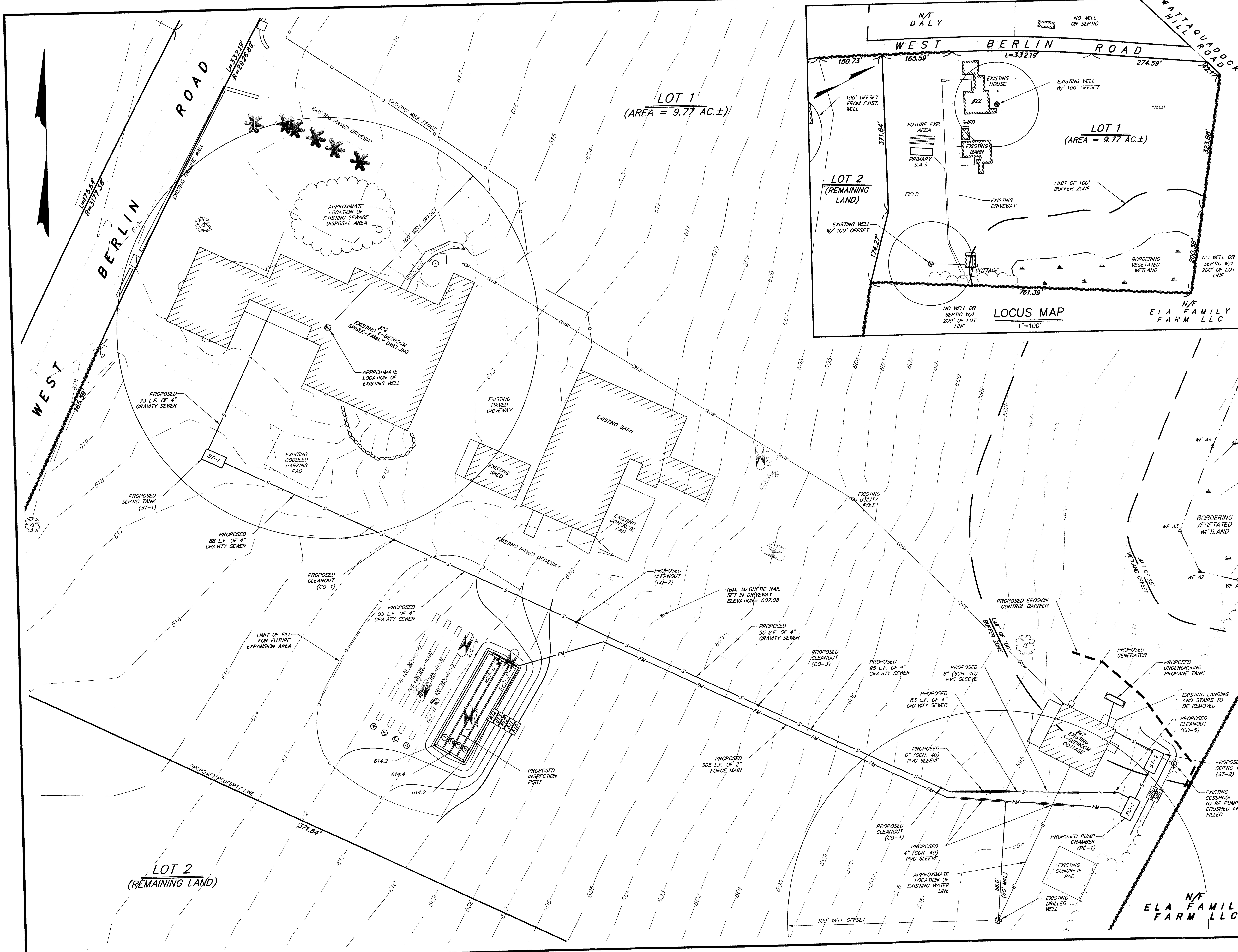
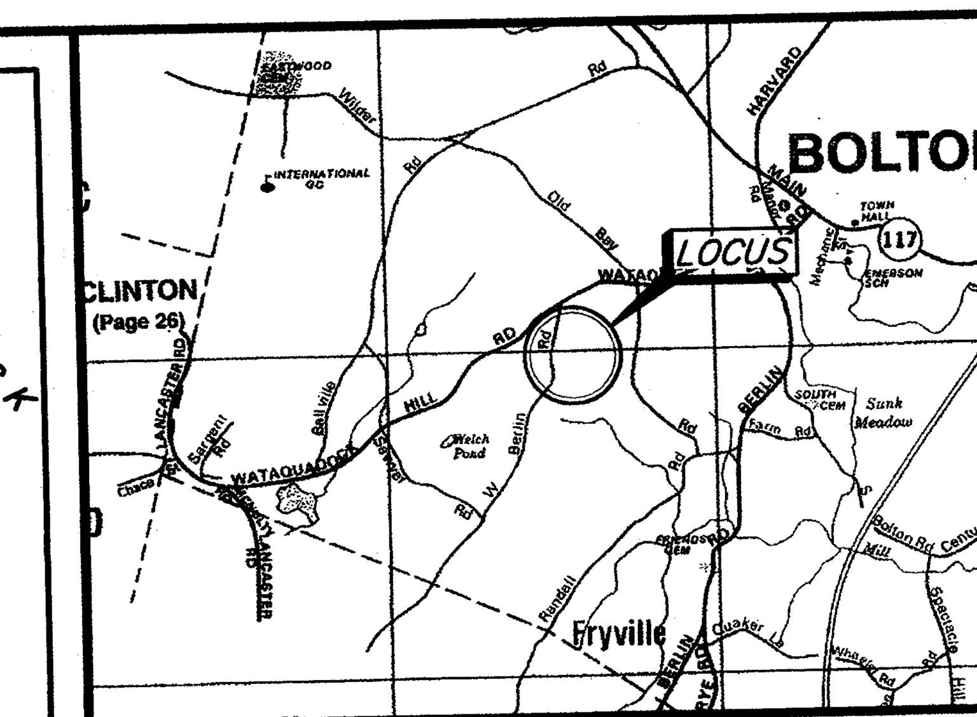




LOCUS MAP
NOT TO SCALE

OBSERVATION TEST HOLE DATA
BY DANIEL B. WOLFE, D.E.R.A., INC.
WITNESSED BY BILL BROOKINGS, N.A.B.H.
2/16/2022 & 9/28/2022

222-19: ELEV. = 611.3'
- Ap 0" - 12" FINE SANDY LOAM
- Bw 12" - 20" FINE SANDY LOAM
- C 20" - 106" SANDY LOAM
- MOTTLING AT 28"
- GROUNDWATER AT 66" (SEEPS)
- REFUSAL AT 106"
- E.S.H.W.T. AT 28" (609.0')

222-20: ELEV. = 610.5'
- Ap 0" - 11" FINE SANDY LOAM
- Bw 11" - 20" FINE SANDY LOAM
- C 20" - 106" SANDY LOAM
- MOTTLING AT 28"
- GROUNDWATER AT 85" (SEEPS)
- REFUSAL AT 106"
- E.S.H.W.T. AT 28" (608.2')

922-3: ELEV. = 610.3'
- Ap 0" - 12" FINE SANDY LOAM
- Bw 12" - 21" FINE SANDY LOAM
- C 21" - 91" SANDY LOAM
- MOTTLING AT 28"
- NO GROUNDWATER
- NO REFUSAL
- E.S.H.W.T. AT 28" (608.0')

