

VICINITY MAP
NO SCALE

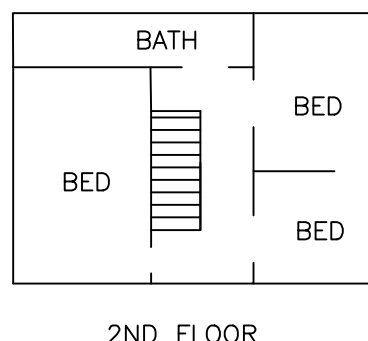
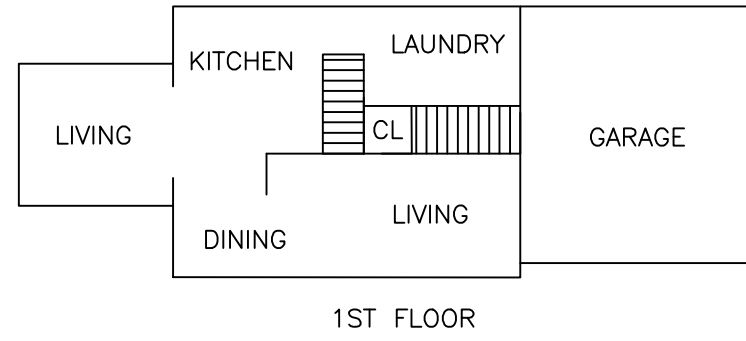
SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: JAMES GARFIELD, SE#14162
SOIL TESTING WITNESSED BY: RALPH H. COLE, P.L.S.
DATE: 5/22/20

TP-1	APPROX. GRADE EL. 122.3	TP-2	APPROX. GRADE EL. 122.4
EL. 121.4	A HORIZON SANDY LOAM 10YR 3/2	EL. 120.6	FILL
EL. 120.4	B HORIZON SANDY LOAM 10YR 5/6	EL. 119.9	A HORIZON SANDY LOAM 10YR 3/2
EL. 112.3	C HORIZON SANDY LOAM 2.5Y 5/4	EL. 119.2	B HORIZON SANDY LOAM 10YR 5/6
		EL. 112.4	C HORIZON SANDY LOAM 2.5Y 5/4

WEeping OBSERVED: 70"
MOTTling OBSERVED: NONE
PERC. RATE: 39 MPI @ 40"-58"
ESHGW: 70" (EL. 116.5)

WEeping OBSERVED: 48"
MOTTling OBSERVED: NONE
PERC. RATE: NONE
ESHGW: 48" (EL. 118.4)

