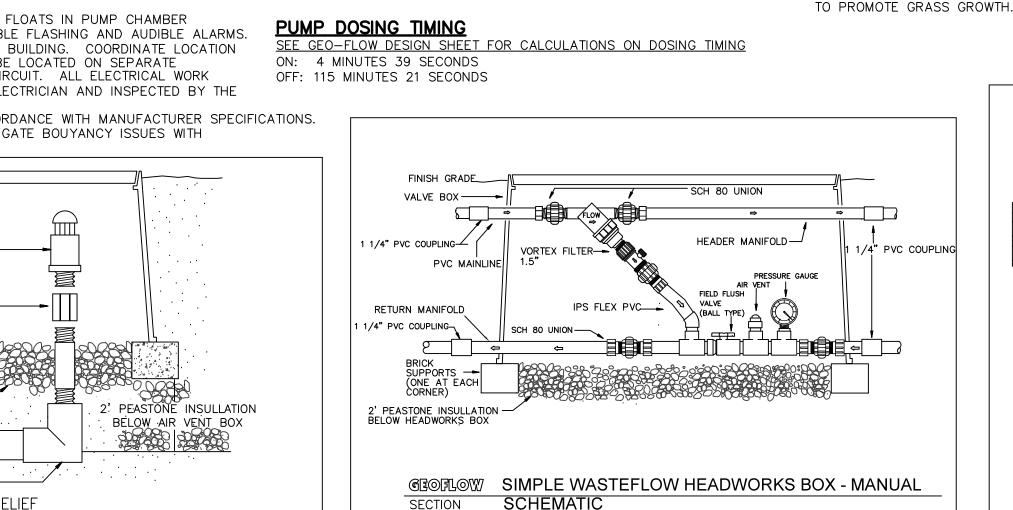


SUPPLY/ RETURN HEADER -

PVC PIPING AND FITTING

GEOFLOW 1" AIR/VACUUM RELIEF

(PLUMBED TO PVC)



SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: PAUL GUNN, SE#14392

TP-2 APPROX. GRADE EL. 45.3

10YR 3/4

10YR 5/4

2.5Y 5/6

WEEPING OBSERVED: NONE MOTTLING OBSERVED: 38"

PERC. RATE: 76 MPI (40-58") ESHGW: 38" (EL. 42.3)

ELECTRICAL CODES.

ALARM ON

EL.= 42.40 INVERT IN

EL.= 41.48 ALARM ON

0.92' AVAILABLE STORAGE

INV.(OUT) = 42.65

B HORIZON SANDY LOAM

SOIL TESTING WITNESSED BY: RALPH H. COLE, P.L.S.

DATE: OCTOBER 6, 2020

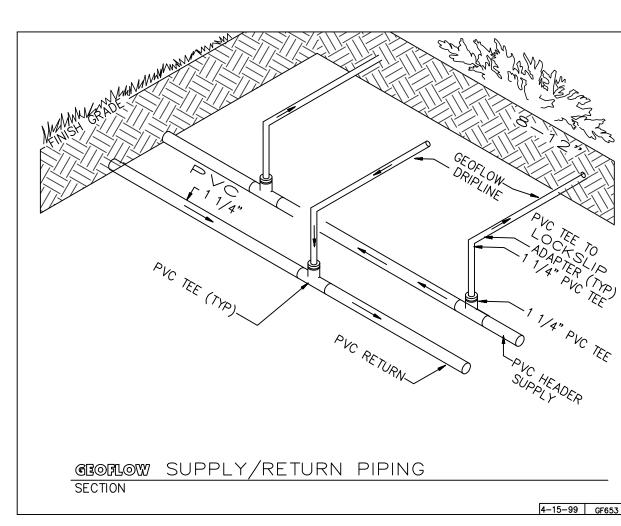
APPROX. GRADE EL. 47.0

10YR 3/4

JNION —

CHECK VALVE

B HORIZON ANDY LOAM



DIG SAFA

QI-ME-NA

PROPOSED SAND BED SHOULD FIRST HAVE ALL FILL, A, AND B-HORIZON MATERIAL

REMOVED TO A DEPTH OF 56"± (TO C HORIZON) TO PREVENT AN ORGANIC LAYER FROM

5 PERC SAND SHOULD BE APPLIED IN SHALLOW LAYERS WITH THE FIRST 4 TO 6 INCHES

INCORPORATED INTO THE NATURAL SOIL TO PREVENT AN ABRUPT TEXTURAL INTERFACE.