922-4: ELEV. = 611.4'
- Ap 0" - 11" FINE SANDY LOAM
- Bw 11" - 18" FINE SANDY LOAM
- C 18" - 97" SANDY LOAM
- MOTTLING AT 30"
- NO GROUNDWATER
- NO REFUSAL
- E.S.H.W.T. AT 30" (608.9')

20 0 10 20 40 60
GRAPHIC SCALE IN FEET

SURV.: GSN/SPM	CALC.: KRC	DRAFT: BJD
NB: 782-21, 836-12	DEED: 68083/74	CHECK: DBW

REVISIONS

COMMONWEALTH OF MASSACHUSETTS
DANIEL B. WOLFE
CIVIL
No. 36523
REGISTERED
PROFESSIONAL ENGINEER
8-15-23

SHEET TITLE: SEWAGE DISPOSAL SYSTEM

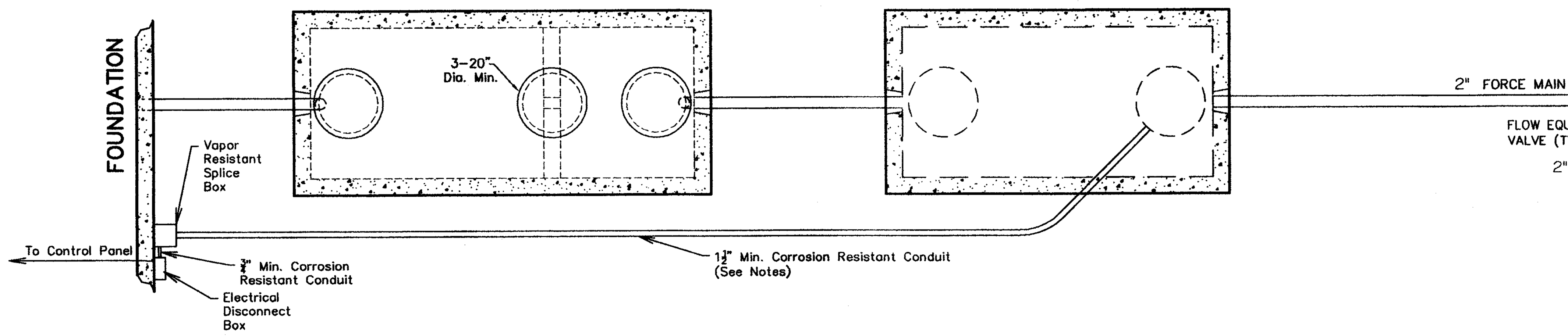
DESIGNED FOR: STEPHEN DALY

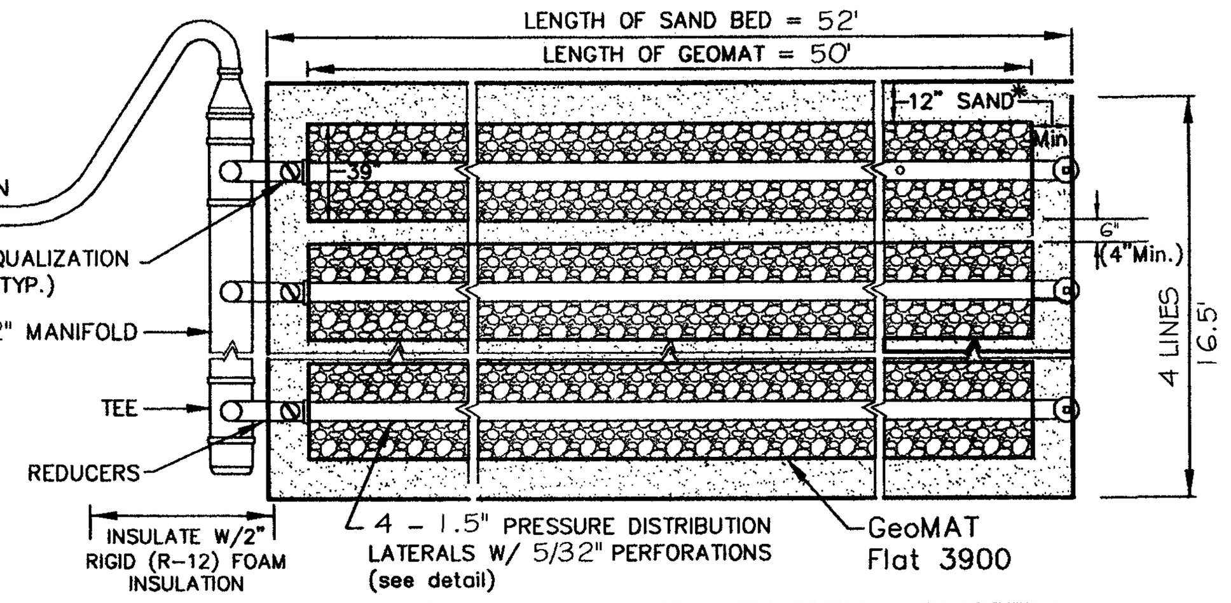
ADDRESS: 22 WEST BERLIN ROAD
BOLTON, MA

LOT NO.:	ASSESSOR MAP:	ASSESSOR PARCEL:
1	4B	PORTION OF PARCEL 4

DAVID E. ROSS
ASSOCIATES, INC.
CIVIL ENGINEERS - LAND SURVEYORS
ENVIRONMENTAL CONSULTANTS
6 Lancaster County Road
P.O. Box 795
Harvard, MA 01451-0795
978-772-6232
FAX 978-772-6258
www.davideross.com

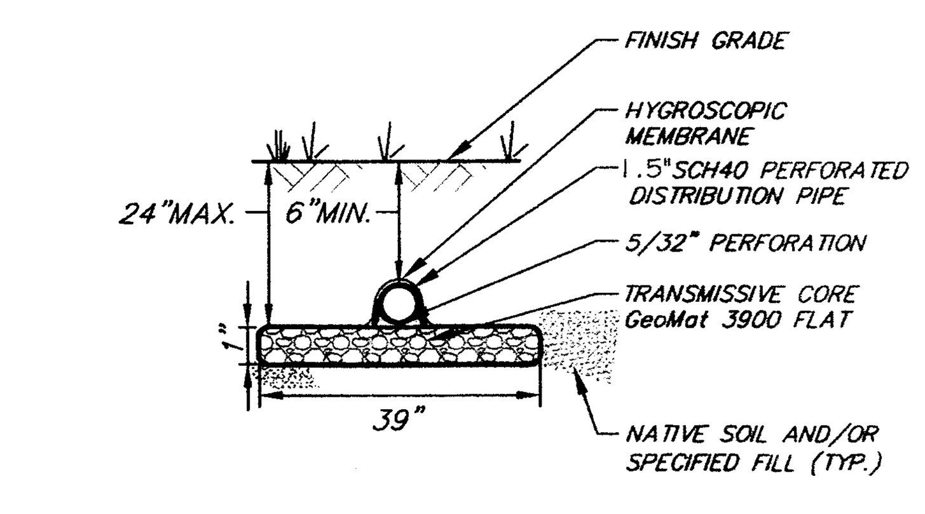
SCALE: 1"=20'	DATE: AUGUST, 2023
REF.: 31259	PLAN NO.: L-14690
JOB NO.: 34215	SHEET NO.: 2 of 2





