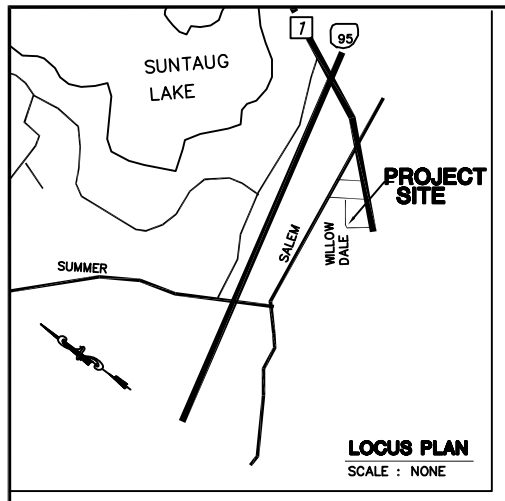


LOCUS PLAN
SCALE : NONE

TP-1

FROM SURF.	SOIL TYPE	GRND. ELEV.
		99.62'
0–24"	FILL	97.62'
24"–30"	Apb – FSL 10YR2/2	97.12'
30"–36"	Bw – FSL 10YR5/6	96.62'
36"–85"	C – LS 2.5YR6/4	91.98'

NO GROUNDWATER OBSERVED
EST. SEAS. HIGH WATER @ 60"(94.62')

P-1

FROM SURF.	SOIL TYPE	GRND. ELEV.
		99.62'
58"	9 MIN./IN.	94.79'

SOIL ANALYSIS

WITNESSED BY: LEO CORMIER
BOARD OF HEALTH
TOWN OF LYNNFIELD
OCTOBER 19, 2022

PUMP SPECIFICATIONS

Liberty Pump Model LE51(OR SIMILAR)
- 1/2 H.P., 115V, Single Phase
- 2" Solids Handling
- Mechanical Float Switches
- Install high water alarm inside dwelling on seperate circuit other than pump, include red light, buzzer

HIGH WATER ALARM
* LOCATED INSIDE RESIDENCE

PUMP DESIGN

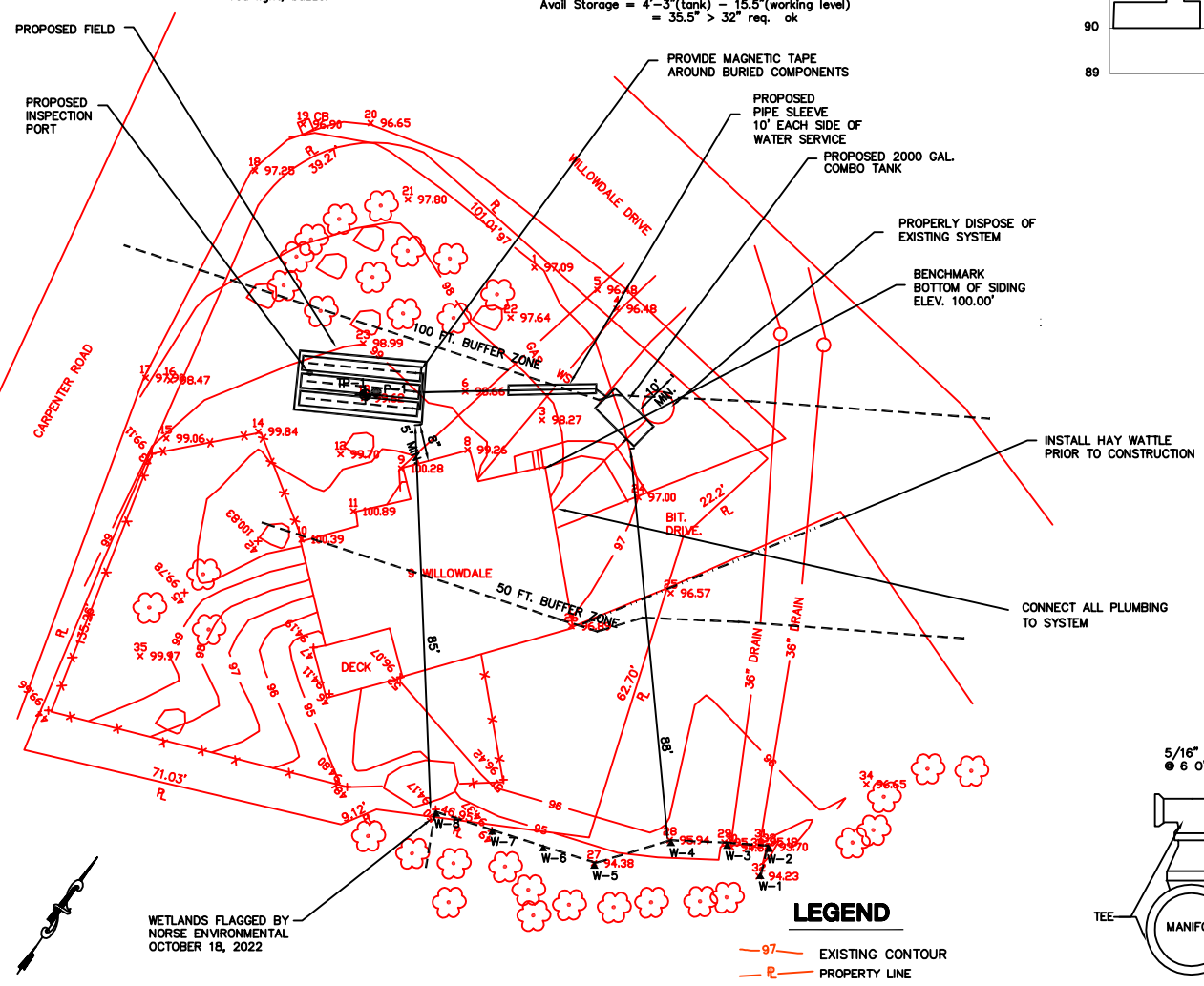
Dosing Frequency :
1.012 gal./ft.x81 ft.= 82 gal.+18 gal flowback=100 gal.(MAX.)

