Test Pit Data
Observed by Steve Jacobs, Somers Sanitarian and J.R. Russo & Associates LLC 10-27-21

TP#A
0"-12" Topsoil
12"-26" Fine Sandy Loam
26"-75" Very Fine Sand
Mottling @ 24"
Seepage @ 55"
No Ledge

TP#B
0"-11" Topsoil
11"-28" Fine Sandy Loam
28"-32" Very Fine Sand
32"-40" Loamy Gravel
40"-80" Very Fine Sand
Mottling @ 22"
Seepage @ 60"
No Ledge

TP#C
0"- 9" Topsoil
9"-16" Fine Sandy Loam
16"-33" Coarse Sandy Gravel
33"-80" Very Fine Sand
Mottling @ 19"
Seepage @ 50"
No Ledge

Test Pit Data
Observed by Steve Jacobs, Somers Sanitarian and J.R. Russo & Associates LLC 10-27-21

TP#D
0"-12" Topsoil
12"-21" Fine Sandy Loam
21"-35" Very Fine Sand
35"-57" Stratified Med. Coarse Sand
57"-82" Very Fine Sand
Mottling @ 20"
Seepage @ 51"
No Ledge

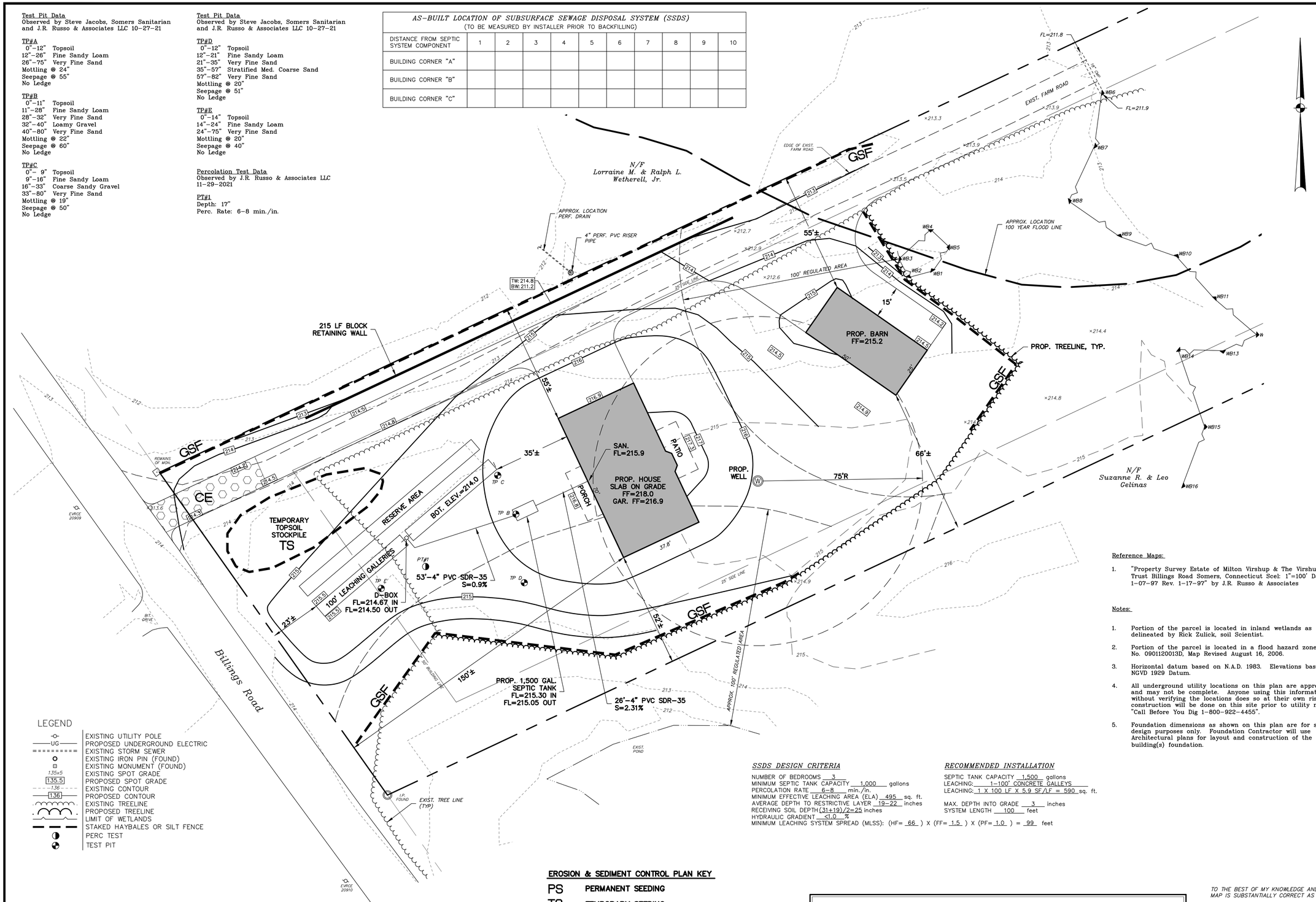
TP#E
0"-14" Topsoil
14"-24" Fine Sandy Loam
24"-75" Very Fine Sand
Mottling @ 20"
Seepage @ 40"
No Ledge

