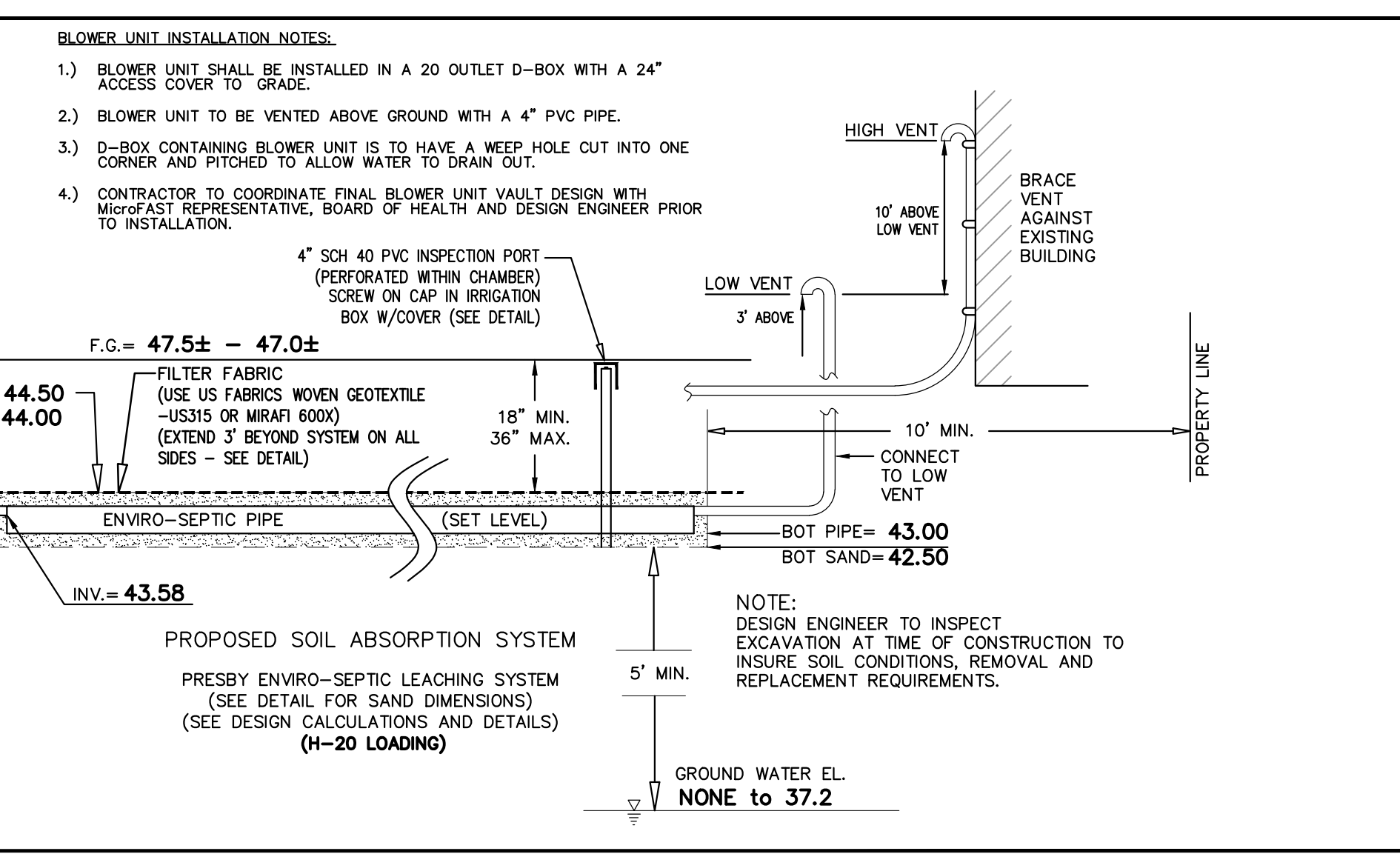
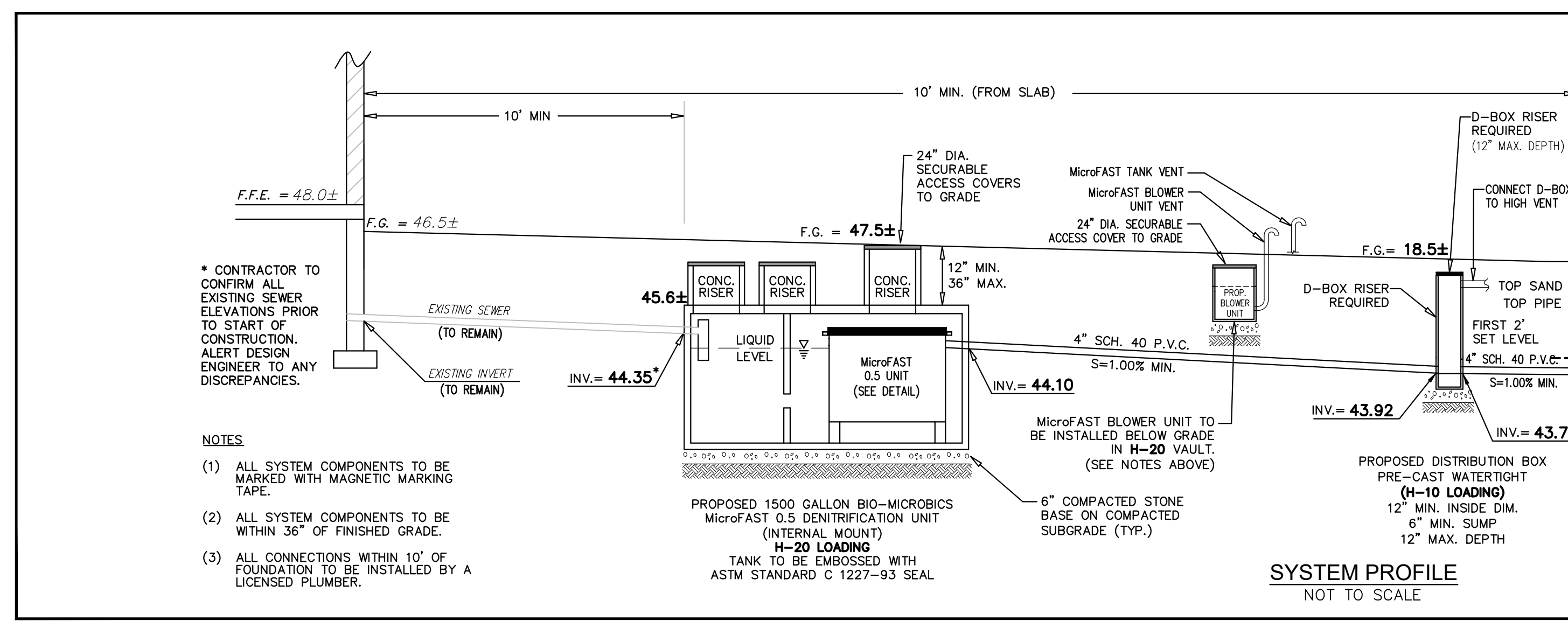


- Notes**
- BENCHMARK: ELEVATION = 47.33 (NAVD88) TOP OF CONCRETE BOUND
  - ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO TITLE 5 AND THE TOWN OF BOURNE BOARD OF HEALTH REGULATIONS.
  - ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
  - NO FIELD MODIFICATION TO THE SYSTEM SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER AND BOARD OF HEALTH.
  - ALL JOINTS AND COVERS TO BE WATER-TIGHT.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES.
  - A CERTIFICATE OF COMPLIANCE MUST BE OBTAINED FROM THE BOARD OF HEALTH PRIOR TO BACKFILLING SYSTEM. AN AS-BUILT PLAN MUST BE PREPARED BY THE DESIGN ENGINEER.
  - OWNER/APPLICANT:  
EDWARD G. JACOUBS  
PERI A. JACOUBS  
60 ARLINGTON DRIVE  
BUZZARDS BAY, MA 02532
  - DEED REFERENCE: Deed Bk: 26359 Pg: 201
  - PLAN REFERENCE: Plan Bk: 124 Pg: 103 (LOT 6)
  - THE DESIGN IS INTENDED TO MEET TITLE 5 AND OTHER APPLICABLE REQUIREMENTS. THIS PLAN DOES NOT GUARANTEE THAT THE SYSTEM WILL BE INSTALLED AS DESIGNED, NOR DOES THIS PLAN GUARANTEE THE OPERATION OF THE SYSTEM.
  - THIS SYSTEM IS NOT DESIGNED NOR INTENDED FOR USE WITH A GARBAGE GRINDER.
  - THE SYSTEM OWNER SHALL BE RESPONSIBLE TO PUMP THE SEPTIC TANK AT LEAST ONCE EVERY THREE YEARS.
  - LOCUS DOES NOT FALL WITHIN A ZONE II WELLHEAD PROTECTION AREA BUT DOES FALL WITHIN THE BUZZARDS BAY WATER RESOURCE DISTRICT.
  - LOCUS DOES NOT FALL WITHIN AN NHESP ESTIMATED HABITAT OF RARE WILDLIFE AND PRIORITY HABITAT OF RARE SPECIES.
  - LOCUS PARTIALLY FALLS WITHIN A SPECIAL FLOOD HAZARD ZONE "VE" (EL. 19) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP No. 25001C-0315-J, dated 7/16/2014.
  - CONTRACTOR TO REFER TO ALL MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS FOR INSTALLATION OF THE MICROFAST UNIT AND PRESBY ENVIRO-SEPTIC SYSTEM.
- \*\* SEE ADDITIONAL NOTES \*\***

**NON-CONFORMING PRE-EXISTING**

ZONE-R-40	REQUIRED	EXISTING	PROPOSED
LOT AREA:	40,000 s.f.	24,054± s.f.	24,054± s.f.
FRONT YARD:	20'	33'±	33'±
SIDE/REAR YARD:	12'	14'±/77'±	14'±/77'±
MAX. GROSS FLOOR AREA TO LOT AREA	20% (4,810 s.f. max.)	8.6% (2,088 s.f.)	15.0% (3,607 s.f.)
MAX. LOT COVERAGE:	20% (4,810 s.f. max.)	11.0% (2,697 s.f.)	18.0% (4,340 s.f.)
BUILDING HEIGHT:	35'	<35'	<35'

Notes:  
(a) SEE TABLE 2456 FOR NON-CONFORMING LOTS IN BOURNE ZONING BY LAWS.  
(b) AVERAGE EXISTING GRADE LINE CALCULATE AS: EL. 46.5



**ADDITIONAL NOTES**

- THE RECORD PROPERTY OWNER IS TO FILE A NOTICE OF DEED RESTRICTION AT THE BARNSTABLE COUNTY REGISTRY OF DEEDS PRIOR TO THE INSTALLATION OF THE SYSTEM, INDICATING THE USE OF AN INNOVATIVE/ALTERNATIVE SEPTIC SYSTEM ON THE PROPERTY.
- HOMEOWNER IS TO ESTABLISH AN OPERATION & MAINTENANCE PLAN WITH A COMPANY CERTIFIED SYSTEM OPERATOR FOR THE MICROFAST UNIT. ALL SYSTEM TESTING, MONITORING & REPORTING IS TO BE CONDUCTED IN ACCORDANCE TO THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) REMEDIAL USE PERMITS.
- CONTRACTOR TO COORDINATE PLACEMENT OF ALL ALARM PANELS WITH THE HOMEOWNER, THE BOARD OF HEALTH & SYSTEM MANUFACTURERS PRIOR TO INSTALLATION.
- MICROFAST BLOWER UNIT TO BE PLACED AT THE REAR OF THE EXISTING SHED. BLOWER UNIT SHALL BE SCREENED FROM VIEW WITH SHRUBS AND/OR BUSHES (NOT SHOWN ON PLAN FOR CLARITY).
- FINAL LOCATIONS OF HIGH AND LOW VENTS ARE TO BE PLACED AS SHOWN ON SITE PLAN ANY MODIFICATIONS ARE TO BE APPROVED BY THE BOARD OF HEALTH.
- SOIL CONDITIONS ENCOUNTERED DURING EXCAVATION MAY DIFFER FROM THE PREVIOUSLY OBSERVED CONDITIONS AT THE TEST PITS. ADDITIONAL REMOVAL AND REPLACEMENT OF SOIL MAY BE REQUIRED. IF UNDESIRABLE CONDITIONS ARE ENCOUNTERED, THE DESIGN ENGINEER AND THE BOARD OF HEALTH SHALL BE CONSULTED.
- NO STRUCTURES PROPOSED ON ANY SLOPE > 25%.

**PROPOSED S.A.S. VARIANCE REQUEST**

PROPOSED S.A.S. TO TOP OF COASTAL BANK = 78'± OR (72'± VARIANCE)  
PROPOSED S.A.S. TO BUTTERMILK BAY (M.H.W.) = 140'± OR (10'± VARIANCE)

Prepared By:

**BRACKEN ENGINEERING, INC.**

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19 OLD SOUTH ROAD NANTUCKET, MA 02554  
(tel) 508.325.0044 (www.brackeneng.com)

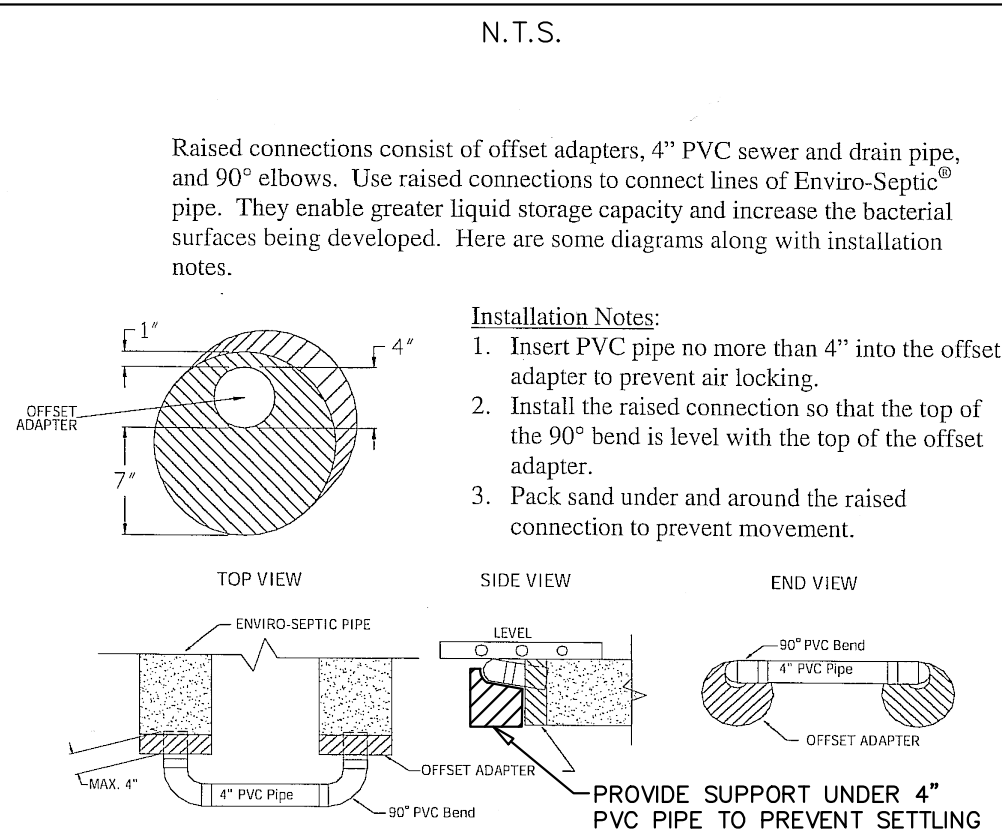
**SUBSURFACE SEWAGE DISPOSAL PLAN**  
IN BOURNE, MASSACHUSETTS

Prepared For:  
**EDWARD G. JACOUBS & PERI A. JACOUBS**  
#60 ARLINGTON DRIVE  
MAP 19.2 PARCEL 131

No.	Date	Revision Description	By
4	10/19/2021	REVISED FOR B.O.H. COMMENTS	JPH
3	10/5/2021	REVISED FOR B.O.H. SUBMISSION	JPH
2	2/17/21	REVISED PER D.E.P. (S.O.C.) COMMENTS	JPH
1	2/10/20	REVISED PER CON. COMM. COMMENTS	JPH

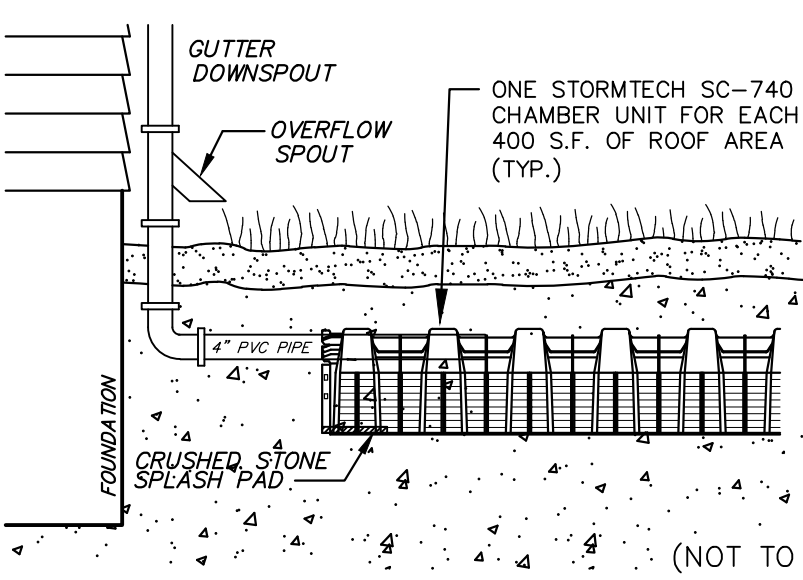
Date: DECEMBER 23, 2019 Drawn: RED/BEI Checked: ZLB/AMG Sheet: 1 of 2

**OFFSET ADAPTER WITH ENVIRO-SEPTIC PIPE RAISED CONNECTION DETAIL**

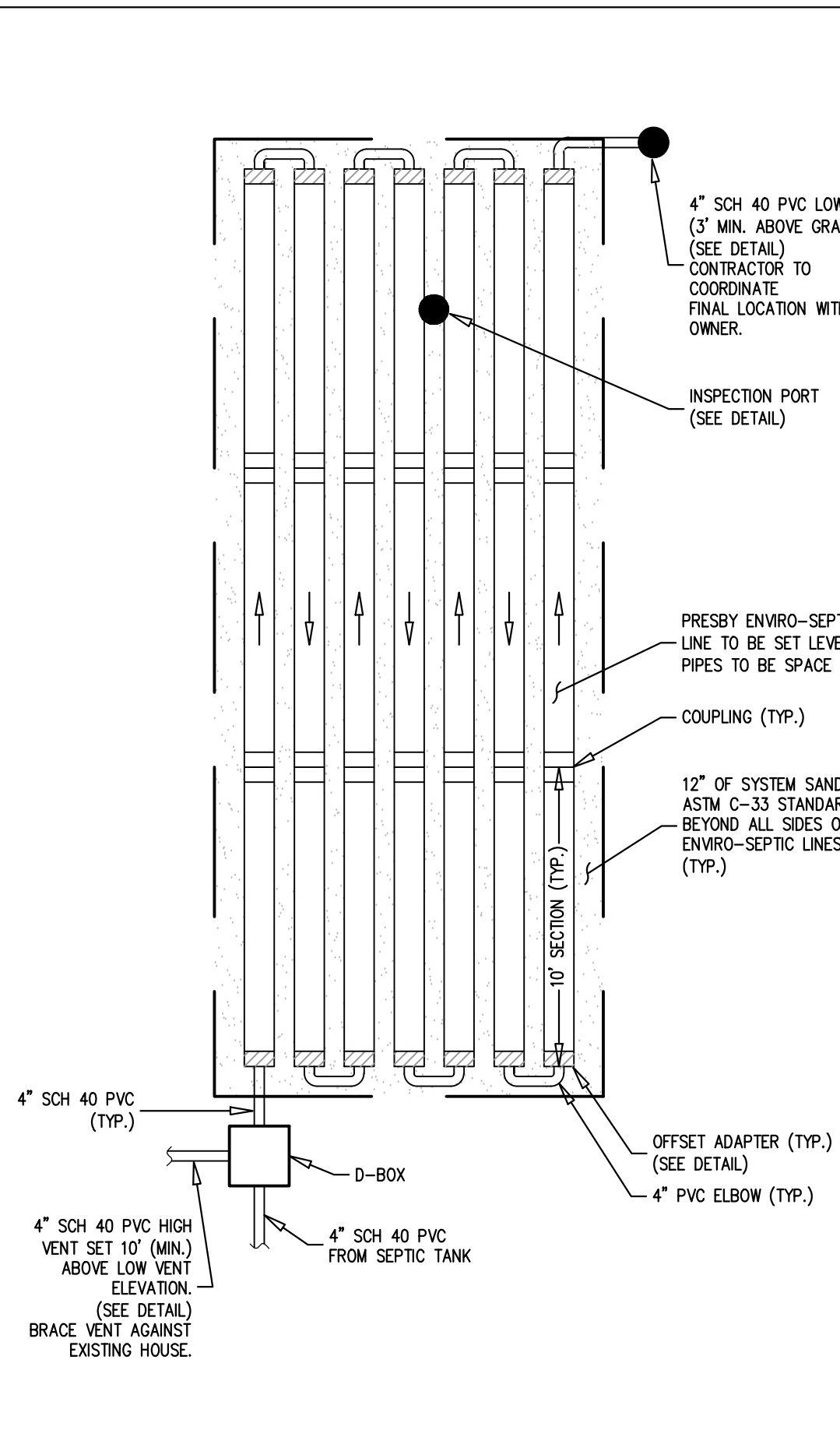


**ROOF RUNOFF STORMWATER SYSTEM**

NOTE: CONTRACTOR IS TO FIELD COORDINATE THE REQUIRED NUMBER OF AND FINAL LOCATION OF ROOF STORMWATER SYSTEMS WITH FINAL DOWNSPOUT LOCATIONS AND CONTRIBUTING ROOF AREAS.



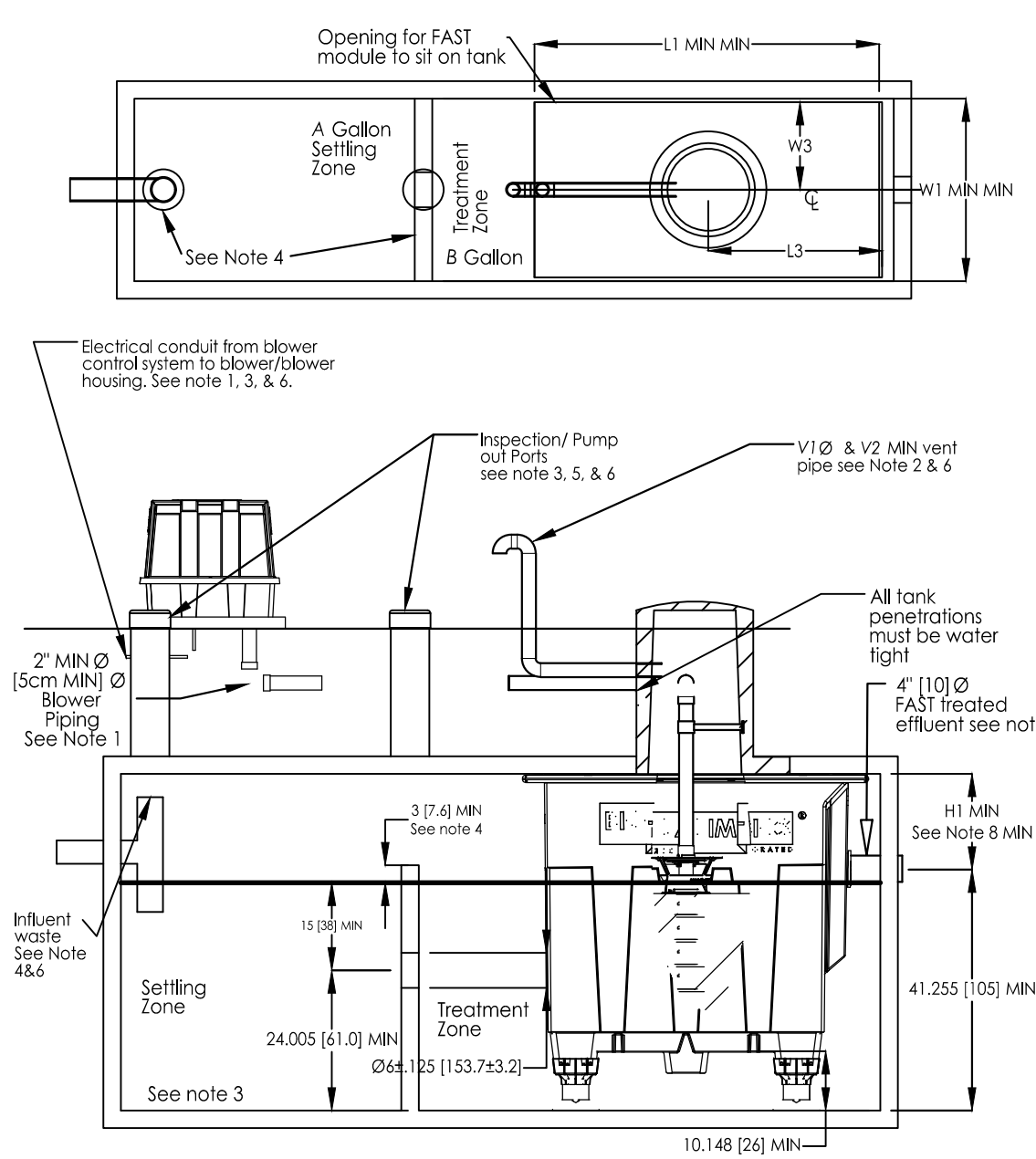
**PRESBY ENVIRO-SEPTIC LEACHING SYSTEM LAYOUT**



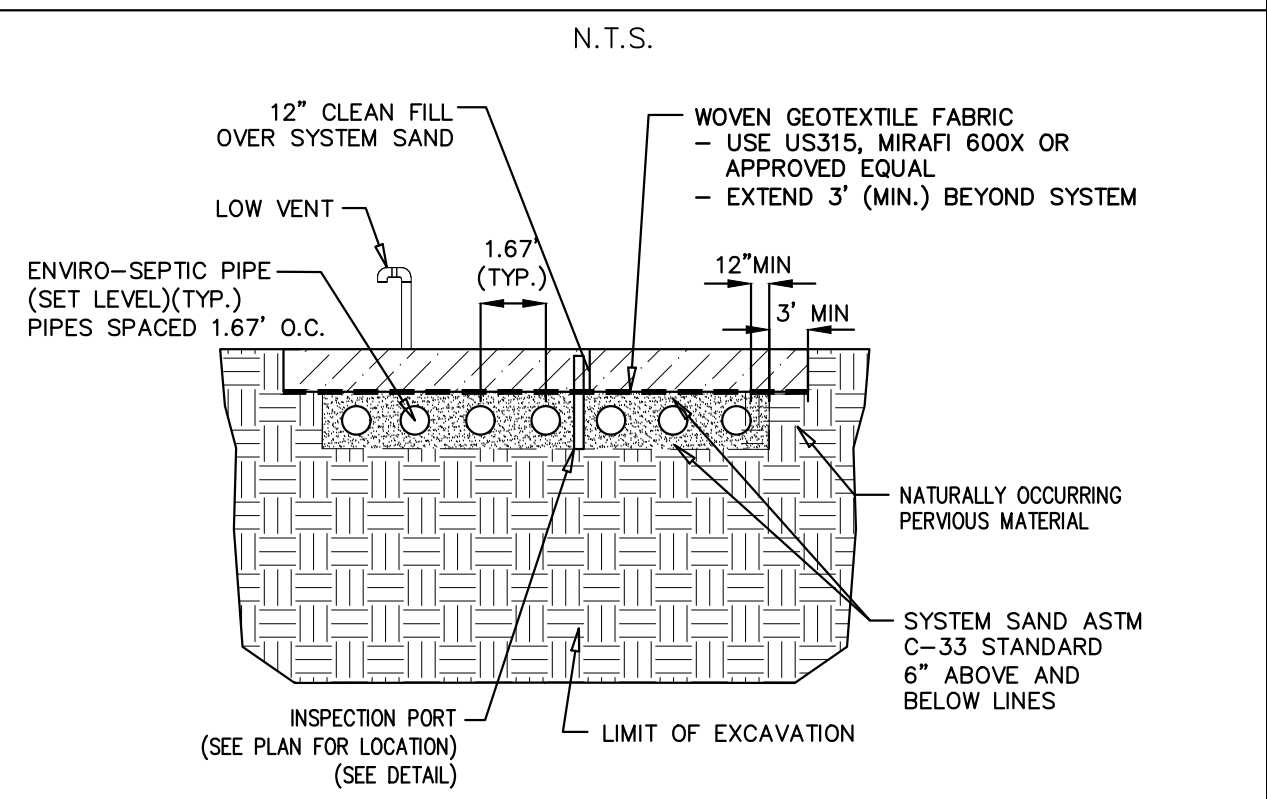
**MicroFAST 0.5 FAST UNIT (INTERNAL MOUNT)**



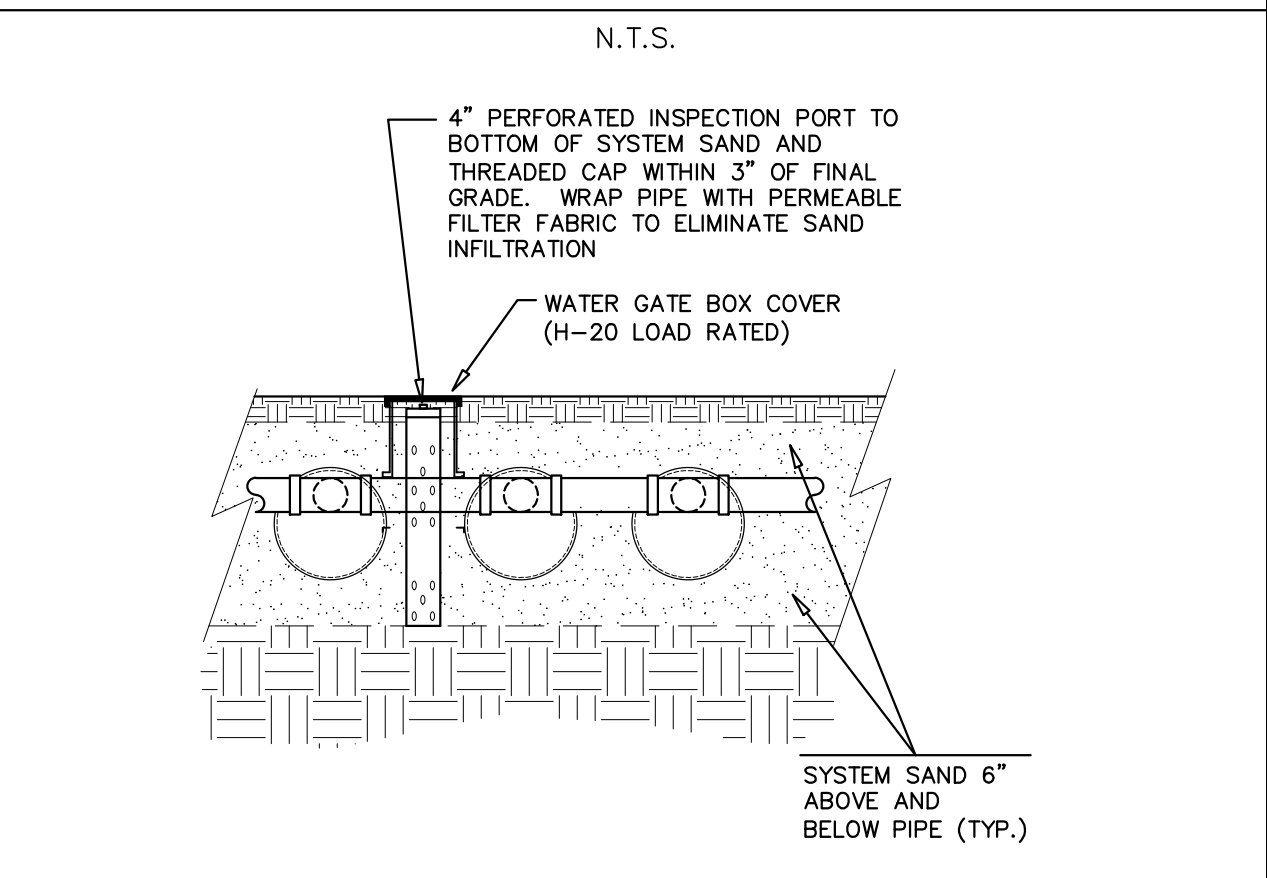
- MicroFAST Notes:**
- Blower piping to FAST® may not exceed 100FT [30.5m] total length and use a maximum of 4 elbows. For distances greater than 100FT [30.5m] - consult factory. Blower must be located above flood/standing water levels on a concrete base 24" x 18" x 2" (614x45.7x50mm) minimum.
  - Vent to be located above finish grade or higher to avoid infiltration. Cap with vent grate w/ at least 7.1 sq in. [45.8 sq. cm] open surface area. Secure with stainless steel screws or Run vent to desired location and cover opening with vent grate w/ at least 7.1sq in. [45.8 sq. cm] of open surface area. Secure with stainless steel screws. Vent piping must not allow excess moisture build up or back pressure.
  - All appliances to FAST® (e.g. tank pump units, etc.) must conform to all country, state, province, and local plumbing and electrical codes. The blower control system is provided by Bio-Microbics, Inc.
  - Either the influent pipe line shall be fitted with a pipe cap or the baffle separating the two zones shall be extended to the top of the tank. If choosing to use the pipe cap, then the baffle shall be at least 3"[8cm] higher than the water level as shown on the drawing.
  - All inspection, viewing and pump out ports must be secured to prevent accidental or unauthorized access.
  - Tank, anchors, piping, conduit, blower housing pad and vents are provided by others.
  - All piping and ancillary equipment installed after FAST® must not impede or restrict free flow of effluent.
  - No more than 4 FT [1.2 m] of fill may be placed over unit lid. Unit may stand inside tank MicroFAST® 0.5 with vent. Refer to installation manual for more details.



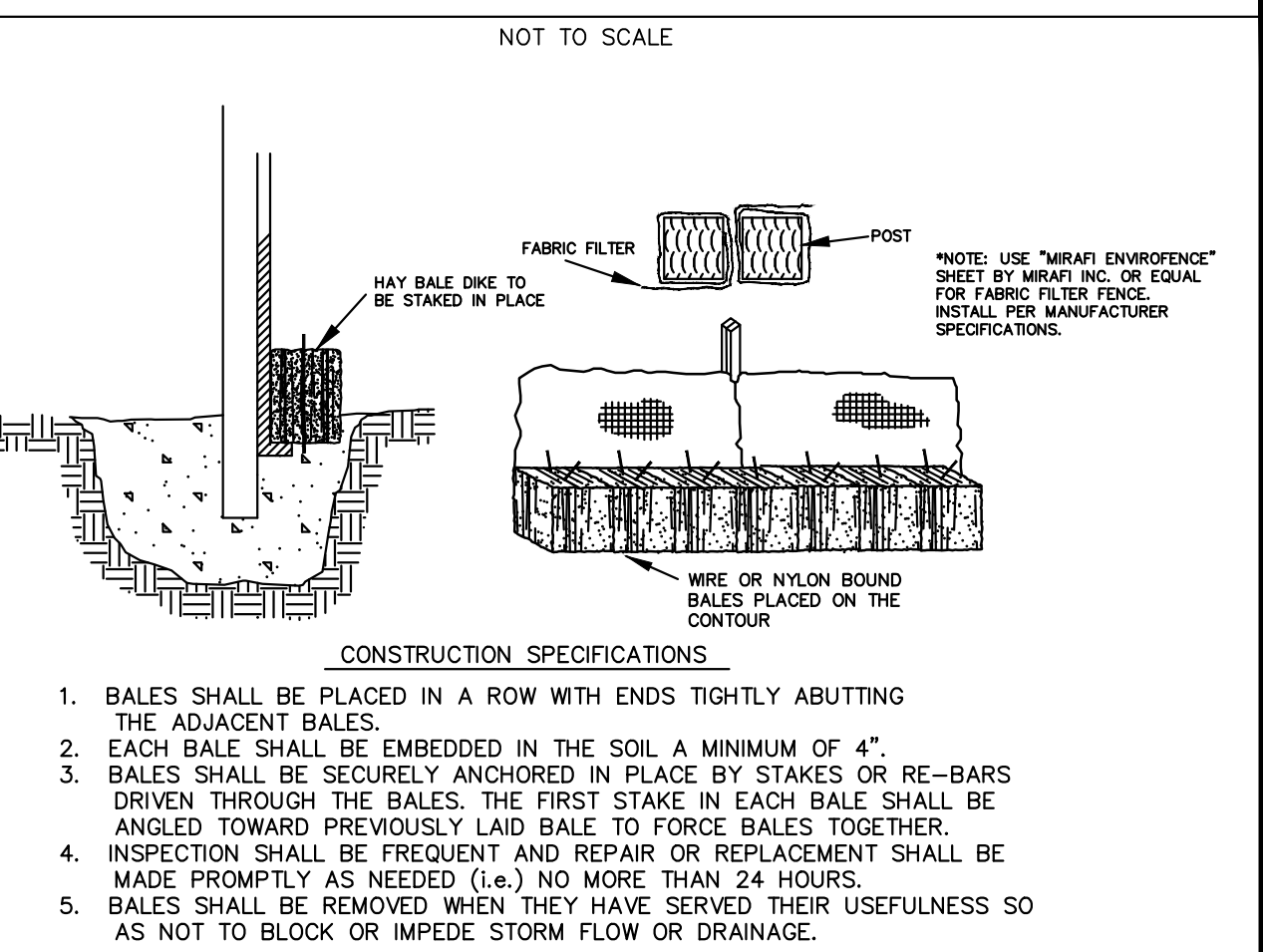
**TYPICAL ENVIRO-SEPTIC IN-GROUND LEVEL SECTION**



**INSPECTION PORT DETAIL**



**SILT FENCE W/ HAYBALE DETAIL**



**ADDITIONAL EROSION CONTROL NOTES**

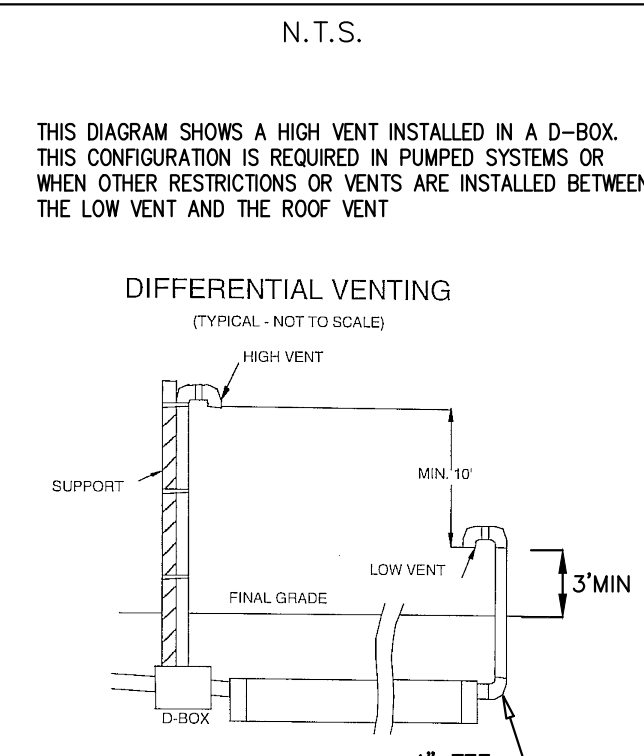
- ANY BUILDING SUPPLIES, DEBRIS, FILL OR OTHER MATERIALS SHALL BE STOCKPILED AS FAR AWAY FROM DESIGNATED WETLAND RESOURCE AREAS AS PRACTICABLE, AND AT A LOCATION TO PREVENT SUCH MATERIALS FROM ENTERING THE RESOURCE AREA.
- ALL DISTURBED OR EXPOSED SOIL SURFACES SHALL BE TEMPORARILY STABILIZED WITH HAY, STRAW, MULCH OR ANY OTHER PROTECTIVE COVERING AND/OR METHOD APPROVED BY THE U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCE CONSERVATION SERVICE WITHIN 24 HOURS OF DISTURBANCE IN ORDER TO PREVENT EROSION FROM TAKING PLACE. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE IMMEDIATELY STABILIZED AGAINST EROSION AND REVEGETATED WITH APPROPRIATE FAST GROWING EROSION CONTROL SPECIES OR LOCAL INDIGENOUS PLANTS WITH 30 DAYS OF FINAL SITE GRADING.

**SOIL LOGS**

TP NO.	1	2
GRD. EL.	47.5	47.2
GW. EL.	NONE TO 37.5	NONE TO 37.2
0"	47.5	47.2
Ap	LOAMY SAND 10YR 2/1	LOAMY SAND 10YR 2/1
11"	46.6	46.3
Bw	LOAMY SAND 10YR 3/6	LOAMY SAND 10YR 3/6
37"	44.4	44.1
C	MEDIUM SAND 2.5Y 7/4	MEDIUM SAND 2.5Y 7/4
120"	37.5	37.2
	NO MOTTLING NO WATER	NO MOTTLING NO WATER

DATE PERFORMED: NOVEMBER 20, 2019  
 SOIL EVALUATOR: ROBERT E. BEMER, E.I.T. (SE #42320)  
 WITNESSED BY: KAYLA DAVIS - BQH INSPECTOR  
 PERC. RATE: < 2 MINUTES/INCH  
 SOIL CLASS: CLASS I  
 MAX. GROUND WATER ELEV.: NONE TO 37.2  
 METHOD OF DETERMINATION: NO MOTTLING/WATER  
 (SEE SOIL REPORT FOR MORE DETAILED DESCRIPTION)

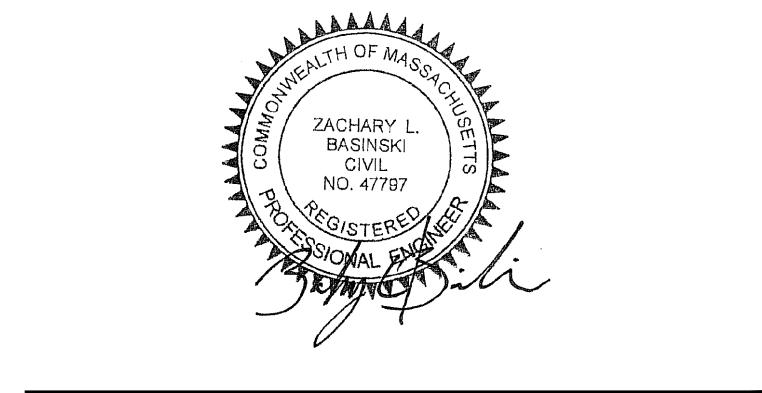
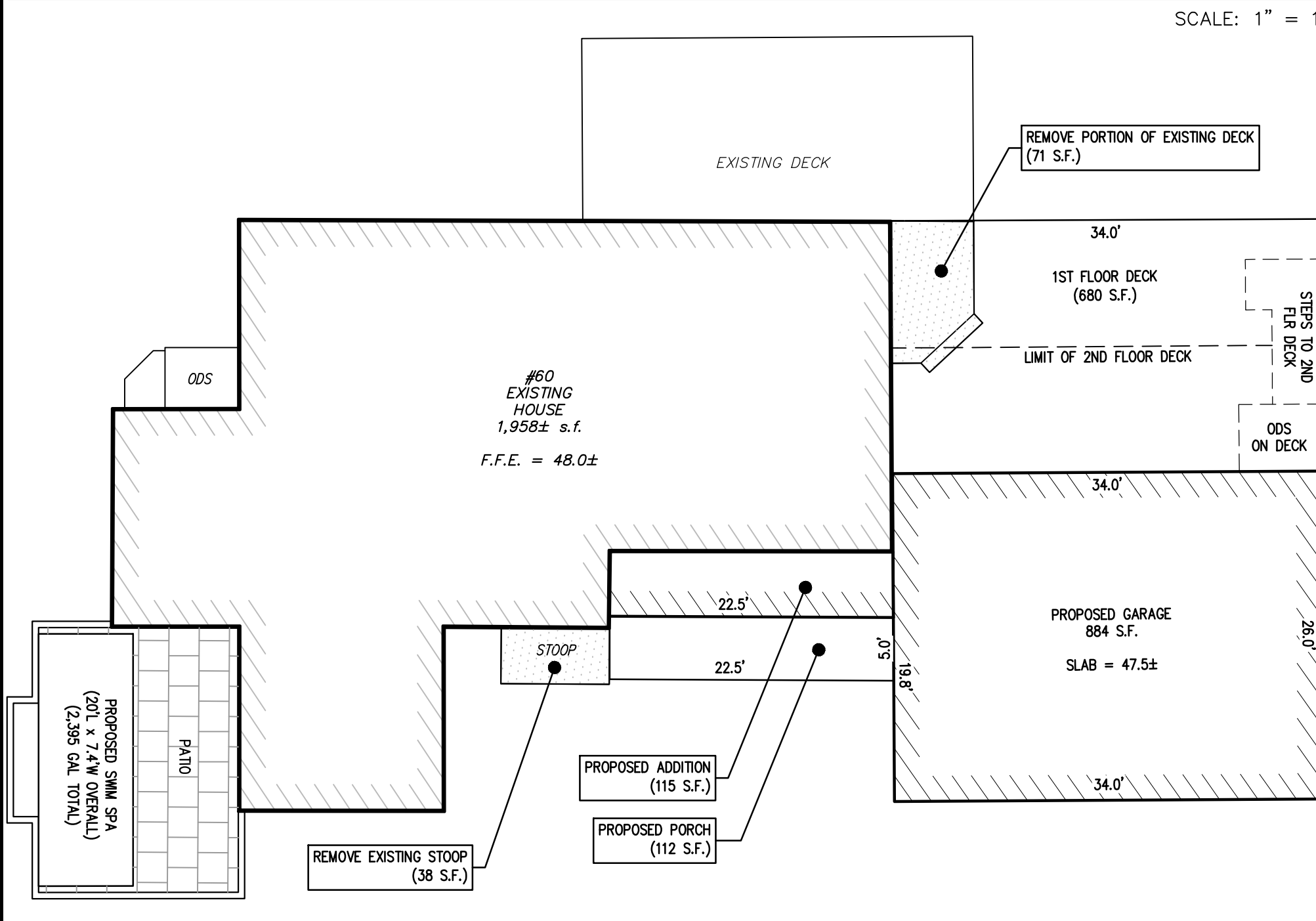
**DIFFERENTIAL VENTING DETAIL**



**DESIGN CALCULATIONS**

SOIL TEXTURAL CLASS: CLASS I  
 PERC. RATE: < 2 MINUTES/INCH  
 NO. OF BEDROOMS: 3  
 DESIGN FLOW REQUIRED: 330 GPD  
 SEPTIC TANK REQUIRED: 1,500 GALLONS  
 SEPTIC TANK PROVIDED: MicroFAST 0.5 Unit  
**LEACHING SYSTEM:**  
 Presby ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEM  
 416 S.F. AREA x 2' DEEP SYSTEM (SEE DETAIL FOR FIELD DIMENSIONS)  
**EFFECTIVE LEACHING:** (BASED ON REMEDIAL USE APPROVAL)  
 ENVIRO-SEPTIC PIPE REQUIRED: 70 L.F. PER 110 GAL/DAY  
 ENVIRO-SEPTIC PIPE PROVIDED  
 1 SECTION WITH 7 LINES OF 30' LENGTH EACH  
 TOTAL LENGTH = 1 x (7 x 30') = 210 L.F.  
 210 L.F. = 330 GAL/DAY  
 LINES SPACED 1.67' ON CENTER  
 EACH SECTION = 210 L.F. = 330 GPD < 500 GPD MAX/SECTION

**PROPOSED ADDITION DETAIL**



Prepared By:  
**BRACKEN ENGINEERING, INC.**  
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**PROPOSED SUBSURFACE SEWAGE DISPOSAL PLAN IN BOURNE, MASSACHUSETTS**  
 Prepared For:  
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 #60 ARLINGTON DRIVE MAP 19.2 PARCEL 131

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1	2/10/20	REVISED PER CON. COMM. COMMENTS	RED
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