CONNECT ALL INTERIOR PLUMBING TO SYSTEM

Pump Chamber Capacity :
Chamber Capacity : 2'–10"X5'–10"x1"X7.48 gal./cu.ft.
= 10.24 g/inch depth(Approx.)

Pump Controls :
Pump On/Off : 100 gal./10.24 gal./inch. = 9.7" SAY 9.5"

Emergency Storage Requirements:
330 gal./10.24 gal./in. = 32 in. req.
Avail Storage = 4'–3"(tank) – 15.5"(working level)
= 35.5" > 32" req. ok

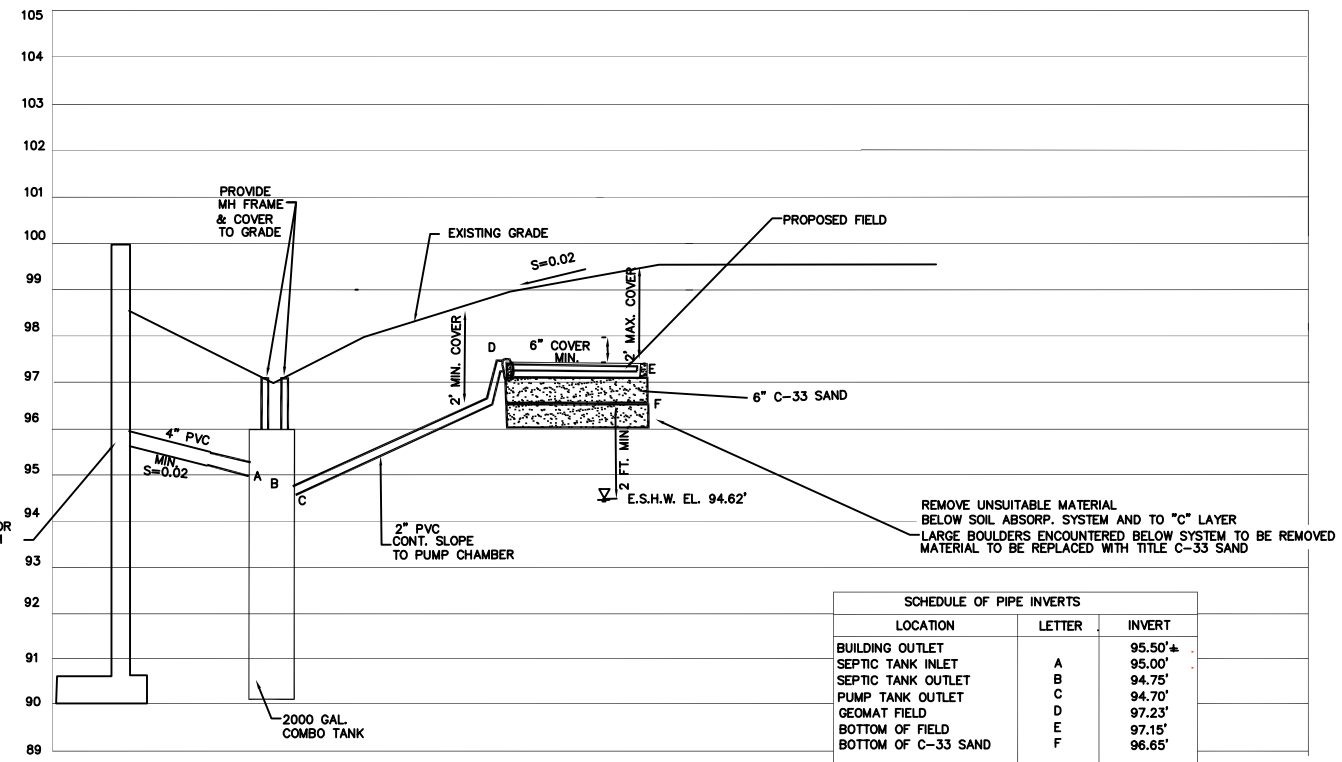


PLAN VIEW

SCALE : 1"=20'

LEGEND

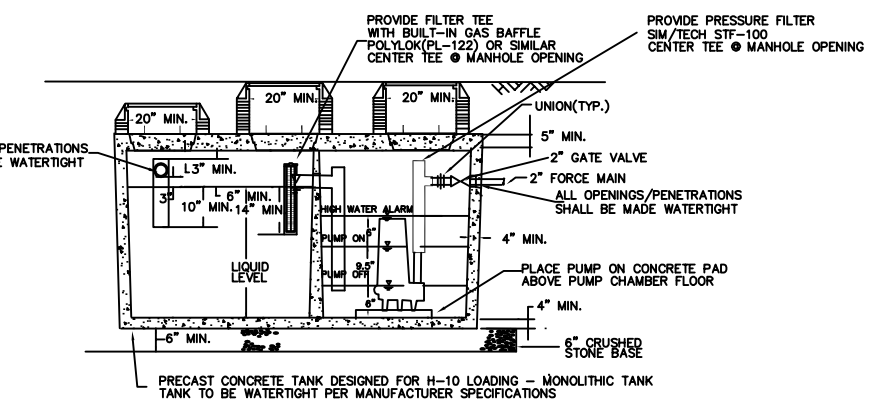
- 97 — EXISTING CONTOUR
- PL — PROPERTY LINE
- TREE LINE/WOODED AREA
- TREE
- ROCK/BOULDER
- 96.7 — SPOT GRADE
- 96 — PROPOSED CONTOUR
- TP-1 — TEST PIT LOC.
- P-1 — PERC. TEST LOC.
- W-9 — B.V.W. DELINEATION LINE
- PROPOSED HAY WATTLES
- 100' BUFFER ZONE LINE
- RETAINING WALL
- SHRUBS/PLANTS
- STONE WALL
- FENCE



PROFILE

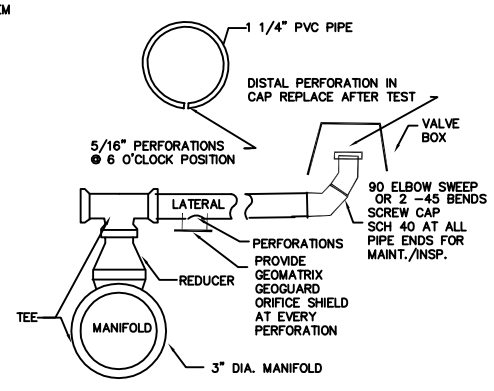
SCALE : HOR. 1"=20'
VERT. 1"=2'

SCHEDULE OF PIPE INVERTS		
LOCATION	LETTER	INVERT
BUILDING OUTLET		95.50'
SEPTIC TANK INLET	A	95.00'
SEPTIC TANK OUTLET	B	94.75'
PUMP TANK OUTLET	C	94.70'
GEOMAT FIELD	D	97.23'
BOTTOM OF FIELD	E	97.15'
BOTTOM OF C–33 SAND	F	96.65'



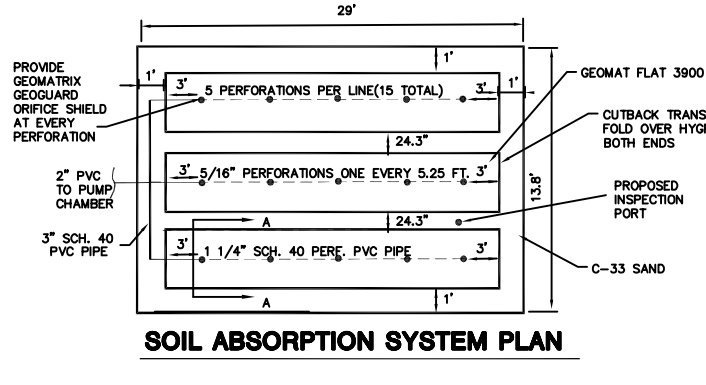
2000 Gallon - 2 Compartment Tank Design

(NOT TO SCALE)

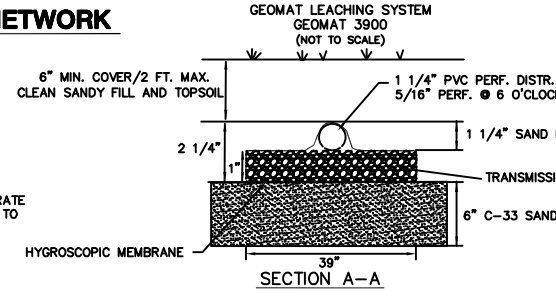


SECTION - DISTR. NETWORK

(NOT TO SCALE)



SOIL ABSORPTION SYSTEM PLAN



NOTES:
- GRADE SURFACE DRAINAGE AWAY FROM HOUSE AND SEPTIC SYSTEM
- CONTRACTOR SHALL VERIFY AND INCORPORATE ALL INTERIOR PLUMBING WORK NECESSARY TO CONNECT TO PROPOSED SYSTEM
- NO PLANTINGS WITHIN 5 FT. OF SYSTEM

Notes

1. ALL UNSUITABLE MATERIAL MUST BE REMOVED FROM THE PROPOSED CONSTRUCTION AREA BELOW THE SOIL ABSORPTION SYSTEM AND A MINIMUM OF FIVE FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE SYSTEM. BACKFILL MATERIAL SHALL CONSIST OF CLEAN SAND OR GRAVEL FREE OF FINES AND HAVING A PERCOLATION RATE OF 2 MIN. PER INCH OR LESS AFTER BEING PLACED AND COMPACTED.
2. ALL STONE MUST BE DOUBLE WASHED AND FREE FROM FINES AND MUST HAVE LESS THAN 0.5% FINER MATERIAL PASSING THE NO. 200 SIEVE.
3. HEAVY MACHINERY SHALL NOT BE PERMITTED TO PASS OVER ANY PART OF THE PROPOSED SUBSURFACE DISPOSAL SYSTEM.
4. SYSTEM PIPING SHALL CONSIST OF POLYVINYL CHLORIDE PIPE(PVC) SCHEDULE 40 NSF, UNLESS OTHERWISE NOTED.
5. GARBAGE GRINDER/DISPOSAL SYSTEM IS NOT TO BE CONNECTED TO THE SUBSURFACE DISPOSAL SYSTEM.
6. SITE SURVEY WAS SOLELY PERFORMED TO OBTAIN SITE TOPOGRAPHY FOR THE INSTALLATION OF A SUBSURFACE DISPOSAL SYSTEM. THE DESIGNER IS NOT RESPONSIBLE FOR THE ACCURACY OF THE REPRESENTATION OF ANY PROPERTY LINES OR BUILDING LOCATIONS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL CONTROLS.
7. ALL DISTURBED AREAS SHALL BE LOAMED, SEEDED AND MAINTAINED TO PREVENT EROSION. ANY DISTURBED PAVING MUST BE REPLACED IN–KIND.
8. THE DESIGNER HAS NOT BEEN RETAINED BY THE CLIENT TO CONSTRUCT OR SUPERVISE THE CONSTRUCTION OF THE SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ARRANGEMENTS FOR INSPECTION OF THE INSTALLATION OF THE SYSTEM WITH THE LOCAL BOARD OF HEALTH.
9. ALL SURFACE AND SUBSURFACE DRAINAGE SHALL BE DIRECTED AWAY FROM THE SUBSURFACE DISPOSAL SYSTEM AND FOUNDATIONS.
10. ALL SYSTEM TANKS AND PIPING CONNECTIONS SHALL BE MADE WATERTIGHT THROUGH MANUFACTURERS SPECIFICATIONS AND WARRANTY.
11. PROPER MAINTENANCE AND PERFORMANCE OF THE SUBSURFACE DISPOSAL SYSTEM SHOULD CONSIST OF INSPECTING THE SEPTIC TANK AT LEAST ONCE A YEAR AND WHEN THE TOTAL DEPTH OF SCUM AND SOLIDS EXCEEDS 1/3 THE LIQUID DEPTH OF THE TANK, THE TANK SHOULD BE PUMPED.
12. SEPTIC TANK MANUFACTURER TO SUPPLY BOUYANCY VERIFICATION AND/OR BOUYANCY PAD FOR PROPOSED CHAMBERS.
13. SEWER LINES WHICH HAVE LESS THAN 1/4 BENDS INSTALLED SHALL ALSO HAVE CLEANOUTS INSTALLED IN AN ACCESSIBLE LOCATION.

