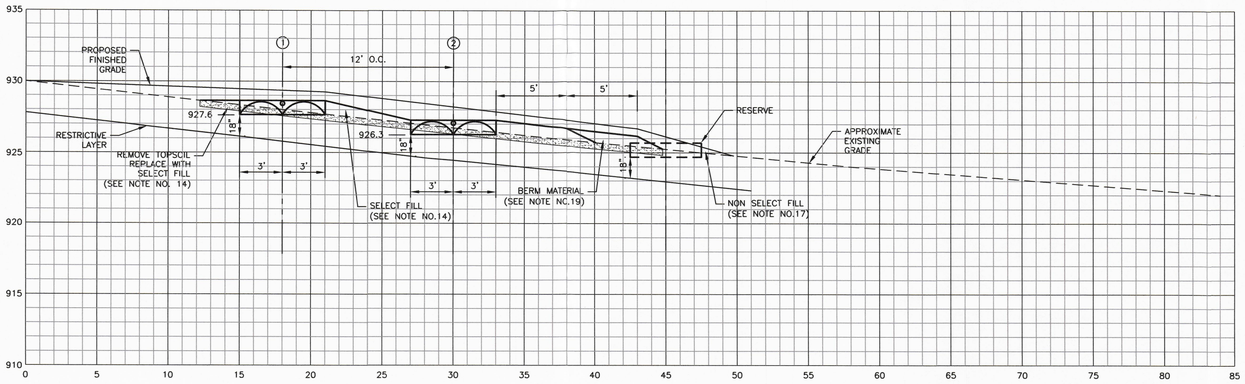
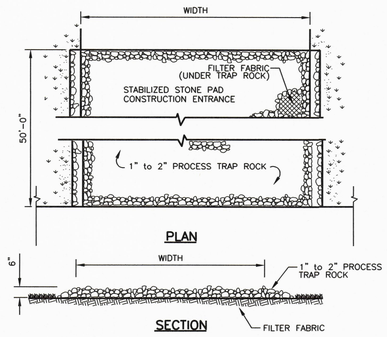


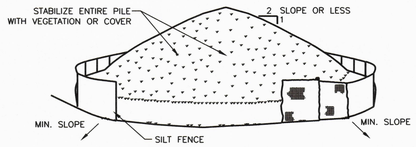
SECTION A–A

SCALE: 1"=5'



ANTI–TRACKING PAD DETAIL

N.T.S.

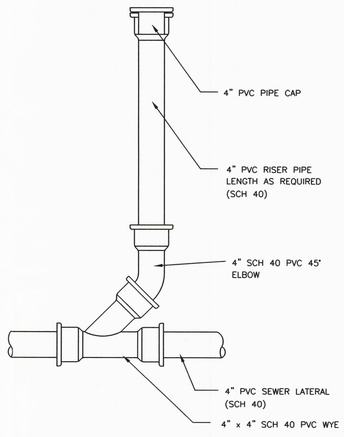


INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.

SOIL STOCKPILING

N.T.S.



CLEANOUT DETAIL TYPICAL

N.T.S.

PERCOLATION TEST HOLES LOG

DATE 05/16/21

PERC HOLE P–1

DEPTH: 24 INCHES DIAMETER: 9.0 INCHES
HEAD: 12 INCHES PRESOAK: 10:02 A.M.

TIME	DEPTH (INCHES)	DROP (INCHES)	INTERVAL (MINUTES)	RATE (MIN./INCH)
11.30	11.00			
11.43	13.63	2.63	13.00	4.95
11.55	15.00	1.38	12.00	8.73
12.05	16.13	1.13	10.00	8.89
12.15	17.00	0.88	10.00	11.43
12.25	17.75	0.75	10.00	13.33
12.35	18.50	0.75	10.00	13.33

FINAL PERCOLATION RATE: 13.33 MIN/INCH

PERC HOLE P–2

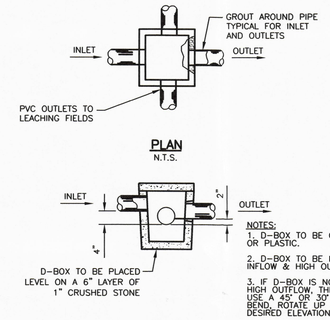
DEPTH: 24 INCHES DIAMETER: 9.0 INCHES
HEAD: 12 INCHES PRESOAK: 10:10 A.M.

