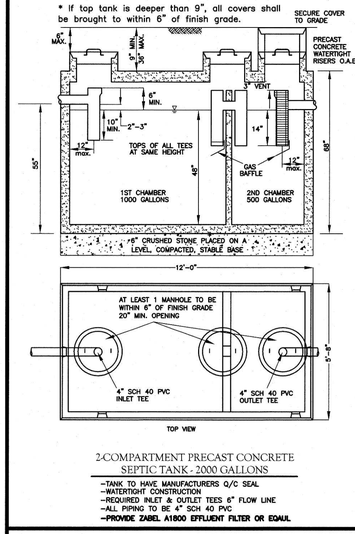
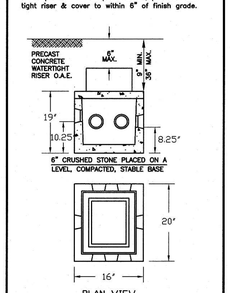


2-COMPARTMENT PRECAST CONCRETE SEPTIC TANK - 2000 GALLONS

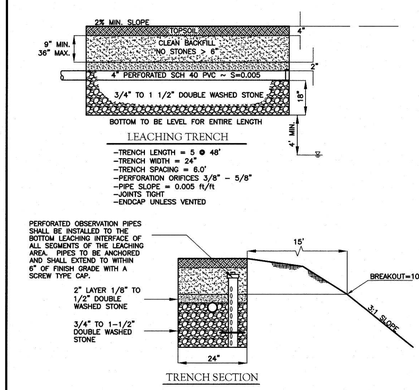
- -TANK TO HAVE MANUFACTURERS Q/C SEAL
- -WATERTIGHT CONSTRUCTION
- -REQUIRED INLET & OUTLET TEES 6" FLOW LINE
- -ALL PIPING TO BE 4" SCH 40 PVC
- **-PROVIDE ZABEL A1800 EFFLUENT FILTER OR EQUAL**

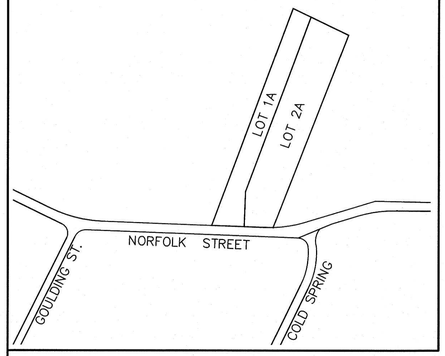


PRECAST CONCRETE 5 OUTLET DISTRIBUTION BOX

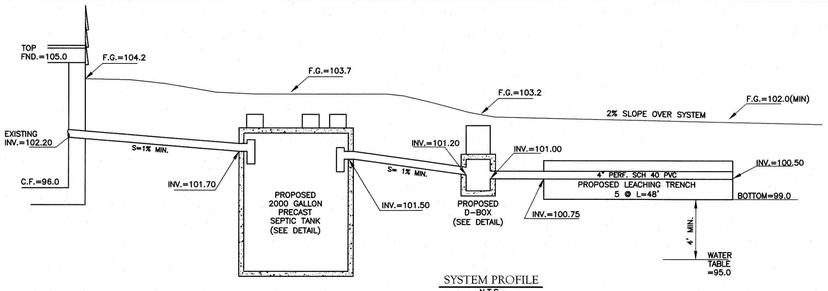
LAMARRE CONC. PRODUCTS, INC. MEDIUM SIZE D-BOX OR APPROVED EQUIVALENT

- -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)





LOCUS MAP
N.T.S.



SYSTEM PROFILE
~N.T.S.~

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", TAILINGS, CLAY OR SIMILAR MATERIALS ARE PROHIBITED.
- -FINAL COVER OVER THE SYSTEM SHALL BE STABILIZED (LOAMED & SEEDED)

PERCOLATION TEST RESULTS

TEST HOLE -22-2
DATE: 5/17/22
DEPTH: 41-59"

SOAK	1:51
12"	2:06
11"	2:17
10"	2:31
9"	2:45
8"	2:58
7"	3:12
6"	3:29
RATE: 15.0 M.P.I.	

