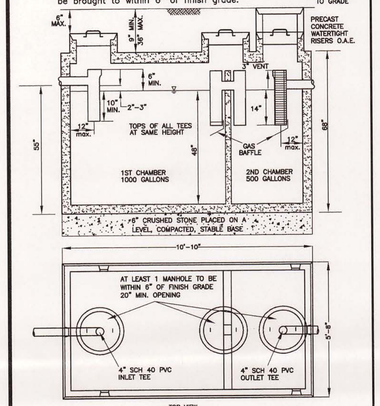
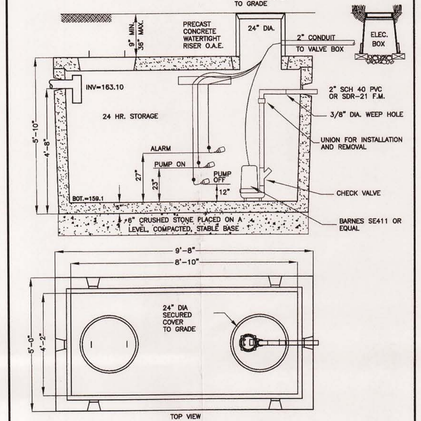


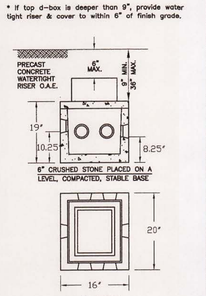
MONOLITHIC
2-COMPARTMENT PRECAST CONCRETE
SEPTIC TANK - 1500 GALLONS

-TANK TO HAVE MANUFACTURERS Q/C SEAL
-WATERTIGHT CONSTRUCTION
-REQUIRED INLET & OUTLET TEES 6" FLOW LINE
-ALL PIPING TO BE 4" SCH 40 PVC
-PROVIDE ZABEL A1800 EFFLUENT FILTER



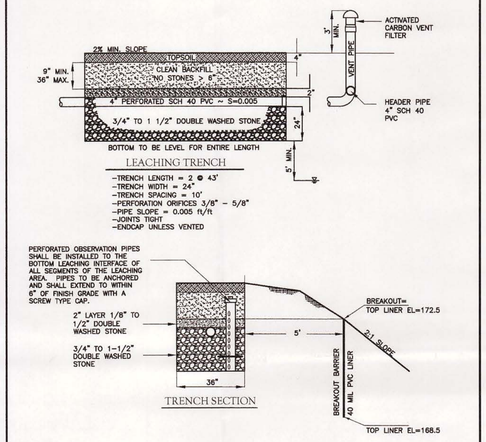
PUMP CHAMBER - MONOLITHIC
1000 GAL ON
SIMPLEX PUMPPACKAGE

-TANK TO HAVE MANUFACTURERS Q/C SEAL
-WATERTIGHT CONSTRUCTION

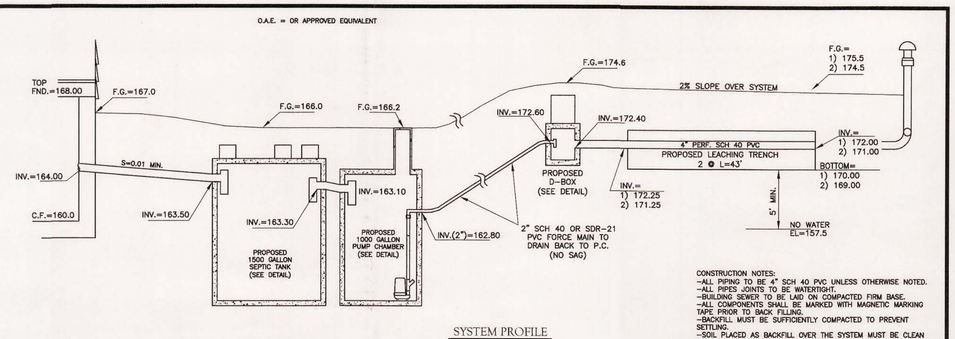


PLAN VIEW
PRECAST CONCRETE
5 OUTLET
DISTRIBUTION BOX

LAMARRE CONC. PRODUCTS, INC. MEDIUM SIZE D-BOX OR APPROVED EQUIVALENT
-WATERTIGHT COVER REQUIRED
-PROVIDE ONE OUTLET FOR EACH EFFLUENT DISTRIBUTION LINE
-OUTLET DISTRIBUTION LINES SHALL BE LEVEL FOR AT LEAST THE FIRST TWO FEET
-INVERT ELEVATIONS OF OUTLET LINES SHALL BE EQUAL
-AN INLET TEE MAY BE INSTALLED IN PLACE OF A BAFFLE (IF NEEDED)



