

KEY	
SEPTIC TANK	ST
DISTRIBUTION BOX	DB
EXISTING CONTOURS	
PROPOSED CONTOURS	100.0
EXISTING ELEVATIONS	(100x0)
PROPOSED ELEVATIONS	B.M.
BENCHMARK	W
PUBLIC WATER	U
UNDERGROUND UTILITIES	
PERC TEST HOLE	
DEEP SOIL OBSERVATION HOLE	
100' BUFFER LINE	B

PUMP NOTES

1. GENERAL:
FURNISH AND INSTALL A COMPLETE PUMPING SYSTEM CONSISTING OF ONE SUBMERSIBLE PUMP AND MOTOR, DISCHARGE PIPING AND HIGH WATER ALARM. A CONTROL PANEL AND A PRECAST CONCRETE DOSING TANK. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS AND SHALL BE WARRANTED FOR AT LEAST ONE YEAR. THE CONTRACTOR SHALL PROVIDE A SUFFICIENT QUANTITY OF CLEAN WATER TO CONDUCT TWO OPERATION TESTS.

THE DOSING TANK SHALL BE A 1000 GAL. PRECAST REINFORCED CONCRETE STRUCTURE. ALL CONCRETE SURFACES INSIDE AND OUTSIDE SHALL BE WATERPROOFED WITH TWO COATS OF A TAR BASE EPOXY PAINT OR OTHER CONCRETE SEALANT. CONSTRUCTION JOINTS AND OPENINGS SHALL BE SEALED WITH HYDRAULIC CEMENT OR OTHERWISE MADE WATER TIGHT. USE AN PC 4.83"x6.5"x5.4" PUMPING CHAMBER AS MANUFACTURED BY A. ROTONDO & SON, INC. OR AN EQUIVALENT.

3. PUMPS AND MOTORS:
PUMP AND MOTOR SHALL BE A MEYERS WHIRLS (1/4 HP) PUMP WITH 2 INCH DISCHARGE AND CAPABLE OF PASSING 1/25 INCH SOLIDS. PUMP MOTOR SHALL BE FULLY SUBMERSIBLE OPERATE AT 1825 RPM WITH 115V, 60 CYCLE SINGLE PHASE AC POWER SOURCE. (NOTE ELECTRICAL CONTRACTOR TO VERIFY AVAILABLE VOLTAGE AT THE PUMP CONTROL PANEL) PUMP SHALL BE RATED AS FOLLOWS 1/4 HORSEPOWER 80 GALLONS PER MINUTE 14 FEET TOTAL DYNAMIC HEAD. USE MEYERS PUMP WHIRLS 1/4 HP OR AN APPROVED EQUIVALENT.

PUMP CHAMBER DISCHARGE PIPING AND FITTINGS SHALL BE 2 INCH SDR 26 PVC.

THREE SEALED FLOAT TYPE MERCURY SWITCHES SHALL BE SUPPLIED TO CONTROL THE PUMP LEVEL AND ALARM SIGNAL. ONE FOR PUMP "OFF", ONE FOR PUMP "ON", A THIRD SWITCH SHALL BE PROVIDED WITH POWER SOURCE SEPARATE FROM THE PUMP AND SHALL BE FOR THE ALARM UNIT. THE FLOAT LEVEL CONTROLS SHALL BE SET TO OPERATE AT THE ELEVATIONS INDICATED ON THE PLAN. THE JUNCTION BOX FOR THE SWITCHES SHALL BE INSTALLED IN A NEARBY AREA.

THE PANEL FOR PUMP CONTROLS SHALL BE PROVIDED WITH PROPERLY SIZED CIRCUIT BREAKERS, MAGNETIC CONTACTORS, THREE WAY HAND CONTROL SWITCHES, RUN LIGHT FOR PUMP AND A TRANSFORMER TO GIVE PROPER VOLTAGE TO THE CIRCUITS. THE HAND SWITCH POSITIONS SHALL BE PUMP "OFF", "AUTOMATIC PUMP ON", AND "MANUAL PUMP ON". INDICATOR THE PUMP CONTROLS SHALL BE HOUSED IN A NEARBY CONTROL BOX FOR A 115 VOLT SINGLE PHASE OPERATION. PANEL SHALL BE INSTALLED IN A SUITABLE LOCATION INSIDE BUILDING.