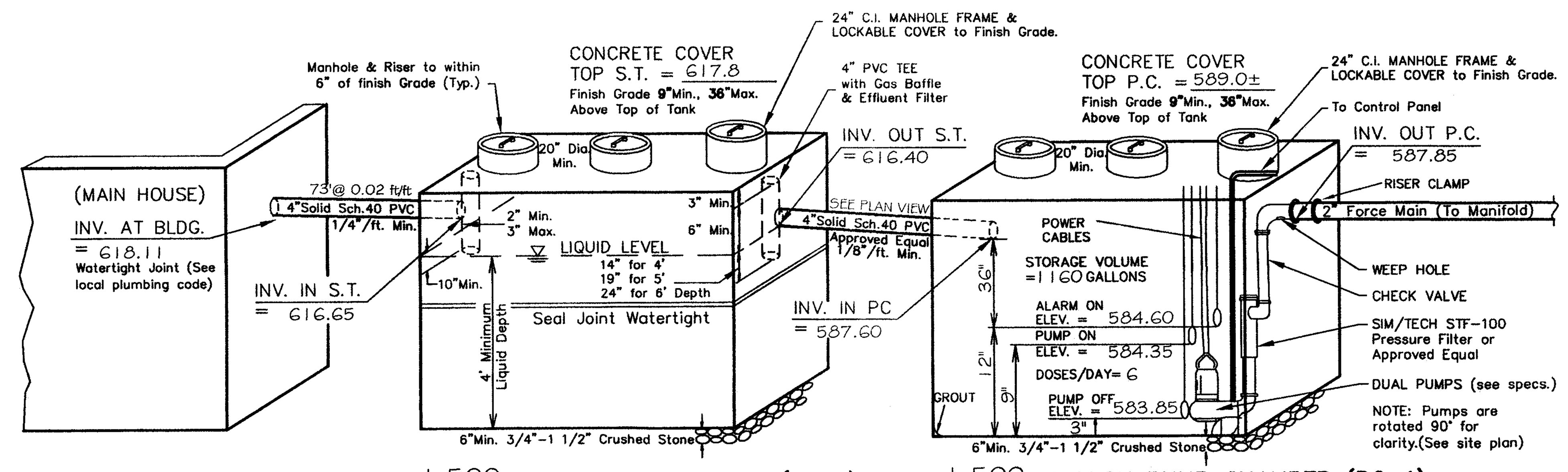
GeoMat SAND BED LEACHING SYSTEM

*SAND SHALL MEET THE REQUIREMENTS OF 310 CMR 15.255
A minimum of 12 inches of SAND should surround the perimeter of the GeoMat in a bed configuration.



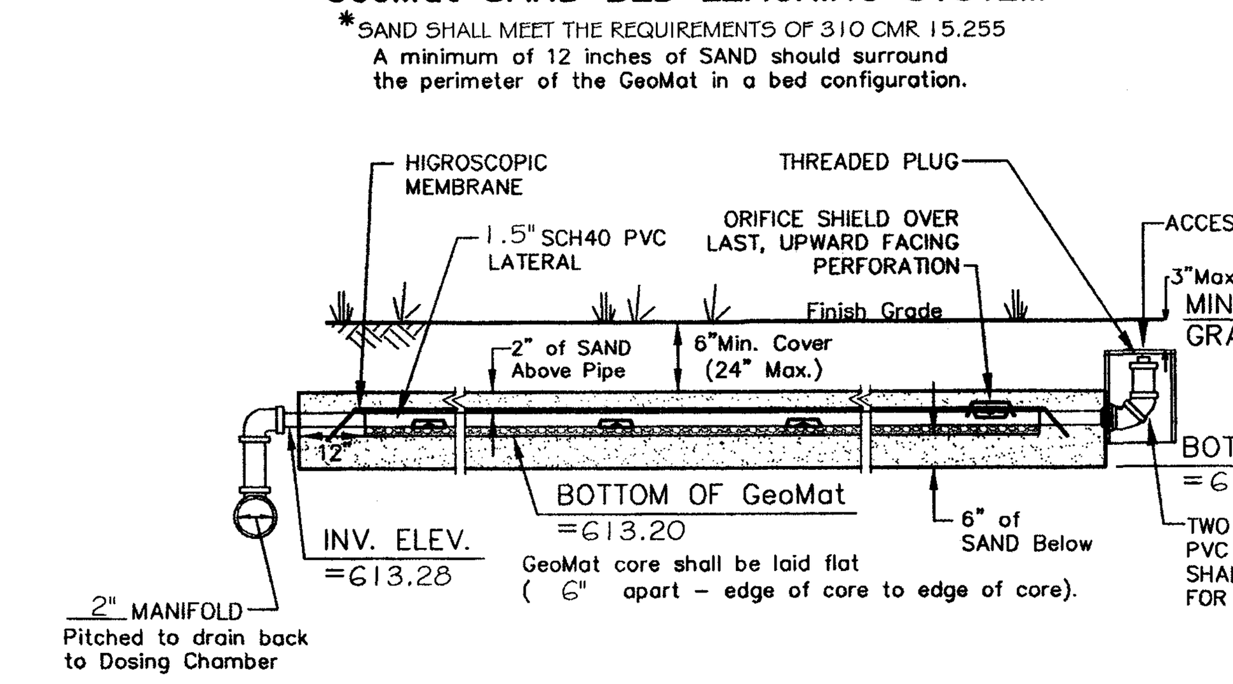
GeoMat 3900 FLAT LEACHING SYSTEM

NOT TO SCALE

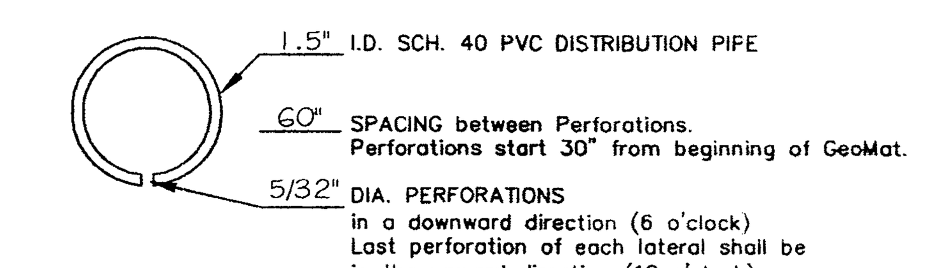


1,500 GALLON SEPTIC TANK (ST-1)