Percolation Test Data
Observed by J.R. Russo & Associates LLC
11-29-2021

PT#1
Depth: 17"
Perc. Rate: 6-8 min./in.

AS-BUILT LOCATION OF SUBSURFACE SEWAGE DISPOSAL SYSTEM (SSDS)
(TO BE MEASURED BY INSTALLER PRIOR TO BACKFILLING)

DISTANCE FROM SEPTIC SYSTEM COMPONENT	1	2	3	4	5	6	7	8	9	10
BUILDING CORNER "A"										
BUILDING CORNER "B"										
BUILDING CORNER "C"										



LEGEND

-o-	EXISTING UTILITY POLE
——UG——	PROPOSED UNDERGROUND ELECTRIC
==========	EXISTING STORM SEWER
o	EXISTING IRON PIN (FOUND)
⊡	EXISTING MONUMENT (FOUND)
135x5	EXISTING SPOT GRADE
135.5	PROPOSED SPOT GRADE
---136---	EXISTING CONTOUR
136	PROPOSED CONTOUR
	EXISTING TREELINE
	PROPOSED TREELINE
	LIMIT OF WETLANDS
	STAKED HAYBALES OR SILT FENCE
◑	PERC TEST
◑	TEST PIT

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

EROSION & SEDIMENT CONTROL PLAN KEY

PS	PERMANENT SEEDING
TS	TEMPORARY SEEDING
CE	CONSTRUCTION ENTRANCE
GSF	GEOTEXTILE SILT FENCE

SSDS DESIGN CRITERIA

NUMBER OF BEDROOMS 3
MINIMUM SEPTIC TANK CAPACITY 1,000 gallons
PERCOLATION RATE 6-8 min./in.
MINIMUM EFFECTIVE LEACHING AREA (ELA) 495 sq. ft.
AVERAGE DEPTH TO RESTRICTIVE LAYER 19-22 inches
RECEIVING SOIL DEPTH (31+19)/2=25 inches
HYDRAULIC GRADIENT <1.0 %
MINIMUM LEACHING SYSTEM SPREAD (MLSS): (HF= 66) X (FF= 1.5) X (PF= 1.0) = 99 feet

RECOMMENDED INSTALLATION

SEPTIC TANK CAPACITY 1,500 gallons
LEACHING: 1-100' CONCRETE GALLEYS
LEACHING: 1 X 100 LF X 5.9 SF/LF = 590 sq. ft.