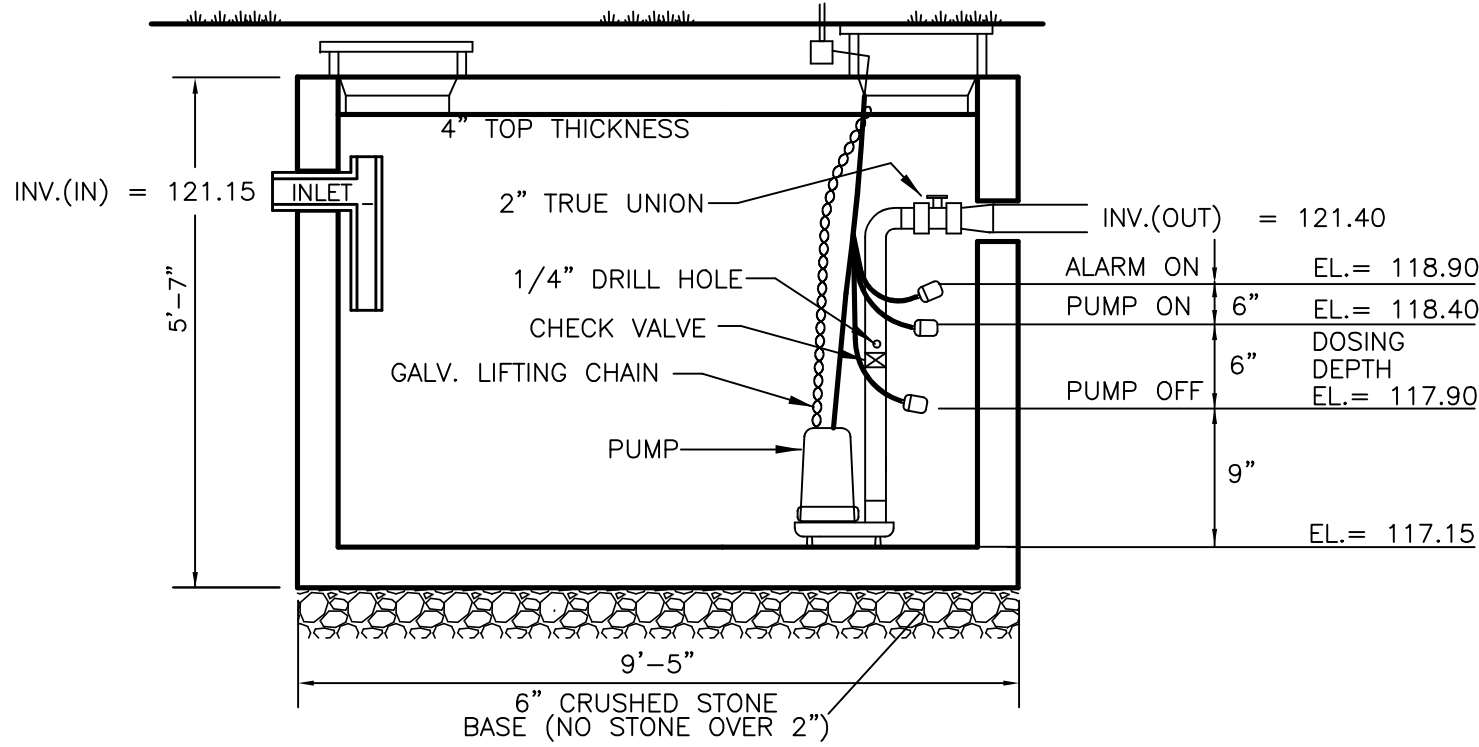


FLOOR PLAN

SCHEMATIC ONLY; NOT TO SCALE

1,000 GAL. PUMP CHAMBER DETAIL

NOTE: OUTLET COVER (20" DIA.) BROUGHT TO FINISHED GRADE.
INLET COVER (20" DIA.) BROUGHT TO WITHIN 6" OF FINISHED GRADE



24-HOUR EMERGENCY STORAGE (330 GAL. MIN)

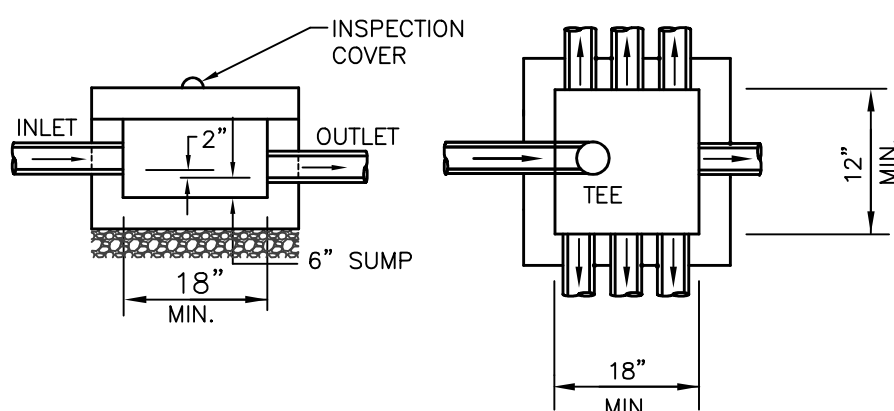
EL. = 121.15 INVERT IN
EL. = 118.90 ALARM ON
2.25" AVAILABLE STORAGE
x 250 GAL./VERT. FOOT = 562.5 GALLONS

ELECTRICAL CONDUIT TO CONTROL PANEL (SIMPLEX OR EQUAL)
MOUNTED INSIDE BUILDING. PUMP POWER CABLE AND FLOAT
CONTROL TO BE PLACED IN CONDUIT IN
ACCORDANCE WITH LOCAL BUILDING AND
ELECTRICAL CODES.

PUMP DESIGN NOTES:

- THE PUMP CONTROLS SHALL BE DESIGNED TO ALLOW THE FIELD TO BE
DOSED WITH 125 GAL. PER DOSE (APPROX. 2.7 TIMES IN A
24-HOUR PERIOD UNDER NORMAL OPERATING CONDITIONS).
- USE COULDS SUBMERSIBLE EFFLUENT PUMP WS05B,
1/2 hp, 2" DISCHARGE, 2" SOLIDS CAPACITY
T.D.H. = 13.2 FT. ± @ 15 GPM OR APPROVED EQUAL.
- INSTALL HIGH WATER MERCURY FLOAT LEVEL CONTROL
IN PUMP CHAMBER WITH VISIBLE FLASHING AND AUDIBLE ALARMS. CONTRACTOR TO
COORDINATE LOCATIONS WITH HOMEOWNER. PUMP POWER SHALL BE LOCATED ON SEPARATE
CIRCUIT FROM THE ALARM CIRCUIT. ALL ELECTRICAL WORK SHALL BE PERFORMED W/ A VALID
PERMIT, BY A LICENSED ELECTRICIAN, AND INSPECTED BY THE TOWN OF SCITUATE WIRING INSPECTOR.

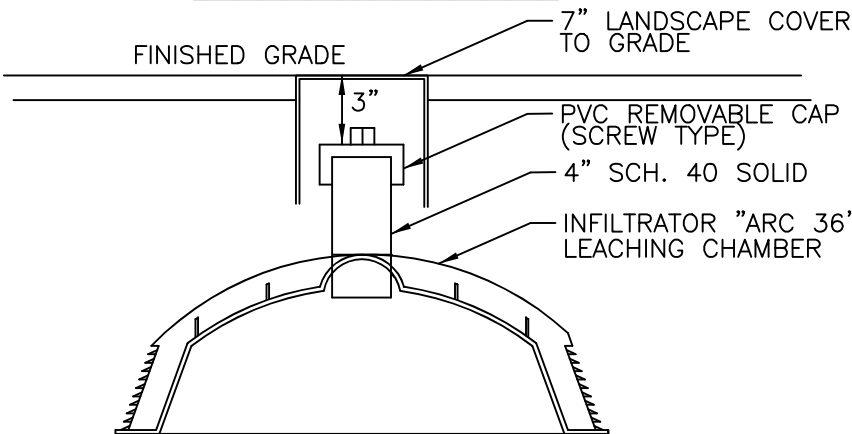
7 OUTLET DISTRIBUTION BOX



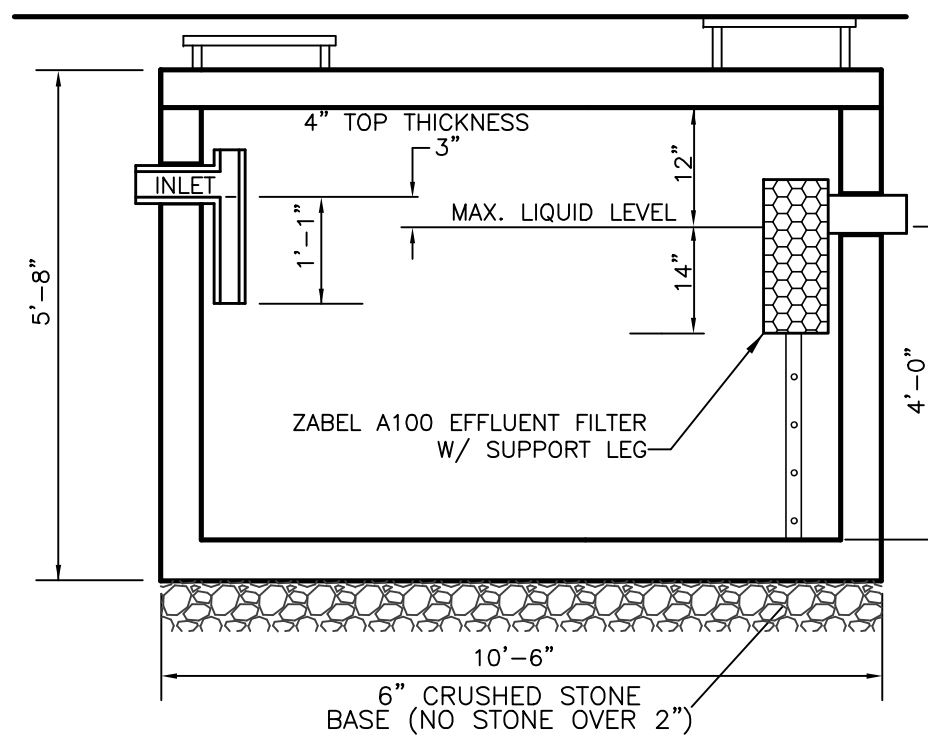
NOTES:

- DISTRIBUTION BOX COVER SHALL BE EQUIPPED WITH RISERS AS NECESSARY
TO BRING THE COVER TO WITHIN 6" OF FINISHED GRADE.
- ALL PIPE CONNECTION AND CONSTRUCTION JOINTS SHALL BE SEALED WITH
HYDRAULIC CEMENT.
- DISTRIBUTION BOX TO BE INSTALLED ON A LEVEL 6" CRUSHED STONE BASE.
- THE FIRST 2 FT. OF PIPE EXITING THE DISTRIBUTION BOX SHALL BE INSTALLED LEVEL.
- CONTRACTOR TO INSTALL PVC TEE AT INLET TO DISTRIBUTION BOX.

INSPECTION PORT

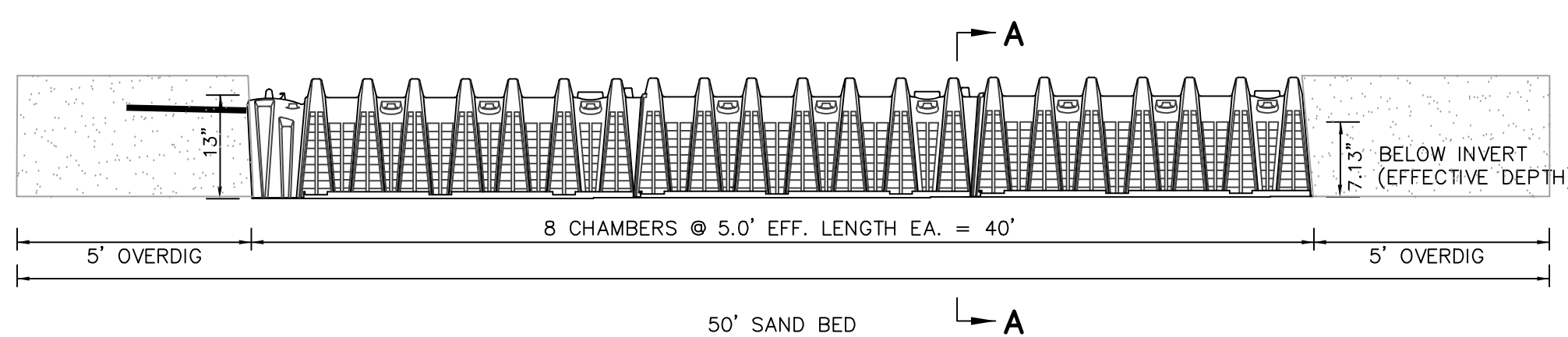


1,500 GAL. SEPTIC TANK DETAIL

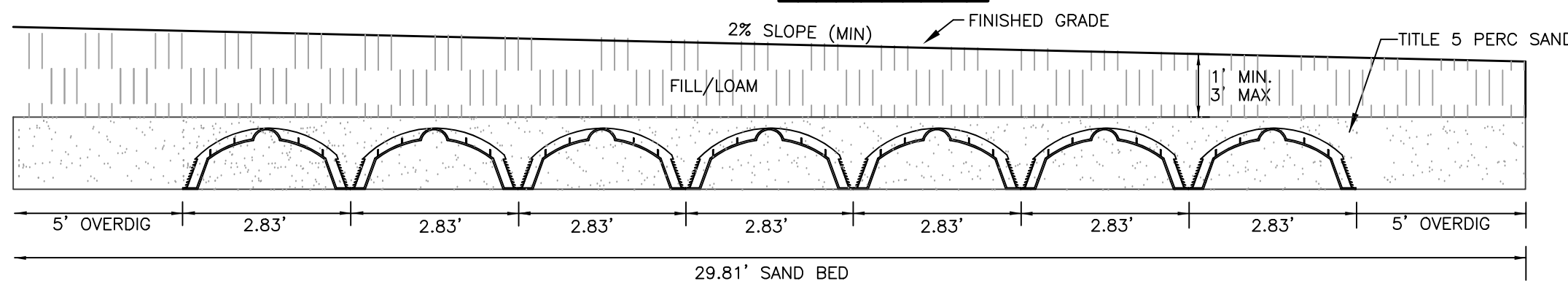


- THE SEPTIC TANK INLET COVER (20" DIA.) SHALL BE EXTENDED TO WITHIN 6" OF FINISHED GRADE &
OUTLET COVER (20" DIA.) SHALL BE EXTENDED TO FINISHED GRADE.
- ALL PIPE CONNECTION AND CONSTRUCTION JOINTS SHALL BE SEALED WITH HYDRAULIC CEMENT.
- SEPTIC TANK SHALL BE INSTALLED ON A LEVEL 6" CRUSHED STONE BASE.
- OUTLET SHALL BE EQUIPPED WITH A ZABEL A100 EFFLUENT FILTER (OR APPROVED EQUAL).

INFILTRATOR ARC 36 CHAMBER SYSTEM



INFILTRATOR ARC 36 CHAMBERS SECTION A-A



NOTES:

- NO STONE BELOW OR AROUND CHAMBERS IS REQUIRED.
- BACKFILL CHAMBERS WITH CLEAN COARSE SAND IN ACCORDANCE
WITH 310 CMR 15.255 (3) TO THE TOP OF THE CHAMBER.
- DO NOT BACKFILL WITH ANY STONES 3" OR LARGER AGAINST CHAMBERS.
- CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS
RECOMMENDATIONS.

DESIGN DATA

- BUILDING TYPE: SINGLE FAMILY DWELLING
- NO. OF BEDROOMS: 3
- DESIGN FLOW: 3 x 110 GPD/BEDROOM = 330 GPD (GALLONS PER DAY)
- DESIGN PERCOLATION RATE: 39 MPI (TP-1, CLASS III)
- GARBAGE DISPOSAL: NO
- SEPTIC TANK DESIGN REQUIREMENT: 200% DESIGN FLOW
440 X 2 = 880 GAL. (PROVIDE NEW 1500 GAL. SEPTIC TANK)
- LEACH AREA REQUIREMENTS GALLONS/SQ. FT.
BOTTOM: 0.25 GAL./S.F. SIDE: 0.25 GAL./S.F.
- TOTAL LEACH AREA REQUIRED
TITLE 5: 330 GPD / (0.25 GPD/S.F.) = 1,320 S.F.
PROVIDED: 7 ROWS OF 8 ARC36 INFILTRATOR LEACHING CHAMBERS
EFFECTIVE AREA: (56 CHAMBERS x 5.00'L x 4.80 S.F./L.F.*) = 1,344 S.F.
CAPACITY = 1,344 S.F. x 0.25 GPD/S.F. = 336 GPD
*EFFECTIVE AREA PER GENERAL USE CERTIFICATION ISSUED BY DEP

REMOVE & REPLACE NOTE

CONTRACTOR TO EXCAVATE ALL UNSUITABLE MATERIAL TO A DEPTH OF C HORIZON (38") DIRECTLY UNDER &
WITHIN 5' OF PROPOSED LEACHING AREA AND REPLACE CLEAN TITLE 5 PERC SAND TO TOP OF CHAMBER
ELEVATION.

VOL. OF SAND = (29.81'W x 50'L x (122.48-119.2)D x 1.2) / 27 = 217± C.Y.*

*INSTALLER TO REMOVE ALL CONTAMINATED SOIL FROM THE EXISTING SDS WITHIN THE REMOVE & REPLACE AND
REPLACE WITH CLEAN TITLE 5 SAND.

LOCAL UPGRADE APPROVALS (310 CMR 15.405)

310 CMR 15.405(1)(B): TO ALLOW A REDUCTION FROM 20" (REQ'D) TO 14" (PROP.) FROM A CELLAR WALL TO THE S.A.S.
310 CMR 15.405(1)(H): TO ALLOW A 3-FT. GROUNDWATER SEPERATION BETWEEN E.S.H.G.W. & BOTTOM OF S.A.S.

GENERAL NOTES

- SEPTIC SYSTEM INSTALLATION CONTRACTORS SHALL BE LICENSED BY THE BOARD OF HEALTH AND
MUST COMPLY WITH ALL REQUIREMENTS OF THE BOARD OF HEALTH DISPOSAL WORKS
CONSTRUCTION PERMIT AND ANY CONDITIONS, IF ISSUED BY THE CONSERVATION COMMISSION.
- ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE
310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- THERE SHALL BE NO CHANGES MADE IN THIS PLAN WITHOUT THE WRITTEN PERMISSION OF
THE BOARD OF HEALTH AND DESIGN ENGINEER.
- ANY CHANGE IN SITE CONDITIONS, DISCREPANCIES, ERRORS OR OMISSIONS SHALL BE BROUGHT
TO THE ATTENTION OF MORSE ENGINEERING PRIOR TO THE COMMENCEMENT OF WORK.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH TITLE 5 (310 CMR 15) AND THE
LOCAL BOARD OF HEALTH REQUIREMENTS TO THE FULLEST EXTENT PRACTICABLE. NO
GUARANTEE TO THE SYSTEMS PERFORMANCE IS EXPRESSED OR IMPLIED.
- SOIL TEST DATA SHOWN IS LIMITED TO THE CONDITIONS EXISTING AT THE SUBJECT TEST
PIT LOCATION ONLY. IF DIFFERENT SOIL CONDITIONS ARE FOUND IN THE AREA OF THE
PROPOSED SOIL ABSORPTION SYSTEM THEY SHALL BE BROUGHT TO THE ATTENTION OF
MORSE ENGINEERING IMMEDIATELY.
- THE CONTRACTOR SHALL NOTIFY DIGSAFE PRIOR TO ANY EXCAVATION AT THE SUBJECT
PROPERTY. IT IS SPECIFICALLY CAUTIONED THAT THE SUBSURFACE UTILITIES SHOWN ARE
APPROXIMATE ONLY AND HAVE BEEN COMPILED FROM AVAILABLE RECORDS AND OBSERVABLE
SITE FEATURES. UTILITIES OTHER THAN THOSE SHOWN MAY BE PRESENT AT THIS LOCATION.
- THIS PLAN HAS BEEN PREPARED SPECIFICALLY AS A SEPTIC SYSTEM DESIGN AND IS NOT TO
BE USED TO ESTABLISH PROPERTY LINES OR BUILDING SETBACKS. PROPERTY LINES AND
BUILDING LOCATIONS ARE GRAPHIC ONLY. PROPERTY LINES NOT HAVING BEEN VERIFIED. NO
REPRESENTATION OR CERTIFICATION AS TO THE ACCURACY OF THOSE SHOWN IS IMPLIED.
- CONTRACTOR TO VERIFY AND ENSURE THAT ALL INTERIOR PLUMBING IS DIRECTED INTO PROPOSED
SEPTIC SYSTEM. ANY VARIATIONS FROM THE DESIGN AS SHOWN SHALL BE BROUGHT TO THE
ATTENTION OF THE DESIGN ENGINEER.