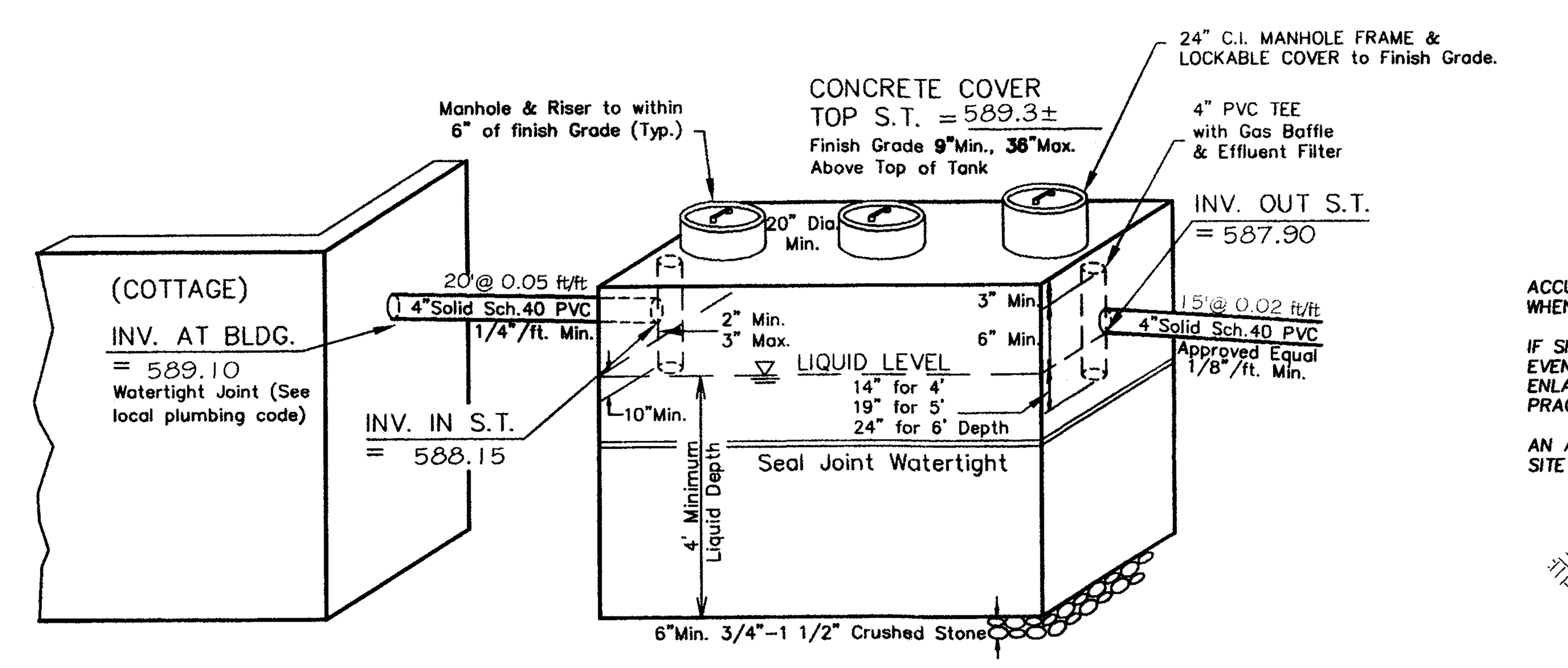
1,500 GALLON PUMP CHAMBER (PC-1)



LEACHING FIELD 52' x 16.5'= 858 S.F.



DISTRIBUTION LATERAL
(SECTION)

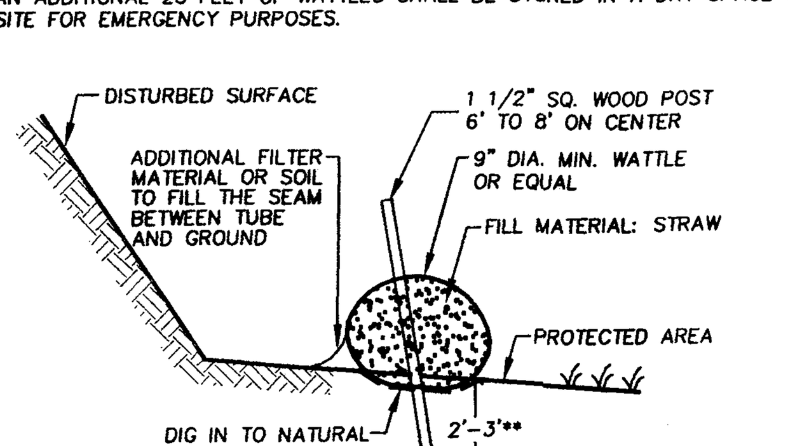


1,500 GALLON SEPTIC TANK (ST-2)

ACCUMULATED SEDIMENT SHOULD BE REMOVED, OR A NEW WATTLE INSTALLED, WHEN IT REACHES APPROXIMATELY ONE-HALF OF THE WATTLE DIAMETER.

IF SHEET FLOWS ARE BYPASSING OR BREACHING THE WATTLE DURING STORM EVENTS, IT MUST BE REPAIRED IMMEDIATELY AND BETTER SECURED, EXPANDED ENLARGED OR AUGMENTED WITH ADDITIONAL EROSION AND SEDIMENT CONTROL PRACTICES.

AN ADDITIONAL 25 FEET OF WATTLES SHALL BE STORED IN A DRY SPACE ON SITE FOR EMERGENCY PURPOSES.



SILTATION BARRIER WATTLE DETAIL
NOT TO SCALE

SCHEDULE OF ELEVATIONS		PROPOSED	AS-BUILT
FIRST FLOOR ELEVATION (MAIN HOUSE)	EXIST.	620.5±	
INVERT AT FOUNDATION (MAIN HOUSE)		618.11	
4" INVERT TANK (ST-1) INLET		616.65	
6" INVERT TANK (ST-1) OUTLET		616.40	
TOP SEPTIC TANK (ST-1)		617.8±	
4" INVERT CLEANOUT (CO-1)		611.75	
4" INVERT CLEANOUT (CO-2)		607.00	
4" INVERT CLEANOUT (CO-3)		600.00	
4" INVERT CLEANOUT (CO-4)		593.00	
4" INVERT CLEANOUT (CO-5)		588.05	
TOP CONCRETE FOUNDATION (COTTAGE)	EXIST.	595.9±	
INVERT AT FOUNDATION (COTTAGE)	EXIST.	589.10	
4" INVERT TANK (ST-2) INLET		588.15	
4" INVERT TANK (ST-2) OUTLET		587.90	
TOP SEPTIC TANK (ST-2)		589.3±	
4" INVERT PUMP CHAMBER (PC-1) INLET		587.60	
4" INVERT PUMP CHAMBER (PC-1) INLET		587.60	
2" INVERT PUMP CHAMBER (PC-1) OUTLET		587.85	
TOP PUMP CHAMBER		589.0±	
GROUNDWATER OFFSET REQUIRED		4'	
GROUNDWATER OFFSET UTILIZED		4'	
INVERT LATERAL BEGIN		613.28	
INVERT LATERAL END		613.28	
BOTTOM OF GeoMat		613.20	
BOTTOM OF SAND		612.70	
MIN. FINAL GRADE		614.2	

TRADITIONAL FUTURE EXPANSION TRENCH ELEVATION SCHEDULE
4 TRENCHES 58'L x 2'W x 2'D = 1,392 S.F.

TRENCH NUMBER	TOP ELEV.	HIGH INV. ELEV.	LOW INV. ELEV.	BOTTOM STONE
A	616.66	616.16	615.87	613.87
B	616.46	615.96	615.67	613.67
C	616.16	615.66	615.37	613.37
D	615.86	615.36	615.07	613.07

DESIGN CRITERIA

GARBAGE GRINDERS - NOT PERMITTED

PERC. TESTS: PERFORMED BY DANIEL WOLFE, D.E.R.A., INC.
WITNESSED BY BILL BROOKINGS, N.A.B.H.

PERC. #	RATE (M/I)	ELEVATION	DEPTH	DATE
922-G	7	610.5	40"	9/28/22
922-H	12	611.1	83"	9/28/22

FLOWS:
MAIN HOUSE:
4 BEDROOMS AT 110 GPD = 440 GPD
(330 GPD MIN.)

