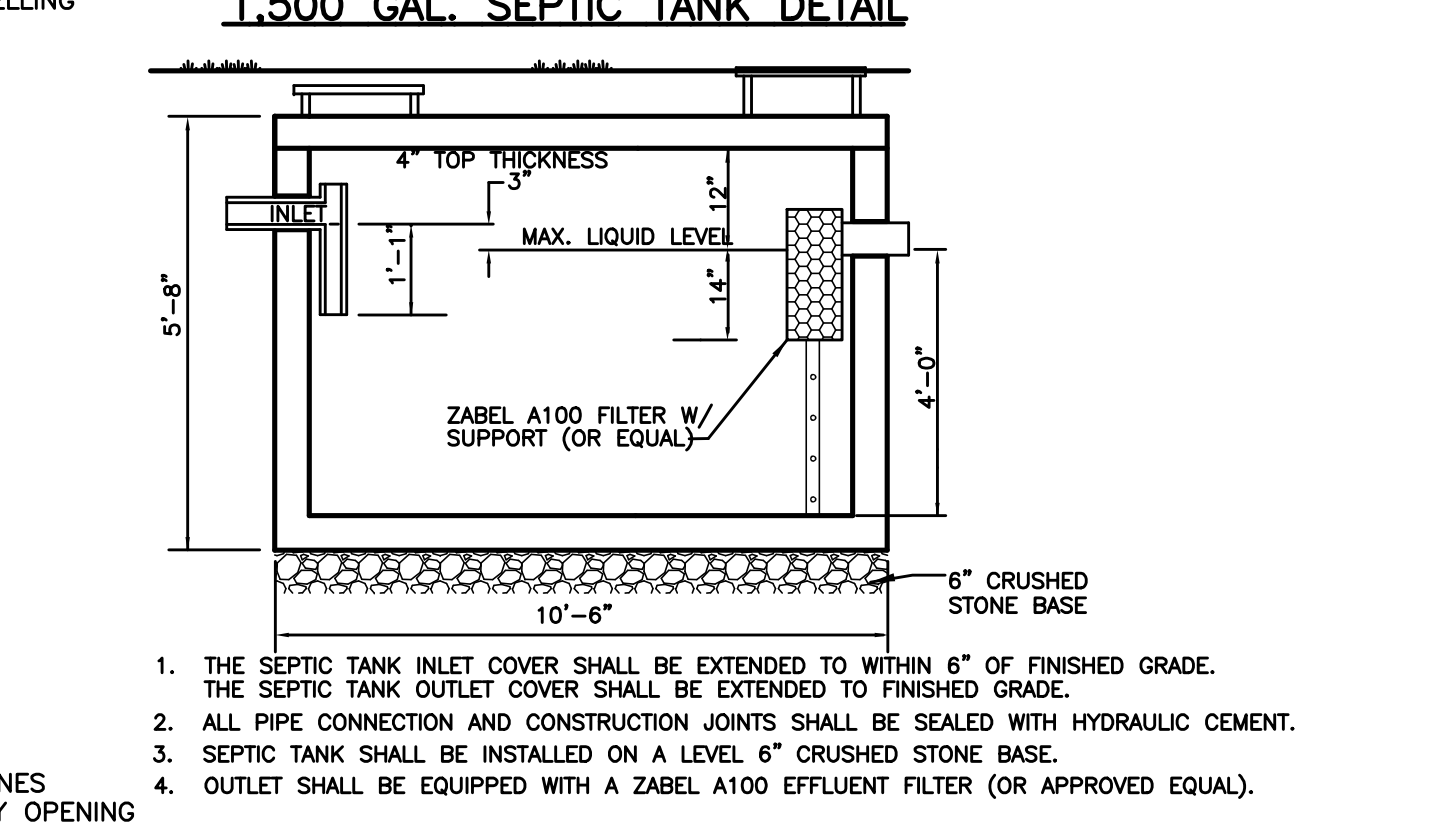
