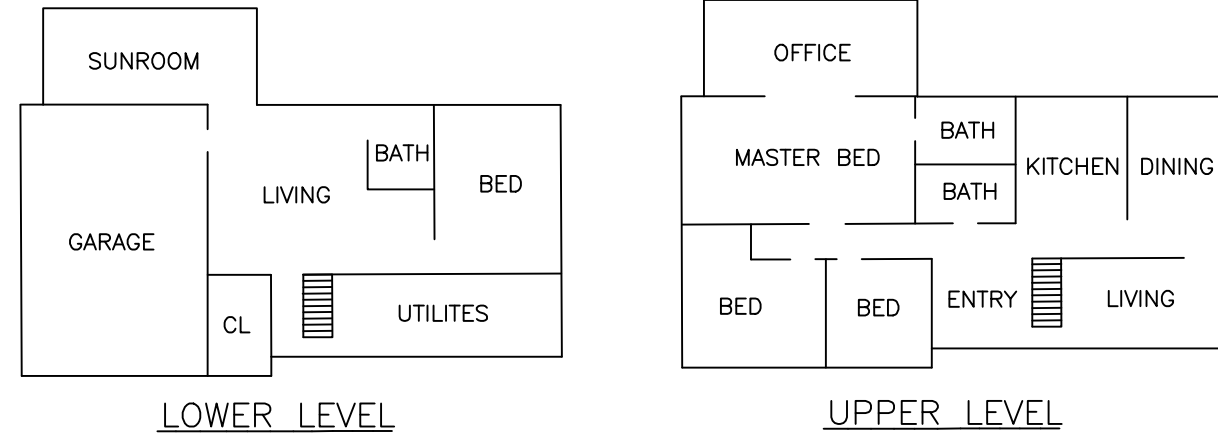


SOIL TEST DATA

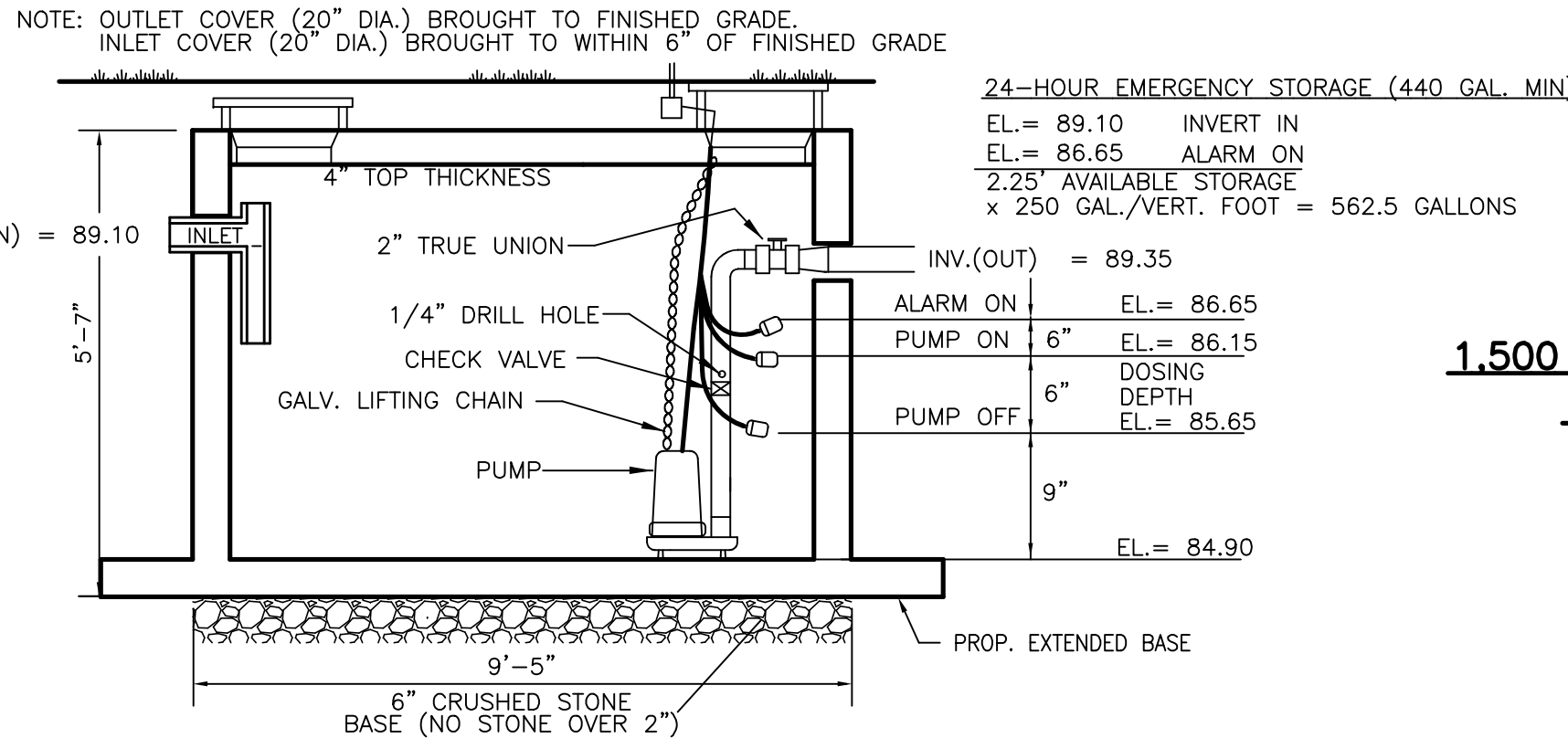
SOIL TESTING AND EVALUATION BY: PAUL GUNN, SE#14392
SOIL TESTING WITNESSED BY: RALPH H. COLE, P.L.S.
DATE: SEPTEMBER 8, 2020