SEPTIC TANK REQUIRED: (1,500 GAL. MIN.)
440 GPD X 2.0 = 880 GAL. TANK

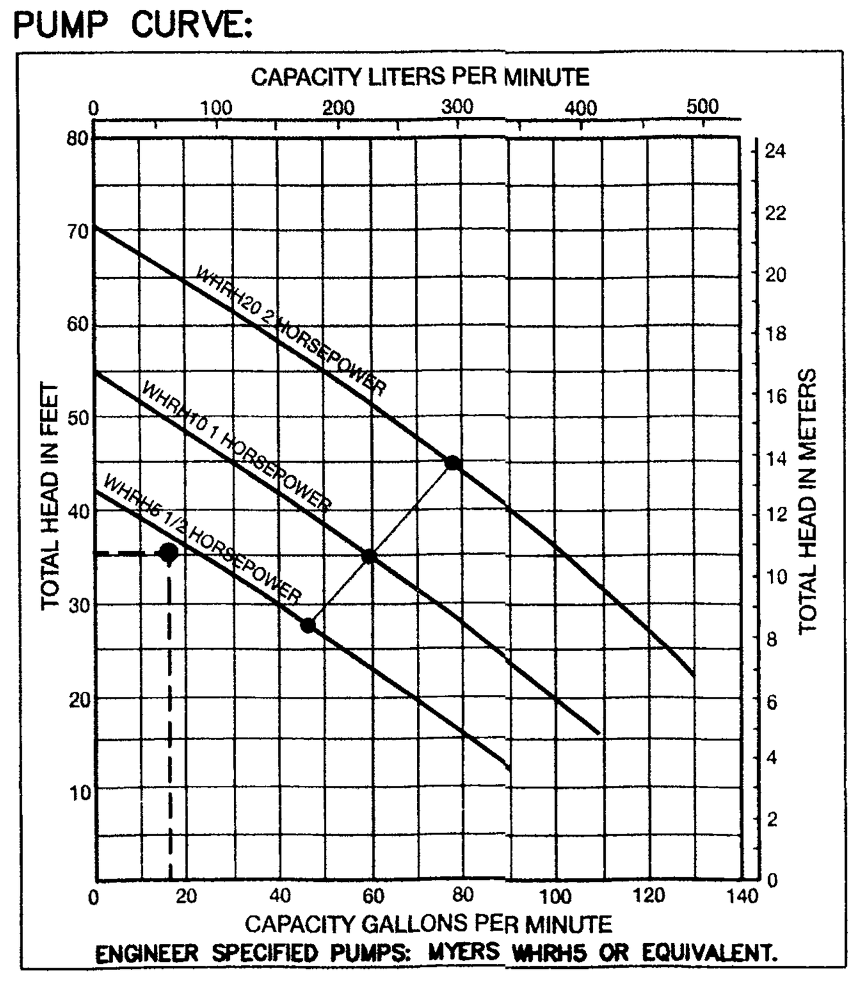
COTTAGE:
3 BEDROOMS AT 110 GPD = 330 GPD
(330 GPD MIN.)

SEPTIC TANK REQUIRED: (1,500 GAL. MIN.)
330 GPD X 2.0 = 660 GAL. TANK

TOTAL DESIGN FLOW FOR SYSTEM = 770 GPD

LEACHING AREA PROVIDED:
A. BASIS 15 MIN./INCH PERCOLATION RATE
B. SOIL CLASS II
C. SAND BED GeoMAT PRODUCT: 3900 FLAT
1. LOADING RATE 1.14 GPD/S.F.
INSTALLED IN: ☒ 6" SAND BENEATH ☐ NATIVE SOILS
2. GeoMat AREA REQUIRED: 770 GPD/ 1.14 GPD/.S.F. = 676 S.F.
3. SAND BED PROVIDED: 858 S.F. (825 S.F. MIN.)
5. LENGTH OF GeoMat REQUIRED: 676 S.F./ 3.42 S.F./L.F. = 198 L.F.
6. LENGTH OF GeoMat PROVIDED: 4 ROWS x 50 L.F./ROW = 200 L.F.

PUMP CURVE:



ENGINEER SPECIFIED PUMPS: MYERS WHRH5 OR EQUIVALENT.

SEPTIC TANK
SEPTIC TANK SHALL BE A PRECAST, REINFORCED CONCRETE TANK MADE WATERTIGHT. THE TANK SHALL BE INSPECTED BY DESIGN ENGINEER TO VERIFY WATERTIGHT. CONSTRUCTION MATERIALS AND DIMENSIONS SHALL CONFORM TO TITLE 5 AND AASHTO HS 20 REQUIREMENTS AND PLACED ON A STABLE MECHANICALLY COMPACTED LEVEL BASE.

TANK/ SYSTEM TO BE VENTED THROUGH THE BUILDING PLUMBING SYSTEM AS REQUIRED BY BUILDING CODE.

TANK SHOULD BE INSPECTED, MAINTAINED AND BE PUMPED OUT WHEN SLUDGE DEPTH IN THE BOTTOM EXCEEDS ONE FOURTH OF THE TOTAL LIQUID DEPTH.

AT LEAST THREE 20" MAHNOLES SHALL BE PROVIDED. THE MANHOLES OVER THE OUTLET TEE SHALL BE EQUIPPED WITH A RISER AND LOCKABLE COVER TO FINISH GRADE. ALL OTHERS SHALL BE EQUIPPED WITH A RISER AND COVER TO WITHIN 6 INCHES OF FINISH GRADE.

DOSING CHAMBER
GENERAL: ALL WORKMANSHIP, MATERIALS AND CONSTRUCTION SHALL CONFORM TO FEDERAL, STATE AND LOCAL CODES, WHETHER SPECIFIED HEREIN OR NOT. ALL PIPING, CONTROLS AND PUMP ARE SUBJECT TO APPROVAL BY THE DESIGN ENGINEER.

CHAMBER: THE CHAMBER SHALL BE A PRECAST, REINFORCED CONCRETE SEPTIC TANK WITH PRE-FITTED BOOTS. CONSTRUCTION MATERIALS AND DIMENSIONS SHALL CONFORM TO TITLE 5 AND AASHTO HS-20 LOADING REQUIREMENTS AND SHALL BE PLACED ON A STABLE MECHANICALLY COMPACTED LEVEL BASE. ONE TANK MANHOLE SHALL EXTEND TO FINISHED GRADE AND BE MADE WATERTIGHT. COVER SHALL BE METAL AND WEIGH 60 LBS. (MINIMUM) AND HAVE AN INSIDE DIMENSION 1 1/2 TIMES MAXIMUM PUMP DIMENSION AND HAVE A 24" INSIDE DIAMETER MINIMUM. CHAMBER TO BE VENTED VIA BUILDING PLUMBING SYSTEM TO ROOF. IF THE CHAMBER IS TO BE UNDER PAVED SURFACES OR SUBJECT TO VEHICULAR LOADING, THE CHAMBER, ALL MANHOLES AND EXTENSIONS SHALL BE RATED TO WITHSTAND AASHTO HS-20 DIRECT LOADING (HEAVY DUTY).

