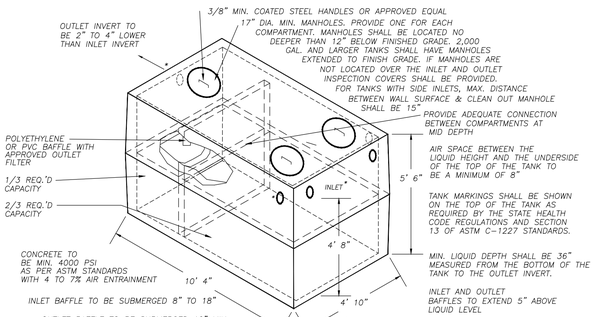
NOTING ITS TWO COMPARTMENT CONSTRUCTION AND A WARNING TO EVERYONE THAT "ENTRANCE INTO THE TANK COULD BE FATAL"

WHERE COVERS ARE FLUSH OR ABOVE GRADE EITHER LID MUST WEIGH A MIN. OF 59 LBS. OR SHALL PROVIDE A LOCK SYSTEM TO PREVENT UNAUTHORIZED ENTRANCE.



CONCRETE TANKS SHALL CONFORM TO ASTM C-1227 STANDARDS.

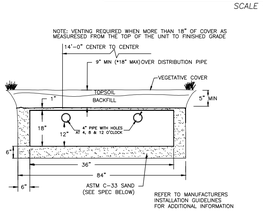
WHEN A GARBAGE GRINDER IS UTILIZED ADD 250 GALLONS TO THE REQUIRED CAPACITY OF THE SEPTIC TANK

WHEN A 100 TO 200 GALLON TUB IS UTILIZED ADD 250 GALLONS TO THE REQUIRED CAPACITY OF THE SEPTIC TANK

WHEN A TUB OVER 200 GALLONS IS UTILIZED ADD 500 GALLONS TO THE REQUIRED CAPACITY OF THE SEPTIC TANK

SEPTIC TANK (CT-1250-S) DETAIL

SCALE = N.T.S.



MANTIS DOUBLE WIDE 100

SCALE: N.T.S.

ASTM C-33 SAND FILL SPEC.

SIEVE SIZE	PERCENT PASSING DRY SIEVE
0.375"	100
#4	95 – 100
#8	80 – 100
#16	50 – 85
#30	25 – 60
#50	5 – 30
#100	0 – 10
#200	0 – 5

REQUEST A SIEVE ANALYSIS FROM YOUR MATERIAL SUPPLIER TO ENSURE THAT THE SYSTEM SAND MEETS THE SPECIFICATION REQUIREMENTS LISTED ABOVE.

NOTE: ELLEN MAY APPROVE THE MATERIAL UNDER CERTAIN CONDITIONS TO BE USED FOR THE SPECIFIED SAND ENVELOPE AROUND THE MANTIS UNITS.

REQUIRED NOTES ON DESIGN PLANS:

*THIS SYSTEM IS NOT DESIGNED FOR BACKWASH FROM A WATER SOFTENER.

*THE MANTIS SYSTEM IS NOT FOR USE UNDER VEHICULAR TRAFFIC OR FOR UNDER PAVING APPLICATIONS.

*ORGANIC TOPSOIL LAYER MUST BE REMOVED FROM TRENCH AND SLOPE EXTENSION AREAS PRIOR TO SELECT FILL OR SPECIFIED SAND PLACEMENT.

*SCARIFY SUBSOIL PRIOR TO SELECT FILL OR SPECIFIED SAND PLACEMENT.

*ALL MANTIS INSTALLATIONS UTILIZE A SPECIFIED SAND ENVELOPE AROUND THE MANTIS UNITS; 6" MINIMUM UNDERNEATH, 6" MINIMUM ON THE SIDES, 1" MINIMUM ON TOP, AND 3" BETWEEN THE SUPPORT MODULES OF THE MANTIS UNITS. THE MANTIS SPECIFIED SAND SPECIFICATION IS LISTED BELOW:

*ELLEN CORPORATION REQUIRES THE USE OF AN APPROPRIATE SIZED SEPTIC TANK EFFLUENT FILTER FOR ALL MANTIS SYSTEMS.

*PUMPED SYSTEMS SHALL HAVE AN OVERSIZED DISTRIBUTION BOX UTILIZING A VELOCITY REDUCTION TEE OR BAFFLE.