TP-1	APPROX. GRADE EL. 89.9	TP-2	APPROX. GRADE EL. 90.3
EL. 85.9	FILL	EL. 87.3	FILL
EL. 84.1	C1 HORIZON SILT LOAM 2.5Y 4/1	EL. 86.5	Ab HORIZON SANDY LOAM 10YR 4/2
EL. 79.9	C2d HORIZON SANDY LOAM 2.5Y 4/4	EL. 80.3	Cd HORIZON SANDY LOAM 2.5Y 4/4
EL. 79.1	C3 HORIZON COARSE SAND 2.5Y 5/2		
	WEeping OBSERVED: 22" MOTTling OBSERVED: 120" PERC. RATE: SIEVE ANALYSIS @ 92" ESHGW: 22" (EL. 88.1)		WEeping OBSERVED: NONE MOTTling OBSERVED: 38" PERC. RATE: NONE ESHGW: 38" (EL. 87.1)



FLOOR PLAN
N.T.S.

1,000 GAL. MONOLITHIC (EXT. BASE) PUMP CHAMBER DETAIL

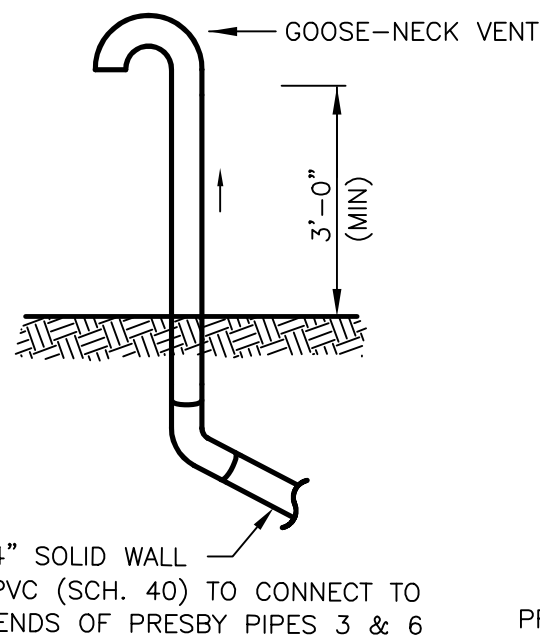


ELECTRICAL CONDUIT TO CONTROL PANEL (SIMPLEX OR EQUAL) MOUNTED INSIDE BUILDING. PUMP POWER CABLE AND FLOAT CONTROL TO BE PLACED IN CONDUIT IN ACCORDANCE WITH LOCAL BUILDING AND ELECTRICAL CODES.