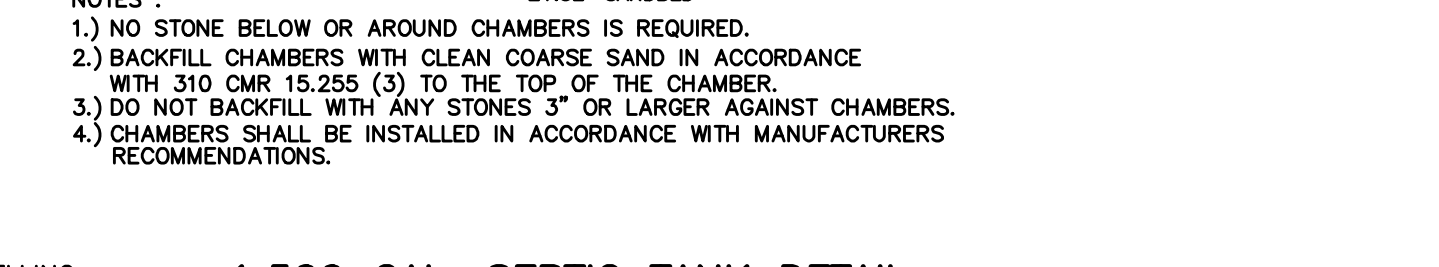
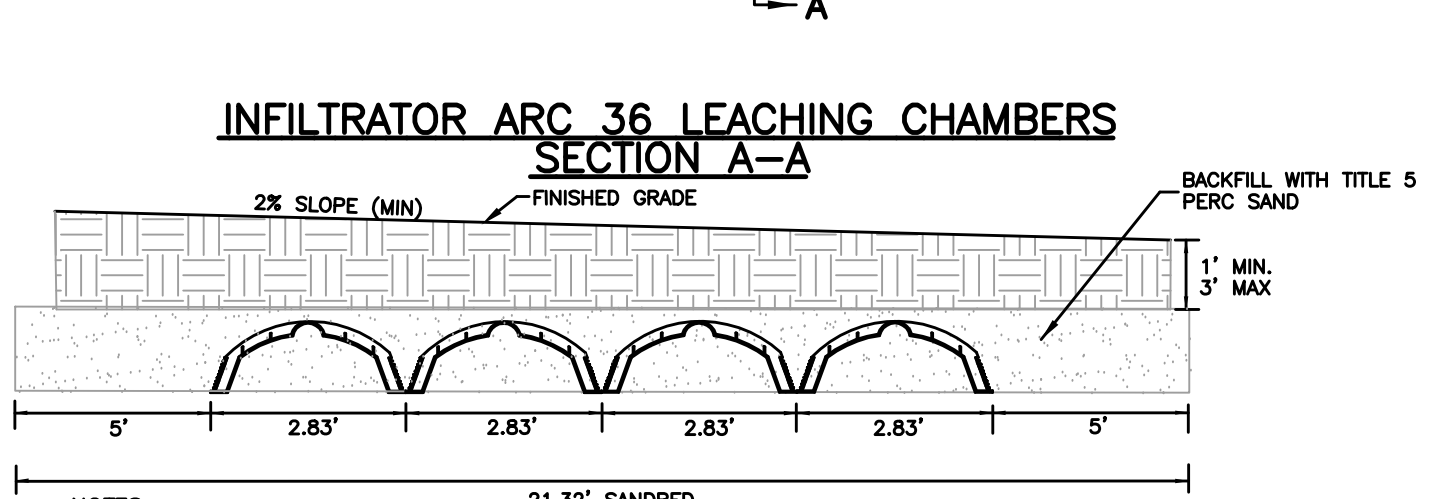