THE HIGH WATER ALARM SHALL BE SUPPLIED WITH BOTH AUDIBLE & VISUAL ALARMS & WITH A SEPARATE POWER SUPPLY FROM THE PUMPS. THE ALARM SHALL BE MOUNTED IN A NEMA-1 ENCLOSURE SEPARATE FROM THE CONTROL PANEL. AN ALARM SILENCER BUTTON SHALL BE PROVIDED TO SILENCE THE AUDIBLE ALARM WHILE THE VISUAL ALARM REMAINS LIGHTED UNTIL MANUALLY RESET. THE ALARM SHALL BE INSTALLED ADJACENT TO THE CONTROL PANEL.

CONCRETE SEALANT SHALL BE KOPPER'S BITUMASTIC 300-M COAL TAR EPOXY. THE SEALANT SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. THICKNESS OF SEALANT SHALL BE 16 MILS (TWO COAT).

WHERE THE 2 INCH PVC FORCE MAIN IS LESS THAN 4 FEET BELOW GRADE IT SHALL BE SURROUNDED WITH A MINIMUM OF 2 INCHES STYROFOAM INSULATION.

AUXILIARY POWER WILL NOT BE SUPPLIED. THE PUMP CHAMBER HAS A CAPACITY FOR ONE DAY OF ADDITIONAL STORAGE. ALSO THE PUMP CONTROL PANEL WILL BE EQUIPPED WITH A PLUG AND SUITABLE CIRCUIT BREAKERS FOR THE CONNECTION OF AN AUXILIARY GENERATOR.

ELECTRICAL WORK MUST BE COMPLETED BY A LICENSED ELECTRICIAN WHO MUST RECEIVE A PERMIT AND HAVE THE WORK INSPECTED AND APPROVED BY THE SUITABLE WIRING INSPECTOR.

CONSTRUCTION NOTES:

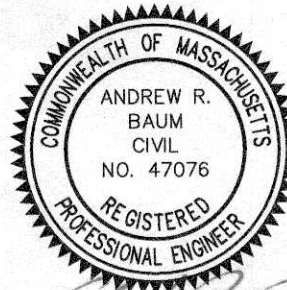
1. SEPTIC TANK AND DISTRIBUTION BOX SHALL BE INSTALLED LEVEL AND TRUE TO GRADE ON A LEVEL STABLE BASE THAT HAS BEEN MECHANICALLY COMPACTED AND ON TO WHICH 6" OF CRUSHED STONE HAS BEEN PLACED. IN FILL PROPER COMPACTION IS REQUIRED TO ENSURE STABILITY AND TO PREVENT SETTLING.
2. FILL SHALL BE PLACED IN NOT GREATER THAN 12" INCREMENTS AND COMPACTED BY DOZER TO THE SATISFACTION OF THE ENGINEER.
3. ALL EXTRA KNOCKOUTS IN SEPTIC TANK AND DISTRIBUTION BOX ARE TO BE SEALED WITH HYDRAULIC CEMENT.
4. MAXIMUM COVER OVER ANY COMPONENT OF THE SEPTIC SYSTEM SHALL NOT EXCEED 36".
5. MINIMUM COVER OVER ANY COMPONENT OF THE SEPTIC SYSTEM TO BE 9" PRIOR TO PLACEMENT OF 3" MIN. TOPSOIL.
6. LOCATOR TAPE TO BE PLACED OVER THE SEPTIC TANK, D-BOX & LINES WITHIN THE BED CONFIGURATION.