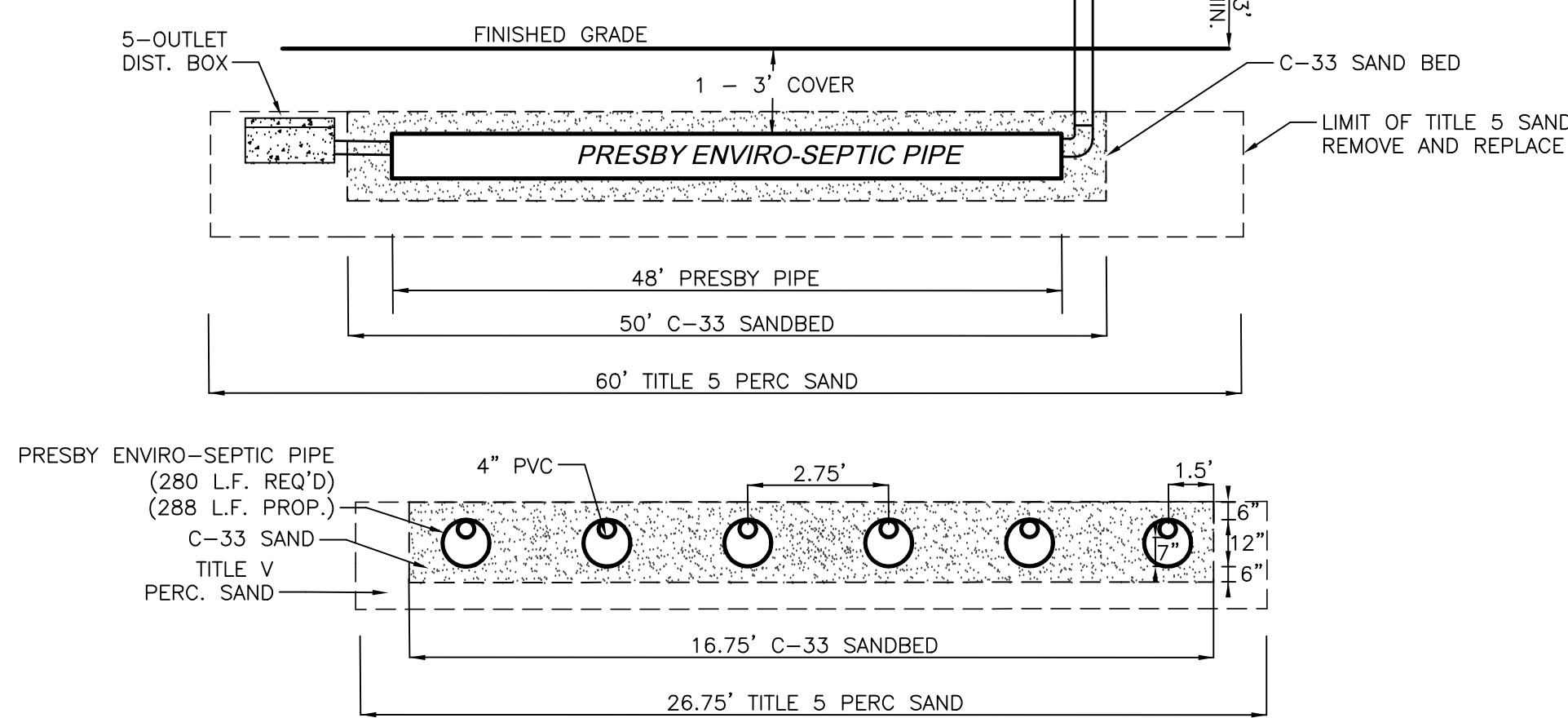
PUMP DESIGN NOTES:

- THE PUMP CONTROLS SHALL BE DESIGNED TO ALLOW THE FIELD TO BE DOSED WITH 125 GAL. PER DOSE (APPROX. 3.55 TIMES IN A 24-HOUR PERIOD UNDER NORMAL OPERATING CONDITIONS).
- USE GOULDS SUBMERSIBLE EFFLUENT PUMP WS03B, 1/3 HP, 2" DISCHARGE, 2" SOLIDS CAPACITY. T.D.H. = 14.9 FT. ± @ 15 GPM OR APPROVED EQUAL.
- INSTALL HIGH WATER MERCURY FLOAT LEVEL CONTROL IN PUMP CHAMBER WITH VISIBLE FLASHING AND AUDIBLE ALARMS. CONTRACTOR TO COORDINATE LOCATIONS WITH HOMEOWNER. PUMP POWER SHALL BE LOCATED ON SEPARATE CIRCUIT FROM THE ALARM CIRCUIT. ALL ELECTRICAL WORK SHALL BE PERFORMED W/ A VALID PERMIT, BY A LICENSED ELECTRICIAN, AND INSPECTED BY THE TOWN OF SCITUATE WIRING INSPECTOR.

LOW VENT SYSTEM



PRESBY ENVIRO-SEPTIC PIPE CROSS SECTIONS DETAIL



REMOVE & REPLACE

-CONTRACTOR TO REMOVE FILL, A & B HORIZONS WITHIN 5' OF PROPOSED SOIL ABSORPTION SYSTEM & REPLACE WITH CLEAN TITLE 5 PERC. SAND TO TOP OF C33 SAND.

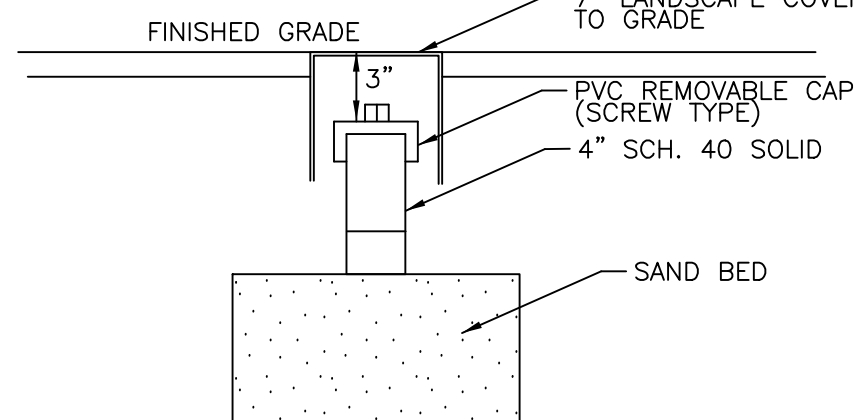
- C33 SAND REQUIRED:
 $2'D \times 16.75'W \times 50'L \times 1.2\% / 27 = 75 \text{ C.Y.}$
 $75.0 \text{ C.Y.} - (6 \text{ PIPES} \times 48.0' \times 3.14 \times 0.5'^2 / 27) = 67 \text{ C.Y.}$
- TITLE 5 SAND REQUIRED = $26.75' \times 60.0' \times (92.1-84.1) \times 1.2\% / 27$
= 67 C.Y. = 504± C.Y.

*CONTRACTOR TO EXCAVATE ALL CONTAMINATED SOIL ASSOCIATED WITH EXISTING SEPTICS WITHIN AREA OF 5' OVERDIG AND REPLACE WITH CLEAN TITLE 5 PERC. SAND.

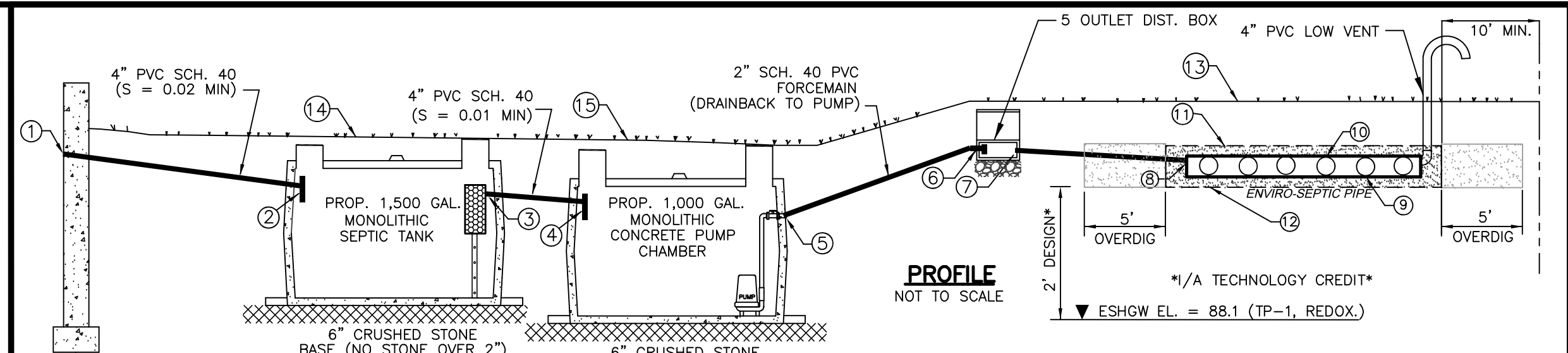
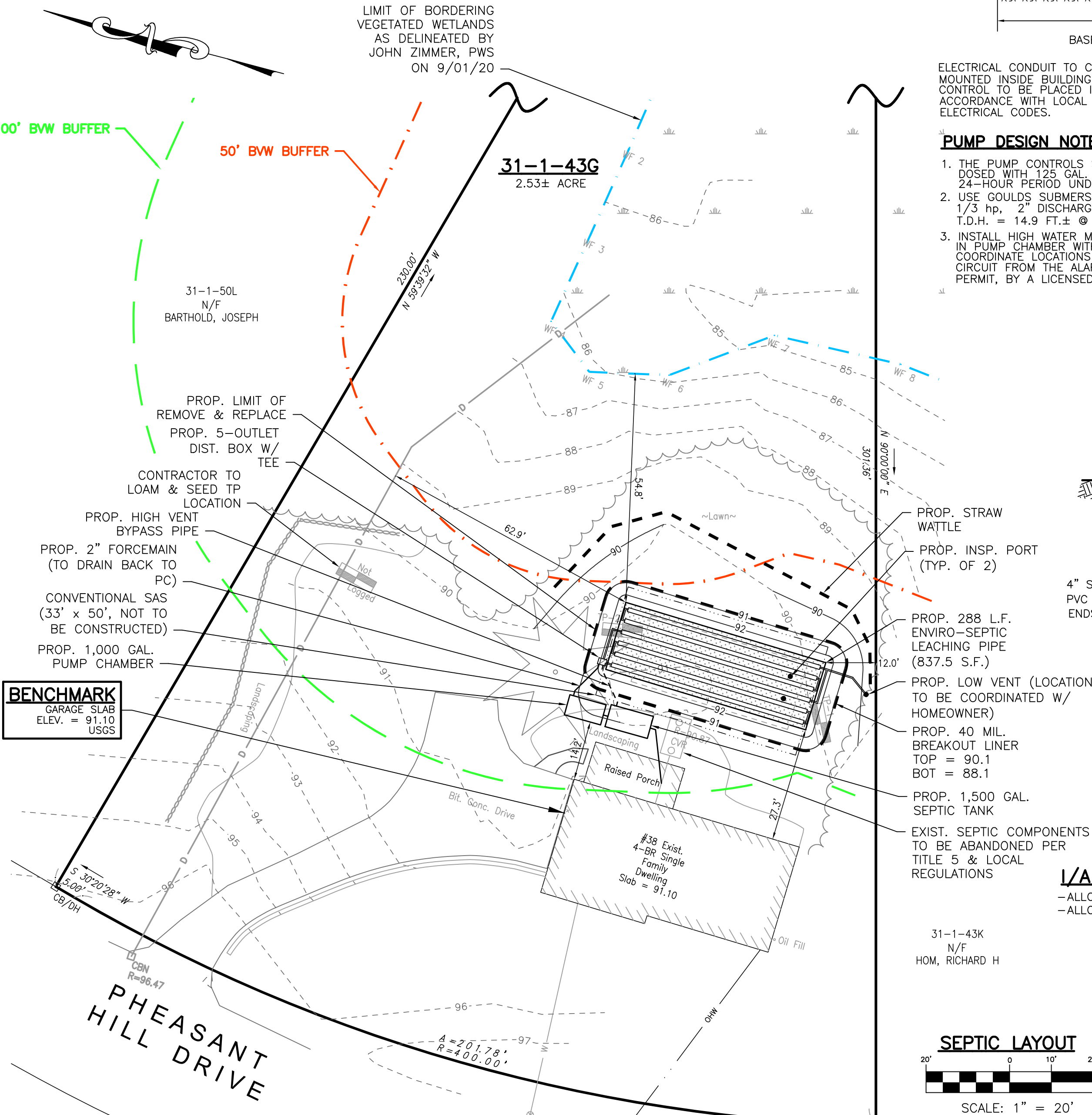
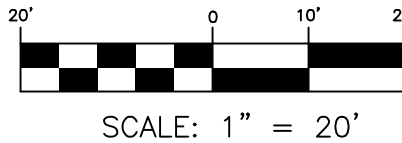
DESIGN DATA