O.A.E. = OR APPROVED EQUIVALENT



SYSTEM PROFILE
~N.T.S.~

CONSTRUCTION NOTES:
-ALL PIPING TO BE 4" SCH 40 PVC UNLESS OTHERWISE NOTED.
-ALL PIPES JOINTS TO BE WATERTIGHT.
-BUILDING SEWER TO BE LAID ON COMPACTED FIRM BASE.
-ALL COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE PRIOR TO BACK FILLING.
-BACKFILL MUST BE SUFFICIENTLY COMPACTED TO PREVENT SETTLING.
-SOIL PLACED AS BACKFILL OVER THE SYSTEM MUST BE CLEAN AND FREE OF STONES >6". TALUNGS, CLAY OR SIMILAR MATERIALS ARE PROHIBITED.
-FINAL COVER OVER THE SYSTEM SHALL BE STABILIZED (LOAMED & SEEDED)

1) Town of Medfield Variances:
Section 1. Plans: Request waiver to include the provision for the garbage grinder. Deed recording that no garbage disposal shall be installed or used in the dwelling on the property.

2) Deed Restrictions Required:
Deed recording that no garbage disposal shall be installed or used in the dwelling on the property.

PERCOLATION TEST RESULTS

TEST HOLE	DATE	DEPTH	RATE
22-1	8/23/22	44-62"	>2.0 M.P.I.
22-2	8/23/22	34-52'	>2.0 M.P.I.

DEEP OBSERVATION HOLE LOGS

DEEP HOLE - 22-1

HORIZ DEPTH	DATE: 8/23/22 SOIL DESCRIPTION	ELEV. 168.5
0"	A	
10"	SANDY LOAM 10YR3/2	
32"	Bw SANDY LOAM 10YR5/6	165.8
132"	C SAND Med-Coarse 20% Gravel Loose 2.5Y5/4	157.5
None	GROUNDWATER OBSERVED	157.5
None	SOIL MOTTLING	
	GROUNDWATER MONITORED	
	ESTIMATED SEASONAL HIGH GROUNDWATER	

DEEP HOLE - 22-2

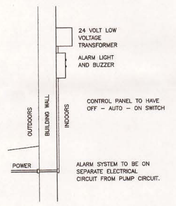
HORIZ DEPTH	DATE: 8/23/22 SOIL DESCRIPTION	ELEV. 174.8
0"	A	
10"	SANDY LOAM 10YR3/2	
32"	Bw SANDY LOAM 10YR5/6	172.1
120"	C SAND Med-Coarse 20% Gravel Loose 2.5Y5/4	164.8
None	GROUNDWATER OBSERVED	
None	SOIL MOTTLING	
	GROUNDWATER MONITORED	
	ESTIMATED SEASONAL HIGH GROUNDWATER	

APPROVED
Medfield Board of Health
Date: 9/26/22
Agent: BSW

CERTIFIED SOIL EVALUATOR : CHRIS GABORIAULT
WITNESSED BY B.O.H. AGENT : BRIDGET SWEET
DESIGN PERCOLATION RATE : 2.0 M.P.I.

SOIL CLASSIFICATION: CLASS I

PUMP SYSTEM NOTES:
1. PROVIDE BARNES PUMP, SERIES SE411 OR EQUAL.
2. PROVIDE 1000 GALLON PRECAST PUMP CHAMBER.
3. PUMP CHAMBER SHALL BE WATERTIGHT CONSTRUCTION AND HAVE MANUFACTURERS QUALITY CONTROL SEAL.
4. THE CONTROL PANEL INSIDE THE DWELLING SHALL INCLUDE A MANUAL ON-OFF, AUTOMATIC ON-OFF SWITCH, VISUAL ALARM, AUDIBLE ALARM, AND AUDIBLE ALARM SILENCER SWITCH. THERE SHALL BE A MINIMUM OF THREE SWITCHES IN THE PUMP CHAMBER.
5. THE INSTALLER SHALL PROVIDE A WEEP HOLE IN THE FORCE MAIN APPROMATELY 3/8" DIAMETER INSIDE THE PUMP CHAMBER TO ALLOW THE LINE TO DRAIN UPON COMPLETION OF THE PUMP CYCLE.
6. THE ALARM SHALL BE CONNECTED TO A SEPERATE ELECTRICAL CIRCUIT FROM THE PUMP, ALSO THE PUMP ELECTRICAL EQUIPMENT SHALL BE EQUIPPED WITH A TRANSFER SWITCH TO ALLOW CONNECTION TO A PORTABLE GENERATOR.
7. THE PUMPS SHALL BE LOCATED AS CLOSE TO THE ACCESS MANHOLE OF THE PUMP CHAMBER AS POSSIBLE.
8. THE ACCESS MANHOLE SHALL BE CONSTRUCTED TO FINISH GRADE WITH A SECURE COVER OF HEAVY WEIGHT OR LOCKABLE TO PREVENT UNAUTHORIZED ACCESS.
9. PRIOR TO INSPECTION OF THE PUMP SYSTEM, THE DESIGNER SHALL CONDUCT A FLOW RATE TEST FOR THE PUMPS AND CERTIFY SUCH IN WRITING TO THE BOARD OF HEALTH.