MASSDEP REMEDEIAL USE APPROVAL – GEOMAT LEACHING SYSTEM(7/14/17)
- APPROVED REDUCTION FROM E.S.H.W. FROM 4 FT. TO 2 FT.(2 FT. REQ.)
- APPROVED REDUCTION FROM FOUNDATION FROM 20 FT. TO 5 FT.(8 FT. REQ.)

LOCAL UPGRADE REQUEST:
UNDER SECTION 15.405(1) OF MDEP REGULATION 310 CMR 15.00
- A REQUEST IS ASKED FOR A VARIANCE TO CONDUCT ONE TESTHOLE

Design

Design Flow : 3 Bedrooms
Design Flow : 3 Bedrooms @ 110 gpd = 330 gpd
LTAR = 1.22 gpd/sq.ft.

Design of Soil Absorption System : GeoMat
Sqft of GeoMat required – 3 BDRM @ 110 gpd = 330 gpd/1.22 gpd/sqft = 270 sqft
Length of GeoMAt Flat 3900 – 270 sqft/3.42sqft/linft = 79 linft
Minimun sand bed size(table 3) = 400 sqft
Sample GeoMat layout – Qty 3–27' Rows
Minimum Bed Width 400 sqft/(27ft+1ft+1ft) = 13.8 ft
13.8ft – (3 rows GeoMat 3900 3.25' wide)–1ft–1ft = 4.05ft/2 spaces = 24.3" in–between
Use Bed size 29 ft. long by 13.8 ft. wide

Septic Tank Design
200% for Design factor : 2 X330 gpd = 660 gpd
Use (Min. Req'd.) 1500 Gal. Septic Tank

SOIL EVALUATOR STATEMENT :
I(JAMES M. KAVANAUGH) CERTIFY THAT ON JULY 26,1995 I HAVE PASSED THE EXAMINATION APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE ABOVE ANALYSIS HAS BEEN PERFORMED BY ME CONSISTENT WITH THE REQUIRED TRAINING, EXPERTISE AND EXPERIENCE DESCRIBED IN 310 CMR 15.018(2).

NOTE:
THIS PLAN WAS PREPARED FOR THE SOLE PURPOSE OF THE ABOVE WORK AND FOR THE NOTED PERSON/FIRM. THE INFORMATION CONTAINED WITHIN THIS PLAN MY NOT BE USED FOR OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF THE DESIGN ENGINEER.

James M. Kavanaugh, P.E.
Environmental Consultant
14 Shady Hill Drive
N. Reading Mass. 01864 **Tel.(978)664-2925**

DESIGN OF SUBSURFACE DISPOSAL SYSTEM

PREPARED FOR

James Moore
9 Willowdale Drive
Lynnfield Ma. 01940

Map No. 52
Parcel No. 1557

Proj. No. 22044	Desn. By: JMK
Date : October 24, 2022	Drn. By: DMC
Scale : As Noted	Sheet 1 of 1