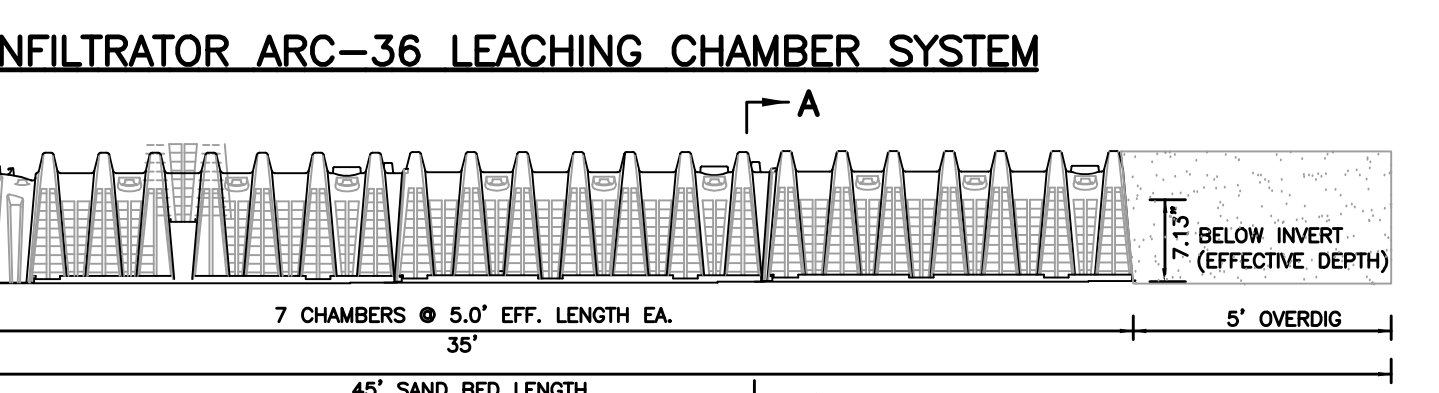