- BUILDING TYPE: SINGLE FAMILY DWELLING
- NO. OF BEDROOMS: 4
- DESIGN FLOW: $4 \times 110 \text{ GPD/BEDROOM} = 440 \text{ GPD (GALLONS PER DAY)}$
- DESIGN PERCOLATION RATE: SIEVE ANALYSIS (TP-1, 92", CLASS II)
- GARBAGE DISPOSAL: NO
- SEPTIC TANK DESIGN REQUIREMENT: 200% DESIGN FLOW
 $440 \times 2 = 880 \text{ GAL. (PROVIDE NEW 1500 GAL. SEPTIC TANK)}$
- LEACH AREA REQUIREMENTS GALLONS/SQ. FT.
BOTTOM: 0.33 GAL./S.F. SIDE: 0.33 GAL./S.F.
- TOTAL LEACH AREA REQUIRED:
TITLE 5: $440 \text{ GPD} / (0.33 \text{ GPD/S.F.}) = 1,333.3 \text{ S.F.}$
PROVIDED: PRESBY ENVIRO-PIPE LEACHING SYSTEM (OR EQUAL)
REQ'D AREA: $1,333.3 \times 0.60 \text{ (40\% SIZE REDUCTION)} = 800 \text{ S.F.}$
PROVIDED AREA: $16.75'W \times 50'L \text{ SAND BED} = 837.5 \text{ S.F. (37.2\% REDUCTION)}$
PER TABLE A: SYSTEM REQUIRES 280 L.F. OF ENVIRO-SEPTIC PIPE (288 L.F. PROVIDED)

INSPECTION PORT



SEPTIC LAYOUT



SCHEDULE OF ELEVATIONS

1. INV. OF PIPE AT FOUNDATION = 89.7± (CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION)	9. INVERT OF ENVIRO-SEPTIC PIPE = 90.60
2. INV. OF PIPE AT SEPTIC TANK INLET = 89.40	10. TOP OF ENVIRO-SEPTIC PIPE = 91.60
3. INV. OF PIPE AT SEPTIC TANK OUTLET = 89.15	11. TOP OF C-33 SAND = 92.10
4. INV. OF PIPE AT PUMP CHAMBER INLET = 89.10	12. BOTTOM OF C-33 SAND = 90.10
5. INV. OF PIPE AT PUMP CHAMBER OUTLET = 89.35	13. FINISHED GRADE OVER LEACHING FACILITY = 92.60 (MIN) - 94.60 (MAX)
6. INV. OF PIPE AT DISTRIBUTION BOX INLET = 91.53	14. FINISHED GRADE OVER SEPTIC TANK = 91.2 (MIN) - 93.2 (MAX)
7. INV. OF PIPE AT DISTRIBUTION BOX OUTLET = 91.36	15. FINISHED GRADE OVER PUMP CHAMBER = 90.9 (MIN) - 92.9 (MAX)
8. INVERT OF 4" PVC AT ENVIRO-SEPTIC PIPE INLET = 91.19	

GENERAL NOTES

- SEPTIC SYSTEM INSTALLATION CONTRACTORS SHALL BE LICENSED BY THE BOARD OF HEALTH AND MUST COMPLY WITH ALL REQUIREMENTS OF THE BOARD OF HEALTH DISPOSAL WORKS CONSTRUCTION PERMIT AND ANY CONDITIONS, IF ISSUED BY THE CONSERVATION COMMISSION.
- ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE 310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- THERE SHALL BE NO CHANGES MADE IN THIS PLAN WITHOUT THE WRITTEN PERMISSION OF THE BOARD OF HEALTH AND DESIGN ENGINEER.
- ANY CHANGE IN SITE CONDITIONS, DISCREPANCIES, ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF MORSE ENGINEERING PRIOR TO THE COMMENCEMENT OF WORK.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH TITLE 5 (310 CMR 15) AND THE LOCAL BOARD OF HEALTH REQUIREMENTS TO THE FULLEST EXTENT PRACTICABLE. NO GUARANTEE TO THE SYSTEMS PERFORMANCE IS EXPRESSED OR IMPLIED.
- SOIL TEST DATA SHOWN IS LIMITED TO THE CONDITIONS EXISTING AT THE SUBJECT TEST PIT LOCATION ONLY. IF DIFFERENT SOIL CONDITIONS ARE FOUND IN THE AREA OF THE PROPOSED SOIL ABSORPTION SYSTEM THEY SHALL BE BROUGHT TO THE ATTENTION OF MORSE ENGINEERING IMMEDIATELY.
- THE CONTRACTOR SHALL NOTIFY DIGSAFE PRIOR TO ANY EXCAVATION AT THE SUBJECT PROPERTY. IT IS SPECIFICALLY CAUTIONED THAT THE SUBSURFACE UTILITIES SHOWN ARE APPROXIMATE ONLY AND HAVE BEEN COMPILED FROM AVAILABLE RECORDS AND OBSERVABLE SITE FEATURES. UTILITIES OTHER THAN THOSE SHOWN MAY BE PRESENT AT THIS LOCATION.
- THIS PLAN HAS BEEN PREPARED SPECIFICALLY AS A SEPTIC SYSTEM DESIGN AND IS NOT TO BE USED TO ESTABLISH PROPERTY LINES OR BUILDING SETBACKS. PROPERTY LINES AND BUILDING LOCATIONS ARE GRAPHIC ONLY. PROPERTY LINES NOT HAVING BEEN VERIFIED. NO REPRESENTATION OR CERTIFICATION AS TO THE ACCURACY OF THOSE SHOWN IS IMPLIED.
- CONTRACTOR TO VERIFY AND ENSURE THAT ALL INTERIOR PLUMBING IS DIRECTED INTO PROPOSED SEPTIC SYSTEM. ANY VARIATIONS FROM THE DESIGN AS SHOWN SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.