DEEP OBSERVATION HOLE LOGS

DEEP HOLE - 22-2		
HORIZ DEPTH	DATE: 5/17/22 SOIL DESCRIPTION	ELEV.
REMOVE 0"	A	97.6
11"	SANDY LOAM 10YR3/2	96.7
26"	Bw SANDY LOAM 10YR5/6	95.5
54"	C1 SAND 2.5Y5/6	93.1
123"	C2 SANDY LOAM 20% Gravel 2.5Y6/2	87.3
54"	GROUNDWATER OBSERVED	93.1
34"	SOIL MOTTLING	94.8
	GROUNDWATER MONITORED	
34"	ESTIMATED SEASONAL HIGH GROUNDWATER	94.8

DEEP HOLE - 21-1		
HORIZ DEPTH	DATE: 4/15/21 SOIL DESCRIPTION	ELEV.
REMOVE 0"	A	97.7
8"	SANDY LOAM 10YR3/2	97.0
20"	Bw SANDY LOAM 10YR5/6	96.0
54"	C1 SAND 2.5Y5/4	93.4
132"	C2 SANDY LOAM Uncompacted 2.5Y6/2	86.7
53"	GROUNDWATER OBSERVED	93.4
32"	SOIL MOTTLING	95.0
	GROUNDWATER MONITORED	
32"	ESTIMATED SEASONAL HIGH GROUNDWATER	95.0

DEEP HOLE - 21-2		
HORIZ DEPTH	DATE: 4/15/21 SOIL DESCRIPTION	ELEV.
REMOVE 0"	A	97.2
10"	SANDY LOAM 10YR3/2	96.5
22"	Bw SANDY LOAM 10YR5/6	95.3
38"	C1 SAND 2.5Y5/4	94.0
128"	C2 SANDY LOAM Uncompacted 2.5Y6/2	86.5
45"	GROUNDWATER OBSERVED	93.5
44"	SOIL MOTTLING	93.5
	GROUNDWATER MONITORED	
44"	ESTIMATED SEASONAL HIGH GROUNDWATER	93.5

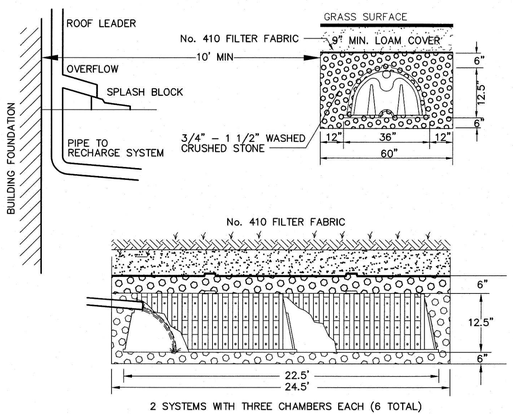
DEEP HOLE - 21-3		
HORIZ DEPTH	DATE: 4/15/21 SOIL DESCRIPTION	ELEV.
REMOVE 0"	A	97.7
10"	SANDY LOAM 10YR3/2	97.0
38"	Bw SANDY LOAM 10YR5/6	94.6
132"	C SANDY LOAM Uncompacted 2.5Y6/2	86.7
55"	GROUNDWATER OBSERVED	93.1
38"	SOIL MOTTLING	94.5
	GROUNDWATER MONITORED	
38"	ESTIMATED SEASONAL HIGH GROUNDWATER	94.5

CERTIFIED SOIL EVALUATOR : CHRIS GABORIAULT SOIL CLASSIFICATION: CLASS II
WITNESSED BY B.O.H. AGENT : SCOTT MOLES
DESIGN PERCOLATION RATE : 15 M.P.I.