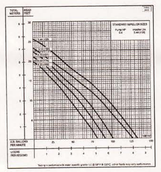
PUMP ALARM DIAGRAM

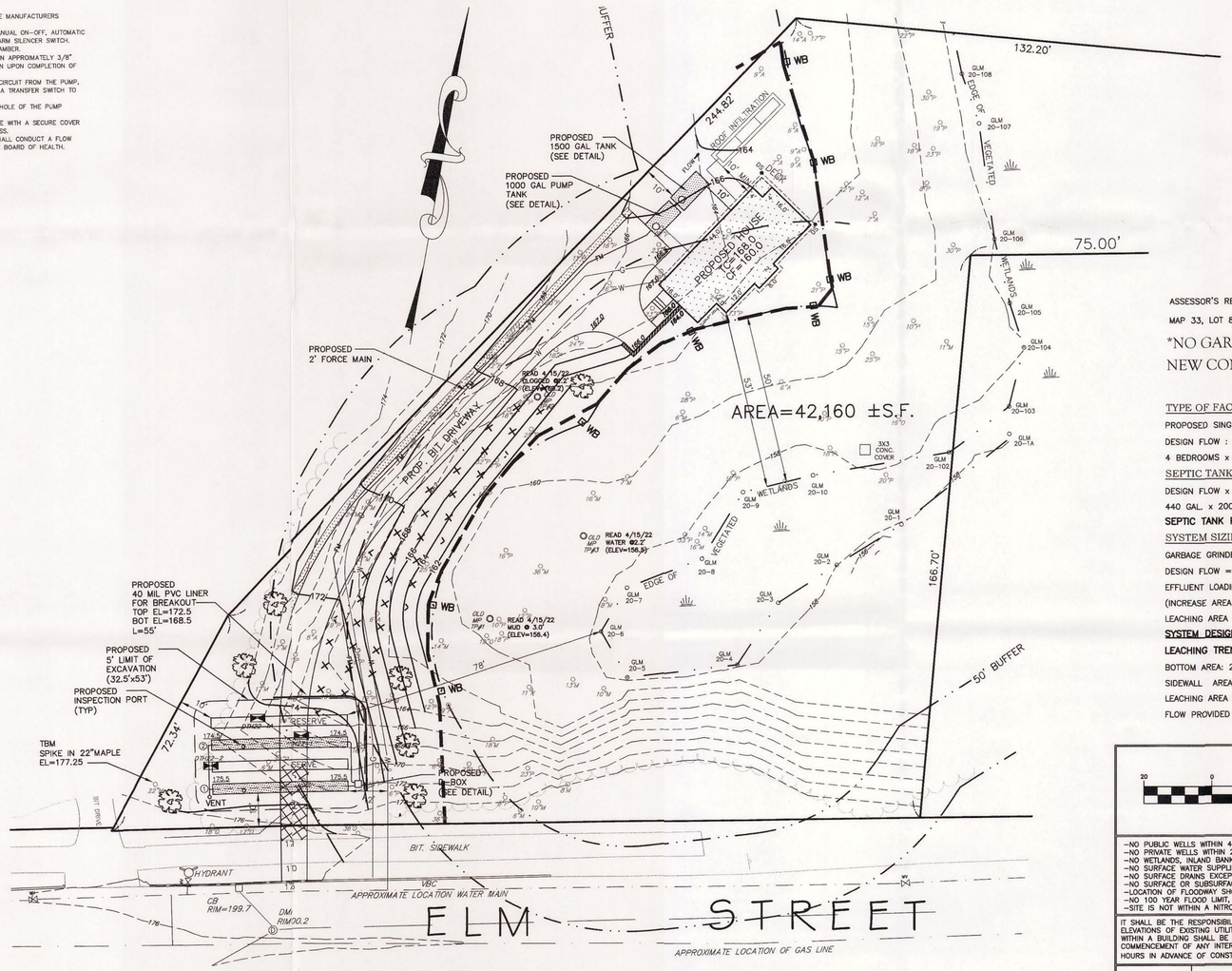
PUMP DOSAGE
CLASS I SOIL - 4 DOSES/DAY
440 GAL./4 = 110 GAL/DOSE = 14.7 C.F.
14.7/(8.8'x4.2') = 0.4' = 5"

2"PIPE DRAIN TO TANK VOLUME=
0.09 CF/FT x 202 FT = 18 C.F.
18/(8.8'x4.2') = .5' = 6"

TOTAL: 5" + 6" = 11"

PUMP TO PROVIDE FOR 40 GPM & A TOTAL HEAD OF 22 FEET.





ASSESSOR'S REFERENCE:
MAP 33, LOT 87

*NO GARBAGE GRINDER ALLOWED
NEW CONSTRUCTION

TYPE OF FACILITY SERVED
PROPOSED SINGLE FAMILY DWELLING - 3 BEDROOMS
DESIGN FLOW : (4 BED MIN PER BOH REGULATIONS)
4 BEDROOMS x 110 GAL./DAY/BEDROOM = **440 G.P.D.**

SEPTIC TANK SIZING:
DESIGN FLOW x 200%
440 GAL. x 200% = 880 GALLONS
SEPTIC TANK PROPOSED: 1500 GALLON 2-COMPARTMENT

SYSTEM SIZING CALCULATIONS:
GARBAGE GRINDER: NO
DESIGN FLOW = 440 GPD
EFFLUENT LOADING RATE = 0.74 GPD/SF
(INCREASE AREA BY 50% IF GARBAGE GRINDER)
LEACHING AREA REQUIRED = 440 GPD/0.74 GPD/SF = **594 SF**

SYSTEM DESIGN
LEACHING TRENCHES - 2 @ 43'L x 36"W x 24"H
BOTTOM AREA: 2 x 43'L x 3'W = 258 S.F.
SIDEWALL AREA: 4 x 43'L x 2'H = 344 S.F.
LEACHING AREA PROVIDED = **602 S.F.**
FLOW PROVIDED = 602 S.F. x 0.74 GAL./S.F. = **446 G.P.D.**

RECEIVED
SEP - 8 2022
MEDFIELD BOARD OF HEALTH

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

-NO PUBLIC WELLS WITHIN 400 FEET EXCEPT AS SHOWN.
-NO PRIVATE WELLS WITHIN 200 FEET EXCEPT AS SHOWN.
-NO WETLANDS, INLAND BANKS, OR SURFACE WATERS WITHIN 150 FEET EXCEPT AS SHOWN.
-NO SURFACE WATER SUPPLIES WITHIN 400 FEET EXCEPT AS SHOWN.
-NO SURFACE DRAINS EXCEPT AS SHOWN.
-NO SURFACE OR SUBSURFACE DRAINS WHICH INTERCEPT GROUND WATER EXCEPT AS SHOWN.
-LOCATION OF FLOODWAY SHOWN IF ANY.
-NO 100 YEAR FLOOD LIMIT, EXCEPT IF SHOWN.
-SITE IS NOT WITHIN A NITROGEN SENSITIVE AREA.

IT SHALL BE THE RESPONSIBILITY OF THE APPLICANT AND OR CONTRACTOR TO VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. ALL UTILITIES WITHIN A BUILDING SHALL BE REVIEWED BY THE APPROPRIATE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY INTERIOR OR EXTERIOR WORK. DIG SAFE IS TO BE NOTIFIED 72 BUSINESS HOURS IN ADVANCE OF CONSTRUCTION (1-888-344-7233)

ZONE	MIN. FRONTYARD	MIN. SIDEYARD	MIN. REARYARD

COMMONWEALTH OF MASSACHUSETTS
JOYCE E. HASTINGS
No. 39393
REGISTERED PROFESSIONAL ENGINEER
9/6/22

COMMONWEALTH OF MASSACHUSETTS
ROBERT S. TRUAX
CIVIL
NO. 56567
REGISTERED PROFESSIONAL ENGINEER
9/6/22
PROFESSIONAL CIVIL ENGINEER

Soil Evaluator Certification: I certify that I am currently approved by the D.E.P. pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation are accurate and in accordance with 310 CMR 15.100 through 15.107.
C.S.E. #3949

GENERAL CONSTRUCTION NOTES:
1. THE DETAILS SHOWN ARE GENERAL IN NATURE AND ARE NOT INTENDED TO SHOW EVERY POSSIBLE INSTALLATION REQUIREMENT. THE CONTRACTOR SHALL BE KNOWLEDGABLE IN THE REFERENCED CODES, INSTALLATION REQUIREMENTS AND PROVIDE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO INSTALL A FUNCTIONAL SYSTEM.
2. COMPONENTS SHALL NOT TO BE BACKFILLED OR CONCEALED WITHOUT INSPECTION BY AND PERMISSION FROM BOARD OF HEALTH.
3. IT IS THE REPONSIBILITY OF THE APPLICANT TO OBTAIN THE SERVICES OF THE DESIGN ENGINEER TO PROVIDE PROPER INSPECTIONS FOR CERTIFICATIONS AND AS-BUILT PLANS.
4. INSTALLER REQUIRED TO PROVIDE PROPER CERTIFICATION.
5. LEACHING AREA TO BE FLAGGED FOR PROTECTION UNTIL CERTIFICATE OF COMPLIANCE IS OBTAINED.
6. NO STOCKPILING OF MATERIALS OVER SYSTEM.
7. NO TRAFFIC OR PARKING OVER SYSTEM.
8. BOTTOM AND SIDES OF EXCAVATION AREA SHALL BE SCARIFIED.
9. PLACEMENT OF FILL SHALL BE DONE BY STOCKPILING AT THE EDGE OF THE EXCAVATION AREA AND PUSHED OR CAST IN PLACE.
10. FILL SHALL NOT BE PLACED IN THE EXCAVATION AREA DURING RAIN OR SNOW STORM.
11. IF ANY FILL IS TO BE PLACED BELOW THE WATER TABLE, DEWATERING IS REQUIRED PRIOR TO PLACEMENT.

TO ENSURE THE PERFORMANCE OF THE SYSTEM, MAINTENANCE SHOULD BE PERFORMED ANNUALLY BY A LICENSED SEWAGE PUMPING CONTRACTOR.

GLM ENGINEERING CONSULTANTS, INC. WILL NOT BE RESPONSIBLE FOR THE PERFORMANCE OF THIS SYSTEM UNLESS CONSTRUCTED AND INSPECTED IN ACCORDANCE WITH THIS PLAN. INSPECTIONS TO BE DONE AFTER EXCAVATION FOR SYSTEM AND AFTER CONSTRUCTION, BUT PRIOR TO BACKFILLING. ANY ALTERATION MUST BE APPROVED IN WRITING BY GLM ENGINEERING CONSULTANTS, INC.

5' LIMIT OF EXCAVATION (32.5' x 53')
ALL TOPSOIL, SUBSOIL AND ANY DELETERIOUS MATERIAL MUST BE REMOVED FROM THE AREA OF THE SYSTEM AND OTHER DESIGNATED LIMITS AND FILLED WITH APPROVED, CLEAN, GRANULAR SAND. THE FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 2 INCHES AND BE GRADED SO NOT MORE THAN 45% OF THE SAMPLE IS RETAINED IN A #4 SIEVE, OF THAT PASSING, 20% OR LESS SHALL PASS A #100 SIEVE AND 5% OR LESS SHALL PASS THE #200 SIEVE. NOT MORE THAN 90% SHALL BE RETAINED ON THE #50 SIEVE. SAMPLE FOR SIEVE ANALYSIS TO BE TAKEN FROM SAMPLE IN PLACE.

ALL CONSTRUCTION & COMPONENTS SHALL CONFORM TO THE LATEST REQUIREMENTS OF 310 CMR 15.000 TITLE 5 OF THE STATE ENVIRONMENTAL CODE AND THE TOWN OF MEDFIELD BOARD OF HEALTH REGULATIONS.

BENCH MARK
(DATUM = ASSUMED)
TBM SPIKE SET IN 18"MAPLE; ELEV=177.25

PROPOSED SEWAGE DISPOSAL SYSTEM
PARCEL 33-087 ELM STREET
MEDFIELD, MASSACHUSETTS

APPLICANT/OWNER:
SCOTT COLWELL
224 DEDHAM STREET
NORFOLK, MASSACHUSETTS

GLM Engineering Consultants, Inc.
19 EXCHANGE STREET
HOLLISTON, MA 01746
P: 508-429-1100
F: 508-429-7160
www.GLMengineering.com

DATE: SEPT. 6, 2022
REVISED:

DES: RST | SCALE: 1" = 20' | JOB #16,129 | SHEET #1 of 1

PARCEL 33-087 ELM STREET

Do not remove from BOH file