTOR (FF): 4 BEDROOM = 1.75
   - C. PERCOLATION FACTOR (PF): 1:20 = 1.25
   - D. MINIMUM LEACHING SYSTEM SPREAD = 18' x 1.75 x 1.25 = 39.4'
   - E. LEACHING SYSTEM SPREAD PROVIDED = 40'
3. SYSTEM DESCRIPTION:
   - A. NUMBER OF BEDROOMS: 4
   - B. REQUIRED LEACHING AREA: 787.5 SF @ 22.1 SF/LF = 35.6 LF
   - C. SYSTEM COMPONENTS: EX. 1250 GALLON SEPTIC TANK, EX. 1250 GALLON PUMP CHAMBER AND 40 LF OF GST 6230.
   - D. TOTAL FIELDS PROPOSED:
     1) PRIMARY SYSTEM: 1 x 40 LF = 40 LF @ 22.1 SF/LF = 884 SF
     2) RESERVE SYSTEM: N/A
4. DEPTH OF SYSTEM CONTROL: RESTRICTIVE LAYER @ 72" IN DEEP TEST 2 WILL CONTROL THE DEPTH OF THE SYSTEM.

* IF SYSTEM IS TO BE INSTALLED, ADDITIONAL DEEP TESTS WILL BE REQUIRED.

DEEP TEST AND PERCOLATION TEST DATA:

DEEP TEST 1

0"-25" MISC. FILL
25"-28" ORIGINAL TOPSOIL
28"-62" BROWN SILTY LOAM

NO LEDGE
GROUNDWATER @ 58"
RESTRICTIVE = 33" (58"-25")

DEEP TEST 2

0"-36" MISC. FILL
36"-72" ORIGINAL TOPSOIL

NO LEDGE
NO GROUNDWATER
RESTRICTIVE = 36" (72"-36")

DEEP TEST 3

0"-16" MISC. FILL
16"-60" MOTTLED GREY FILL

NO LEDGE
NO GROUNDWATER
RESTRICTIVE @ 16"

DEEP TEST 4

0"-16" MISC. FILL
16"-44" MOTTLED GREY SILT

NO LEDGE
NO GROUNDWATER
RESTRICTIVE @ 16"

PERCOLATION TEST A

DEPTH: 36"
DIAMETER: 8"

TIME	DEPTH	DROP
2:35	3"	–
2:45	5 1/2"	2 1/2"
2:55	6 3/4"	1 1/4"
3:05	6 1/2"	1/4"
3:15	7 1/2"	1"
3:25	8"	1/2"
3:35	8 1/2"	1/2"

DESIGN RATE: 1:20

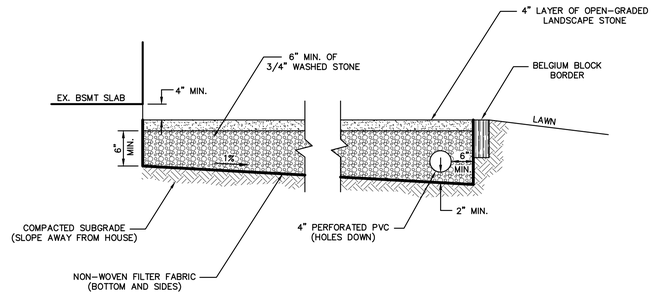
PERCOLATION TEST B

DEPTH: 36"
DIAMETER: 8"

TIME	DEPTH	DROP
4:40	13 1/4"	–
4:50	14 1/4"	1"
5:00	15"	3/4"
5:10	15 1/2"	1/2"
5:20	16"	1/2"
5:30	16 1/2"	1/2"
5:40	17"	1/2"

DESIGN RATE: 1:20

NOTE: DEEP TEST 1 THROUGH 4 AND PERCOLATION TEST A WAS PERFORMED BY D. PALADINO & SON SEPTIC CO. INC., INC. ON SEPTEMBER 20, 2023. PERCOLATION TEST B WAS PERFORMED BY McCHORD ENGINEERING ASSOCIATES, INC. ON SEPTEMBER 28, 2023.