PUMPS: PUMP SHALL BE A NON-CLOG SUBMERSIBLE SEWAGE PUMP CAPABLE OF PASSING A 1 1/4" DIAMETER SOLID AND STRINGY MATERIAL. PUMP SHALL HAVE A 0.5 HP (MINIMUM) MOTOR AND SHALL BE CAPABLE OF PUMPING 16.4 GALLONS PER MINUTE (GPM) AGAINST A TOTAL DYNAMIC HEAD (TDH) OF 35.2 FEET.

ENGINEER SPECIFIED PUMP: MYERS WHRH5 OR EQUIVALENT.

PUMP SIZE AND SPECIFICATIONS ARE BASED UPON THE PROPOSED DOSING CHAMBERS' ELEVATIONS AND LOCATION SHOWN HEREON. ANY ALTERATIONS SHALL BE APPROVED BY THE DESIGN ENGINEER.

CONTROLS: PUMP AND ALARM SHALL BE ACTIVATED BY MERCURY FLOAT SWITCHES AS SHOWN. FLOAT SWITCHES SHALL BE OF THE MERCURY TUBE TYPE SEALED IN POLYURETHANE. 3 FLOATS ARE REQUIRED. FLOATS AND PUMP POWER CABLES ARE TO BE SUSPENDED FROM AND TIED TO A 1/2" DIAMETER, STEEL REBAR WITH HOSE CLAMPS. THE REBAR SHALL BE SECURELY AND PERMANENTLY ANCHORED TO THE SIDES AND/OR WALL OF THE CHAMBER. THERE SHALL BE NO WIRE SPLICES WITHIN THE PUMP CHAMBER, UNLESS SEALED IN A WATER AND GAS-TIGHT (NEMA-4X) JUNCTION BOX.

THE DIMENSIONAL SETTINGS OF THE FLOATS (SEE PUMP CHAMBER DETAIL ON THIS SHEET) ARE THE ELEVATIONS AT WHICH THE FLOATS ARE TO ACTIVATE/INACTIVATE THE PUMP AND/OR ALARM. THE FLOAT LEVEL CONTROLS SHALL BE SET TO OPERATE AT THE ELEVATIONS INDICATED, THESE ELEVATIONS SHALL BE ADJUSTED BY THE INSTALLER TO ENSURE FUNCTION ACCORDING TO THESE SPECIFIC ELEVATIONS.

THE CONTROL PANEL SHALL BE HOUSED IN A NEMA-1 CONTROL BOX SUITABLE FOR USE WITH ALL OF THE COMPONENTS MANUFACTURER'S STANDARDS FOR THE EQUIPMENT USED AND SHALL HAVE AN AUDIO AND VISUAL ALARM WITH MANUAL SILENCER. THE CONTROL PANEL SHALL BE INSTALLED IN A SUITABLE LOCATION INSIDE OF THE BUILDING. ALARM TO BE ON A SEPARATE CIRCUIT FROM THE PUMP. ALL ELECTRICAL WORK SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL BUILDING CODE.

CONTROL PANELS: A DUPLEX CONTROL PANEL SHALL BE EQUIPPED WITH A RUN LIGHT FOR EACH OF THE PUMPS AND HAVE PROPERLY SIZED CIRCUIT BREAKERS, A TRANSFORMER TO GIVE PROPER VOLTAGE TO THE CONTROL CIRCUITS, AND TWO (2) THREE WAY HAND CONTROL SWITCHES (ONE FOR EACH PUMP). THE SWITCH POSITIONS ARE AS FOLLOWS: 1. PUMP OFF, 2. AUTOMATIC PUMP ON, AND 3. MANUAL PUMP ON. THE CONTROL PANEL SHALL BE HOUSED IN A NEMA-1 CONTROL BOX FOR SUITABLE USE WITH ALL OF THE COMPONENTS MANUFACTURER'S STANDARDS FOR THE EQUIPMENT USED. THE CONTROL PANEL SHALL BE INSTALLED IN A SUITABLE LOCATION INSIDE OF THE BUILDING. ALL ELECTRICAL WORK SHALL CONFORM TO FEDERAL, STATE AND LOCAL BUILDING CODE REQUIREMENTS.

ALARM: A HIGH WATER ALARM SHALL BE SUPPLIED WITH BOTH AN AUDIBLE AND VISUAL ALARM WITH A SEPARATE POWER SUPPLY FROM THE TWO (2) 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 LIT UNTIL MANUALLY RESET.

PIPING: PIPING FROM PUMP TO 3' OUTSIDE TANK SHALL BE 2" SCHEDULE 40 (SDR-21) SOLVENT-WELDED PVC OR ABS. CHECK VALVE SHALL BE 2" BALL-TYPE WITH 2 HOSE CLAMP CONNECTIONS AT EACH SIDE OF THE JOINT. RISER CLAMPS WITH PVC INSERTS ARE REQUIRED AT PUMP CHAMBER. ALL PIPING SHALL BE SHIELDED FROM ANY ABRASION (INCLUDING FORCE MAIN).

FORCE MAIN: FORCE MAIN SHALL HAVE 4' MINIMUM COVER EXCEPT WITHIN 5' OF THE CHAMBER AND MANIFOLD WHICH SHALL BE INSULATED WITH 2" RIGID PRE-MOLDED POLYSTYRENE INSULATION. FORCE MAIN SHALL BE 2" SDR-21 PVC TIGHT JOINT PIPE. JOINTS SHALL BE SOLVENT-WELDED. TRANSITION BETWEEN DOSING CHAMBER PIPING AND FORCE MAIN SHALL BE WITH A 2" PVC UNION SOCKET. ALL PIPES SHALL BE SET IN 6" OF SAND AND BE SNAKED TO ALLOW FOR CONTRACTION AND BE LAID TO PROVIDE A DOWNWARD GRADIENT FROM THE MANIFOLD TO THE CHAMBER. FORCE MAIN AND ALL JUNCTIONS SHALL BE WATER AND PRESSURE TIGHT WITH NO LEAKAGE ALLOWED.

A PORTION OR ALL OF THE FORCE MAIN MAY BE PROPOSED TO BE INSTALLED ABOVE THE FROST LINE. THOSE PORTIONS, IN ACCORDANCE WITH TITLE 5 310 CMR 15.221(6) SHALL BE INSULATED ADEQUATELY OR BE MADE SELF DRAINING.

PRESSURE FILTER: A SIM/TECH STF-100 PRESSURE FILTER, OR APPROVED EQUAL, SHALL BE INSTALLED BETWEEN THE PUMP AND THE CHECK VALVE. SEE MANUFACTURER'S REQUIREMENTS FOR MORE INSTALLATION INFORMATION.

GEOMAT LEACHING SYSTEM
GeoMAt LEACHING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MASSACHUSETTS GEOMAT LEACHING SYSTEM DESIGN MANUAL FOR PRESSURE AND GRAVITY APPLICATIONS, DATED SEPTEMBER 2017. GEOMAT IS A PRODUCT OF GEOMATRIX, 114 MILL ROCK ROAD EAST, OLD SAYBROOK, CT 06475 (860) 510-0730, WWW.GEOMATRIXSYSTEMS.COM.

ALL LOAM, LARGE BOULDERS OR FOREIGN MATERIAL ENCOUNTERED DURING EXCAVATION ARE TO BE REMOVED FROM THE LEACHING AREA.

AVOID WORKING SOILS THAT ARE MOIST OR WET BECAUSE THEY CAN EASILY SMEAR AND COMPACT.