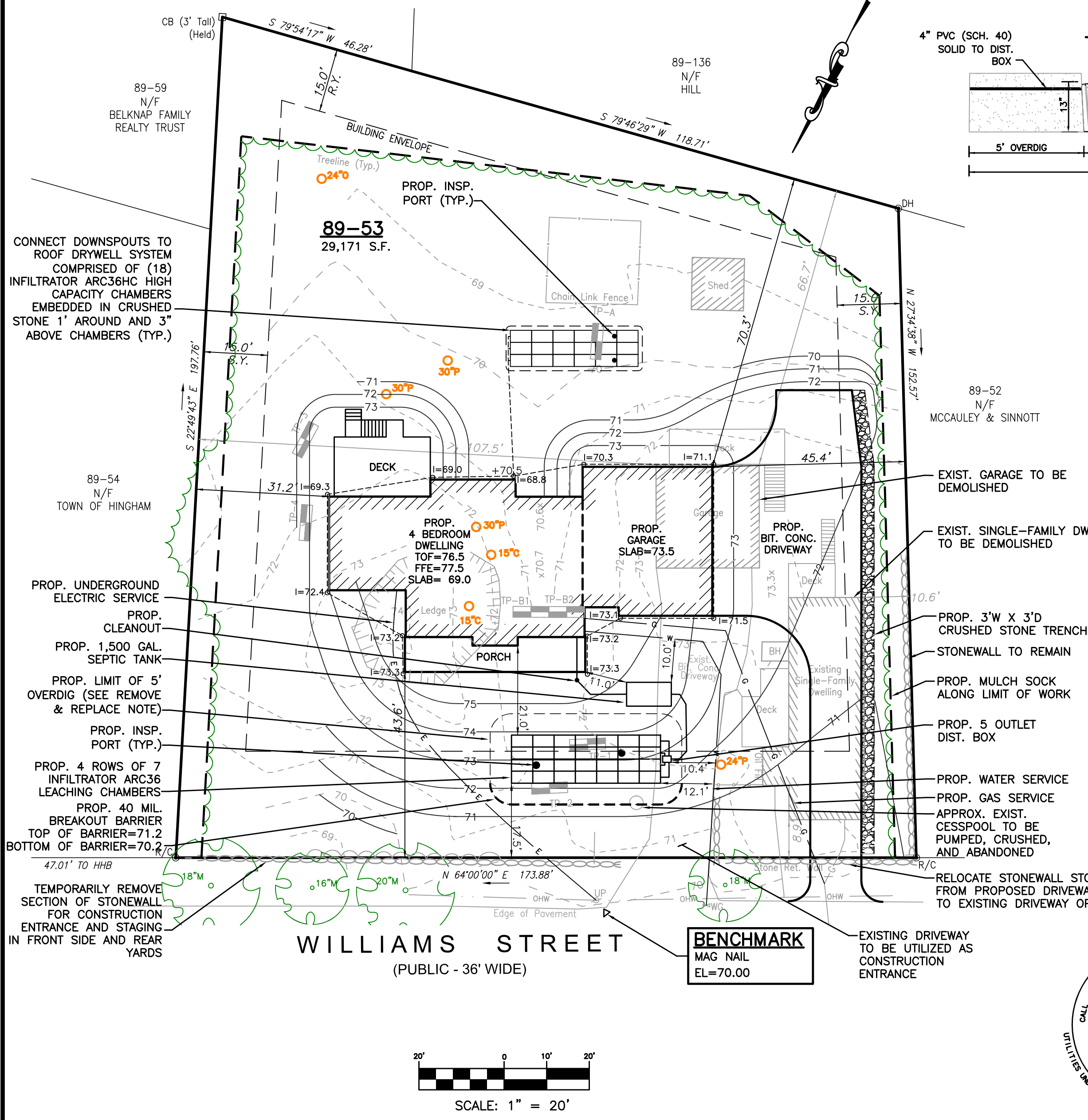