SECTION A-A

N.T.S.

CONSTRUCTION NOTES:

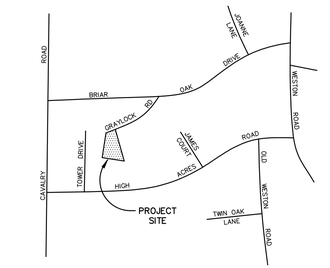
1. SUBSURFACE SEWAGE DISPOSAL SYSTEM MATERIALS AND CONSTRUCTION TECHNIQUES SHALL CONFORM TO THE STATE OF CONNECTICUT AND LOCAL HEALTH CODE STANDARDS AND SPECIFICATIONS, AS WELL AS ACCEPTED STANDARDS OF GOOD WORKMANSHIP.
2. FINAL INSPECTION AND AS-BUILT DRAWINGS SHALL BE MADE IN ACCORDANCE WITH STATE AND LOCAL CODES. THE DESIGN ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF SYSTEM COMPLETION. INSPECTION OF THE SYSTEM SHALL OCCUR AS SOON AS POSSIBLE TO PREVENT DAMAGE AND IT SHALL BE COVERED WITHIN TWO WORKING DAYS OF THE SANITARIAN'S INSPECTION.
3. THE WASTE LINE FROM THE HOUSE/BUILDING TO THE SEPTIC TANK SHALL BE NO LESS THAN 4" DIAMETER CAST IRON PIPE (ASTM A-74) OR A PVC SCHEDULE 40 (ASTM D1785), WITH RUBBER COMPRESSION GASKETS OR SOLVENT WELD JOINTS AND SHALL BE PITCHED WITH A MINIMUM SLOPE OF 1/4" PER FOOT.
4. ALL SOLID DISTRIBUTION PIPING SHALL BE TIGHT JOINT 4" DIAMETER PVC (ASTM D3034 SDR 35). THESE LINES SHALL LIE ON UNDISTURBED OR COMPACTED SOIL.
5. THE SEPTIC TANK SHALL HAVE A MINIMUM CAPACITY OF 1250 GALLONS AND CONTAIN TWO COMPARTMENTS. THE TANK SHALL BE INSTALLED LEVEL AND BE SET UPON AT LEAST 6" OF CRUSHED STONE OR GRAVEL, AND BE EQUIPPED WITH A 30" RISER SECTION TO GRADE, FOR ACCESS. SEPTIC TANKS INDICATED ARE MANUFACTURED BY RICHARD SEPTIC SYSTEMS, INC. OF TORRINGTON, CT. AN EQUIVALENT TANK IS ACCEPTABLE.
6. DISTRIBUTION BOXES ARE MODEL DB 4 AS MANUFACTURED BY RICHARD SEPTIC SYSTEMS, INC. OF TORRINGTON, CONNECTICUT. BOXES SHALL BE SET UPON AT LEAST 6" OF CRUSHED STONE OR GRAVEL. EQUIVALENT BOXES ARE ACCEPTABLE.
7. THE CONTRACTOR SHALL REMOVE FROM THE AREA OF THE SEPTIC SYSTEM ALL TOPSOIL AND ALL OTHER ORGANIC MATERIALS, TREE TRUNKS, AND DEBRIS; AND SHALL SCARIFY AND RAKE THE EXPOSED SURFACE TO ENSURE A GOOD BOND BETWEEN THE EXISTING SUBSOIL AND THE SELECT FILL.
8. SELECT FILL SHALL MEET CONNECTICUT DEPARTMENT OF TRANSPORTATION SPECIFICATION M.02.06-1B AS FOLLOWS:

SIEVE	% PASSING	
	WET SIEVE	DRY SIEVE
#4	100	100
#10	70-100	70-100
#40	10-50 *	10-75
#100	0-20	0-5
#200	0-5	0-2.5

* PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND #200 SIEVE DOES NOT EXCEED 5%

THE FILL SHALL ALSO BE ACCEPTABLE TO THE LOCAL HEALTH DEPARTMENT.

9. THE FIRST 6" OF SELECT FILL SHALL BE HARROWED INTO THE EXISTING SOIL. THEREAFTER, IT SHALL BE PLACED IN 12" LIFTS AND MECHANICALLY COMPACTED. COMPACTION SHALL BE AT LEAST 90%-95% OF THAT DETERMINED BY A MODIFIED OPTIMUM COMPACTION TEST PERFORMED IN ACCORDANCE WITH ASTM D1557. SELECT FILL SHALL BE PLACED TO A POINT AT LEAST 5' FROM THE EDGE OF THE TRENCH, AND COMMON FILL TO A POINT 10' FROM THE EDGE OF THE TRENCH. IN CASES WHERE THE DEPTH OF FILL EXCEEDS 12" ABOVE THE EXISTING GRADE, THE TRENCH SHALL BE NOTCHED INTO THE EXISTING SOIL AT LEAST 12" AND FILLED WITH SELECT FILL.
10. FINAL GRADING, INCLUDING THE 6" TOPSOIL LAYER, SHALL BE COMPLETED AS SOON AS POSSIBLE AFTER FINAL INSPECTION. CARE SHALL BE TAKEN TO PREVENT THE PONDING OF SURFACE WATER ON OR NEAR ANY PART OF THE SYSTEM.
11. PROPOSED SEPTIC SYSTEM LOCATIONS MAY NOT BE SHIFTED WITHOUT OBTAINING WRITTEN PERMISSION FROM THE DESIGN ENGINEER AND LOCAL SANITARIAN.
12. NO PART OF THE SEPTIC TANK OR LEACHING TRENCHES SHALL BE WITHIN 75' OF ANY WELL. THERE IS NO APPARENT INTERFERENCE BETWEEN THE WELLS OR SEPTIC SYSTEMS ON ADJACENT PROPERTIES AND THOSE PROPOSED ON THIS PLAN.
13. SURFACE AND GROUNDWATER DRAINS SHALL BE PLACED UP GRADIENT AND AT LEAST 25' FROM THE SEPTIC SYSTEM. WHEN DRAINS ARE REQUIRED TO BE DOWN GRADIENT, THEY MUST BE AT LEAST 50' FROM THE SEPTIC SYSTEM. ALL DRAINS AND ROOF LEADERS SHALL DISCHARGE AWAY FROM THE SEPTIC SYSTEM.
14. SOIL AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS INDICATED ON THE PLAN AND MAINTAINED DURING CONSTRUCTION, UNTIL THE SITE IS STABILIZED.
15. THIS DESIGN IS BASED UPON THE USE OF CONVENTIONAL BATHTUBS WITH A CAPACITY UNDER 100 GALLONS. IF A LARGER BATH/HOT TUB IS TO BE INSTALLED THE LEACHING AREA AND SEPTIC TANK SIZES MUST BE INCREASED TO COMPLY WITH SECTION VIII.F OF THE TECHNICAL STANDARDS. ADDITIONALLY, THE SYSTEM HAS NOT BEEN DESIGNED TO ACCEPT EFFLUENT FROM WHIRLPOOL BACKWASH, WATER SOFTENER BACKWASH OR GARBAGE DISPOSALS.
16. THIS DESIGN IS BASED UPON THE INSTALLATION OF THE SEPTIC SYSTEM IN UNCOMPACTED NATURAL SOIL. ALTHOUGH THE CONTRACTOR IS RESPONSIBLE FOR PREPARING THE SITE, THE USE OF HEAVY EQUIPMENT IN THE PROPOSED SEPTIC AREA IS PROHIBITED TO AVOID OVER COMPACTION OF THE NATIVE SOIL.
17. THIS DESIGN CONFORMS TO APPLICABLE CODES AND ACCEPTED PRACTICE. NO OTHER WARRANTY IS EXPRESSED OR IMPLIED.
18. McCHORD ENGINEERING ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR SEPTIC SYSTEM SITE PREPARATION, LOCATION, OR INVERT ELEVATIONS IN COMPLIANCE WITH THE APPROVED PLAN, UNLESS IT SUPERVISES EACH PHASE OF SYSTEM INSTALLATION.
19. PRIOR TO CONSTRUCTION A SURVEYOR LICENSED IN THE STATE OF CONNECTICUT SHALL STAKE OUT THE PROPOSED SEPTIC SYSTEM AND PROVIDE BENCHMARK ELEVATIONS.



SCALE: 1" = 750'

Orientation

No.	Date	Revisions or Submissions
1	10-19-23	ISSUED FOR MUNICIPAL APPROVAL

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

PLAN PREPARED FOR
CHRISTOPHER MORSE
WESTON, CONNECTICUT

B100a SEPTIC SYSTEM
NOTES AND DETAILS
10 GRAYLOCK ROAD
WESTON, CONNECTICUT

JOB NO.:	2311A-1	DATE:	OCTOBER 19, 2023
DRAWN BY:	DRS	CHECKED BY:	TSN, HMR
SCALE:	AS SHOWN		

SIGNATURE:

DRAWING NO.:

SE2

SHEET 2 OF 2

file: 2311se2

McChord Engineering Associates, Inc.
Civil Engineers and Land Planners

1 Grumman Hill Road
Wilton, CT 06897
(203) 834-0569

STORMWATER MANAGEMENT REPORT

Prepared For

PROPOSED SITE DEVELOPMENT

10 GRAYLOCK ROAD, WESTON, CT

October 19, 2023

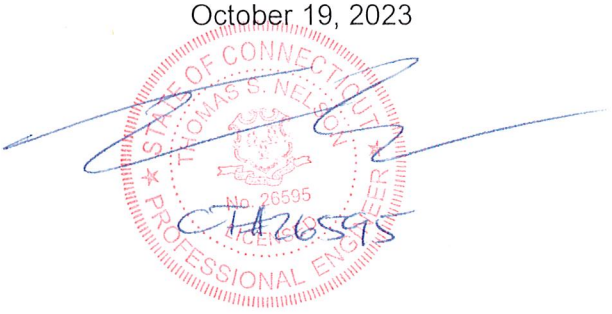


Table of Contents

1. Introduction

McChord Engineering Associates, Inc. has been commissioned by Christopher Morse to perform stormwater management computations for the proposed site development at 10 Graylock Road in Weston, Connecticut. The property consists of 2.000-acres and is located on the south side of Graylock 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.

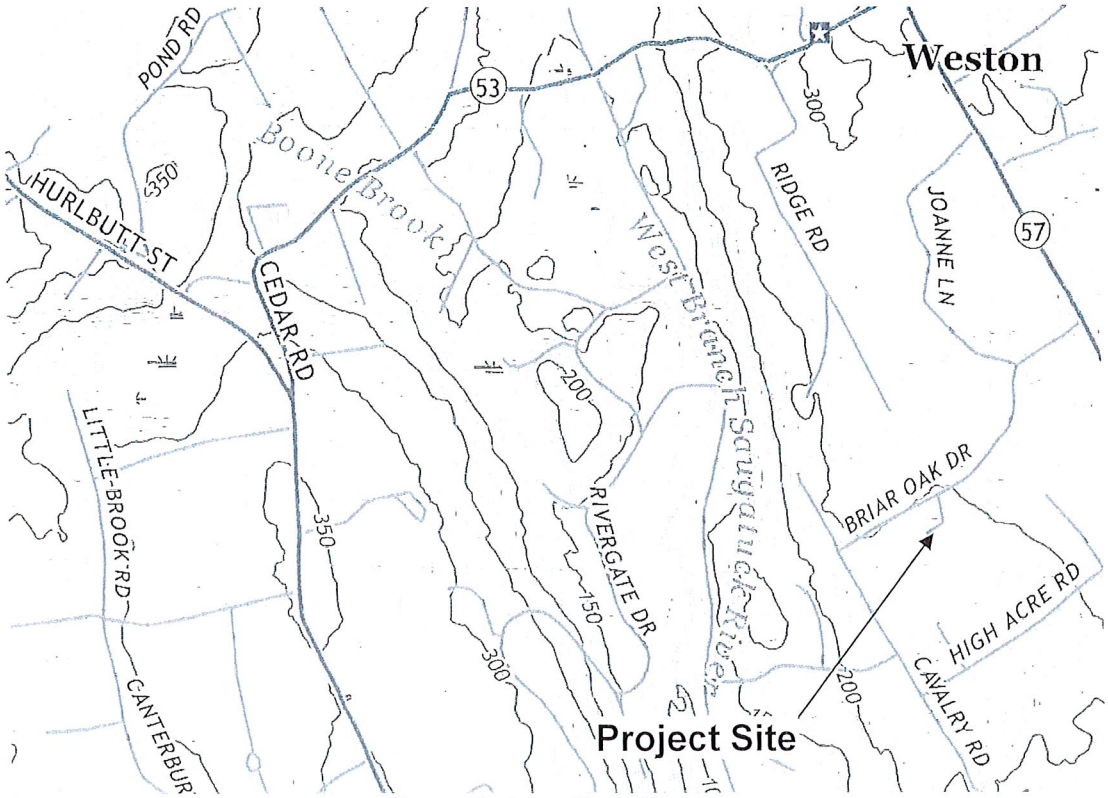


Figure 1: Location Map

The property is currently developed with a single-family residence, driveway, hardscape, wood deck, covered screen deck and lawn. The edges of the property are adjacent residences and Graylock Road. The southern portion of the lot is comprised of inland wetlands. There are two watercourses that run north to south along the east and west property lines to the wetlands. Topography on the site consists of gradual slopes that generally drain west to a watercourse and inland wetlands. The property is currently served by an on-site septic system and private well.

The proposed site development includes the demolition of the existing decks and subsequent construction of a new addition and wood deck. There will be a patio installed at grade below the addition. Landscape stone will be placed at grade under the deck and to the north of the addition to provide access to a basement walkout where a patio will be removed. Minimal earthwork is required as the proposed development is designed to work with existing grade. Stormwater management measures are proposed to improve runoff from the property. Soil and erosion controls will be employed to protect downgradient properties and roadways during construction.

2. Scope of Study

This stormwater management report contains studies comparing peak rate 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. The site will be developed with its own on-site stormwater management system capable of controlling the increase in peak runoff.

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 directly to one of the watercourses on site. Driveway runoff is not captured and drains southwest towards a watercourse following the topography. Runoff from the remainder of the property sheet flows generally west towards a watercourse or the inland wetlands 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, low impact development measures are proposed to improve the stormwater runoff on site. The proposed permeable landscape stone patio will be equipped with a gravel base and perforated drainage pipe. Runoff from the patio and wood deck will be temporarily stored in the gravel base before being conveyed by the drainage pipe to a rip rap outlet. The rip rap outlet will discharge runoff to the lawn dissipating energy and promoting sheet flow prior to the inland wetlands and watercourse. Roof leaders from the proposed addition will discharge to the stone patio and be captured by the perforated drainage pipe. The filtration of runoff in the patio's gravel base and discharging of runoff prior to the watercourse will be an improvement of the existing conditions by reducing erosion and sedimentation. 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 "Site Development Plan" prepared by this office. A Stormwater Facilities Maintenance Plan is also included in Appendix B.

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 "Site Development Plan" prepared by this office, dated October 19, 2023. The resulting peak flow rates under both the existing and proposed conditions are summarized in Table 1. For detailed computations see Appendix A.

Table 1: Peak Flows

Storm Event	Existing		Proposed	
	Rate (cfs)	Volume (ft^3)	Rate (cfs)	Volume (ft^3)
2-year	0.96	4,868	0.96	4,868
10-year	3.08	12,859	3.08	12,859
25-year	4.65	18,790	4.65	18,790
50-year	5.90	23,522	5.90	23,522

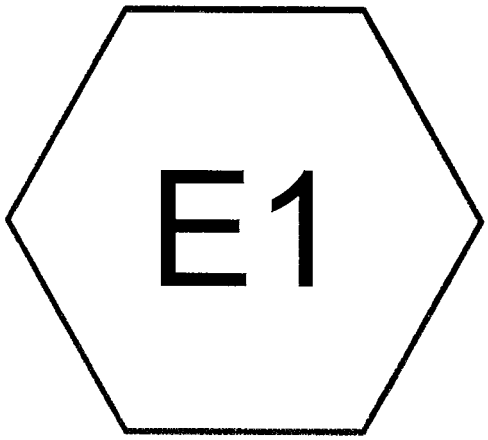
The analysis shows that there is no increase in the peak rate of runoff from the property during any of the analyzed storm events.

6. Conclusions

Based on our analysis, McChord Engineering Associates, Inc. has demonstrated that the proposed stormwater management system will adequately control the increase in runoff from the proposed development at 10 Graylock Road in Weston, Connecticut. It is the opinion of this office and the conclusion of this report that the proposed site 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 Study Area

Subcat Reach Pond Link

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
82,729	61	>75% Grass cover, Good, HSG B (E1)
175	85	Existing Patio/Deck (E1)
2,048	98	Existing Asphalt Driveway (E1)
1,992	98	Existing Residence (E1)
337	98	Existing Walkway (E1)
87,281		**TOTAL AREA**

Summary for Subcatchment E1: Entire Study Area

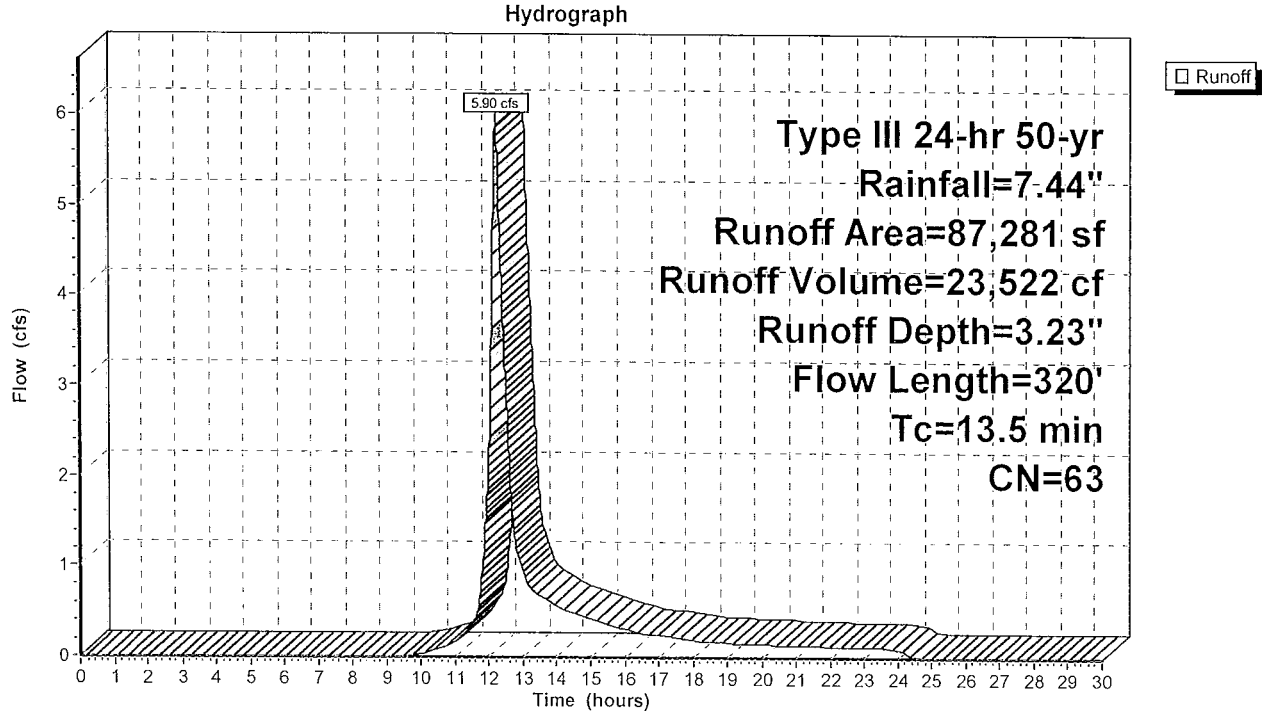
Runoff = 5.90 cfs @ 12.19 hrs, Volume= 23,522 cf, Depth= 3.23"

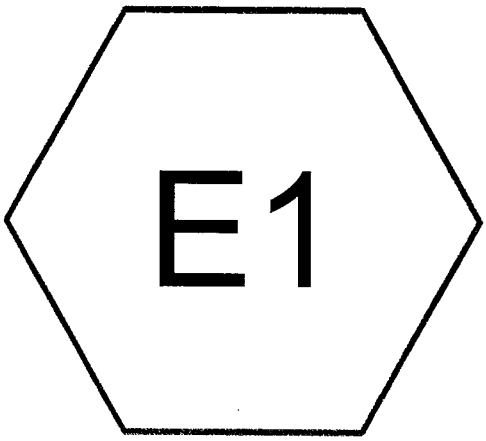
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-yr Rainfall=7.44"

	Area (sf)	CN	Description
*	1,992	98	Existing Residence
*	2,048	98	Existing Asphalt Driveway
*	175	85	Existing Patio/Deck
*	337	98	Existing Walkway
	82,729	61	>75% Grass cover, Good, HSG B
	87,281	63	Weighted Average
	82,904		Pervious Area
	4,377		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	108	0.0510	0.18		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
3.4	212	0.0047	1.03		**Shallow Concentrated Flow, BC** Grassed Waterway Kv= 15.0 fps
13.5	320	Total			

Subcatchment E1: Entire Study Area





Entire Study Area

Subcat Reach Pond Link

Drainage Diagram for Existing Conditions - 10 Graylock Road
Prepared by McChord Engineering Associates, Inc., Printed 10/19/2023

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
82,729	61	>75% Grass cover, Good, HSG B (E1)
175	85	Existing Patio/Deck (E1)
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87,281		**TOTAL AREA**

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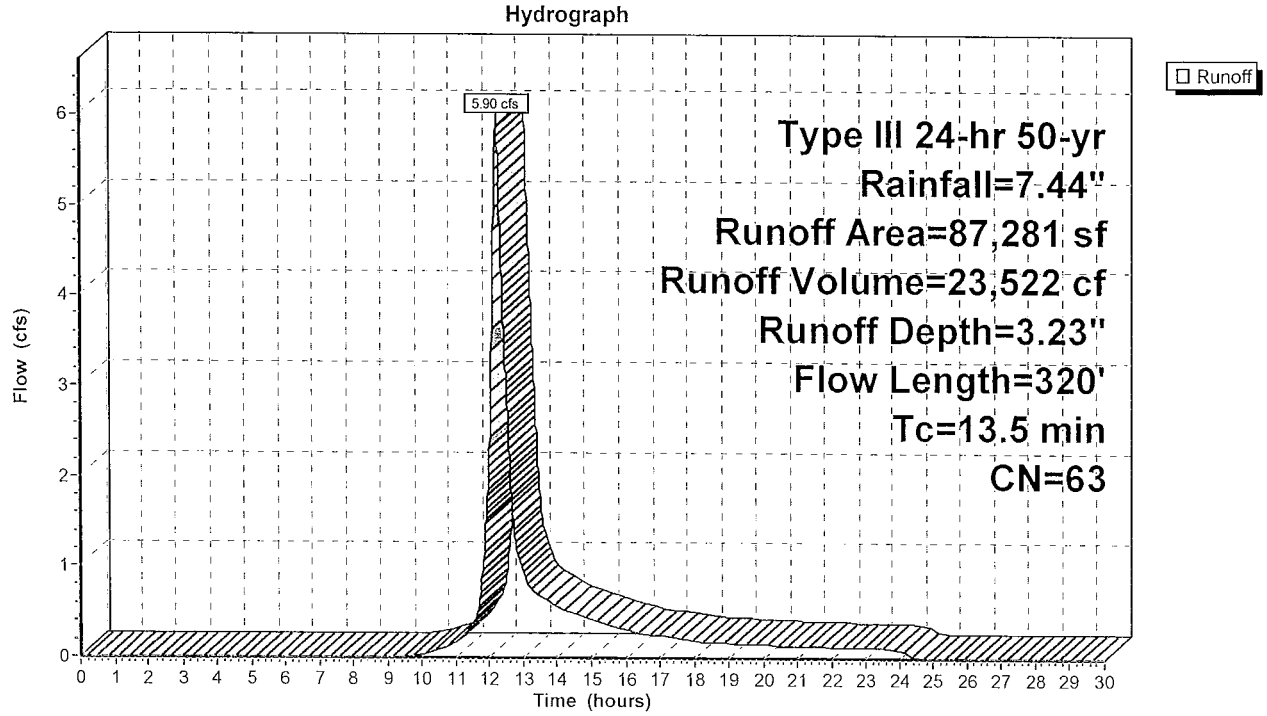
Subcatchment E1: Entire Study Area



APPENDIX B:

STORMWATER FACILITIES MAINTENANCE PLAN

Stormwater Facilities Maintenance Plan

10 Graylock Road, Darien, CT
Map 30, Block 6, Lot 6

Scope:

The purpose of the Stormwater Facilities Maintenance Plan is to ensure that the proposed stormwater components installed for 10 Graylock Road are maintained in operational condition throughout the life of the home. The service procedures associated with this plan shall be performed as required by the parties legally responsible for their maintenance.

Description of Stormwater Facilities:

The proposed stormwater facilities are designed to collect and the runoff from the site in order to minimize adverse impacts to any downstream drainage systems, inland wetlands or adjoining properties. A description of the stormwater facilities are as follows:

1. Roof Leaders/Gutters: Roof leaders (also known as downspouts) from the house will convey roof runoff collected by the roof gutters on the proposed addition to the rip rap outlet.

Recommended Frequency of Service:

All of the stormwater components installed for this property should be checked periodically and kept in full working order. Ultimately the frequency of inspection and service cleaning depends on the amount of runoff, pollutant loading and interference from debris (leaves, vegetation, trash, etc.); however it is recommended that each facility be inspected and cleaned a minimum of two times a year. The guidelines for the timing of service include early spring after the winter season and late fall after the leaves have fallen from the trees.

Service Procedures:

Service can be performed by the homeowner, landscape contractor or handyman since no specialzed equipment is required. Specific service procedures for the stormwater facilities are as follows:

1. Roof Leaders/Gutters: Roof gutters shall be inspected twice a year during the spring and fall service inspections to ensure that roof leaders are kept free of leaves and debris. At a minimum, leaves should be cleaned from the gutters during the fall service inspection.