

VEL.	H _L	H _L	H _L
GPM (ft/sec)	(ft/100ft)	(ft)	(total)
20	2.04	0.86	0.41
40	4.09	3.11	1.49
60	6.13	6.59	3.16
80	8.17	11.22	5.39

REFERENCE: CAMERON HYDRAULIC DATA, PG 3-38 & GOULDS PUMPS WASTEWATER & SEWAGE

CHAMBER STORAGE CAPACITY

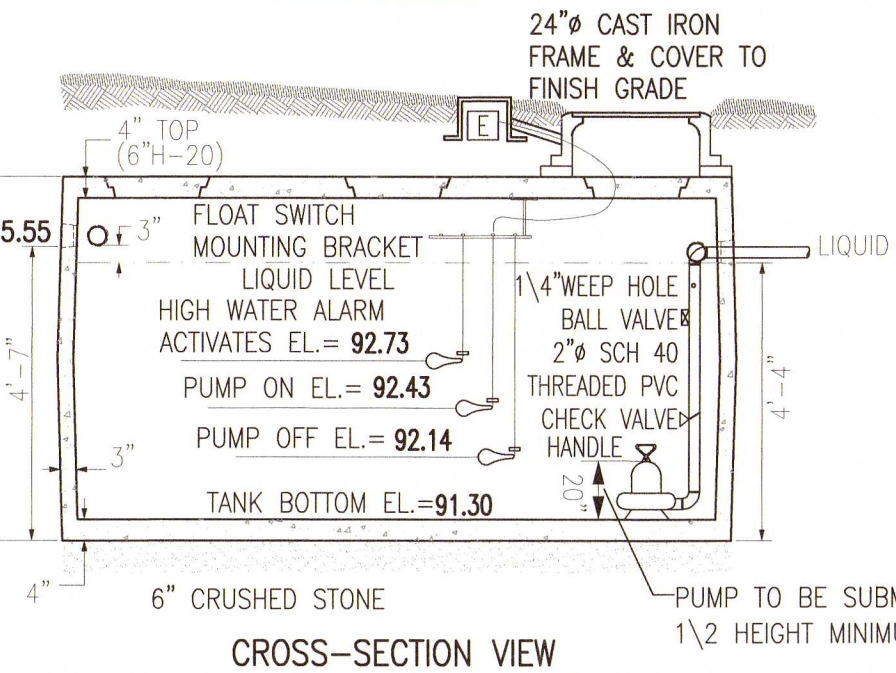
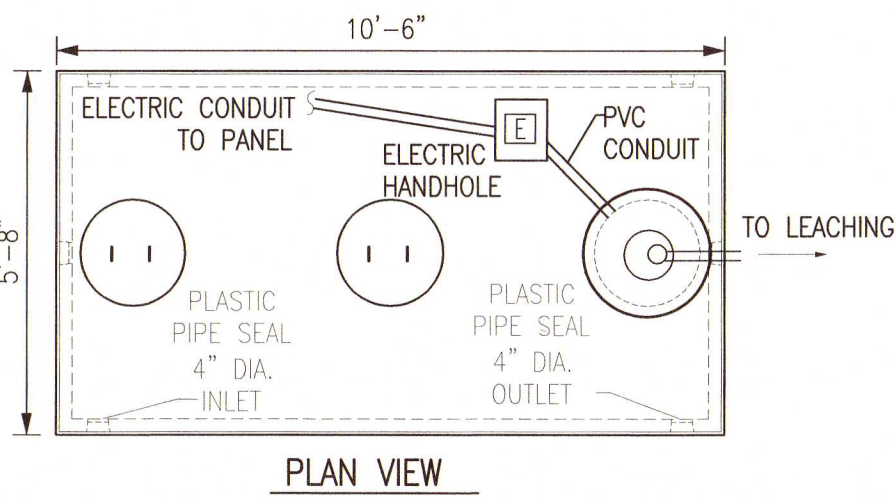
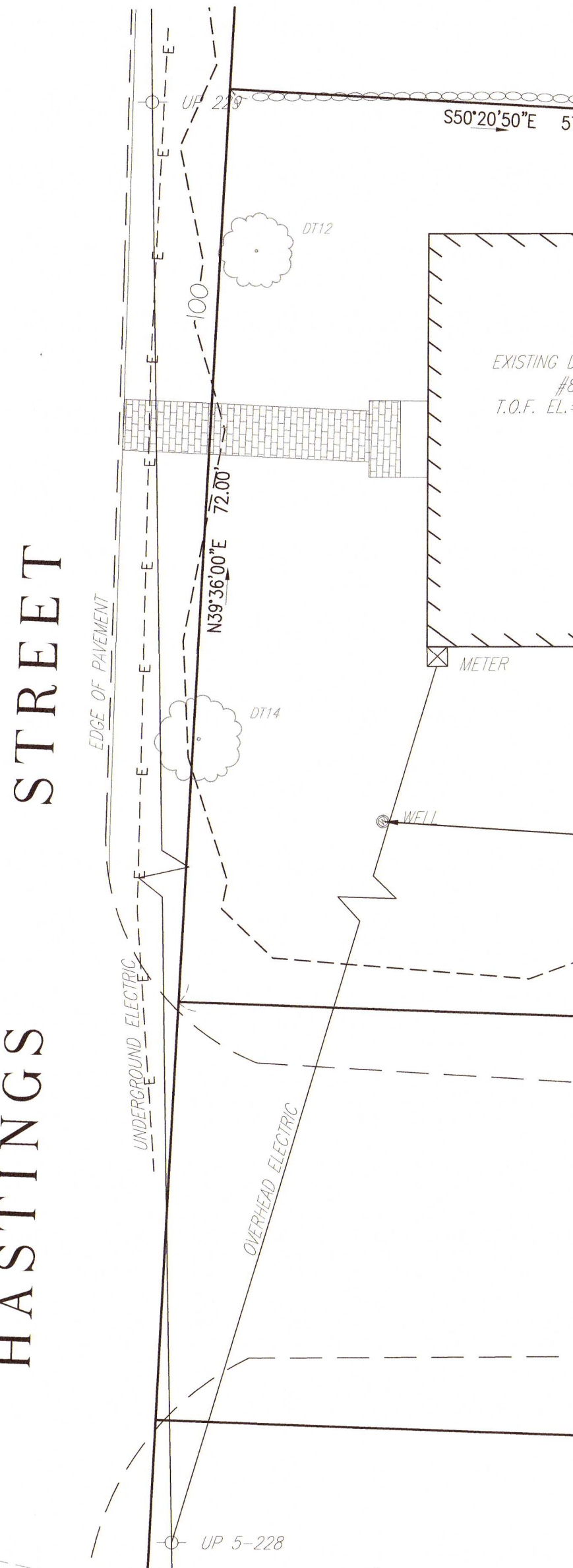
(110 GAL/DOSE) / 375 GAL/FT of TANK = 0.29 FT (MIN)
2.84 FT OR 1058 GAL. EMERGENCY STORAGE CAPACITY
PROVIDED > 24 HR REQUIRED CAPACITY