CONSTRUCTION NOTES

- CONTRACTOR SHALL COORDINATE INSPECTION TIMES WITH THE LOCAL BOARD OF HEALTH AND DESIGN ENGINEER 24-HOURS IN ADVANCE OF THE FOLLOWING INSPECTIONS:
 - AFTER EXCAVATION OF ALL UNSUITABLE MATERIAL FROM SOIL ABSORPTION AREA.
 - PRIOR TO COVERING THE CONSTRUCTED SYSTEM.
 - AFTER SYSTEM BACKFILL AND FINAL GRADING.
- ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE 310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- ALL TIGHT-JOINT PLUMBING SHALL BE CONSTRUCTED OF SCH. 40 PVC PIPE WITH CLEANED AND CEMENTED FITTINGS, UNLESS OTHERWISE NOTED.
- ALL PRECAST/PIPE CONSTRUCTION JOINTS AND FITTINGS SHALL BE MADE WATERTIGHT BY PARING WITH HYDRAULIC CEMENT.
- THE CONTRACTOR SHALL PROVIDE A SIEVE ANALYSIS OF THE TITLE 5 PERC SAND UTILIZED FOR FILL TO VERIFY THAT IT MEETS THE REQUIREMENTS OF 310 CMR 15.255(3). TITLE 5 SAND FILL SHALL COMPLY WITH THE FOLLOWING:

SIEVE SIZE	PARTICLE SIZE
#4	4.75 mm
#50	0.30 mm
#100	0.15 mm
#200	0.075 mm
- THE CONTRACTOR SHALL PREVENT ANY HEAVY CONSTRUCTION MACHINERY AND/OR TRUCKS FROM DRIVING OVER THE PROPOSED SOIL ABSORPTION SYSTEM LOCATION UNTIL FINISHED GRADE IS ESTABLISHED.
- THE CONTRACTOR SHALL INSTALL MAGNETIC TAPE OVER SYSTEM PIPING & COMPONENTS
- THE DESIGN ENGINEER SHALL CERTIFY AND PREPARE AN "AS-BUILT" PLAN FOR SUBMITTAL TO THE BOARD OF HEALTH UPON SEPTIC SYSTEM COMPLETION.
- ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" LOAM & SEED POST CONSTRUCTION.
- ALL SEPTIC SYSTEM COMPONENTS TO BE STAKED OUT BY PROFESSIONAL LAND SURVEYOR PRIOR TO SYSTEM INSTALLATION.
- CONTRACTOR SHALL ABANDON EXISTING SEPTIC COMPONENTS IN ACCORDANCE WITH 310 CMR SEC. 15.354 OF TITLE 5 AND LOCAL REGULATIONS BY PUMPING DRY, CRUSHING AND ABANDONING

SITE NOTES

- LOCUS DOES NOT LIE WITHIN A DEP DESIGNATED ZONE II RESOURCE AREA.
- ALL KNOWN WETLANDS WITHIN 100 FEET OF THE PROPOSED SEWAGE SYSTEM ARE SHOWN.
- PROPERTY LINE DATA WAS OBTAINED FROM RECORDED DEED (LAND CERT. #96815) AND RECORDED PLANS ON FILE AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS.
- THERE WERE NO KNOWN ACTIVE/POTABLE WELLS OBSERVED WITHIN 100' OF THE PROPOSED SYSTEM.
- LOCUS LIES IN FEMA ZONE "X" AS SHOWN ON FEMA COMMUNITY MAP PANEL 25021C 0109K DATED NOVEMBER 04, 2016. ZONE "X" IS NOT A SPECIAL FLOOD HAZARD AREA.

INSTALLER TO BE PRESBY CERTIFIED

		PREPARED BY: 	
PROJECT: SEPTIC SYSTEM DESIGN PLAN 38 PHEASANT HILL DRIVE (ASSESSOR'S PARCEL: 31-1-43G) SCITUATE, MASSACHUSETTS		DESIGN: PGG CHECK: GJM JOB NO: 20-310	
APPLICANT: KEVIN & ANN CALLANAN 38 PHEASANT HILL DRIVE SCITUATE, MA 02066		DATE: 9/23/20 REV:	
PLAN TITLE: SEPTIC SYSTEM DESIGN PLAN		SHEET: 1	