NOTES:

1. BENCHMARK TO BE SET WITHIN 50' OF THE PROPOSED LEACHING AREA PRIOR TO CONSTRUCTION.
2. THERE ARE NO EXISTING WELLS WITHIN 200' OF THE PROPOSED LEACHING AREA OTHER WISE SHOWN ON THE PLAN.
3. THERE ARE NO PROPOSED WELLS WITHIN 100' OF THE PROPOSED LEACHING AREA.
4. TEST HOLE ELEVATIONS FROM ON THE GROUND SURVEY.
5. EXISTING LOT IS SERVICED BY TOWN WATER.
6. THE LOT IS NOT IN THE AQUIFER PROTECTION DISTRICT, FLOOD PLAIN DISTRICT.
7. MAGNETIC TAPE TO BE PLACED ON TOP OF SEPTIC TANK, D-BOX AND ALL ACTIVE LINES IN THE PROPOSED LEACH FIELD.

COLONIAL WAY

MAP#38, LOT 6
AREA=31,000±S.F.



MAP#38, LOT 7

MAP#38, LOT 30

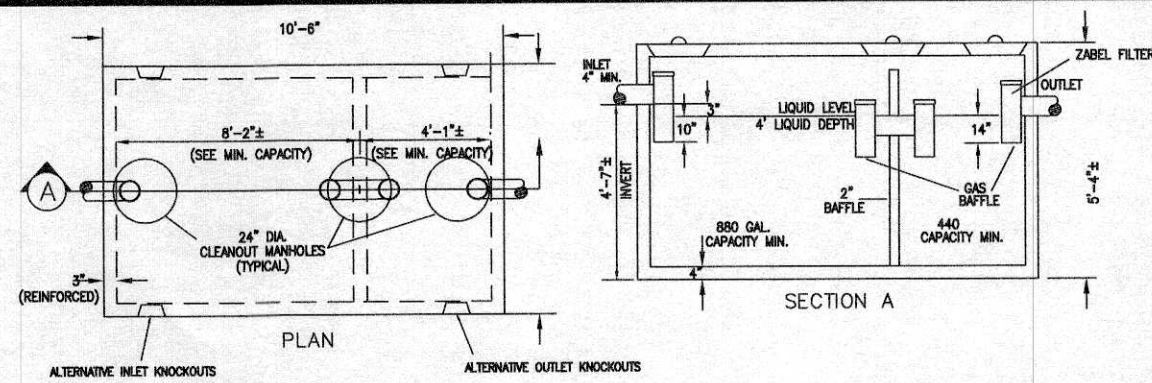
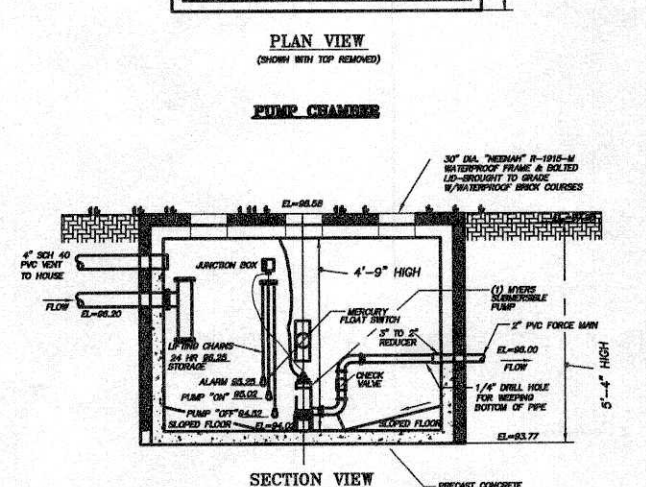
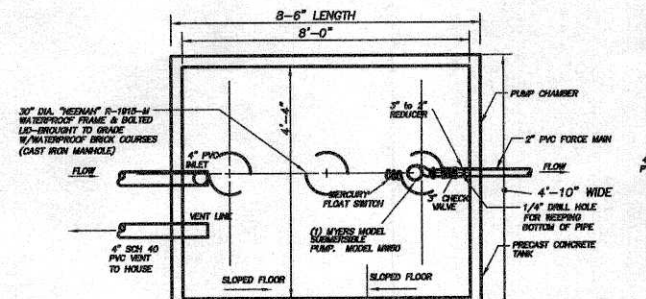
MAP#38, LOT 39D