PROPOSED DOSE VOLUME
PROPOSED VOLUME = 110 GALLONS PER DOSE

PROVIDE ALARM LOCATED IN THE BUILDING AND POWERED BY
A CIRCUIT SEPARATE FROM THE CIRCUIT TO THE PUMP.
GOULD SES SERIES CONTROL PANEL(NEMA 1 SIMPLEX)
FOR INTERIOR APPLICATIONS

PUMP DESIGN

STATIC HEAD = 7.64 FT
PIPE LENGTH = 48 FT
PIPE DIAMETER = 2 IN

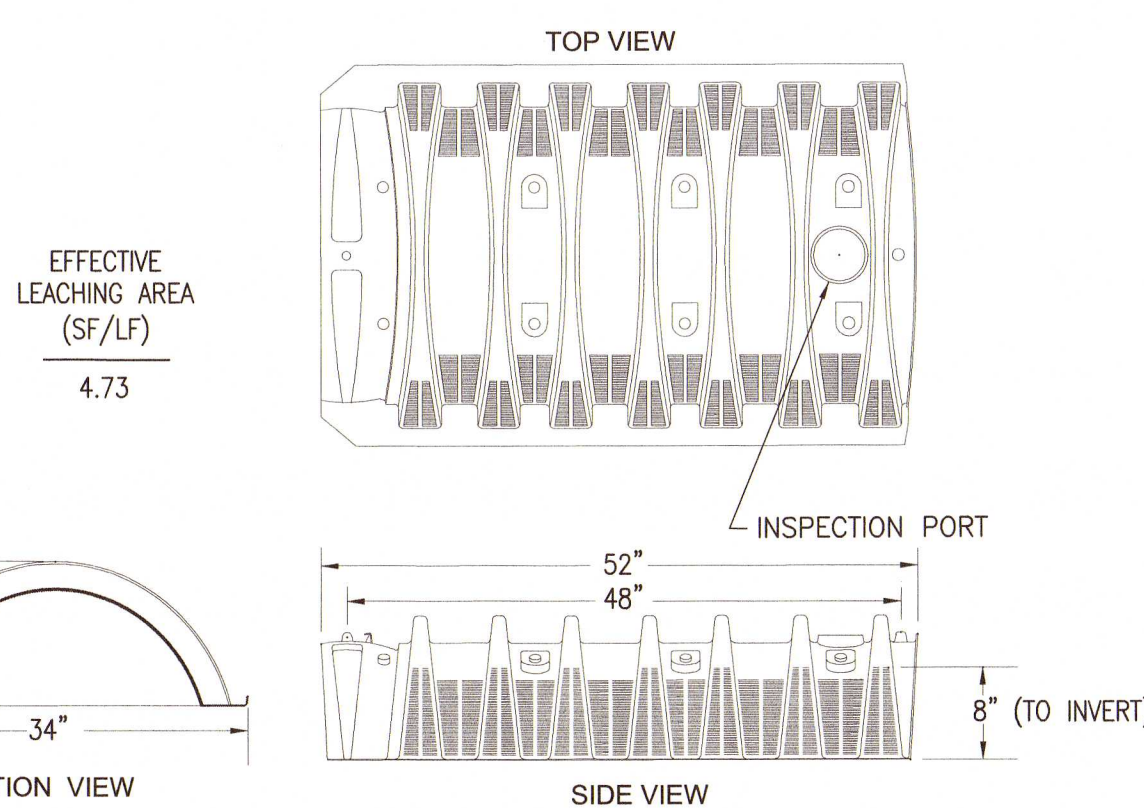


PUMP CHAMBER DETAIL: 1500 GAL. (MONOLITHIC, H-20 LOADING TANK)

NOT TO SCALE

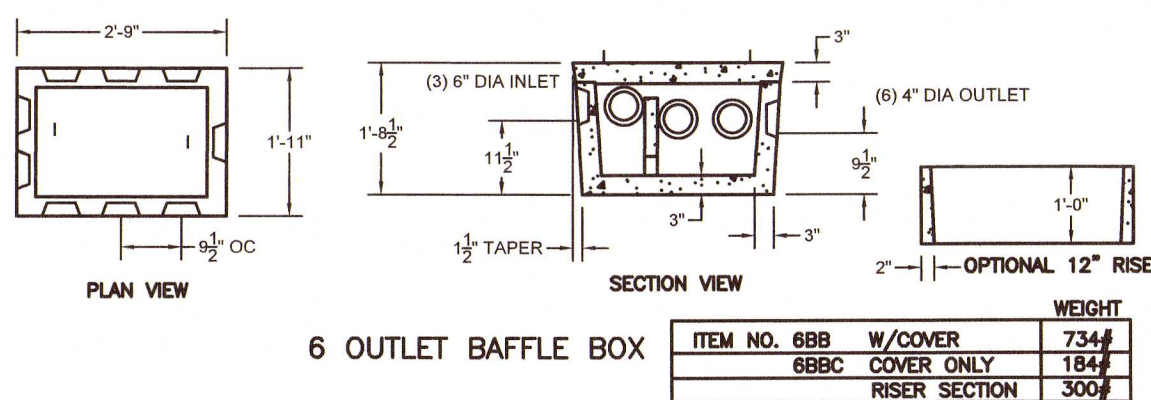
PUMP SPECIFICATIONS:

TYPE: GOULD MODEL 3887(OR APPROVED EQUAL) RATING: 20 G.P.M. @ 10.79 TDH
MOTOR: 1/3 HORSE POWER
VOLTAGE REQUIRED: 230 VOLTS, 4.9A (SINGLE PHASE)



QUICK 4 STANDARD CHAMBER DETAIL

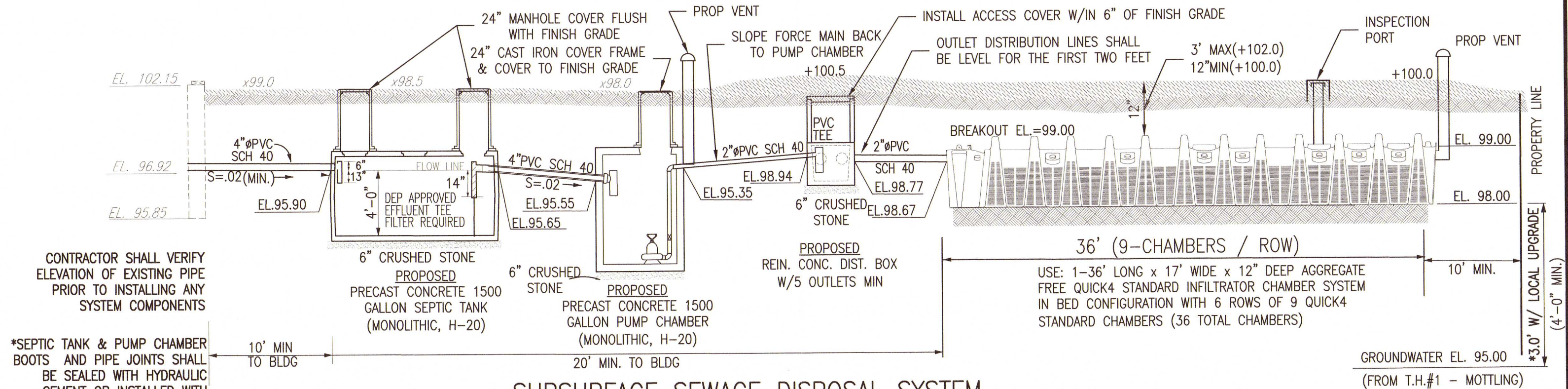
NOT TO SCALE



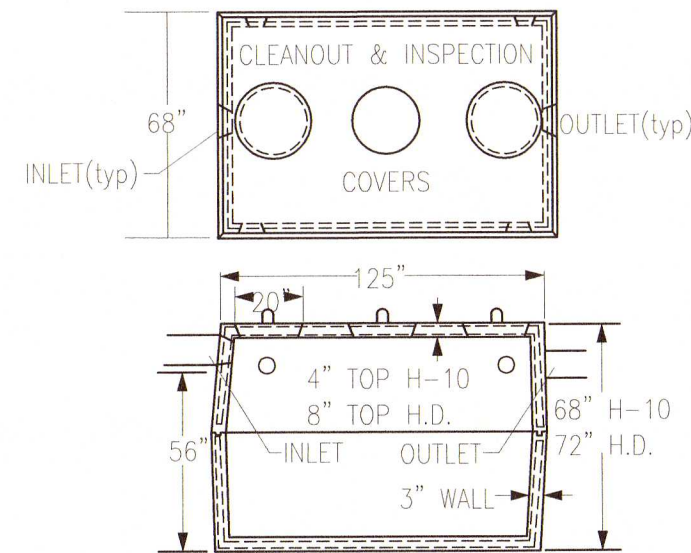
NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.000, DEP TITLE 8 REGS, FOR DISTRIBUTION BOXES.

D-BOX DETAIL

(NOT TO SCALE)



H-20 LOADING
SEPTIC TANK-1,500 GALLON



DESIGN NOTES:
1. TOP & BOTTOM MATCHING KEY JOINT SEALED BUTYL RESIN AS SPECIFIED BY THE MANUFACTURER.
2. TANK COMPLETELY REINFORCED.
3. CONCRETE IS 4,000 P.S.I. @ 28 DAYS.
4. AVAILABLE IN STANDARD, H-10, AND HEAVY DUTY TOP.

SEPTIC TANK DETAIL

(NOT TO SCALE)

SOIL LOGS

T.H.#1	T.H.#2
EL. 97.00	EL. 97.00
0'-10" A SANDY LOAM	0'-12" A SANDY LOAM
96.17	96.00
10'-24" B SANDY LOAM	12'-24" B SANDY LOAM
95.00	95.00
24'-72" C FINE SANDY LOAM	24'-80" C FINE SANDY LOAM
91.00	90.33
D= 6'-0" MOTTLED @ 2'-0" (EL.=95.00)	D= 6'-8" MOTTLED @ 2'-0" (EL.=95.00)

SEPTIC DESIGN (NOT DESIGNED FOR GARBAGE GRINDER)

- DESIGN DAILY FLOW: 3 BR. x 110 GPD = 330 GPD
- SEPTIC TANK: 330 GPD x 2 = 660 GAL. USE: 1500 GAL (MIN)
- LEACHING CHAMBERS: P.R.: SIEVE ANALYSIS CLASS II, USE E.L.R.=0.33

USE: 1-36' LONG X 17' WIDE X 12" DEEP LEACHING CHAMBER SYSTEM IN BED CONFIGURATION WITH 54 - 4' LONG INFILTRATOR QUICK4 STANDARD LEACHING CHAMBERS IN 6 ROWS OF 9.

TITLE 5

(PER MODIFIED CERTIFICATION FOR GENERAL USE DESIGN STANDARD ITEM 6.)
EFFECTIVE LEACHING AREA = 4.73 SF/LF
PROPOSED AREA: 216 LF x 4.73 SF/LF = 1,021.7 S.F.
CAPACITY: 1,021.7 S.F. x 0.33 GPD/S.F. = 337 > 330 GPD(D.D.F.)

SEPTIC NOTES

- PROPERTY LINE DATA FROM "LAND OF CHESTER C. SHATTUCK, MENDON, MASS., NOV. 7, 1970 BY JOHN R. ANDREWS JR, SURVEYOR, UXBRIDGE, MASS." RECORDED WITH WORCESTER COUNTY REGISTRY OF DEEDS PLAN BOOK 343, PAGE 79.
- TOPOGRAPHIC SURVEY FROM GRADY CONSULTING WITNESSED BY TOM RYDER APRIL 14, 2020.
- SOILS TESTING BY SCOTT FANARA, GRADY CONSULTING WITNESSED BY TOM RYDER APRIL 14, 2020.
- CALL DIG SAFE 1-888-344-7233 AT LEAST 4 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- NOTIFY TOWN AND GRADY CONSULTING PRIOR TO BACKFILLING OF SYSTEM.
- THE SITE IS NOT LOCATED IN AN AQUIFER PROTECTION ZONE II.
- ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED (310 CMR 15.221(12)).
- NO STREAMS, SURFACE & SUBSURFACE DRAINS AND WETLANDS EXIST WITHIN 100 FT OF THE PROPOSED SYSTEM, EXCEPT AS SHOWN.
- THE SITE IS NOT LOCATED IN A FLOOD PLAIN DISTRICT.
- NO KNOWN EASEMENTS ARE IN THE AREA OF THE PROPOSED SYSTEM.
- THIS PLAN WAS PREPARED FOR SEPTIC SYSTEM DESIGN PURPOSES ONLY, IT SHOULD NOT BE USED FOR ANY OTHER PURPOSE INCLUDING BUT NOT LIMITED TO ADDITIONS TO THE EXISTING RESIDENCE, INSTALLING FENCING, PLACING SHEDS OR ANY OTHER ACTIVITY THAT REQUIRES PRECISE PROPERTY LINE DETERMINATION.
- EXCAVATE ALL MATERIAL (A & B LAYERS) TO FINE SANDY LOAM C LAYER (24"), 5' AROUND SYSTEM. REPLACE WITH CLEAN COARSE SAND IN ACCORDANCE WITH 310 CMR 15.255 (3). EXCAVATION TO BE INSPECTED BY GRADY CONSULTING L.L.C. AND TOWN PRIOR TO SOIL REPLACEMENT

APPROXIMATE PERC SAND VOLUME = 46 X 27 X (99.0 - 95.0) / 27 + 20% = 221± C.Y.

INFILTRATOR SYSTEM NOTES

THIS SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION MODIFIED CERTIFICATION FOR GENERAL USE, PURSUANT TO TITLE V, 310 CMR 15.000, REVISED JUNE 12, 2015 AND STANDARD CONDITIONS FOR ALTERNATIVE SOIL ABSORPTION SYSTEMS WITH GENERAL USE CERTIFICATION AND/OR APPROVED FOR REMEDIAL USE REVISED MARCH 5, 2018. A DISCLOSURE NOTICE IN THE DEED TO THE PROPERTY IS REQUIRED FOR SYSTEMS INSTALLED UNDER THE REMEDIAL USE APPROVAL.

NO STONE AROUND OR BELOW CHAMBERS IS REQUIRED.

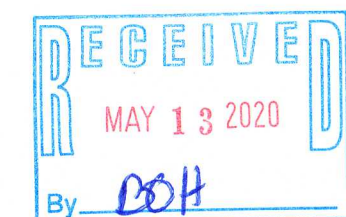
BACKFILL CHAMBERS WITH ON SITE SAND SOIL OR CLEAN COARSE SAND IN ACCORDANCE WITH 310 CMR 15.255(3).

LOCAL UPGRADE APPROVAL REQUEST

- 15.405(1)(H) REDUCTION IN SEPARATION BETWEEN BOTTOM OF SOIL ABSORPTION SYSTEM AND THE HIGH GROUNDWATER ELEVATION FROM THE REQUIRED 4 FT. TO 3 FT.
- 15.405(1)(G) REDUCTION IN SYSTEM LOCATION SETBACKS TO A PRIVATE WATER SUPPLY WELL FROM THE REQUIRED 100 FT. TO 53.5 FT.
- 15.405(1)(I) THE USE OF A SIEVE ANALYSIS IN LIEU OF A STANDARD PERC TEST

REQUIRED INSPECTIONS

- AFTER EXCAVATION OF LEACHING AREA PRIOR TO INSTALLING SAND.
 - AFTER SYSTEM CONSTRUCTION PRIOR TO BACKFILLING.
 - AFTER FINAL GRADING IS COMPLETED.
- (ADDITIONAL INSPECTIONS MAY BE REQUIRED BY THE BOARD OF HEALTH)



SEPTIC REPAIR PLAN

#8 HASTINGS STREET MENDON, MASSACHUSETTS

APPLICANT
RANDALL GEBELEIN
8 HASTINGS STREET
MENDON, MA 01756

MAY 6, 2020
SCALE: 1"=10'
JOB NO. 20-091



GRADY CONSULTING, L.L.C.

Civil Engineers, Land Surveyors & Landscape Architects
71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 585-2300 Fax (781) 585-2378

SHEET 1 OF 1