AFTER PRESSURE TEST ADD 2"(MIN) OF ADDITIONAL SAND OVER THE DRIPLINE NETWORK

AND BACK FILL WITH 4-10" OF TOPSOIL. CONTRACTOR SHALL INSTALL 1 SHOVEL-FULL

OF DOUBLE WASHED 3/8" PEASTONE OVER EACH DRIP EMITTER PRIOR TO PLACEMENT OF

4. ALL DISTURBED AREAS TO BE COVERED WITH 6" MINIMUM SCREENED LOAM & SEEDED WITH GRASS

SEED. CONTRACTOR TO STABILIZE SOILS WITH JUTE MESH AND/OR STRAW TO PREVENT EROSION &

ONCE THE SAND IS IN PLACE, INSTALL AND TEST THE PROPOSED DRIPLINE NETWORK.

2. FILL MATERIAL SHALL CONSIST OF CLEAN GRANULAR SAND IN CONFORMANCE

3. SUPPLY AND RETURN MANIFOLDS SHALL SLOPE BACK TO THE PUMP CHAMBER

THE TUBING OR OTHER SYSTEM COMPONENTS ONCE INSTALLED.

AT A MINIMUM SLOPE OF 0.02 FT/FT TO PREVENT FREEZING.

WITH THE STANDARDS SET FORTH IN 310 CMR 15.255(3). CONTRACTOR TO USE CARE DURING BACKFILL PROCESS AS NO HEAVY MACHINERY SHOULD PASS OVER

FORMING AND RESTRICTING DOWNWARD WATER MOVEMENT. AFTER EXCAVATION CLEAN TITLE

TP-3 APPROX. GRADE EL. 45.2

10YR 3/4

2" SAND BACKFILL LAYER.

PERC. RATE: NONE ESHGW: 38" (EL. 41.9)

EL. 42.C

ELECTRICAL CONDUIT TO CONTROL PANEL (SIMPLEX OR EQUAL)