MAX. DEPTH INTO GRADE 3 inches
SYSTEM LENGTH 100 feet

Reference Maps:

1. "Property Survey Estate of Milton Virshup & The Virshup Family Trust Billings Road Somers, Connecticut Scel: 1"=100' Date: 1-07-97 Rev. 1-17-97" by J.R. Russo & Associates

Notes:

1. Portion of the parcel is located in inland wetlands as delineated by Rick Zulick, soil Scientist.
2. Portion of the parcel is located in a flood hazard zone, Map No. 0901120013D, Map Revised August 16, 2006.
3. Horizontal datum based on N.A.D. 1983. Elevations based on NGVD 1929 Datum.
4. All underground utility locations on this plan are approximate and may not be complete. Anyone using this information without verifying the locations does so at their own risk. No construction will be done on this site prior to utility mark out. "Call Before You Dig 1-800-922-4455".
5. Foundation dimensions as shown on this plan are for site design purposes only. Foundation Contractor will use Architectural plans for layout and construction of the building(s) foundation.

This survey and map has been prepared in accordance with Sections 20-300b-1 thru 20-300b-20 of the Regulations of Connecticut State Agencies - "Minimum Standards for Surveys and Maps in the State of Connecticut" as endorsed by the Connecticut Association of Land Surveyors, Inc. It is a Property Survey based on a Resurvey conforming to Horizontal Class A-2 & a Topographic Survey conforming to Class T-2.

This document and copies thereof are valid only if they bear the live signature and embossed seal of the designated professional. Unauthorized alterations render any declaration hereon null and void.

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

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REVISIONS

BY:	CHK:	
LF/TAC	JEU	12-10-21 RELOCATE BARN TO AVOID WETLAND

Prepared For
Ronald Bilodeau
279 Billings Road
Somers, Connecticut
Map 02 Lot 25 & 25D Zone: A-1

Septic System Plan

DATE 12-06-21
SCALE 1"=20'
JOB NUMBER 2021-091
SHEET 1 of 2

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SUBSURFACE SEWAGE DISPOSAL SYSTEM (SSDS) NOTES:

GENERAL

This system is designed for a 3 bedroom house. Any increase in the number of bedrooms or the installation of a large capacity discharge type bathtub/jacuzzi (over 100 gallon capacity) will require a septic system redesign by the design engineer. A bedroom shall be defined by the definition in section I.C of the Technical Standards of the CT Public Health Code.

The soil test results and soil types apply only to the test holes shown and may not be the same for other areas on the site. Soil type, grade and various elevations must be verified by owner or contractor over the entire leaching area during construction.

Foundation dimensions shown on this plan are for site design purposes only. The foundation contractor shall use architectural plans for layout and construction of the building(s) foundation.

Location of existing utilities shown on this plan are approximate and may not be complete, contractor must call before digging for verification 1–800–922–4455.

The SSDS installation must conform to local and state Health Department requirements. Any deviation from the SSDS design as shown hereon must be approved by the design engineer prior to construction.

LOCATION

All parts of the SSDS shall be at least 10 feet from all property lines. In addition, the primary leaching system shall be at least 25 feet from a downgradient property line when MLSS applies.

Non–perforated drainage pipe shall be at least 25 feet from the SSDS unless constructed of gasketed tight pipe as listed on Table 2–C of the Technical Standards of the CT Public Health Code. Tight pipe may be no less than 5 feet from the SSDS as long as the trench is not backfilled with free draining material conforming to CT DOT Form 816 M.02.07.

Potable water and/or irrigation lines which flow under pressure shall be at least 10 feet from the SSDS.

Utility service trenches (underground electric, gas, phone services, etc.) shall be at least 5 feet from the SSDS. When a utility trench is backfilled with free draining material (M.02.07), this distance shall be increased to 25 feet. All utility trenches within 25 feet of the SSDS shall be inspected by the local Health Department prior to burial.

The as–built location of the SSDS shall be measured and recorded by the installer prior to backfilling. Copies of the as–built shall be provided to the local Health Department official and the design engineer.

PIPING

Piping from the building to the septic tank shall be 4" PVC Schedule 40 or approved equal and laid at a minimum slope of 1/4" per foot. Piping leaving the septic tank to the distribution box shall be 4" PVC SDR–35 or approved equal and laid at a minimum slope of 1/8" per foot. Piping located within the leaching trenches shall be perforated 4" PVC SDR–35 or approved equal and laid level or on a grade not more than 2 to 4 inches per one hundred feet.

Cleanouts are required every 75 feet from the building to the septic tank and where a cumilative change in direction greater than 45° occurs, unless a 90° (36" radius) sweep is utilized per Table No. 2 of the Technical Standards of the CT Public Health Code.

SEPTIC TANK

Septic tank capacity shall be at least 250 gallons per bedroom and no less than 1,000 gallons. Garbage grinders are not recommended but if installed, add 250 gallons to required tank capacity. All septic tanks (except tanks in series) shall contain two compartments with 2/3 the required capacity in the first compartment.

Septic tanks shall include minimum 17–inch diameter access holes with removable covers directly over the inlet and outlet pipes. If a tank access hole is more than 12 inches below finished grade, provide 24–inch diameter riser with manhole frame & cover to within 12 inches of finished grade. When the cover over the tank exceeds 42 inches, the tank and risers shall be rated H–20. When the tank is located under vehicular travel areas, the tank, risers and cover assemblies shall be rated for H–20 wheel loadings.

All newly installed tanks shall have an approved non–by–pass effluent filter at the outlet. A list of approved outlet filters can be found in Appendix B of the Technical Standards of the CT Public Health Code.

LEACHING SYSTEM

The contractor is required to use care during construction to keep the leaching area undisturbed until it is staked and approved for installation by the design engineer or Health Department Official.

The bottom of the leaching system must at least 18 inches above the maximum ground water level and four feet above ledge rock. Whenever the design percolation rate is faster than one inch per minute, the minimum separation to maximum groundwater must be increased to 24 inches, and the minimum separation above ledge rock shall be increased to eight feet or distances shall be doubled from any well in accordance with Table No. 1, item A of the Technical Standards of the CT Public Health Code.

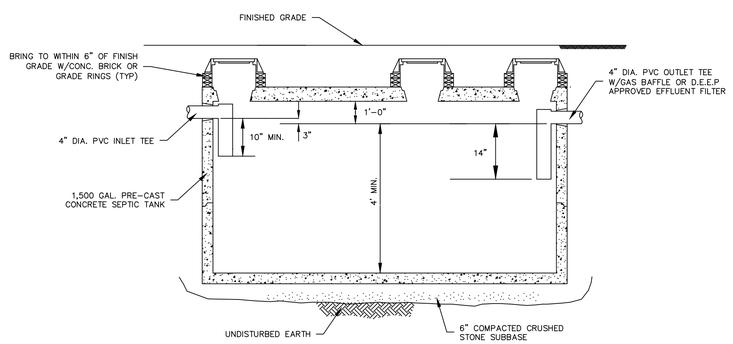
The ground surface over the entire SSDS shall be graded and maintained to lead surface water away from the area. Leaching systems shall be covered with a minimum of 6 inches of soil and seeded to prevent erosion over and adjacent to the system.

Select (septic) fill placed within and adjacent to leaching system areas shall be clean sand, or sand and gravel, free from organic matter and foreign substances. The select fill shall contain no material larger than 3", and up to 45% of the dry weight may be retained on the #4 sieve. Material passing the #4 sieve shall be reweighed to verify compliance with the following gradation:

Sieve Size	% Passing Wet Sieve	% Passing Wet Sieve (Alt.)	% Passing Dry Sieve
#4	100	100	100
#10	70 – 100	70 – 100	70 – 100
#40	10 – 50	10 – 75	10 – 75
#100	0 – 20	0 – 10	0 – 5
#200	0 – 5	0 – 5	0 – 2.5

Material that does not meet the dry sieve gradation, is still acceptable if it meets either of the wet sieve gradations above.

Distribution boxes shall be placed level in undisturbed soil or compacted gravel to below frost line.



1,500 GAL SEPTIC TANK

NOT TO SCALE

PERMANENT SEEDING (PS)

SPECIFICATIONS

Time Of Year
Seeding dates in Connecticut are normally April 1 through June 15 and August 15 through October 1. Spring seedings give the best results and spring seedings of all mixes with legumes is recommended. There are two exceptions to the above dates. The first exception is when seedings will be made in the areas of Connecticut known as the Coastal Slope and the Connecticut River Valley. The Coastal Slope includes the coastal towns of New London, Middlesex, New Haven, and Fairfield counties. In these areas, with the exception of crown vetch (when crown vetch is seeded in late summer, at least 35% of the seed should be hard seed (unscarified), the final fall seeding dates can be extended and additional 15 days. The second exception is frost crack or dormant seeding, the seed is applied during the time of year when no germination can be expected, normally November through February. Germination will take place when weather conditions improve, mulching is extremely important to protect the seed from wind and surface erosion and to provide erosion protection until the seeding becomes established.

Site Preparation
Grade in accordance with the Land Grading measure which is in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

Install all necessary surface water controls.

For areas to be mowed remove all surface stones 2 inches or larger. Remove all other debris such as wire, cable tree roots, pieces of concrete, clods, lumps, or other unsuitable material.

Seed Selection and Quantity
Select a seed mixture appropriate to the intended use and soil conditions from Figure PS–2 and Figure PS–3 in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition or use mixture recommended by the NRCS.

Seedbed Preparation
Apply topsoil, if necessary, in accordance with the Topsoiling measure which is in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

Apply ground limestone and fertilizer according to soil test recommendations (such as those offered by the University of Connecticut Soil Testing Laboratory or other reliable source).

Where soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 300 pounds per acre or 7.5 pounds per 1,000 square feet of 10–10–10 or equivalent and limestone at 4 tons per acre or 200 pounds per 1,000 square feet.

Work lime and fertilizer into the soil to a depth of 3 to 4 inches with a disc or other suitable equipment.

Inspect seedbed just before seeding. If the soil is compacted, crusted or hardened, scarify the area prior to seeding.

Seed Application
Apply selected seed at rates provided in Figure PS–3 (in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition) uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder (slurry including seed, fertilizer). Normal seeding depth is from 0.25 to 0.5 inch. Increase seeding rates by 10% when hydroseeding or frost crack seeding. Seed warm season grasses during the spring period only.

Mulching
See guidelines in the Mulch For Seed measures.

MAINTENANCE
Inspect temporary soil protection area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater during the first growing season.

Where seed has been moved or where soil erosion has occurred, determine the cause of the failure and repair as needed.

SOIL ERSOION & SEDIMENT CONTROL NOTES

1. All soil erosion and sediment control work shall be done in strict accordance with the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

2. Any additional erosion/sediment control deemed necessary by town staff during construction, shall be installed by the developer. In addition, the developer shall be responsible for the repair/replacement and/or maintenance of all erosion control measures until all disturbed areas are stabilized to the satisfaction of the town staff.

3. All soil erosion and sediment control operations shall be in place prior to any grading operations and installation of proposed structures or utilities and shall be left in place until construction is completed and/or area is stabilized.

4. All entrances to the project site shall be paved or protected by construction entrance (CE) pads, conforming to the Connecticut Guidelines For Erosion and Sediment Control latest edition. Stone shall conform to Ct. D.O.T. Form 814A, latest edition, M.01.01 No. 4 stone. The CE pad is to be maintained at all times during the construction period.

5. In all areas, removal of trees, bushes and other vegetation as well as disturbance of the soil is to be kept to an absolute minimum while allowing proper development of the site. During construction, expose as small an area of soil as possible for as short a time as possible.

6. All fill areas shall be compacted sufficiently for their intended purpose and as required to reduce slipping, erosion or excess saturation. Fill intended to support buildings, structures, conduits, etc., shall be compacted in accordance with local requirements or codes.

7. Topsoil is to be stripped and stockpiled in amounts necessary to complete finished grading of all exposed areas requiring topsoil. The stockpiled topsoil is to be located as designated on the plans and ringed with hay bale barrier or geotextile silt fence. The stockpiled topsoil shall be temporarily seeded if it is to remain more than 30 days.Topsoil shall not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading or proposed sodding or seeding.

8. There is to be no stockpiling of soil within a ten foot limit of adjoining properties. Any and all fill material is to be free of brush, rubbish, timber, logs vegetative matter and stumps in amounts that will be detrimental to constructing stable fills. Maximum side slopes of exposed surfaces of earth to be 3:1 or as otherwise specified by local authorities.

GEOTEXTILE SILT FENCE (GSF)

SPECIFICATIONS

Materials
Geotextile fabric: shall be a pervious sheet of polypropylene, nylon, polyester, ethylene or similar filaments and shall be certified by the manufacturer or supplier as conforming to the requirements shown in Figure GSF–1 in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition. The geotextile shall be non–rotting, acid and alkali resistant and have sufficient strength and permeability characteristics. Filamentsin the geotextile shall be resistant to absorption. The filament network must be dimensionally stable and free of any chemical treatment or coating that will reduce its permeability. The geotextile shall also be free of any flaws or defects which will alter its physical properties. Torn or punctured geotextiles shall not be used.

Supporting posts: shall be at least 42 inches long made of either 1.5 inch square hardwood stakes or steel posts with projections for fastening the geotextile possessing a minimum strength of 0.5 pound per linear foot.

Placement
For toe of slope: Locate 5–10 feet down gradient from the toe of slope, generally on the contour with maintenance and sediment removal requirements in mind. When the contour can not be followed install the fence such that perpendicular wings are created to break the velocity of water flowing along the fence. See Figure GSF–2 in the Connecticut Guidelines For Soil Erosion and Sediment Control for spacing requirements.

Swales: Locate "U" shape across swale such that the bottom of both ends of the fence are higher that the top of the lowest section of the fence.

Catch Basin in Swale on Slopes: Locate 2 "U" shapes across swale as above: one immediately up slope from the catch basin and the other immediately down slope from the catch basin.

Catch Basins in Depressions: Encircle catch basin.

Culvert Inlets: Locate in a "U" shape approximately 6 feet from the culvert in the direction of the incoming flow.

Culvert Outlets: Locate across the swale at least 6 feet from the culvert outlet.

Installation
Trench excavation: Excavate a trench a minimum of 6 inches deep and 6 inches wide on the up slope side of the fence location. For slope and swale installations, extend the ends of the trench sufficiently up slope such that bottom end of the fence will be higher than the top of the lowest portion of the fence.

When the fence is not to be installed on the contour, excavate wing trenches spaces at the intervals given on Figure GSF–2 in the Connecticut Guidelines For Soil Erosion and Sediment Control latest edition.

When excavation is obstructed by an occasional stone or tree roots, provide a smooth transition between the trench bottom and the obstruction.

Support Posts: Drive support posts on the down slope side of the trench to a depth of at least 12 inches into original ground.

Never install support posts more than 10 feet apart. Install support posts closer than 10 feet apart when concentrated flows are anticipated or when steep contributing slopes and soil conditions are expected to generate larger volumes of sediment. For catch basins in hollows, drive posts at each corner of the catch basin. Whenever the geotextile filter fabric that is used exceeds the minimum material specifications contained in this measure, the spacing of the stakes shall be per manufacturer's recommendations.

Geotextile Filter Fabric: Staple or secure the geotextile to the support posts per manufacture's instruction such that at least 6 inches of geotextile lies within the trench, the height of the fence does not exceed 30 inches and the geotextile is taut between the posts. When the trench is obstructed by stones, tree roots, etc. allow the geotextile to lay over the obstruction such that the bottom of the geotextile joints up slope.

In the absence of manufacture's instructions, space wire staples on wooden stakes at a maximum of 4 inches apart and alternate their position from parallel to the axis of the stake to perpendicular.

Do not staple the geotextile to living trees.

Provide reinforcement for the fence when it can be exposed to high winds.

When joints in the geotextile fabric are necessary, splice together only at at support posts, and securely seal.

Backfill & Compaction: Backfill the trench with tamped soil or aggregate over the geotextile. When the trench is obstructed by a stone, tree root, etc. make sure the bottom of the geotextile lies horizontal on the ground with the resulting flap on the up slope side of the geotextile and bury the flap with 6 inches of tamped soil, or aggregate.