*ELLEN MANDATES VENTING FOR THE MANTIS SERIES WHEN THE SYSTEM WILL HAVE MORE THAN 18" OF COVER MATERIAL AS MEASURED FROM THE TOP OF THE UNIT TO FINISHED GRADE.

*AFTER BACKFILL, THERE SHOULD BE A MINIMUM OF 10" OF MATERIAL AS MEASURED FROM THE TOP OF THE MODULES TO THE FINISHED GRADE. THE FIRST INCH OF THAT FILL IS SPECIFIED SAND.

*FOR PUMPED SYSTEMS, SET PUMP FLOATS OR PUMP CONTROL PANELS TO DELIVER A MAXIMUM OF 24 GALLONS PER MANTIS DOUBLE WIDE 100 UNIT PER DOSING CYCLE.

*NON-RESIDENTIAL BUILDINGS AND RESIDENTIAL INSTITUTIONS SHALL BE DESIGNED USING DAILY DESIGN FLOW UNLESS SPECIFIC WATER USE DATA IS AVAILABLE FOR THE FACILITY. DESIGN FLOW BASED ON METERED FLOWS MUST USE A MINIMUM 1.5 SAFETY FACTOR APPLIED TO ALL METERED AVERAGE DAILY WATER USE. SEE CONNECTICUT PUBLIC HEALTH CODE, TABLES 4, 7 AND 8.

CULTEC RECHARGER 330XLHD STORM FILTER

N.T.S.

TEST DATA:

93 Umpawaug Road, Redding March 4, 2021 13001

DH# 0–6" Topsoil
6 –24" Orange brown sandy loam
–40" Tan fine–medium silty sand

No water Ledge 40" No Mottling Roots & Rest. 40"

DH# 0–8" Topsoil
7 –26" Orange brown sandy loam

Water 20" Ledge 26" Mottling, Roots & Rest. 18"

DH# 0–8" Topsoil
8 –32" Orange brown sandy loam

Water 28" Ledge 32" Mottling, Roots & Rest. 24"

DH# 0–8" Topsoil
9 –28" Orange brown sandy loam
–36" Gray fine silty sand

No water Ledge 36" No Mottling Roots & Rest. 36"

DH# 0–8" Topsoil
10 –30" Orange brown sandy loam
–84" Gray brown fine–medium–coarse sand trace silt

Water 64" No Ledge Mottling 62"

Perc	Time	Reading	Drop	Perc Rate
10	0	8.5		
22"	10	11.5	3.00	3.33
	20	13.5	2.00	5.00
	30	15	1.50	6.67
	40	16.5	1.50	6.67
	50	17.75	1.25	8.00
	60	Dry		

Perc	Time	Reading	Drop	Perc Rate
7	0	7.5		
21"	10	10	2.50	4.00
	20	11.75	1.75	5.71
	30	13	1.25	8.00
	40	14.25	1.25	8.00
	50	15.5	1.25	8.00
	60	16.5	1.00	10.00

93 UMPAWAUGH ROAD, REDDING, CT (13001)
1/22/13

DH# 0–7" TOPSOIL
1 –32" ORANGE BROWN SANDY LOAM
–60" COMPACT GRAY FINE SILTY SAND
–90" TAN FINE TO MEDIUM SAND, TRACE SILT

WATER @ 32" NO LEDGE MOTTLING @ 32"

DH# 0–6" TOPSOIL
2 –24" ORANGE BROWN SANDY LOAM
–80" TAN FINE TO MEDIUM SAND, TRACE SILT

WATER @ 72" NO LEDGE NO MOTTLING OR REST

DH# 0–7" TOPSOIL
3 –36" ORANGE BROWN SANDY LOAM
–84" MODERATELY COMPACT GRAY TAN FINE TO MEDIUM SILTY SAND.