MOUNTED INSIDE BUILDING. PUMP POWER CABLE AND FLOAT CONTROL TO BE PLACED IN CONDUIT IN

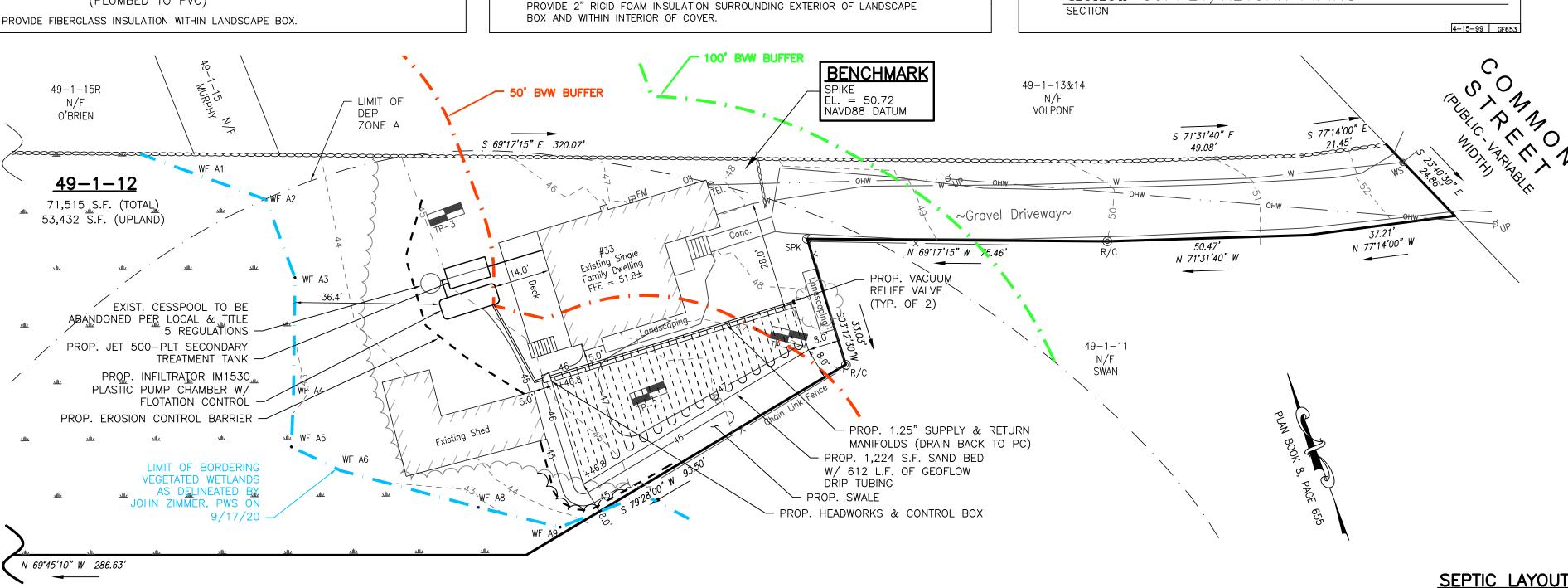
ACCORDANCE WITH LOCAL BUILDING AND

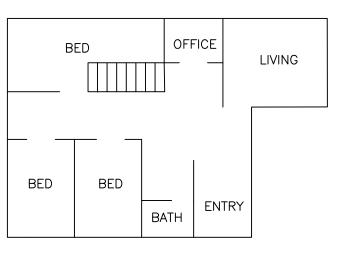
6" OVERRIDE PUMP ON EL.= 40.98

LOW WATER/PUMP TIMER OFF: EL.= 40.2

24-HOUR EMERGENCY STORAGE (330 GAL. MIN)

 \times 418 GAL./VERT. FOOT = 384 GALLONS





FLOOR PLAN N.T.S., SCHEMATIC ONLY

E.S.H.G.W.= EL. 42.3 (TP-2, REDOX.) NOT TO SCALE SCHEDULE OF ELEVATIONS INV. OF PIPE AT FOUNDATION = 45.1± (CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION) 7. INV. OF GEO-FLOW DRIP PIPING = 46.30 8. FINISHED GRADE OVER JET TANK = 44.8 (MIN) - 46.8 (MAX)INV. OF PIPE AT TREATMENT TANK INLET = 42.759. FINISHED GRADE OVER PUMP CHAMBER = 44.5 (MIN) - 46.5 (MAX) INV. OF PIPE AT TREATMENT TANK OUTLET = 42.510. FINISHED GRADE GEO-FLOW PIPING = 46.8 (MIN.) - 48.8 (MAX.) 1. INV. OF PIPE AT PUMP CHAMBER INLET = 42.40. INV. OF PIPE AT PUMP CHAMBER OUTLET = 42.65. INV. OF PIPE AT 1 1/4" SUPPLY & RETURN MANIFOLD (END) = 45.80

PROP. 1,500 GAL

INFILTRATOR

IM1530 PLASTIC

PUMP CHAMBER (W/ ANTI-

FLOTATION)

6" CRUSHED STONE

BASE (NO STONE OVER 2")

SUPPLY & RETURN

<u>J-500-PLT SECONDARY TREATMENT TANK</u>

-4" PVC SCH. 40

(S = 0.02)

I" PVC SCH. 40

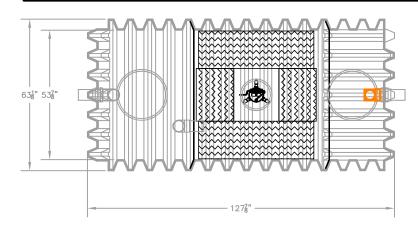
PROP. J500-PLT

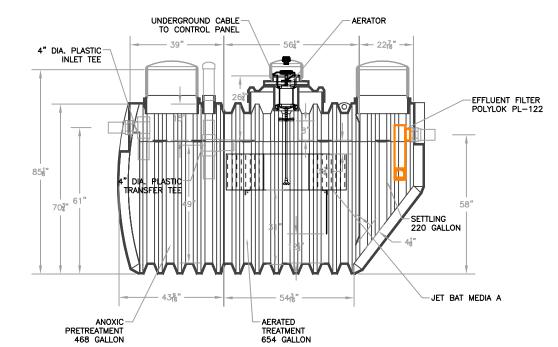
PLASTIC SECONDARY

TREATMENT UNIT

6" CRUSHED STONE

BASE (NO STONE OVER 2")