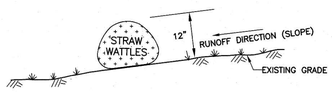
LEACHING STORAGE REQUIRED:
PROPOSED GARAGE ROOF IMPERVIOUS AREA = 2,400 sq.ft.
STORAGE CAPACITY REQUIRED: 1.0 inch rainfall x 1,380 s.f. = 200.0 cu. ft.

PROVIDED LEACHING CAPACITY:
CULTEC RECHARGER 100HD (6 UNITS)
CHAMBER STORAGE VOLUME = 86.52 cu.ft.
STONE STORAGE VOLUME = 169.56 cu.ft.
TOTAL STORAGE PROVIDED = 256.00 cu.ft.

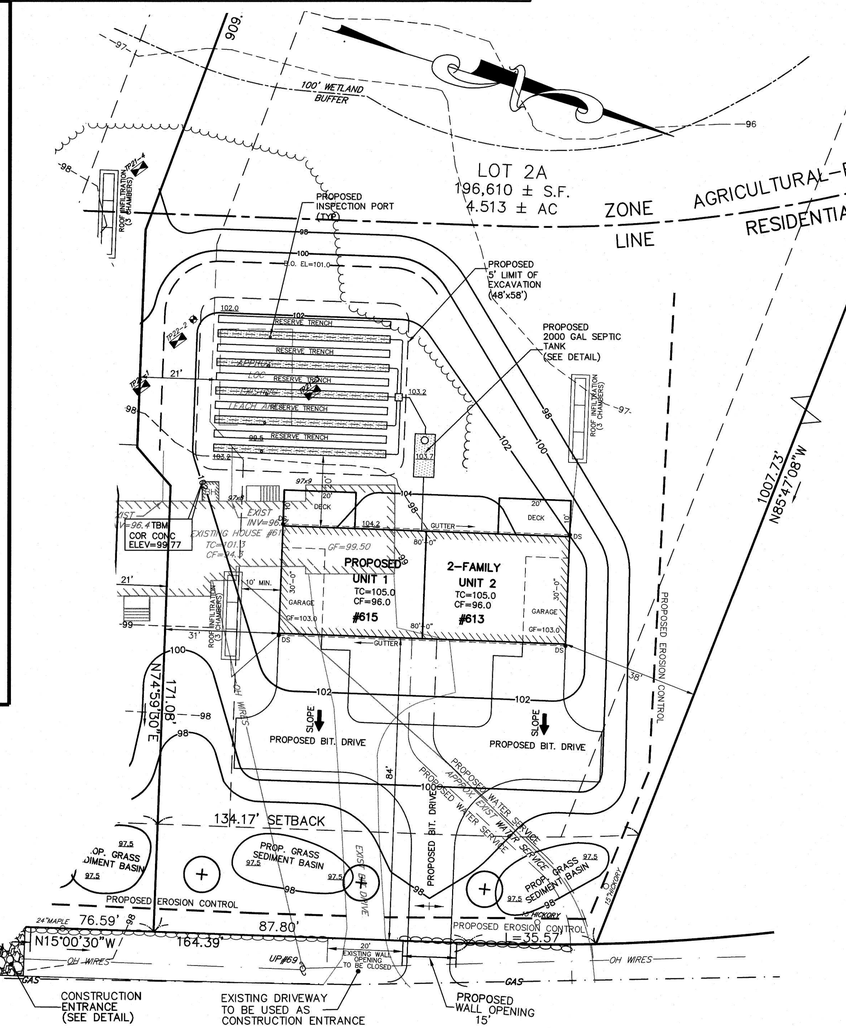
*PROVIDE CULTEC 100HD SYSTEM (6 UNITS) AS SHOWN ON SITE PLAN
NOTE: ONE-INCH OF STORMWATER FROM THE SURFACE OF THE ROOF ALL ROOF RUNOFF FROM PROPOSED HOUSE SHALL BE DIRECTED TO THE INFILTRATION SYSTEM.