LOCAL WAIVER REQUEST

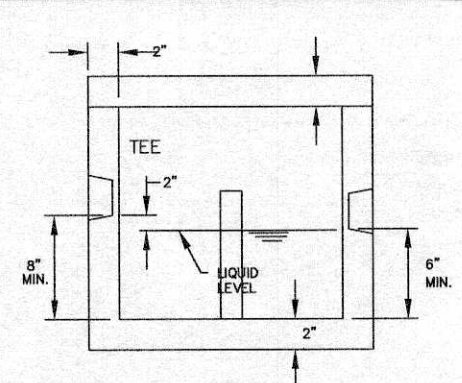
1. A WAIVER REQUEST FOR THE GROUNDWATER SETBACK FROM 4' TO 2' WITH PRESBY DESIGN.
2. A WAIVER REQUEST FOR A SIEVE TEST TO BE PERFORMED INSTEAD OF PERC TEST.

DESIGN NOTES:

1. ALL TOPSOIL, SUBSOIL AND OTHER IMPERVIOUS MATERIAL SHALL BE EXCAVATED TO PERVIOUS MATERIALS.
2. THE INSTALLATION OF PROPOSED SYSTEM SHALL BE DONE IN CONFORMANCE WITH LOCAL AND STATE BOARD OF HEALTH REGULATIONS.
3. NO PORTION OF THIS SYSTEM SHALL BE ALTERED WITHOUT APPROVAL FROM THE BOARD OF HEALTH AND THE DESIGN ENGINEER.
4. FILL MATERIAL FOR SYSTEMS CONSTRUCTED IN FILL SHALL CONSIST OF SELECT ON-SITE OR IMPORTED SOIL MATERIAL. CONSISTING OF CLEAN GRANULAR SAND FREE FROM ORGANIC MATTER AND DELETERIOUS SOIL SUBSTANCES. MIXTURES AND LAYERS OF DIFFERENT CLASSES OF SOIL SHALL NOT BE USED. A SIEVE ANALYSIS SHALL BE PERFORMED IN ACCORDANCE WITH 310 CMR 15.255(3).
5. THIS SYSTEM IS NOT DESIGNED TO NOT ACCOMMODATE FOR A GARBAGE DISPOSAL.
6. THIS PLAN REFERS TO ASSESSORS ATLAS SHEET 38 LOT 6.
7. OFFSETS NOT TO BE USED FOR THE REPRODUCTION OF PROPERTY LINES.
8. ALL INSPECTIONS NECESSARY FOR THE CERTIFICATION OF THE SEPTIC SYSTEM AND THE PREPARATION OF AN AS-BUILT PLAN ARE TO BE PERFORMED BY THE DESIGN ENGINEER.

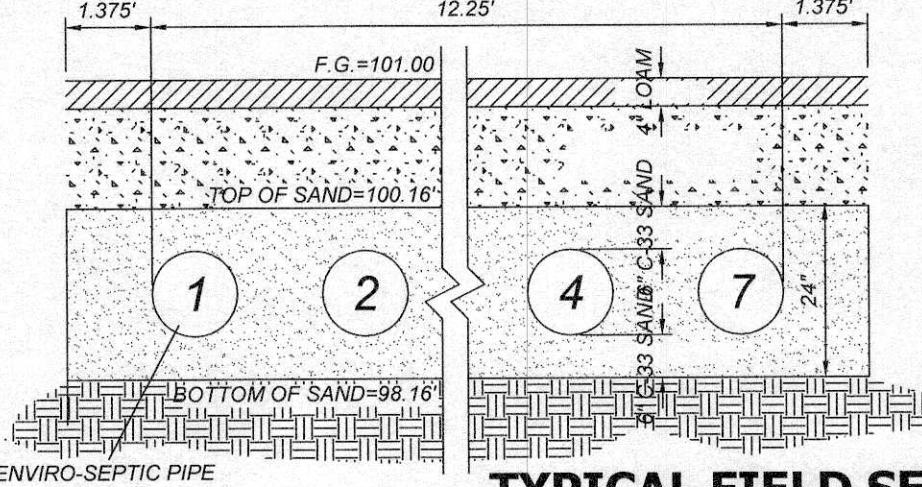


2 COMPARTMENT 1,500 GALLON (H-10) PRE-CAST CONCRETE SEPTIC TANK (SEE CONSTRUCTION NOTE 1)
1. INLET & OUTLET TEES SHALL EXTEND TO CLEANSOUT MANHOLES & SHALL BE CONSTRUCTED OF SCHEDULE 40 PVC.
2. BULKHEAD CALCULATIONS REQUIRED FOR SEPTIC TANKS INSTALLED IN GROUNDWATER.



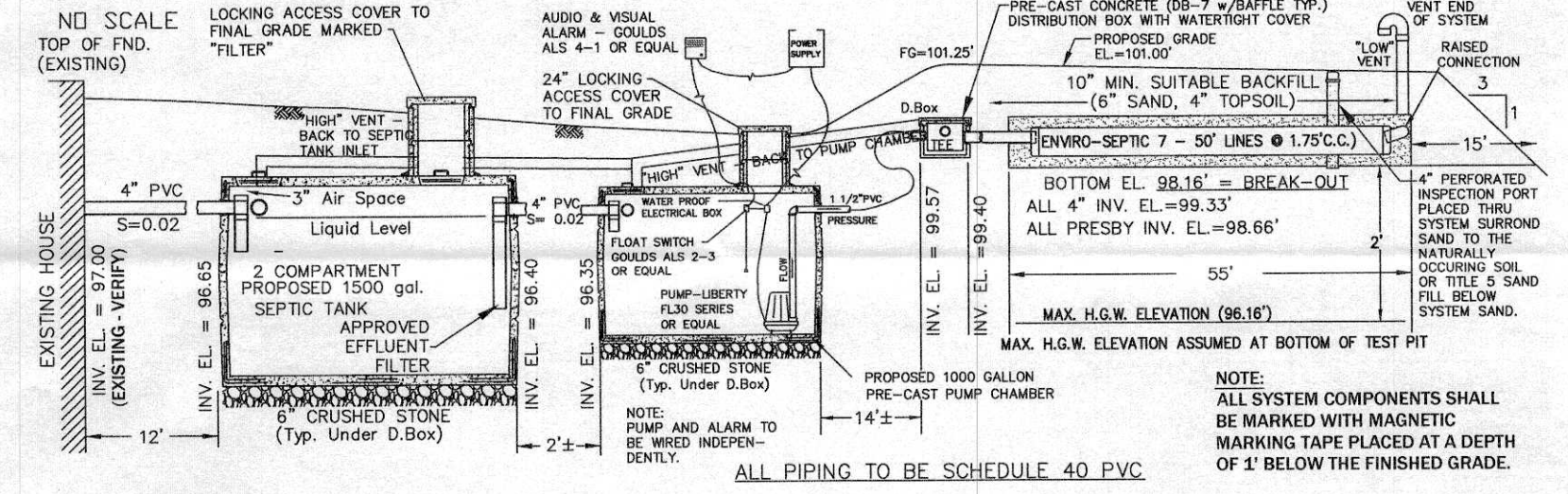
(SEE CONSTRUCTION NOTE 1)
7 OUTLET D.B. PRE-CAST CONCRETE DISTRIBUTION BOX W/WATERTIGHT COVER
(12"x 12" MIN. INSIDE DIMENSION)