WATER @ 48" NO LEDGE MOTTLING @ 48"

DH# 0–7" TOPSOIL
4 –40" ORANGE BROWN SANDY LOAM
–88" TAN FINE TO MEDIUM SAND, TRACE SILT

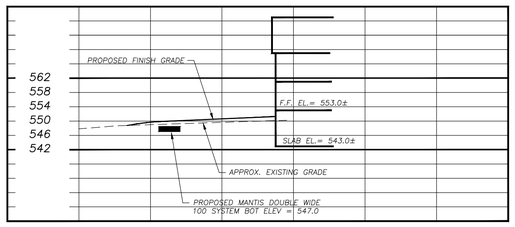
NO WATER NO LEDGE NO MOTTLING OR REST

DH# 0–7" TOPSOIL
5 –32" ORANGE BROWN SANDY LOAM
–68" TAN GRAY FINE SAND, SOME SILT

WATER @ 72" NO LEDGE NO MOTTLING OR REST

PERC	TIME	READING	DROP	PERC RATE
3	0	7.50		
18"	10	10.50	3.00	3.33
	20	12.50	2.00	5.00
	30	13.88	1.38	7.25
	40	15.25	1.37	7.30
	50	DRY		

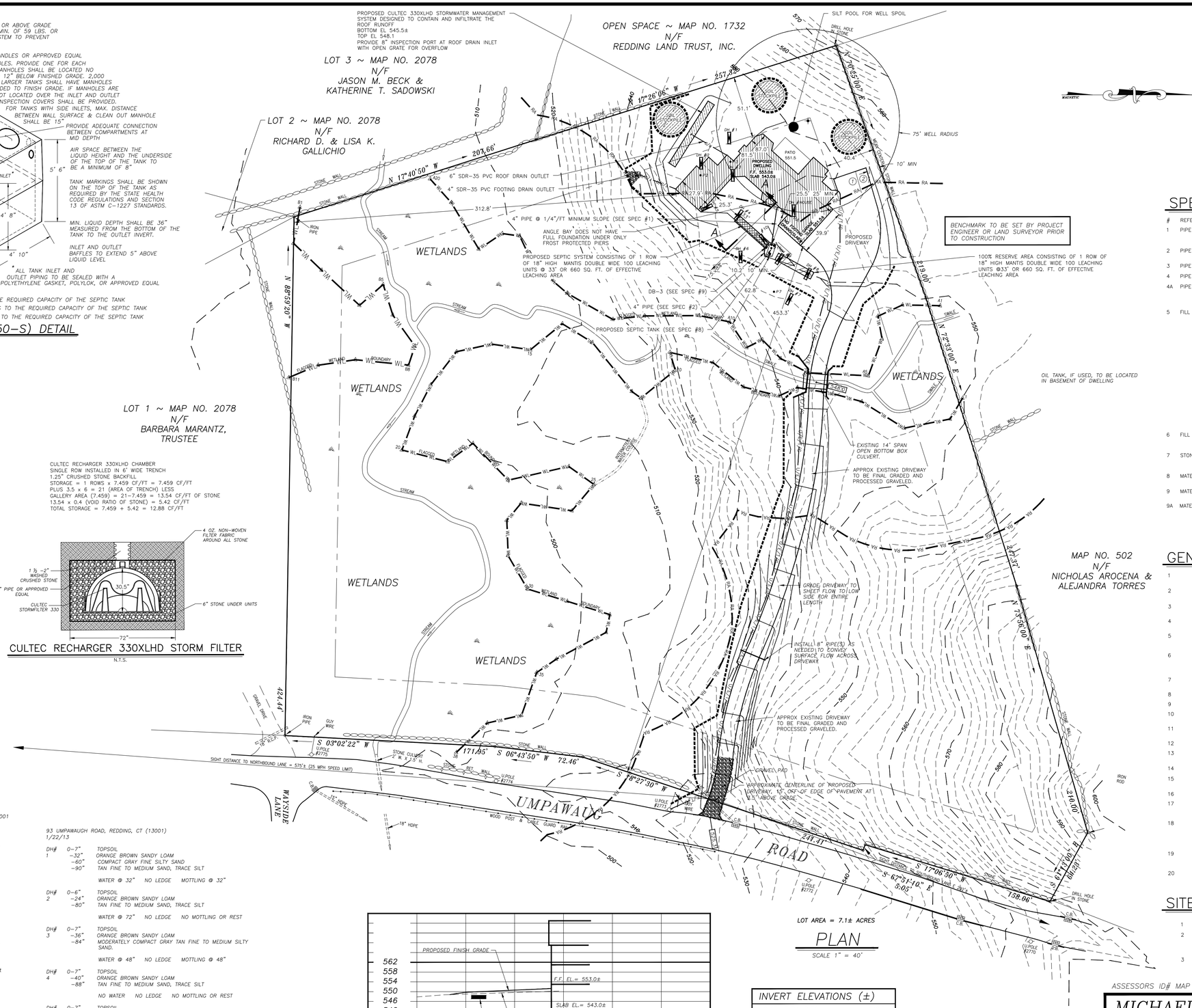
PERC	TIME	READING	DROP	PERC RATE
2	0	6.50		
21"	10	11.50	5.00	2.00
	20	14.25	2.75	3.64
	30	16.00	1.75	5.71
	40	18.00	2.00	5.00
	50	DRY		



SECTION A–A

PROFILE

SCALE 1" = 20'



PLAN

SCALE 1" = 40'

INVERT ELEVATIONS (±)		
HOUSE: AT FOUNDATION		549.5
TANK	IN	548.75
	OUT	548.5
FIRST DB	IN	548.25
	LEACHING PIPE	548.0

MLSS					
SLOPE(%)	DTR(')	HF	FF	PF	MLSS(')
>15	53 (AVE)	10	2.0	1.0	20.0

The design of this system is based upon normal field testing procedures and accepted design practices. It has been designed based on applicable State and Local Health codes. It is not guaranteed against failure caused by improper site preparation, installation, site grading, adverse site conditions that may have been undetected using normal testing procedures, misuse, neglect, and future site conditions.

LEGEND

- DH # — APPROX. LOC. OF TEST HOLES
- P — APPROX. LOC. OF PERC TESTS
- APPROX. EXISTING GRADE CONTOURS
- PROPOSED FINISH GRADING
- HAY BALES OR SILT FENCE
- WL — WL — WETLANDS LINE AS SHOWN ON MAP PREPARED BY PAH, INC. LAND SURVEYING AS FLAGGED BY JMM WETLAND CONSULTING SERVICES, LLC
- RA — RA — LIMIT OF REGULATED ACTIVITY AREA
- EXIST. STONEWALL

SPECIFICATIONS:

#	REFERENCE	
1	PIPE	BUILDING TO SEPTIC TANK: TIGHT JOINT CAST IRON ASTM A74, SCHEDULE 40 PVC ASTM D1785, AWWA C-900 PVC; WITH ACCEPTABLE JOINTS OR APPROVED EQUAL. PROVIDE CLEANOUTS EVERY 75' OR AT BENDS GREATER THAN 45°.
2	PIPE	FROM SEPTIC TANK, TO, AND IN BETWEEN DISTRIBUTION BOXES: 4" DIAMETER PVC ASTM D3034 SDR 35 OR APPROVED EQUAL.
3	PIPE	DISTRIBUTION PIPING: 4" PERFORATED PVC ASTM D2729 OR APPROVED EQUAL.
4	PIPE	FORCE MAIN (IF REQUIRED): 2" SCHEDULE 40 ASTM 1785 PVC OR APPROVED EQUAL.
4A	PIPE	SURFACE OR GROUNDWATER DRAIN CONSTRUCTED OF TIGHT PIPE WITHIN 25' OF SEPTIC EXCEPT THAT NO DRAIN SHALL BE LESS THAN 5'. USE ASTM D3034 SDR-35 WITH RUBBER COMPRESSION GASKETS OR TWO STEP PVC SOLVENT WELD PROCEDURE FOR FITTINGS OR APPROVED EQUAL. JOINT MUST MEET ASTM D3212-76 SPECIFICATIONS.
5	FILL	SELECT (IF REQUIRED): APPROVED BY THE ENGINEER AND SIEVE TESTED PRIOR TO PLACEMENT. THE FILL SHALL MEET THE FOLLOWING REQUIREMENTS: THE SELECT FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THREE (3) INCH SIEVE, UP TO 45% OF THE DRY WEIGHT OF THE REPRESENTATIVE SAMPLE MAY BE RETAINED ON THE #4 SIEVE (THIS IS THE GRAVEL PORTION OF THE SAMPLE). THE MATERIAL THAT PASSES THE #4 SIEVE IS THEN REWEIGHED AND THE SIEVE ANALYSIS STARTED. THE REMAINING SAMPLE SHALL MEET THE FOLLOWING GRADATION CRITERIA

SIEVE SIZE	PERCENT PASSING	
	WET SIEVE	DRY SIEVE
#4	100	
#10	70 – 100	70 160 100
#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 THE #200 SIEVE DOES NOT EXCEED 5%.