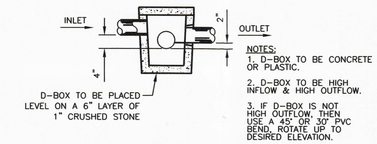
TIME	DEPTH (INCHES)	DROP (INCHES)	INTERVAL (MINUTES)	RATE (MIN./INCH)
11.31	12.00			
11.44	15.00	3.00	13.00	4.33
11.55	16.00	1.00	11.00	11.00
12.06	16.75	0.75	11.00	14.67
12.16	17.50	0.75	10.00	13.33
12.26	18.00	0.50	10.00	20.00
12.36	18.50	0.50	10.00	20.00

FINAL PERCOLATION RATE: 20.00 MIN/INCH

TABLE OF INVERTS

SCH 40 @ COTTAGE	938.50 (MIN.)
SEPTIC TANK	
INLET	933.00
OUTLET	932.75
D –BOX #1	
INLET	928.63
LATERAL	928.30
OUTLET	928.55
D –BOX #2	
INLET	927.33
LATERAL	927.00
CONTACTOR 100 INVERTS	
#1	928.30
#2	927.00
CONTACTOR 100 BOTTOMS	
#1	927.60
#2	926.30





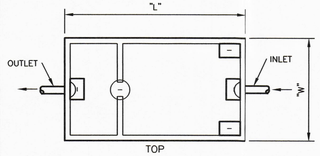
NOTES:

1. D–BOX TO BE CONCRETE OR PLASTIC.
2. D–BOX TO BE HIGH INFLOW & HIGH OUTFLOW.
3. IF D–BOX IS NOT HIGH OUTFLOW, THEN USE A 45° OR 30° PVC BEND, ROTATE UP TO DESIRED ELEVATION.

DISTRIBUTION BOX

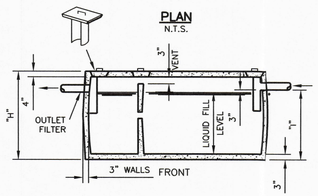
N.T.S.

SEE SITE PLAN FOR PIPING ORIENTATION



DESIGN NOTES:

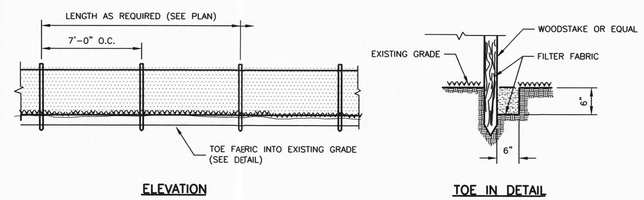
1. 4000 PSI–28 DAYS
2. MEETS OR EXCEEDS STATE AND LOCAL REQUIREMENTS.
3. ALL SHIPLAP JOINTS SEALED WITH BUTYL RUBBER.
4. LOADING H10 (OR H20 OPTIONAL)
5. TWO COMPARTMENT TANK.
6. INSPECTION LID HAS CAST IN PVC BAFFLE AND IS TRANSFERABLE TO ANY OF THREE INLETS.



LIQUID CAPACITY	LENGTH "L"	WIDTH "W"	INVERT "I"	HEIGHT "H"
550	7'6"	3'8"	3'8"	4'6"
750	8'6"	4'10"	3'8"	4'6"
900	8'6"	4'10"	4'2"	5'0"
1000	8'6"	4'10"	4'6"	5'4"
1250	10'6"	5'8"	3'8"	4'6"
1500	10'6"	5'8"	4'6"	5'4"
2000	11'11"	6'6"	4'8"	5'8"

SEPTIC TANK DETAIL

N.T.S.



SILTATION FENCE DETAIL

N.T.S.

MLSS REQUIREMENT (PROPOSED COTTAGE)

No. OF BEDROOMS	PERCOLATION RATE DESIGN	LIMITING FACTORS FOR INSTALLATION				HYDRAULIC FACTOR			FLOW FACTOR (FF)	PERCOLATION FACTOR (PF)	MLSS (FEET) (HF*FF*PF)	ACTUAL SPREAD (FEET)	ELA SF (REQUIRED)	ELA SF (PROVIDED)
		LEDGE (INCHES)	HARDPAN (INCHES)	MOTTLING (INCHES)	GROUNDWATER (INCHES)	SLOPE (%)	(HF)	DEPTH (INCHES)						
2	10.1–20	NONE	27	NONE	NONE	9.1	26	29.75	1	1.25	32.5	45	500	531

SYSTEM

DT #1 = 27
DT #28 = 28

(27+28)/2=27.50

AVERAGE OF SYSTEM 27.50

RECEIVING SOILS

DT #2 = 32
DT #4 = 32

(30+32)/2=32

AVERAGE OF RECEIVING 32.00

ADJUSTED HYDRAULIC FACTOR 29.75

(27.5+32)/2=29.75

MLSS REQUIREMENT (MAIN HOUSE)

No. OF BEDROOMS	PERCOLATION RATE DESIGN	LIMITING FACTORS FOR INSTALLATION				HYDRAULIC FACTOR			FLOW FACTOR (FF)	PERCOLATION FACTOR (PF)	MLSS (FEET) (HF*FF*PF)	ACTUAL SPREAD (FEET)	ELA SF (REQUIRED)	ELA SF (PROVIDED)
		LEDGE (INCHES)	HARDPAN (INCHES)	MOTTLING (INCHES)	GROUNDWATER (INCHES)	SLOPE (%)	(HF)	DEPTH (INCHES)						
4	10.1–20	54	23	28	NONE	10.45	20	30.25	1.75	1.25	43.75	45	787.5	900

SYSTEM

DT #6 = 28
DT #7 = 23

(28+23)/2=25.50

AVERAGE OF SYSTEM 25.50

RECEIVING SOILS

DT #5 = 28
DT #8 = 42

(28+42)/2=35.00

AVERAGE OF RECEIVING 35.00

ADJUSTED HYDRAULIC FACTOR 30.25

(25.5+35)/2=30.25

GENERAL NOTES:

1. LOT LINES AND TOPOGRAPHIC INFORMATION HAVE BEEN TAKEN FROM PLANS PREPARED BY T. MICHAEL ALEX, LICENSED LAND SURVEYOR, WASHINGTON, CT, TITLED "ZONING LOCATION SURVEY" DATED JUNE 2021.
2. THE PROPERTY LINES ARE TO BE STAKED PRIOR TO CONSTRUCTION OF THE DWELLING OR INSTALLATION OF THE SEPTIC SYSTEM.
3. FIELD DATA COLLECTED ON 05/16/21 BY DIVESTA CIVIL ENGINEERING, LLC..
4. THERE IS NO APPARENT INTERFERENCE WITH WELLS OR SEPTIC SYSTEMS ON ADJACENT PROPERTIES.
5. LOCATION OF EXISTING LEACHING SYSTEM AND RELATED STRUCTURES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND SURVEY, AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY.
6. THE CONTRACTOR MUST OBTAIN ALL NECESSARY PERMITS FROM THE LOCAL AGENCIES PRIOR TO CONSTRUCTION.

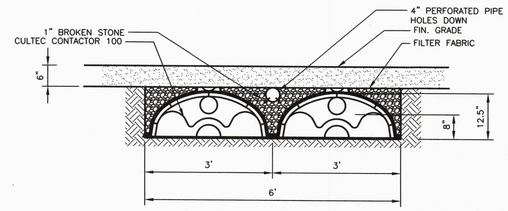
PROPOSED COTTAGE

7. BASED ON AN OBSERVED PERCOLATION RATE OF 1"/10.1 –20 MIN., A 2 BEDROOM DWELLING AND A 1000 GALLON TWO COMPARTMENT SEPTIC TANK, 500 SQ. FT. OF EFFECTIVE LEACHING AREA MUST BE PROVIDED AS PER THE STATE OF CONNECTICUT HEALTH CODE. INSTALL 90 LINEAR FEET OF CONTACTOR 100 SIDE BY SIDE PROVIDING 531–SQ. FT. OF EFFECTIVE LEACHING AREA. ENDS OF TRENCH PIPING SHALL BE CAPPED WITH MANUFACTURED CAPS.
8. PROVIDE A 1000GALLON TWO COMPARTMENT SEPTIC TANK AS MANUFACTURED BY M & M SEPTIC TANK CO. OR EQUAL. THE SEAMS OF THE TANK SHALL BE TARRED OR WATER SEALED PRIOR TO TANK INSTALLATION. INLET AND OUTLET PIPES SHALL ALSO BE SEALED WATERTIGHT. IF 12" OR GREATER OF COVER EXISTS OVER THE TANK, RISERS SHALL BE INSTALLED TO GRADE. RISERS SHALL BE WATERTIGHT AND SEALED ON TOP OF THE TANK. SEPTIC TANK IS TO HAVE AN APPROVED OUTLET FILTER AND MEET THE CURRENT HEALTH CODE.
9. HOUSE SEWER TO BE CONSTRUCTED OF 4" SCH 40 PVC OR EQUAL. MINIMUM PITCH ON HOUSE SEWER FROM HOUSE TO SEPTIC TANK TO BE ONE–QUARTER–INCH PER FOOT AND SEWER FROM SEPTIC TANK TO LEACHING SYSTEM TO BE ONE–EIGHTH–INCH PER FOOT. ALL EFFLUENT PIPES DISPERSING FLOWS TO DISTRIBUTION BOXES TO BE 4" SOLID PVC (ASTM D3033 OR 3034, SDR 35) WITH SOLVENT SEALED JOINTS OR EQUAL. CHANGES IN DIRECTION TO BE MADE WITH THE APPROPRIATE COMMERCIALLY MANUFACTURED FITTINGS. ALL PIPES TO BE PROPERLY GROUTED INTO SEPTIC TANK, PUMP CHAMBER AND DISTRIBUTION BOXES AND PROPERLY SUPPORTED. USE DISTRIBUTION BOX DB–5 AND/OR DB–3 AS MANUFACTURED BYM & M SEPTIC TANK CO. PERFORATED EFFLUENT DISTRIBUTION PIPE TO BE 4" DIAMETER ASTM D2729 PVC PIPE.
10. SEPTIC TANK SHALL BE LAID LEVEL ON A 6" BED OF CRUSHED STONE.
11. ALL STONE AGGREGATE FOR THE LEACHING SYSTEM SHALL BE BROKEN STONE MEETING THE DEPARTMENT OF TRANSPORTATION FORM 814 SPECIFICATION M.01.01 FOR NO. 4 STONE. STONE AGGREGATE SHALL BE FREE OF SILT, DIRT OR DEBRIS AND SHALL SHOW A LOSS OF ABRASION OF NOT MORE THAN 50% USING AASHTO METHOD T–96.
12. CLEAR LEACHING AREA OF TREES AND SHRUBS BY CUTTING VEGETATION FLUSH WITH EXISTING GRADE. STUMPS SHALL BE REMOVED AND DISPOSED OF PROPERLY. REMOVE TOPSOIL AND SCARIFY GROUND SURFACE WITH BUCKET TEETH OR HARROW TO A DEPTH OF 6" (MIN) BEFORE PLACING SELECT BACKFILL MATERIAL. PROTECT THE PREPARED SURFACE FROM MACHINE OR VEHICULAR TRAFFIC.
13. REMOVE ALL ROCKS OF 18" OR LARGER BEFORE THE INSTALLATION OF THE SEPTIC LEACHING TRENCHES. THE AREA WHERE THE ROCKS HAVE BEEN REMOVED SELECT FILL IS TO BE PLACED AND COMPACTED. FINISH GRADE OF THE PROPOSED SEPTIC SYSTEM AREA WITH SELECT BACKFILL MATERIAL, IF REQUIRED, TO A DEPTH AND SLOPE AS SHOWN ON THE SITE PROFILE.
14. SELECT BACKFILL MATERIAL SHALL BE A CLEAN, BANK–RUN SAND OR GRAVEL FILL WITH NO MORE THAN 5% (PREFERABLY 2%) FINES PASSING A NUMBER 200 SIEVE. IT SHALL HAVE A PERCOLATION RATE EQUAL TO OR FASTER THAN THE UNDERLYING NATURALLY OCCURRING SOIL. GRADATION TO BE AS FOLLOWS:

SIEVE SIZE:	#4	#10	#40	#100	#200
% PASSING:	100	70–100	10–75	0–5	0–2.5

THE CONTRACTOR IS TO PROVIDE A COPY OF THE SIEVE ANALYSIS FROM A CERTIFIED TESTING LAB, AS WELL AS A SAMPLE OF THE MATERIAL TO THE ENGINEER OF RECORD AND SANITARIAN. THE SIEVE ANALYSIS SHALL HAVE A CURRENT DATE AND JOB LOCATION. THE ENGINEER OF RECORD AND THE SANITARIAN MUST APPROVE THE SELECT FILL PRIOR TO ITS PLACEMENT. NOTE: 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 THE #200 SIEVE DOES NOT EXCEED 5%.

15. THE RESPONSIBILITY FOR THE PREPARATION OF A LEACHING AREA UTILIZING "SELECT MATERIAL" IS THAT OF THE LICENSED INSTALLER. THE INSTALLER SHALL TAKE THE NECESSARY STEPS TO PROTECT THE UNDERLYING NATURALLY OCCURRING SOILS FROM OVER COMPACTION AND SILTATION ONCE EXPOSED.
16. SELECT FILL SHALL BE PERCED IN PLACE AND APPROVED BY THE ENGINEER.
17. NON–SELECT FILL SHALL BE A CLEAN LOAM OR BETTER FREE OF ORGANIC MATTER.
18. GRAVEL FILL TO BE DUMPED AT THE EDGE OF PREPARED LEACHING AREA AND PUSHED ONTO HARROWED SURFACE WITH TRACK MACHINE IN 12" (MAX) LIFTS. GRAVEL TO BE COMPACTED TO 90% – 95% PROCTOR DENSITY – MODIFIED OPTIMUM DENSITY ASTM 1557 METHOD "C".
19. BERM MATERIAL SHALL BE PLACED AS DIMENSIONED ON PLAN. THIS MATERIAL SHALL CONSIST OF CLEAN, SANDY LOAM, FREE OF LARGE STONES AND DEBRIS THAT MAY CREATE LARGE VOIDS, AND BE RATED AT ONE INCH IN 15 TO 25 MINUTE PERCOLATION. THE MATERIAL EXCAVATED FROM TRENCHES CAN BE USED AS LONG AS IT MEETS THIS SPECIFICATION. USE GRASS OR PLANTINGS TO STABILIZE EMBANKMENT.
20. CONTRACTOR TO NOTIFY ENGINEER AND HEALTH DEPARTMENT WITHIN 24 HOURS BEFORE COMMENCING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE INSTALLER TO KEEP BOTH THE ENGINEER OF RECORD AND THE TOWN OF WASHINGTON HEALTH DEPARTMENT INFORMED OF CONSTRUCTION PROGRESS. ENGINEER SHALL ALSO BE NOTIFIED AT LEAST ONCE DURING CONSTRUCTION AND FOR FINAL INSPECTION.
21. UNDERGROUND SOIL INFORMATION HAS BEEN OBTAINED FROM DEEP TEST HOLES WITHIN THE AREA OF THE PROPOSED SYSTEM AS SHOWN OF THE PLAN. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE WASHINGTON HEALTH DEPARTMENT, AND THE ENGINEER OF RECORD, SHOULD CONDITIONS ENCOUNTERED DIFFER FROM THOSE STATED ON THIS PLAN. THIS INCLUDES DEPTH OF LEDGE, AND OBSERVED GROUNDWATER DEPTH.
22. DURING CONSTRUCTION, ANY DEVIATION FROM THIS PLAN MUST BE APPROVED BY THE WASHINGTON HEALTH DEPARTMENT, AND THE ENGINEER OF RECORD.
23. INSTALLATION OF THIS SYSTEM IS UNDER THE JURISDICTION OF THE TOWN OF WASHINGTON SANITARIAN. ALL PARTS OF THE PROPOSED SUB–SURFACE SEWAGE DISPOSAL SYSTEM SHALL BE A MINIMUM OF 25 FEET FROM THE PROPOSED RESIDENCE AND A MINIMUM OF 15 FEET FROM ALL PROPERTY LINES, 25 FEET FROM THE DOWN GRADIENT PROPERTY LINE AND SHALL CONFORM TO ALL APPLICABLE LOCAL AND/OR STATE CODES. WHEN ARTESIAN WELL WATER SUPPLY ARE TO BE UTILIZED, NO WATER LINE SHALL BE WITHIN 10 FT. OF ANY PORTION OF THE SEPTIC SYSTEM.
24. EROSION AND SEDIMENT CONTROL MEASURES SPECIFIED IN THE PLAN SHALL BE MAINTAINED UNTIL DISTURBED AREAS HAVE BEEN STABILIZED.
25. THIS DESIGN CONFORMS TO APPLICABLE CODES AND ACCEPTED PRACTICE. NO OTHER WARRANTY IS EXPRESSED OR IMPLIED. THE DESIGN OF THIS SEWAGE DISPOSAL SYSTEM IS IN CONFORMANCE WITH STATE AND LOCAL SANITARY CODE REQUIREMENTS AS WELL AS ACCEPTED PROFESSIONAL DESIGN PRINCIPLES. IT IS IN NO WAY A GUARANTEE AGAINST FAILURE DUE TO INDETERMINABLE FUTURE CIRCUMSTANCES INVOLVING INSTALLATION, SITE GRADING, WATER USAGE AND MAINTENANCE OF THE SYSTEM OR VARIATIONS IN SOIL OR GROUND WATER CONDITIONS BEYOND THE SCOPE OF NORMAL FIELD INVESTIGATION.
26. THE DESIGN OF THIS REPAIR SYSTEM DOES NOT MEET THE CURRENT STATE OF CONNECTICUT CODE FOR SEPTIC SYSTEM DUE TO TOPOGRAPHICAL AND SITE LIMITATIONS, HOWEVER IT IS A SUBSTANTIAL IMPROVEMENT OVER EXISTING.
27. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT RECORD DRAWINGS TO THE WASHINGTON HEALTH DEPARTMENT AND THE ENGINEER. THE RECORD DRAWINGS SHALL GIVE TWO (2) TIES TO ALL DISTRIBUTION BOXES, LOCATION OF TANKS AND LEACHING FIELD AND INVERT ELEVATIONS
28. RECORD DIMENSIONS ARE TO BE SUBMITTED BY THE ENGINEER TO THE DEPARTMENT OF HEALTH UPON COMPLETION, INSPECTION AND FIELD APPROVAL OF THE SYSTEM
29. THE CONTRACTOR IS TO VERIFY TOPOGRAPHIC INFORMATION AND LOCATIONS OF ALL UTILITIES PRIOR TO INSTALLATION OF THE SEPTIC SYSTEM.