NUMBER OF ENVIRO-SEPTIC LINES: 7
CENTER TO CENTER SPACING: 1.75'



TYPICAL FIELD SECTION

SCALE = NONE



DESIGN ELEVATIONS

FIRST FLOOR ELEV.	100.00
INV. AT FOUNDATION	97.00(VERIFY)
INV. AT SEPTIC TANK INLET	96.65
INV. AT SEPTIC TANK OUTLET	96.40
INV. AT PUMP CHAMBER INLET	96.35
INV. AT PUMP CHAMBER OUTLET	96.10
INV. AT DIST. BOX INLET	99.57
INV. AT DIST. BOX OUTLET	99.40
TOP OF SAND	100.16
TOP OF PRESBY PIPE	99.66
INV. 4" PIPE IN	99.33
INV PRESBY PIPE	98.66
EL. AT BOTTOM OF LEACHING BED	98.16*WAIVER
ELEV. OF GROUND WATER	96.16 (DTH#1)

SOIL LOGS 42 COLONIAL WAY

DATE OF SOIL TESTING 1-28-21
PERFORMED BY PETER LAVOIE
WITNESSED: KARL DROWN

DEPTH	SOIL TYPE	WATER
97.83	A S.L. 10YR3/3	25" WATER
97.00	B S.L. 10YR5/8	48" SAMPLE
95.83	C L.S. 5Y7/2	20" MOTTLES
96.16	G.W.	WAIVER PERC
90.83		CLASS II SOIL

"WARNING"
EXISTING UTILITY LINES INDICATED OR NOTED ON THESE DRAWINGS ARE SHOWN AS OBTAINED FROM EXISTING INFORMATION AND ARE ONLY APPROXIMATE. IN LOCATION. THE CONTRACTOR SHALL TAKE CAUTION IN THESE AREAS TO AVOID DAMAGE TO EXISTING UTILITY LINES AND/OR HARM TO PERSONNEL ENGAGED IN WORKING IN THESE AREAS.
CALL "DIG SAFE" 1-888-DIG-SAFE (1-888-344-7233).
EXISTING LINES OTHER THAN THOSE INDICATED ON THESE DRAWINGS MAY BE ON THE SITE. THE CONTRACTOR IS WARNED TO PROCEED WITH CAUTION WITH ALL WORK, ESPECIALLY EXCAVATION WORK, AND TO MAKE ALL POSSIBLE INVESTIGATIONS AS TO POSSIBLE UNMARKED UTILITY LINES.



DESIGN CRITERIA: REPAIR/EXPANSION TO 3 BEDROOM

- DESIGN FLOW FOR 4 BEDROOMS
4 Bedrooms x 110 gal./bedroom/day(1.25) = 550 gallons/day
THIS SYSTEM IS NOT DESIGNED TO ACCOMMODATE A GARBAGE DISPOSAL THE USE OF A GARBAGE DISPOSAL IS NOT ALLOWED.
SEPTIC TANK CAPACITY: 1,500 GALLON (2 COMPARTMENT)
PRESBY ENVIRONMENTAL SYSTEM CALCULATIONS
1. FROM TABLE A
4 BR @ 20-31 MIN/INCH = 325 LF OF PIPE
2. PROVIDE LF OF PIPE:
7 lines @ 50'/line = 350 LF
3. FROM TABLE D
MIN SPACING = 1.75' FOR 1-10% SLOPE (USE 1.75' SPACING)
CALCULATE SAND BED 825 S.F.

42 COLONIAL WAY SEPTIC DESIGN PLAN (REPAIR)

IN REHOBOTH, MA
SCALE: 20 FEET TO AN INCH
DATE: FEBRUARY 13, 2021

OWNER: MARIA BURNS
ADDRESS: 42 COLONIAL WAY, REHOBOTH MA

Landmark Site Design

Civil Engineering & Land Surveying
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S2100