6	FILL	BERM (IF REQUIRED): MATERIAL SHOULD BE A SANDY TYPE WITH A PERC RATE OF APPROXIMATELY 1" IN 15 MINUTE IN PLACE AND CONTAIN NO LARGE STONES, STUMPS, OR DEBRIS, WHICH MAY CREATE VOIDS.
7	STONE	LEACHING SYSTEMS REQUIRING STONE BACKFILL: USE #4 (1 1/4") SCREENED OR CRUSHED GRAVEL (WASHED) FOR LEACHING PITS AND GALLERIES AND #6 (3/4"SCREENED OR CRUSHED GRAVEL (WASHED) FOR LEACHING TRENCHES AND PROPRIETARY SYSTEMS.
8	MATERIAL	SEPTIC TANK: USE 1250 GALLON, TYPE CT-1250-S, AS MANUFACTURED BY M&M. PRECAST CO., INC. OR APPROVED EQUAL. SEE DETAIL FOR ADDITIONAL INFORMATION.
9	MATERIAL	DISTRIBUTION BOX: USE DB-3 WITH 2" HIGH OVERFLOW. BOXES RECEIVING FORCE MAINS SHALL CONTAIN A BAFFLE.
9A	MATERIAL	FILTER FABRIC: NON WOVEN, PLACED OVER STONE PRIOR TO BACKFILL MEETING SPECS IN SECTION VIII OF THE TECHNICAL STANDARDS PURSUANT TO SECTION 19-13-B103 STATE OF CT. PUBLIC HEALTH CODE. APPROVED TYPES INCLUDE TERRA TEX P01.5, TYPAR 3151, MIRAFI #65303, #65304 OR APPROVED EQUAL.
	NOTE:	ANY COMPONENTS OF THE SEPTIC SYSTEM LOCATED UNDER TRAVELED AREAS SHALL BE REINFORCED FOR H-20 WHEEL LOADINGS.

GENERAL NOTES:

1. PROPERTY LINES ARE TO BE STAKED, AS REQUIRED, PRIOR TO CONSTRUCTION OF THE BUILDING AND/OR SEPTIC SYSTEM.
2. THE INSTALLER SHALL NOTIFY THE ENGINEER, PRIOR TO PREPARING THE SEPTIC AREA TO DISCUSS THE INTENT OF THE DESIGN AND THE REQUIREMENTS FOR SITE PREPARATION. SEE ALSO SPEC. #5.
3. INSTALL THE LEACHING MEDIUM LEVEL. WHEN MEDIUM IS IN ORIGINAL GROUND, INSTALL 6" OF SELECT FILL UNDER IT TO AID IN LEVELING AND TO PROMOTE ABSORPTION.
4. THE LAYOUT OF THE SEPTIC SYSTEM MAY BE REPOSITIONED SLIGHTLY IN THE FIELD TO BEST SUIT SITE CONDITIONS. THE ENGINEER IS TO BE NOTIFIED OF ANY DEVIATIONS TO THE APPROVED PLAN.
5. DISTURBANCE TO THE PROPOSED SEPTIC SYSTEM AREA SHALL BE KEPT TO A MINIMUM. HEAVY EQUIPMENT IS TO BE KEPT OUT OF THE SYSTEM AREA AS MUCH AS POSSIBLE, PRIOR TO PREPARATION, AND AFTER INSTALLATION OF THE SYSTEM.
6. THE ENGINEER MAY REQUEST CHANGES IN SYSTEM DESIGN AS FIELD CONDITIONS WARRANT. THE LACK OF COMPLIANCE WITH THE APPROVED DESIGN MAY RENDER THE APPROVED PLAN NULL AND VOID AND PERMISSION TO BACKFILL THE SYSTEM SHALL BE WITHHELD UNTIL THE CONDITIONS FOR APPROVAL HAVE BEEN MET.
7. GRADE SITE TO INTERCEPT AND DIVERT SURFACE WATER AWAY FROM THE SEPTIC AREA. USE A CURTAIN DRAIN, IF SHOWN OR DETERMINED TO BE REQUIRED IN THE FIELD, TO DRAIN GROUND WATER.
8. LEAD ALL ROOF AND FOOTING DRAINS AWAY FROM THE SYSTEM AREA.
9. PROPOSED FLOOR ELEVATIONS ARE NOT TO BE USED AS A BENCHMARK.
10. INSTALL EMBANKMENTS, AS SHOWN ON THE PLAN AND PROFILE, TO PREVENT EFFLUENT BREAKOUT. USE GRASS OR PLANTINGS TO PREVENT EROSION.
11. EXCAVATE THROUGH EXISTING TOPSOIL AND FILL WITH SELECT FILL TO THE PROPER ELEVATION FOR SYSTEMS CONSTRUCTED ENTIRELY IN FILL.
12. KEY INTO EXISTING SOIL WHERE SELECT FILL MEETS BERM.
13. RECORD DIMENSIONS ARE TO BE SUBMITTED BY THE ENGINEER TO THE DEPARTMENT OF HEALTH UPON COMPLETION, INSPECTION, AND FIELD APPROVAL OF THE SYSTEM.
14. CONTRACTOR IS TO NOTIFY "CALL BEFORE YOU DIG" PRIOR TO ANY EXCAVATION 1-800-922-4455.
15. THERE IS NO APPARENT INTERFERENCE OF WELLS AND/OR SEPTIC SYSTEMS ON ADJOINING PROPERTIES.
16. ALL DRAINAGE PIPING SHALL BE 25' MINIMUM FROM ANY WELL.
17. 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 AND POTENTIAL DAMAGE.
18. A SCARIFICATION INSPECTION BY THE HEALTH DEPT. SANITARIAN, DESIGN ENGINEER, AND THE LICENSED INSTALLER OF RECORD SHALL BE CONDUCTED PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OF FILL IN THE PRIMARY LEACHING AREA. IF THERE ARE ANY PROBLEMS 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 OF THE SSDS.
19. THE CONTRACTOR SHALL CONTACT THE ENGINEER & DEPT. OF HEALTH AT LEAST 24 HOURS PRIOR TO THE START OF THE SCARIFICATION PROCESS FOR THE LEACHING AREA OR THE INSTALLATION WILL NOT BE APPROVED.
20. DISCHARGES FROM WATER TREATMENT SYSTEMS, IF REQUIRED, SHALL BE DESIGNED, PERMITTED, INSTALLED AND INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION X OF OF THE STATE OF CONNECTICUT DEPARTMENT OF HEALTH PUBLIC HEALTH CODE STANDARDS.

SITE SPECIFIC NOTES:

1. PROPERTY LINE BEARINGS AND DISTANCES TAKEN FROM SURVEY MAP PREPARED BY PAUL HIRO (PAH, INC.)
2. PERCOLATION RATE FOR SUBJECT SITE EQUALS 1" IN 10 MINUTES. USE 165 SQ. FT. PER BEDROOM FOR 3 BEDROOMS PLUS 82.5 SQ. FT FOR EACH ADDITIONAL BEDROOM. FOR 5 BEDROOMS 660 SQ. FT. REQUIRED. PROVIDE 660 SQ. FT. OF EFFECTIVE LEACHING AREA USING 33 LINEAL FEET OF 18" HIGH MANTIS DOUBLE WIDE 100 LEACHING UNITS AND A 1,250 GALLON TANK.
3. ARTESIAN WELL WATER SUPPLY WILL BE UTILIZED. NO WATER LINE SHALL BE WITHIN 10 FEET OF ANY PORTION OF THE SEPTIC SYSTEM.

ASSESSORS ID# MAP 36 LOT 94

MICHAEL J. MAZZUCCO, P.C.
(203) 744-0057 CIVIL ENGINEER (FAX) 744-0057
19A TA'AGAN POINT ROAD DANBURY, CONNECTICUT 06811

REVISIONS

PROJECT 93 UMPAWAUG ROAD REDDING, CT

TITLE SITE / SEPTIC PLAN (SCHWERT)

SCALE AS NOTED DATE 3/9/21 DRAWING NO. 13001-R1

DRAWN BY ACAD APPROVED BY M.M.

STATE OF CONNECTICUT MICHAEL J. MAZZUCCO No. 16169 LICENSED PROFESSIONAL ENGINEER