PROPERLY SCARIFY THE DRAIN FIELD BASE BEFORE INSTALLING COMPONENTS.

A MINIMUM OF SIX (6) INCHES OF SAND MEETING THE REQUIREMENTS OF 310 CMR 15.255(3) MUST BE PLACED BENEATH THE GeoMat AND TWO (2) INCHES OF THIS SPECIFICATION OF SAND SHOULD BE PLACED OVER THE GeoMat FABRIC MEMBRANE.

COVER DEPTH SHALL MAINTAIN A MINIMUM OF SIX (6) INCHES ABOVE THE GeoMat DISTRIBUTION PIPE. USE CLEAN SANDY FILL AND TOPSOIL SUITABLE FOR GROWING GRASS.

GeoMat SHALL BE LAID FLAT (LEVEL).

A MINIMUM OF TWELVE (12) INCHES OF SAND SHOULD SURROUND THE PERIMETER OF THE GeoMat IN A BED CONFIGURATION. IF THE COVER MATERIAL OVER THE GeoMat IS ABOVE THE ORIGINAL GRADE, IT SHALL SLOPE AT A 2% PITCH AWAY FROM THE GeoMat SYSTEM AND FROM A POINT TWO (2) FEET PAST THE GeoMat, PROVIDE A 3:1 SLOPE TO ORIGINAL GRADE, IN ACCORDANCE WITH 310 CMR 255(2).

MAXIMUM DEPTH OF COVER OVER LEACHING SYSTEM IS 24 INCHES.

GeoMat MAY BE INSTALLED DIRECTLY ATOP CLASS I NATIVE SOILS. GeoMat IN CLASS II, III, AND IV SOILS REQUIRE A MINIMUM OF TWO (2) INCHES OF SAND MEETING THE REQUIREMENTS OF 310 CMR 15.255(3) BENEATH, TO THE SIDES, AND ABOVE THE GeoMat.

SYSTEMS ARE NOT TO BE INSTALLED BENEATH PAVED SURFACES OR IN AREAS OF ROUTINE TRAFFIC, PARKING OR STORAGE OF HEAVY EQUIPMENT.

SOIL EXCAVATION AND/OR PLANTING WITHIN FIVE (5) FEET OF THE SYSTEM ARE NOT PERMITTED.

AN INSPECTION PORT MEETING THE REQUIREMENTS OF 310 CMR 15.240(13) IS REQUIRED FOR SYSTEMS INSTALLED WITH SIX INCHES OF SAND BENEATH THE GeoMat.

GENERAL NOTES
SYSTEM IS DESIGNED TO ACCOMMODATE SANITARY SEWAGE ASSOCIATED WITH NORMAL DOMESTIC USE AND CONSISTING OF WATER CARRIED PUTRESIBLE WASTE ONLY.

ALL COMPONENTS OF THE SEWAGE DISPOSAL SYSTEM, EXCEPT THE GeoMat LEACHING SYSTEM, SHALL BE COVERED BY A MAXIMUM OF 36" OF CLEAN BACKFILL MATERIAL, FREE OF STONES AND BOULDERS GREATER THAN 6" IN SIZE. THE MAXIMUM COVER OVER THE GeoMat IS 24".

ALL COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.

OWNER SHALL VERIFY EFFECTIVE ZONING REGULATIONS PRIOR TO CONSTRUCTION.

PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON DATE OF TOPOGRAPHY, AND THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. IS NOT INTENDED OR IMPLIED.

ALL PIPING SHALL BE LAID TRUE TO LINE, GRADE AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

THERE ARE NO EXISTING WELLS WITHIN 100' OF THE PROPOSED SEWAGE DISPOSAL SYSTEM. (50' OF THE SEPTIC TANK.) THERE ARE NO EXISTING SEWAGE DISPOSAL SYSTEMS WITHIN N/A OF THE PROPOSED WELLS.

ALL KNOWN WELLS WITHIN 200' OF THE PROPOSED PRIMARY AND EXPANSION LEACH AREAS ARE SHOWN.

THE DESIGN ENGINEER SHALL BE NOTIFIED PROMPTLY OF ANY PLAN DEFICIENCIES FOUND DUE TO UNFORESEEN SUBSURFACE CONDITIONS OR OTHER REASONS THAT MIGHT AFFECT THE FUNCTION OF THIS DESIGNED SYSTEM.

DEVIATIONS IN DESIGN OR CONSTRUCTION FROM THIS PLAN OR ANY OF THE CONDITIONS RELATING TO THE USE OR MAINTENANCE OF THE PROPOSED SYSTEM SHALL BE DEEMED TO VOID ANY CERTIFICATION OR REPRESENTATION MADE RELATIVE TO THIS SUBSURFACE SEWAGE DISPOSAL SYSTEM.

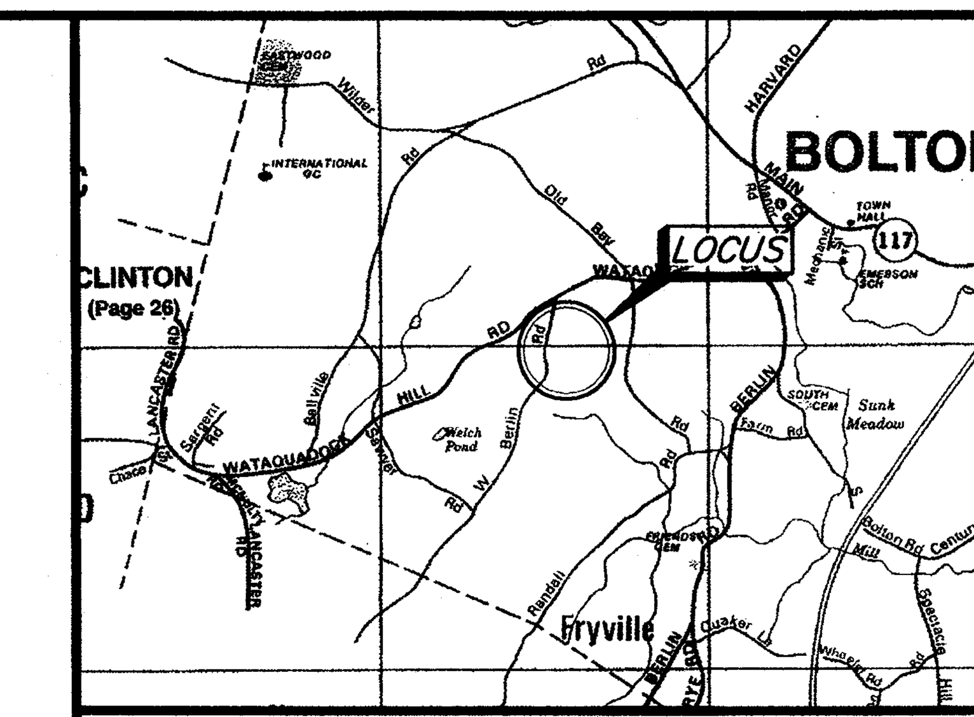
CONTRACTOR SHALL NOTIFY "DIG SAFE" PRIOR TO ANY EXCAVATION. 1-888-DIG-SAFE (344-7233)

PRIOR TO ANY CONSTRUCTION A BENCHMARK SHALL BE SET WITHIN 50-75' OF THE PROPOSED SEWAGE DISPOSAL SYSTEM.

SYSTEM IN FILL ☐ REQUIRED ☒ NOT REQUIRED
IF ANY PORTION OF THE PROPOSED LEACHING AREA IS LOCATED ABOVE EXISTING GRADE OR WITHIN TOPSOIL, PEAT OR OTHER UNSUITABLE OR IMPERVIOUS SOIL LAYER, THEN THE PLACEMENT OF FILL IS REQUIRED. PRIOR TO THE PLACEMENT OF FILL, ALL UNSUITABLE OR IMPERMEABLE SOILS SHALL BE EXCAVATED TO A MINIMUM OF FIVE FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE SOIL ABSORPTION SYSTEM TO THE DEPTH OF NATURALLY OCCURRING PERVIOUS MATERIAL. FILL MATERIAL SHALL BE SELECT, ON-SITE OR IMPORTED SOIL, CONSISTING OF CLEAN GRANULAR SAND, FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES. MIXTURES AND LAYERS OF DIFFERENT SOIL CLASSES SHALL NOT BE USED. THE FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 2 INCHES. A SIEVE ANALYSIS USING A #4 SIEVE, SHALL BE PERFORMED ON A REPRESENTATIVE SAMPLE OF THE FILL. UP TO 45% BY WEIGHT OF THE FILL SAMPLE MAY BE RETAINED IN THE #4 SIEVE. SIEVE ANALYSES SHALL ALSO BE PERFORMED ON THE FRACTION OF FILL SAMPLE PASSING THE #4 SIEVE. SUCH ANALYSES MUST DEMONSTRATE THAT THE MATERIAL MEETS EACH OF THE FOLLOWING SPECIFICATIONS:

SIEVE SIZE	EFFECTIVE PARTICLE SIZE	% THAT MUST PASS SIEVE
# 4	4.75 MM	100%
# 50	0.30 MM	10%-100%
#100	0.15 MM	0%-20%
#200	0.075 MM	0%-5%

WETLAND PROTECTION ACT (C131 S40)
PRIOR TO INITIATING ANY ALTERATIONS (REMOVAL OF VEGETATION, EXCAVATIONS, GRADING, ETC.) WITHIN 100' OF WETLANDS (PONDS, BROOKS, SWAMPS, ETC.) OR WITHIN 200' OF AN AREA SUBJECT TO THE RIVER'S ACT (PERENNIALLY FLOWING RIVER, BROOK OR STREAM), A REQUEST FOR DETERMINATION OF APPLICABILITY OR A NOTICE OF INTENT UNDER THE WETLANDS PROTECTION ACT (310 CMR 10.00) SHOULD BE FILED WITH THE TOWN'S CONSERVATION COMMISSION. LOCAL BYLAWS MAY ALSO APPLY.



LOCUS MAP
NOT TO SCALE

NOTES:

THE EXISTING CONDITIONS AND SURVEY WAS COMPLETED BY DAVID E. ROSS ASSOCIATES, INC. IN OCTOBER OF 2022 AND APRIL OF 2023.

WETLAND DELINEATION PERFORMED BY DAVID E. ROSS ASSOCIATES, INC. IN APRIL OF 2023.

GARBAGE DISPOSALS AND WATER SOFTENERS SHALL NOT BE USED WITH THE GeoMAT LEACHING SYSTEM.

GeoMAT LEACHING SYSTEM DESIGNED IN ACCORDANCE WITH REMEDIAL USE APPROVAL ISSUED TO GEOMATRIX SYSTEMS, LLC, OCTOBER 26, 2016, LAST MODIFICATION JUNE 26, 2019, TRANSMITTAL #X267826, AND THE STANDARD CONDITIONS FOR ALTERNATIVE SOIL ABSORPTION SYSTEMS, DATED MARCH 5, 2018.

CONTRACTOR TO VERIFY EXISTING SEWER INVERT ELEVATION AT COTTAGE FOUNDATION AND PROPOSED CONNECTION PRIOR TO PLACEMENT OF THE SEPTIC TANK AND REPORT ANY DISCREPANCIES TO DESIGN ENGINEER.

EXISTING SEPTIC TANK AND LEACHING PIT FOR THE MAIN HOUSE IS TO BE PUMPED OUT AND REMOVED OR PUNCTURED AND BACKFILLED WITH CLEAN GRAVEL FILL.

THE EXISTING CESSPOOL FOR THE COTTAGE, SHALL BE PUMPED OUT AND BACKFILLED WITH CLEAN GRAVEL FILL.

AN EFFLUENT FILTER IS REQUIRED IN THE SEPTIC TANK (ST-1 & ST-2) OUTLET TEES. THE FILTER SHOULD BE MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

OWNER IS RESPONSIBLE FOR ANY UTILITIES THAT NEED TO BE REPLACED, RELOCATED OR INSTALLED.

A CONVENTIONAL LEACH SYSTEM CONSISTING OF FOUR (4) LEACHING TRENCHES (58'L x 2'W x 24"D) COULD BE SITED WITHIN THE FOOTPRINT OF THE PROPOSED GeomAT SYSTEM LEACH AREA. SEE PLAN I-14690-CONV FOR DETAILS.

THE AREA SHOWN ON THIS PLAN TO BE UTILIZED FOR A SUBSURFACE SEWAGE DISPOSAL SYSTEM IS NOT WITHIN 500 FEET OF ANY ZONE I, ZONE II, IWPA FOR A PUBLIC WATER SUPPLY, 100 YEAR FLOOD PLAIN, SURFACE WATER SUPPLIES, OR ANY TRIBUTARY TO A SURFACE WATER SUPPLY OR ANY POTENTIALLY PRODUCTIVE AQUIFERS DELINEATED BY THE USGS AS A HIGH OR MEDIUM YIELD AQUIFER.

LOCAL UPGRADE APPROVAL REQUIRED:
15.405(1)(J) - REDUCTION OF THE REQUIRED SEPARATION BETWEEN THE INLET AND OUTLET TEES (ST-2 & PC-1) AND THE HIGH GROUNDWATER TABLE. ALL BOOTS OR PIPE JOINTS ARE TO BE SEALED WITH HYDRAULIC CEMENT OR INSTALLED WITH WATERTIGHT SLEEVES AND THE TANK PROVEN WATERTIGHT. EXPANDABLE FOAM SPRAY IS NOT AN ACCEPTABLE ALTERNATIVE FOR SEALING PIPE JOINTS.

20 0 10 20 40 60
GRAPHIC SCALE IN FEET

SURV.: GSN/SPM	CALC.: KRC	DRAFT: BJD
NB: 782-21, 836-12	DEED: 68083/74	CHECK: DBW

REVISIONS

COMMONWEALTH OF MASSACHUSETTS DANIEL B. WOLFE CIVIL No. 36523 REGISTERED PROFESSIONAL ENGINEER
8-15-23

SHEET TITLE: SEWAGE DISPOSAL SYSTEM

DESIGNED FOR: STEPHEN DALY

ADDRESS: 22 WEST BERLIN ROAD BOLTON, MA

LOT NO.:	ASSESSOR MAP:	ASSESSOR PARCEL:
1	4B	PORTION OF PARCEL 4

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SCALE: 1"=20'	DATE: AUGUST, 2023
REF.: 31259	PLAN NO.: L-14690
JOB NO.: 34215	SHEET NO.: 1 of 2