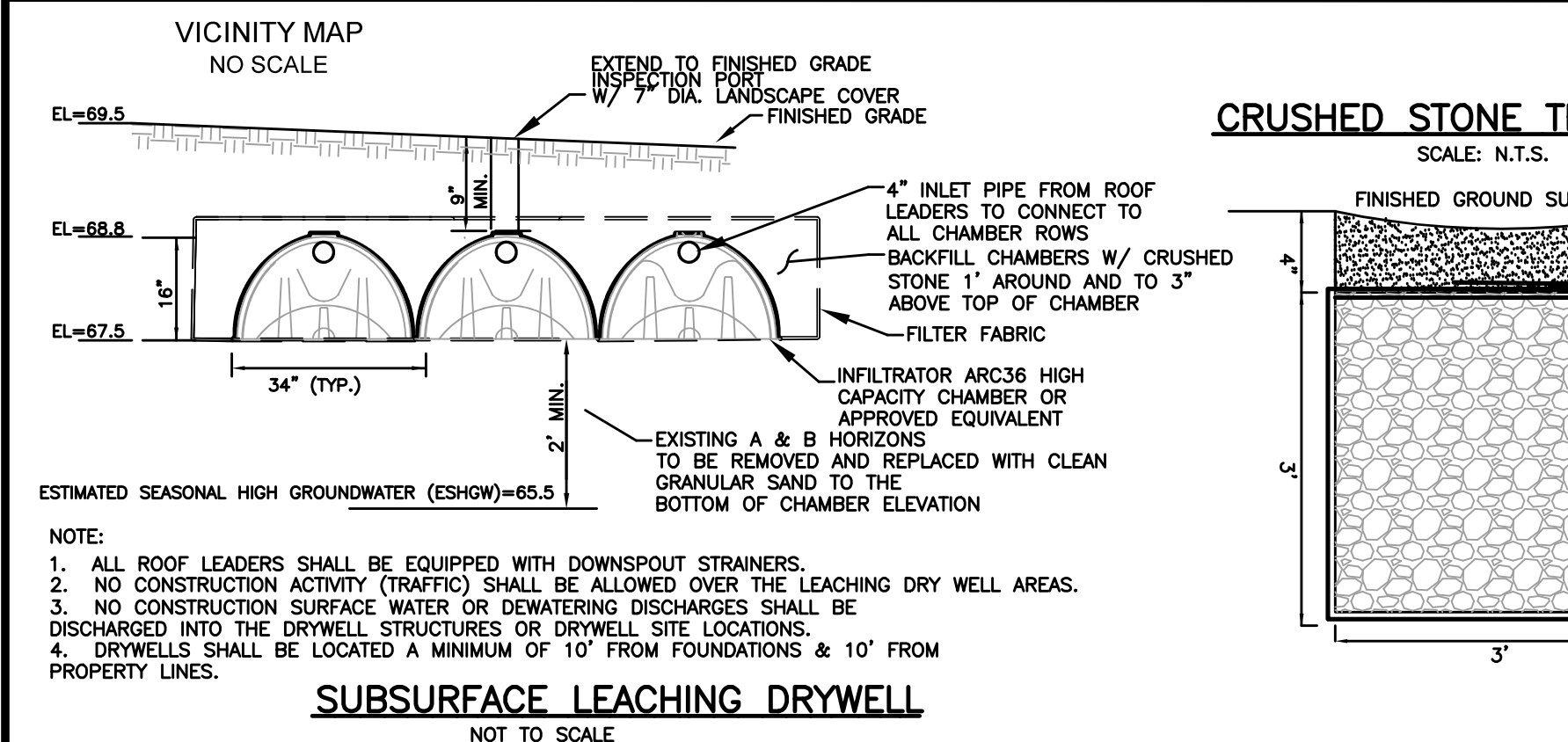
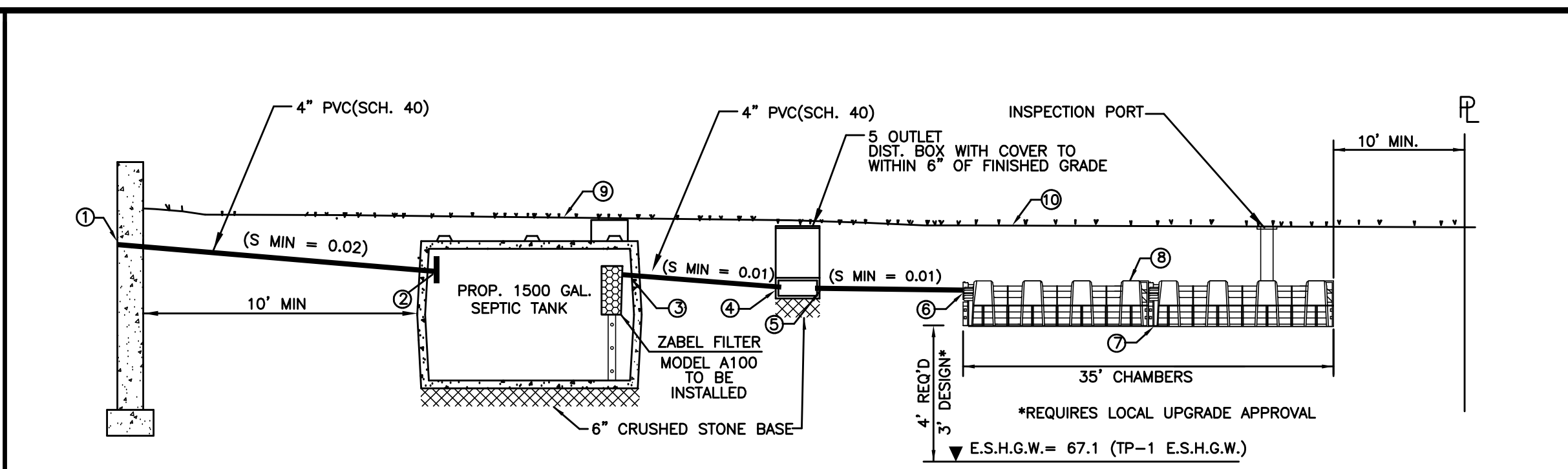
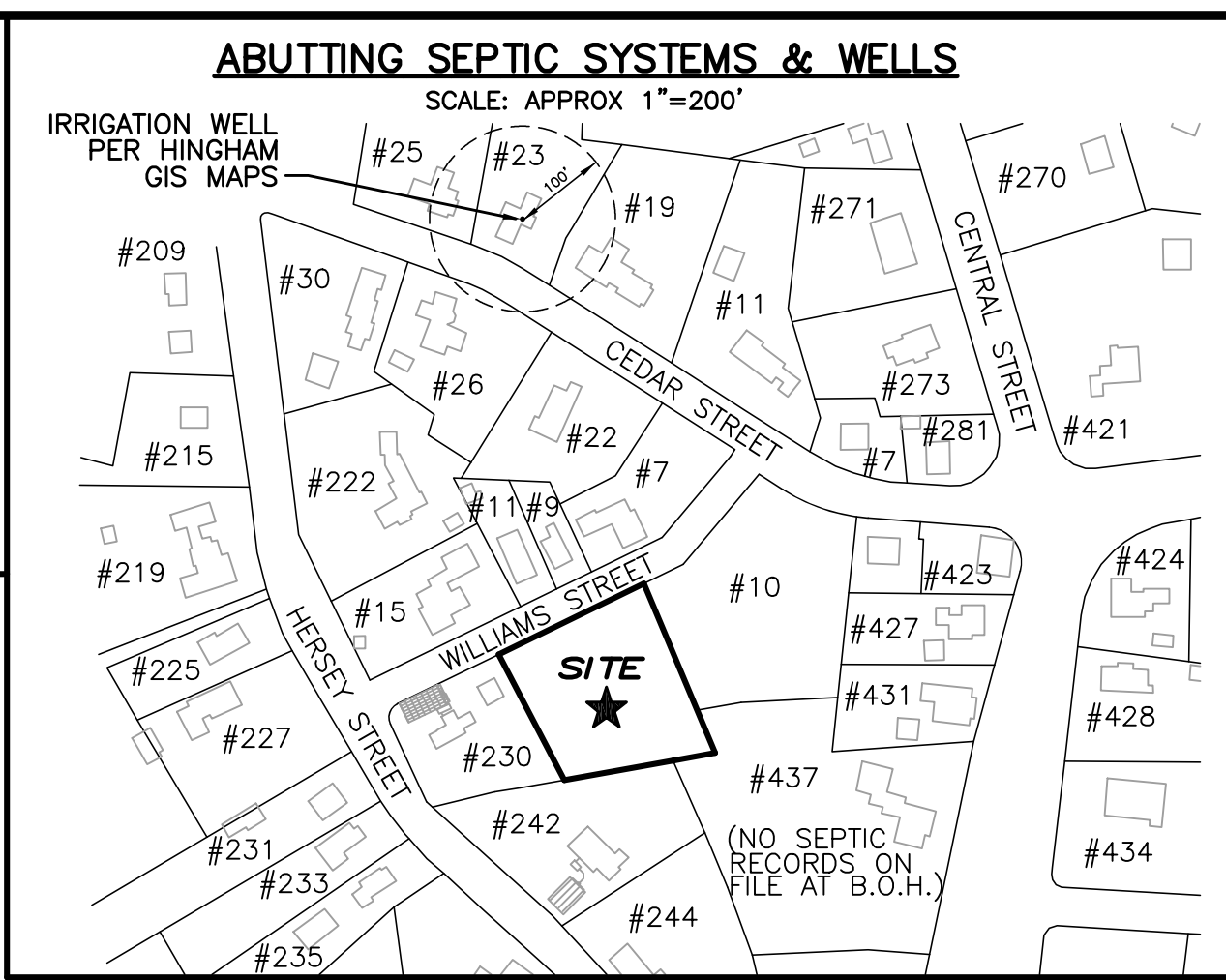


**ZONING TABLE**

CRITERIA	REQUIRED	EXISTING	PROPOSED
TOWN OF HINGHAM "RESIDENCE A" ZONING DISTRICT			
LOT AREA	20,000 S.F.	29,171 S.F.	NO CHANGE
FRONTAGE	125'	173.88'	NO CHANGE
FRONT YARD	25'	43.6'	
SIDE YARD	15'	10.6'	31.2'
REAR YARD	15'	66.7'	70.3'



**SOIL TEST DATA**

SOIL TESTING AND EVALUATION BY: JAMES GARFIELD, DEP SE#14162  
SOIL TESTING WITNESSED BY: BETTY NEE  
DATE: AUGUST 27, 2020

TP	APPROX. GRADE EL.	TEST RESULTS
TP-1	71.9	A HORIZON LOAMY SAND 10YR 3/2 7" B HORIZON LOAMY SAND 10YR 5/6 16" C HORIZON LOAMY SAND 2.5Y 6/3 80" REFUSAL WEEPING OBSERVED: NONE MOTTLING OBSERVED: 58" (EL. 67.1) PERC. RATE: 8 MPI @ 32-50" ESHGW: 58" (EL. 67.1)
TP-2	71.2	A HORIZON LOAMY SAND 10YR 3/2 8" B HORIZON LOAMY SAND 10YR 5/6 16" C HORIZON LOAMY SAND 2.5Y 6/3 65" REFUSAL WEEPING OBSERVED: NONE MOTTLING OBSERVED: 65" (EL. 65.8) PERC. RATE: NONE ESHGW: 65" (EL. 65.8)
TP-3	71.5	A HORIZON LOAMY SAND 10YR 3/2 7" B HORIZON LOAMY SAND 10YR 5/6 16" C HORIZON LOAMY SAND 2.5Y 6/3 65" REFUSAL WEEPING OBSERVED: NONE MOTTLING OBSERVED: 65" (EL. 66.1) PERC. RATE: 5 MPI @ 4-42" ESHGW: 65" (EL. 66.1)
TP-4	72.0	A HORIZON LOAMY SAND 10YR 3/2 8" B HORIZON LOAMY SAND 10YR 5/6 13" C HORIZON LOAMY SAND 2.5Y 6/3 42" REFUSAL WEEPING OBSERVED: NONE MOTTLING OBSERVED: 42" (EL. 68.5) PERC. RATE: NONE ESHGW: 42" (EL. 68.5)

**DESIGN DATA**

- BUILDING TYPE: RESIDENTIAL
- NO. OF BEDROOMS: 4
- DESIGN FLOW: 4 BEDROOMS x 110 G.P.D./BED = 440 G.P.D.
- DESIGN PERCOLATION RATE: 8 MPI (TP-1)
- GARBAGE DISPOSAL: NO
- SEPTIC TANK DESIGN REQUIREMENT: 200% DESIGN FLOW 440 X 2 = 880 GAL. (USE 1500 GAL SEPTIC TANK)
- LEACH AREA REQUIREMENTS: 0.66 GAL./S.F. BOTTOM: 0.66 GAL./S.F. SIDE: 0.66 GAL./S.F.
- TOTAL LEACH AREA REQUIRED: TITLE 5: 440 GPD / (0.66 GPD/S.F.) = 666.7 S.F. PROVIDED: 4 ROWS OF 7 INFILTRATOR ARC-36 LEACHING CHAMBERS 28 CHAMBERS x 5'L (EA.) x 4.8 S.F./L.F. = 672 S.F. CAPACITY: 672 S.F. x 0.66 GPD/S.F. = 443.5 GPD \*\*EFFECTIVE AREA PER GENERAL USE CERTIFICATION ISSUED BY DEP.

**\*\*REMOVE & REPLACE\*\***

CONTRACTOR TO EXCAVATE ALL UNSUITABLE MATERIAL TO A DEPTH OF 16"± (TO C HORIZON) & REPLACE WITH CLEAN TITLE 5 PERC SAND TO EL. = 71.18 DIRECTLY UNDER AND WITHIN 5-FT. HORIZONALLY OF THE PROPOSED SOIL ABSORPTION SYSTEM. (APPROX. SAND VOL. = 1.2% x 45'L x 21.32'W x (71.18-69.9) / 27 = 55 C.Y. ±

\*CONTRACTOR TO EXCAVATE ALL CONTAMINATED SOIL ASSOCIATED WITH EXISTING CESSPOOL WITHIN AREA OF 5' OVERDIG AND REPLACE WITH CLEAN TITLE 5 PERC SAND.

**HINGHAM BOARD OF HEALTH SUPPLEMENTARY RULES & REGULATIONS FOR THE DISPOSAL OF SANITARY SEWAGE**

SECTION VII.A: TO ALLOW A REDUCTION FROM 5' (REQ'D) TO 2.8' (PROP.) BETWEEN THE BOTTOM OF THE LEACHING FACILITY AND THE MAXIMUM GROUNDWATER ELEVATION.

SECTION VII.M(1): TO ALLOW A REDUCTION FROM 5' (REQ'D) TO 2.8' (PROP.) OF NATURALLY OCCURRING PERVIOUS STRATA ABOVE THE MAXIMUM GROUNDWATER ELEVATION.

**LOCAL UPGRADE APPROVAL REQUESTS**

310 CMR 15.405(h): TO ALLOW A REDUCTION FROM 4' (REQ'D) TO 3' (PROP.) BETWEEN GROUNDWATER AND THE BOTTOM OF THE SAS.

**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: 1. AFTER EXCAVATION OF ALL UNSUITABLE MATERIAL FROM SOIL ABSORPTION AREA. 2. PRIOR TO COVERING THE CONSTRUCTED SYSTEM. 3. 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 PARGING 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.
- THE SEPTIC FIELD SHALL BE EXCAVATED (REMOVE UNSUITABLE MATERIAL (A & B HORIZONS)) PRIOR TO POURING NEW FOUNDATION.

**SITE NOTES**

- LOCUS DOES NOT LIE WITHIN A DEP DESIGNATED ZONE II AREA.
- THERE ARE NO KNOWN WETLANDS WITHIN 100 FEET OF THE PROPOSED SEWAGE SYSTEM.
- PROPERTY LINE DATA WAS OBTAINED FROM RECORDED DEED (BK. 53423 PG. 78) AND RECORDED PLANS ON FILE AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS
- ALL RECORDED WELLS OBSERVED WITHIN 500'-FT. OF THE PROPOSED SYSTEM ARE SHOWN.
- LOCUS LIES IN FEMA FLOOD ZONE "X" AS SHOWN ON FEMA COMMUNITY MAP PANEL 25023C 00B2J DATED JULY 17, 2012.
- ALL KNOWN EASEMENTS ON THE SUBJECT PROPERTY ARE SHOWN.
- ALL KNOWN ABUTTING SEPTIC SYSTEMS TO THE PROPOSED SYSTEM ARE SHOWN.

PREPARED BY:

PROJECT: 14 WILLIAMS STREET (ASSESSOR'S PARCEL 89-53) HINGHAM, MASSACHUSETTS

DESIGN: JDG

CHECK: JMH

JOB NO: 20-283

DATE: 10/2/2020

REV: 10/15/2020

10/22/2020

10/29/2020

11/11/2020

APPLICANT/OWNER: KOLIBRI LLC 90 METZLER ROAD EAST BRIDGEWATER, MA 02333

PLAN TITLE: SITE & SEPTIC DESIGN PLAN

SHEET: 1