30. THE CONTRACTOR IS TO CONTACT 'CALL BEFORE YOU DIG' TO HAVE ALL UTILITY LINES CLEARLY MARKED PRIOR TO ANY EXCAVATION.
31. WATER CONSERVATION DEVICES ARE RECOMMENDED TO BE INSTALLED ON ALL FAUCETS, SHOWERHEADS AND TOILETS.
32. THIS SYSTEM IS NOT DESIGNED FOR THE DISCHARGES FROM GARBAGE DISPOSALS, A LARGE STYLE TUB OR WATER TREATMENT DEVICES. IF A GARBAGE DISPOSAL OR A LARGE STYLE TUB OF 100 TO 200 GALLONS IS USED, THEN THE SEPTIC TANK CAPACITY SHALL BE INCREASE BY 250 GALLONS FOR EACH.
33. THERE SHALL BE NO ROOF LEADERS, SUMP PUMPS, FOUNDATION DRAINS, YARD DRAINS OR OTHER CONTINUOUS SOURCE OF WATER THAT DISCHARGES INTO THE SUBSURFACE DISPOSAL SYSTEM. FINAL GRADE OF THE SITE AND SEPTIC AREA TO PREVENT SURFACE DRAINAGE FROM ENTERING THE SYSTEM.
34. THE LEACHING AREA SHALL BE LOCATED BY FIELD STAKES OR MARKERS, PRIOR TO ANY SITE WORK, IN ORDER TO CLEARLY IDENTIFY THE LEACHING AREA AND TO PROTECT IT FROM ALL CONSTRUCTION TRAFFIC & POTENTIAL DAMAGE.
35. A SCARIFICATION INSPECTION BY THE HEALTH DEPARTMENT SANITARIAN, DESIGN ENGINEER, AND THE LICENSED INSTALLER OF RECORD SHALL BE CONDUCTED PRIOR TO THE PLACEMENT OF ANY "SELECT MATERIAL" OR FILL IN THE PRIMARY LEACHING AREA. IF THERE ARE ANY PROBLEMS NOTED DURING INSPECTION (BY THE SANITARIAN, ENGINEER, OR INSTALLER) FURTHER TESTING AND/OR PERMIT REVOCATION MAY TAKE PLACE IN ORDER TO CONFIRM CONFORMANCE WITH THE PROPOSED DESIGN CRITERIA AND PROTECTION OF THE SSDS.



CONTACTOR 100 SIDE BY SIDE

SCALE: N.T.S.

IMPORTANT NOTE:

Additional underground utilities may exist Prior to any excavation or construction, Contact:

"CALL BEFORE YOU DIG"
1-800-922-4455

NO.	DATE	DESCRIPTION
1	07/02/21	FOR SUBMISSION TO HEALTH DEPARTMENT
	REV. BY	ISSUE / REVISION
	SDI	

DiVesta Civil Engineering, LLC.
51 Painter Ridge Road
Roxbury, Connecticut 06783
Phone 860-354-4226 Fax 860-354-4226
E- mail dceainc@charter.net

PROJECT TITLE:

GUGEL RESIDENCE
202 BALDWIN HILL ROAD
WASHINGTON, CONNECTICUT
DETAILS

STAMP:

STATE OF CONNECTICUT DOUGLAS P. DIVESTA 18837 LICENSED PROFESSIONAL ENGINEER

NOT VALID WITHOUT ORIGINAL SEAL AND SIGNATURE

DRAWING NO.	21-049
DRAWN BY:	APPROVED BY:
SDI	DD
SCALE:	DRAWING DATE:
AS NOTED	07/02/21
SHEET NO.	
2 OF 2	