RESIDENTIAL ROOF RUNOFF CULTEC DRY WELL
CULTEC CONTACTOR 100HD
N.T.S.



EROSION CONTROL BARRIER
STRAW WATTLES
N.T.S.



ZONING CLASSIFICATION:
R-1 RESIDENTIAL DISTRICT
AREA: 30,000 S.F. (40,000 S.F-2 FAMILY)
FRONTAGE: 120 ft.
LOT DEPTH: 150 ft.
LOT WIDTH: 96 ft.
SETBACKS:
FRONT: 30'
SIDE: 20'
REAR: 30'

ASSESSOR'S REFERENCE:

MAP 5A, BLOCK 1, LOT 369 & 370

*NO GARBAGE GRINDER ALLOWED
NEW CONSTRUCTION

TYPE OF FACILITY SERVED

TWO FAMILY DWELLING - 6 BEDROOMS (TOTAL)

DESIGN FLOW :

6 BEDROOMS x 110 GAL./DAY/BEDROOM = **660 G.P.D.**

SEPTIC TANK SIZING:

DESIGN FLOW x 200%

660 GAL. x 200% = 1320 GALLONS

SEPTIC TANK PROPOSED: 2000 GALLON 2-COMPARTMENT

SYSTEM SIZING CALCULATIONS:

GARBAGE GRINDER: NO

DESIGN FLOW = 660 GPD

EFFLUENT LOADING RATE = 0.56 GPD/SF

(INCREASE AREA BY 50% IF GARBAGE GRINDER)

LEACHING AREA REQUIRED = 660 GPD/0.56 GPD/SF = 1179 **SF**

SYSTEM DESIGN

LEACHING TRENCHES - 5 @ 48'L x 24"W x 18"H

BOTTOM AREA: 5 x 48'L x 2'W = 480 S.F.

SIDEWALL AREA: 10 x 48'L x 1.5'H = 720 S.F.

LEACHING AREA PROVIDED = 1200 **S.F.**

FLOW PROVIDED = 1200 S.F. x 0.56 GAL./S.F. = 672 **G.P.D.**

LEGEND

- PROPOSED 3-INCH TREE
- 168 EXISTING CONTOUR ELEVATION
- 166 PROPOSED CONTOUR ELEVATION
- DEEP TEST SOIL PIT
- PERCOLATION TEST
- 163.0 PROPOSED SPOT ELEVATION

- -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 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: R-1	FRONT SETBACK: 30'	SIDE SETBACK: 20'	REAR SETBACK: 30'

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. #2949

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 (48' x 58')
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 HOLLISTON BOARD OF HEALTH REGULATIONS.

COMMONWEALTH OF MASSACHUSETTS
JOYCE E. HASTINGS
No. 39393
REGISTERED PROFESSIONAL LAND SURVEYOR
11/7/23

COMMONWEALTH OF MASSACHUSETTS
ROBERT S. TRUAX
CIVIL
NO. 56567
REGISTERED PROFESSIONAL ENGINEER
11/7/23
PROFESSIONAL ENGINEER

BENCH MARK (DATUM = ASSUMED)
TOP FND; ELEV=101.3
CONC BULKHEAD CORNER; ELEV=99.77

PROPOSED SEWAGE DISPOSAL SYSTEM LOT 2A NORFOLK STREET HOLLISTON, MASSACHUSETTS

APPLICANT/OWNER:
BILL SINGH
5 HARMONY LANE
FRAMINGHAM MA 01702

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

DATE: JUNE 21, 2021			
REVISED: SEPTEMBER 1, 2022			
MAY 10, 2023, OCT 18, 2023			
11/7/23, 11/17/23 (Scenic Rd)			
DES: RST	SCALE: 1" = 20'	JOB #17,017	SHEET #1 of 1

#613 & #615 NORFOLK ST (LOT 2A)