- . TREATMENT TANK TO BE MADE WATERPROOF AND COVERS TO GRADE MADE WATERTIGHT. . AERATOR MODEL 700LL MUST BE USED IN CONTINUOUS OPERATION.
- 3. MAXIMUM BURIAL DEPTH OF 24" FROM TOP OF TANK REQUIRED 4. J-500 IS CAPABLE OF TREATING UP TO 500 GALLONS OF WASTEWATER WITH AN APPLIED LOADING RATE OF UP TO 0.71 LBS/BOD PER DAY.
- 5. LEDGE TO BE REMOVED AS REQUIRED TO PLACE TANK PROPERLY 6. INSTALLER TO CONTACT CLEARWATER RECOVERY IN REGARDS TO PROPERT SYSTEM INSTALLATION AND OPERATION & MAINTENANCE CONTRACT.

LOCAL UPGRADE APPROVAL REQUESTS

310 CMR 15.405.1(b): TO ALLOW A REDUCTION OF THE SETBACK OF 10 FT. (REQ'D) TO 8.0 FT. (PROP.) BETWEEN THE SAS AND PROPERTY LINE. 310 CMR 15.405.1(b): TO ALLOW A REDUCTION OF THE SETBACK OF 50 FT. (REQ'D) TO 8.0 FT. (PROP.) BETWEEN THE SAS AND BORDERING VEGETATED WETLANDS.

I/A TECHNOLOGY CREDIT

1. TO ALLOW UP TO A 50% SIZE REDUCTION IN THE SAS.

REMOVE & REPLACE

CONTRACTOR TO EXCAVATE ALL UNSUITABLE MATERIAL TO A DEPTH OF 56"± (TO C-HORIZON) & REPLACE WITH CLEAN TITLE 5 PERC SAND TO EL. = 42.1 DIRECTLY UNDER THE PROPOSED SOIL ABSORPTION SYSTEM. (APPROX. SAND VOL. = $1.2\% \times 1,224 \text{ S.F.} \times (46.3-42.1) / 27 = 229 \pm \text{ C.Y.}$

DESIGN DATA

SCALE: 1" = 20'

- 1. BUILDING TYPE: SINGLE FAMILY DWELLING 2. NO. OF BEDROOMS: 3
- 3. DESIGN FLOW: $3 \times 110 \text{ GPD/BEDROOM} = 330 \text{ GPD}$ 4. DESIGN PERCOLATION RATE: 76 MPI (TP-2, CLASS IV)
- 5. GARBAGE DISPOSAL: NO
- 6. SEPTIC TANK DESIGN REQUIREMENT: 200% DESIGN FLOW 330 X 2 = 660 GAL. (PROVIDE NEW J-500 TREATMENT TANK)
- 7. LEACH AREA REQUIREMENTS GALLONS/SQ. FT. BOTTOM: 0.15 GAL./S.F. SIDE: 0.15 GAL./S.F.
- 8. TOTAL LEACH AREA REQUIRED: TITLE 5: 330 GPD / (0.15 GPD/S.F.) = 2,200 S.F.
- GEO-FLOW DRIP IRRIGATION SAND BED PROVIDED AREA = 1,224 S.F. SAND BED W/ 612 L.F. DRIP TUBING *PROPOSED 44.4% SIZE REDUCTION OF 50% ALLOWED

GENERAL NOTES

1. 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.

GEOFLOW CLASSIC DRIP LINE

SPACED AT 2' HOR. WITH

EMITERS 24" O.C.

VARIES

10' MIN.