CONSTRUCTION NOTES

- CONTRACTOR SHALL COORDINATE INSPECTION TIMES WITH THE LOCAL BOARD OF HEALTH AND
DESIGN ENGINEER 24-HOURS IN ADVANCE OF THE FOLLOWING INSPECTIONS:
 - AFTER EXCAVATION OF ALL UNSUITABLE MATERIAL FROM SOIL ABSORPTION AREA.
 - PRIOR TO COVERING THE CONSTRUCTED SYSTEM.
 - AFTER SYSTEM BACKFILL AND FINAL GRADING.
- ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE
310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- ALL TIGHT-JOINT PLUMBING SHALL BE CONSTRUCTED OF SCH. 40 PVC PIPE WITH
CLEANED AND CEMENTED FITTINGS, UNLESS OTHERWISE NOTED.
- ALL PRECAST/PIPE CONSTRUCTION JOINTS AND FITTINGS SHALL BE MADE WATERTIGHT
BY PARING WITH HYDRAULIC CEMENT.
- THE CONTRACTOR SHALL PROVIDE A SIEVE ANALYSIS OF THE TITLE 5 PERC SAND
UTILIZED FOR FILL TO VERIFY THAT IT MEETS THE REQUIREMENTS OF 310 CMR 15.255(3).
TITLE 5 SAND FILL SHALL COMPLY WITH THE FOLLOWING:

SIEVE SIZE	PARTICLE SIZE
#4	4.75 mm
#50	0.30 mm
#100	0.15 mm
#200	0.075 mm
- THE CONTRACTOR SHALL PREVENT ANY HEAVY CONSTRUCTION MACHINERY AND/OR TRUCKS
FROM DRIVING OVER THE PROPOSED SOIL ABSORPTION SYSTEM LOCATION UNTIL
FINISHED GRADE IS ESTABLISHED.
- THE CONTRACTOR SHALL INSTALL MAGNETIC TAPE OVER SYSTEM PIPING & COMPONENTS
- THE DESIGN ENGINEER SHALL CERTIFY AND PREPARE AN "AS-BUILT" PLAN FOR SUBMITTAL
TO THE BOARD OF HEALTH UPON SEPTIC SYSTEM COMPLETION.
- ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" LOAM & SEED POST CONSTRUCTION.
- ALL SEPTIC SYSTEM COMPONENTS TO BE STAKED OUT BY PROFESSIONAL LAND SURVEYOR
PRIOR TO SYSTEM INSTALLATION.
- CONTRACTOR SHALL ABANDON EXISTING SEPTIC COMPONENTS IN ACCORDANCE WITH 310 CMR
SEC. 15.354 OF TITLE 5 AND LOCAL REGULATIONS BY PUMPING DRY, CRUSHING AND ABANDONING

SITE NOTES

- LOCUS DOES NOT LIE WITHIN A DEP DESIGNATED ZONE II RESOURCE AREA.
- ALL KNOWN WETLANDS WITHIN 100 FEET OF THE PROPOSED SEWAGE SYSTEM ARE SHOWN.
- PROPERTY LINE DATA WAS OBTAINED FROM RECORDED DEED (35116-107)
AND RECORDED PLANS ON FILE AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS.
- THERE WERE NO ACTIVE/POTABLE WELLS OBSERVED WITHIN 100' OF THE PROPOSED SYSTEM.
- LOCUS LIES IN FEMA ZONE "X" AS SHOWN ON FEMA COMMUNITY MAP PANEL 25021C 0108K
DATED NOVEMBER 4, 2016. ZONE "X" IS NOT A SPECIAL FLOOD HAZARD AREA.

CONTRACTOR TO BE INFILTRATOR CERTIFIED

PREPARED BY:		DESIGN: PGG	
PROJECT: SEPTIC SYSTEM DESIGN PLAN 250 CLAPP ROAD (ASSESSOR'S PARCEL: 17-2-26-A) SCITUATE, MASSACHUSETTS		CHECK: GJM JOB NO: 20-206	
APPLICANT: ERIN & MICHAEL MITCHELL 250 CLAPP ROAD SCITUATE, MA 02066		DATE: 8/27/20 REV:	
PLAN TITLE: SEPTIC SYSTEM DESIGN PLAN		SHEET: 1	