MAINTENANCE
Inspect the silt fence at least once a week and within 24 hours of the end of a storm with rainfall amount of 0.5 inch or greater to determine maintenance needs. When used for dewatering operations, inspect frequently before, during and after pumping operations.

Remove the sediment deposits or, if room allows, install a secondary silt fence up slope of the existing fence when sediment deposits reach approximately one half the height of the existing fence.

Replace or repair the fence within 24 hours of observed failure. Failure of the fence has occurred when sediment fails to be retained by the fence because:
(a) the fence has been overtopped, undercut or bypassed by runoff water,
(b) the fence has been moved out of position (knocked over), or
(c) the geotextile has decomposed or been damaged.

Maintain the fence until the contributing area is stabilized.

After the contributing area is stabilized determine if sediment contained by the fence requires removal or regrading and stabilization. If the depth is greater than or equal to 6 inches, regrading or removal of the accumulated sediment is required. No removal or regrading is required if sediment depth is less than 6 inches.

Remove the fence by pulling up the support posts and cutting the geotextile at ground level. Regrade or remove sediment as needed, and stabilize disturbed soils.

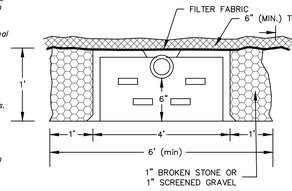
NARRATIVE

This project is located at 279 Billings Road in Somers, Connecticut. The proposed activity is the construction of a single family home and detached barn. The lot is to be served by a septic system and private well.

The suggested schedule of construction activities for the individual house lot is as follows:

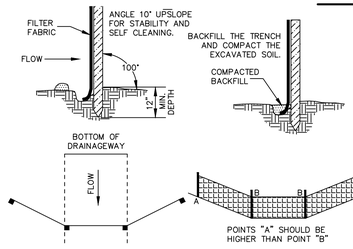
1. *Install silt fence and construction entrance.*
2. *Strip and stockpile topsoil.*
3. *Excavate and install building foundations.*
4. *Install utilities as shown on plan.*
5. *Install Septic System.*
6. *Construct retaining wall and complete driveway improvements.*
7. *Complete construction of the buildings.*
8. *Fine grade disturbed areas and establish vegetation.*
9. *Remove silt fence after permanent vegetation has been established.*

The contractor shall keep the area of disturbance to a minimum and establish exposed soils as soon as practical. All soil and erosion control measures shall be installed and maintained in accordance with these plans and the "Guidelines for Soil Erosion and Sediment Control". The contractor shall notify the Engineer of any discrepancies.



TYPICAL SECTION OF LEACHING GALLERY

NOT TO SCALE

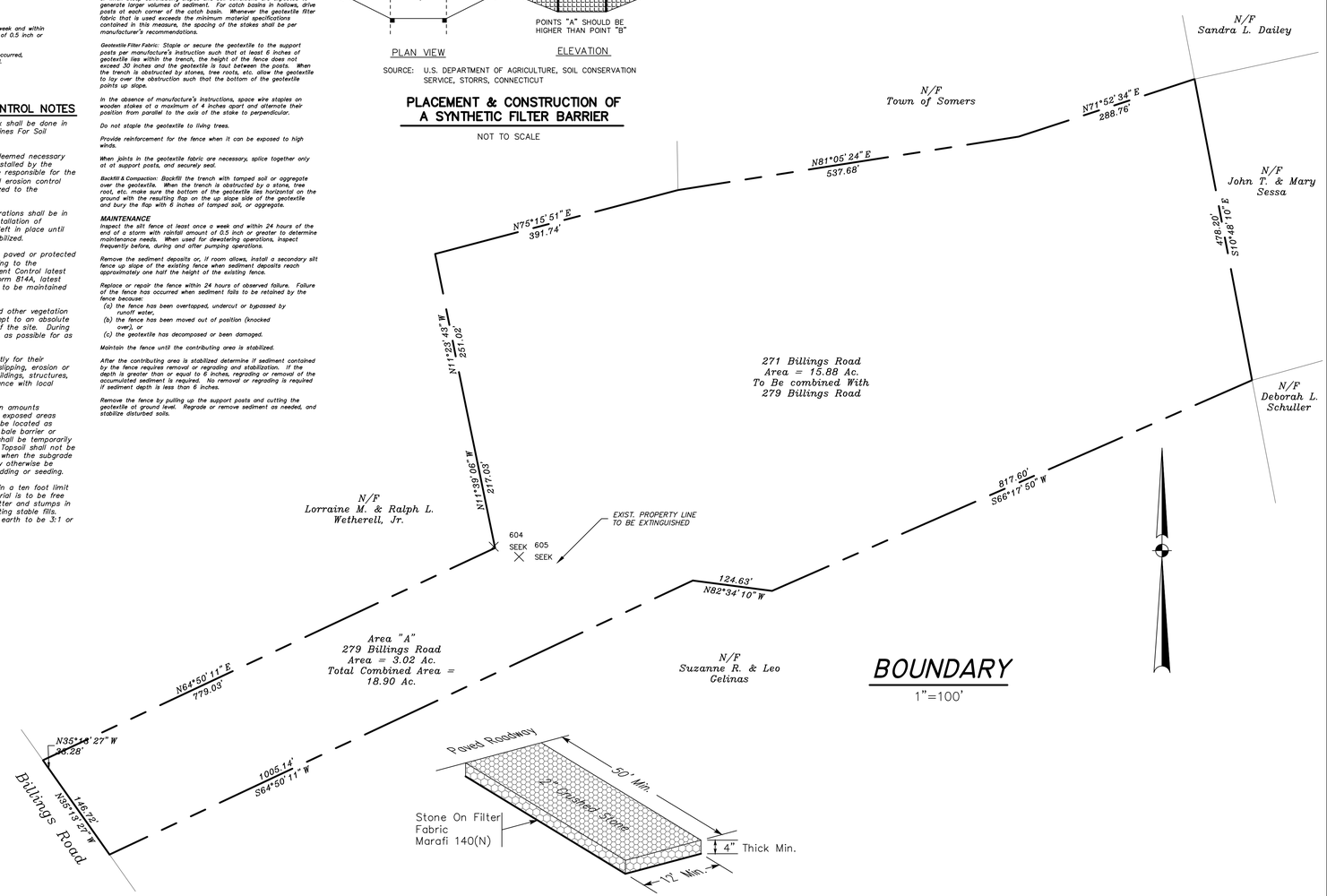


PLAN VIEW ELEVATION

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, STORRS, CONNECTICUT

PLACEMENT & CONSTRUCTION OF A SYNTHETIC FILTER BARRIER

NOT TO SCALE



BOUNDARY

1"=100'

ANTI-TRACKING EXIT PAD DETAIL (CE)

NOT TO SCALE

CHECKLIST FOR EROSION CONTROL PLAN

PROJECT: Bilodeau Residence

LOCATION: 279 Billings Road, Somers, Connecticut

PROJECT DESCRIPTION: Single Family Home & Barn

PARCEL AREA: 19± Acres

RESPONSIBLE PERSONNEL: Ron Bilodeau (860) 883–9611

EROSION AND SEDIMENT CONTROL PLAN PREPARER: J.R. Russo & Associates, LLC

CHECKLIST:

Work Description Erosion & Sediment Control Measures	Location	Date Installed	Initials	Date Removed	Initials
Install construction entrance.	As shown on plan.				
Install haybales or sediment barrier	As shown on plan.				

MAINTENANCE OF MEASURES:

Location	Description or Number	Date	Initials

Project Dates:

Date of groundbreaking for project:

Date of final stabilization:

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REVISIONS

BY: LF/TAC	CHK: JEU

Prepared For
Ronald Bilodeau
279 Billings Road
Somers, Connecticut
Map 02 Lot 25 & 25D Zone: A–1

Details

DATE 12–06–21
SCALE AS NOTED
JOB NUMBER 2021–091
SHEET 2 of 2

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