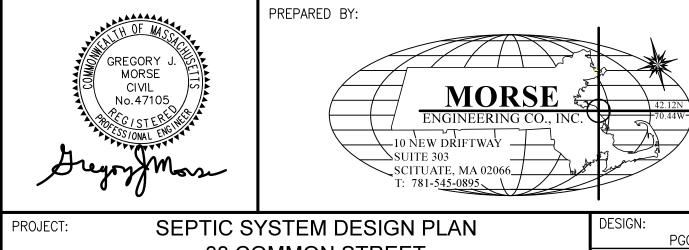
- 2. ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE 310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- 3. THERE SHALL BE NO CHANGES MADE IN THIS PLAN WITHOUT THE WRITTEN PERMISSION OF
- THE BOARD OF HEALTH AND DESIGN ENGINEER. 4. ANY CHANGE IN SITE CONDITIONS, DISCREPANCIES, ERRORS OR OMISSIONS SHALL BE BROUGHT
- TO THE ATTENTION OF MORSE ENGINEERING PRIOR TO THE COMMENCEMENT OF WORK. 5. 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. 6. 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.
- 7. 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.
- 8. 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.
- 9. 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

- 1. 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. 2. PRIOR TO COVERING THE CONSTRUCTED SYSTEM.
- 3. AFTER SYSTEM BACKFILL AND FINAL GRADING. 2. ALL CONSTRUCTION MUST COMPLY WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE
- 310 CMR 15 & THE ANY LOCAL BOARD OF HEALTH SUPPLEMENTAL REGULATIONS.
- 3. ALL TIGHT-JOINT PLUMBING SHALL BE CONSTRUCTED OF SCH. 40 PVC PIPE WITH CLEANED AND CEMENTED FITTINGS, UNLESS OTHERWISE NOTED.
- 4. ALL PRECAST/PIPE CONSTRUCTION JOINTS AND FITTINGS SHALL BE MADE WATERTIGHT BY PARGING WITH HYDRAULIC CEMENT.
- 5. 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:
- PARTICLE SIZE 4.75 mm 0.30 mm
 - 0.15 mm 0.075 mm
- 6. 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. 7. THE CONTRACTOR SHALL INSTALL MAGNETIC TAPE OVER SYSTEM PIPING & COMPONENTS
- 8. THE DESIGN ENGINEER SHALL CERTIFY AND PREPARE AN "AS-BUILT" PLAN FOR SUBMITTAL
- TO THE BOARD OF HEALTH UPON SEPTIC SYSTEM COMPLETION. 9. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" LOAM & SEED POST CONSTRUCTION.
- 10. ALL SEPTIC SYSTEM COMPONENTS TO BE STAKED OUT BY PROFESSIONAL LAND SURVEYOR
- PRIOR TO SYSTEM INSTALLATION. 11. 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

<u>SITE NOTES</u>

- 1. LOCUS DOES NOT LIE WITHIN A DEP DESIGNATED ZONE II RESOURCE AREA.
- 2. LOCUS DOES LIE WITHIN A DEP ZONE A RESOURCE AREA. 3. ALL KNOWN WETLANDS WITHIN 100 FEET OF THE PROPOSED SEWAGE SYSTEM ARE SHOWN.
- 4. PROPERTY LINE DATA WAS OBTAINED FROM RECORDED DEED (14519-1)
- AND RECORDED PLANS ON FILE AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS.
- 5. THERE WERE NO ACTIVE/POTABLE WELLS OBSERVED WITHIN 100' OF THE PROPOSED SYSTEM. 6. LOCUS LIES IN FEMA ZONES "X" AS SHOWN ON FEMA COMMUNITY MAP PANEL 25021C
- 0128K DATED NOVEMBER 4, 2016. ZONE "X" IS NOT A SPECIAL FLOOD HAZARD AREA.
- 7. LOCUS DOES LIE WITHIN A DEP DESIGNATED ZONE A RESOURCE AREA.



PROJECT:	33 COM (ASSESSOR	STEM DESIGN PLAN MMON STREET R'S PARCEL: 49-1-12) MASSACHUSETTS	DESIGN: PGG CHECK: GJM JOB NO: 20-33
OWNER:	JOSEPH WEST 84 GILSON ROA SCITUATE, MA (DATE: 11/2/20 REV:
PLAN TITLE:	SEPTIC SYS	STEM DESIGN PLAN	SHEET: