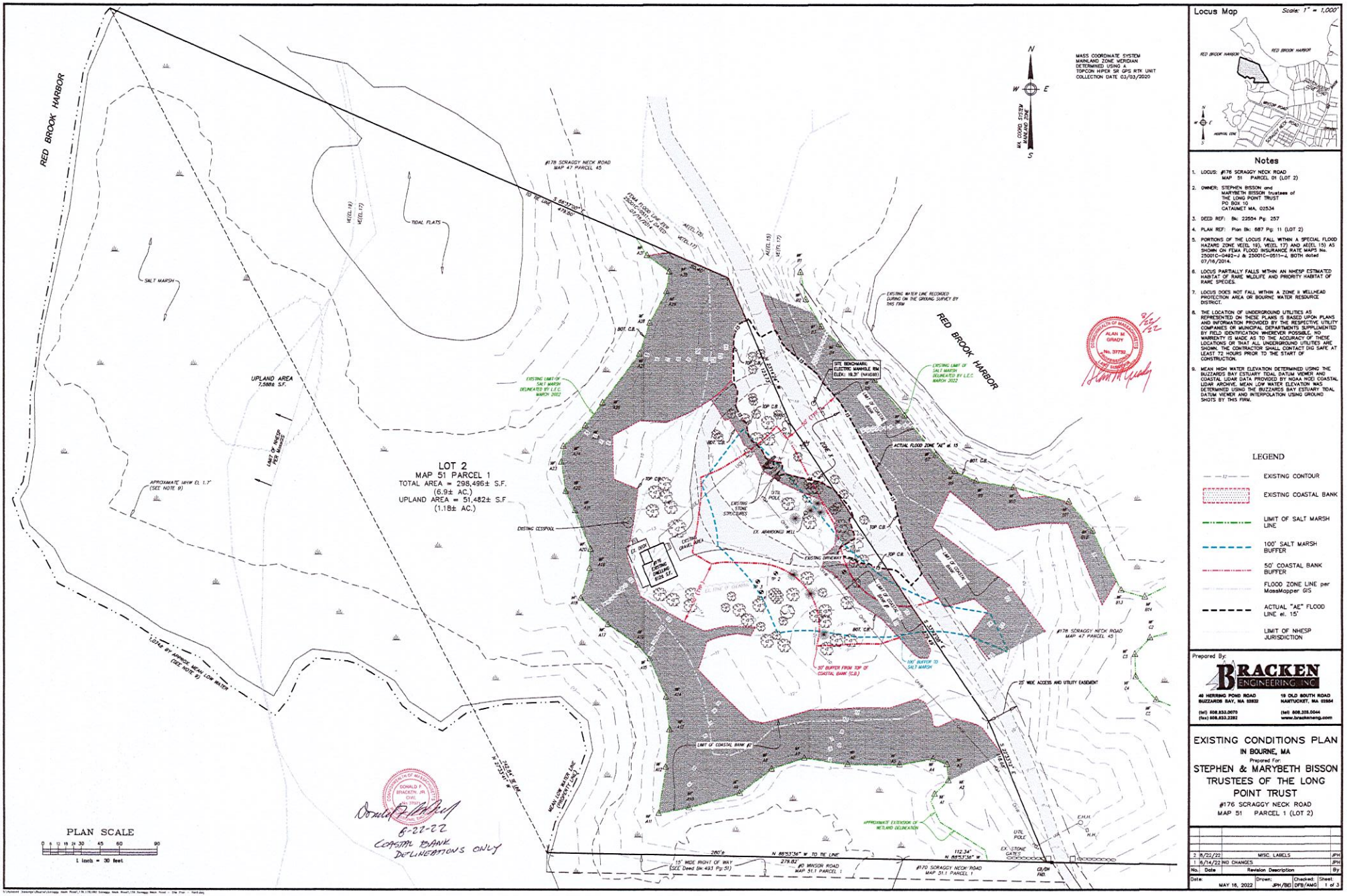

Locus Map

Scale: 1" = 1,000'

Notes

1. LOCUS: #176 SCRAGGY NECK ROAD
   MAP 51 PARCEL 01 (LOT 2)
2. OWNER: STEPHEN BISSON and MARYBETH BISSON trustees of THE LONG POINT TRUST
   PO BOX 10
   CATAUMET MA, 02534
3. DEED REF: Bk: 22554 Pg: 257
4. PLAN REF: Plan Bk: 687 Pg: 11 (LOT 2)
5. PORTIONS OF THE LOCUS FALL WITHIN A SPECIAL FLOOD HAZARD ZONE VE(EL 19), VE(EL 17) AND AE(EL 15) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAPS No. 25001C-0492-J & 25001C-0511-J, BOTH dated 07/16/2014.
6. LOCUS PARTIALLY FALLS WITHIN AN NHESP ESTIMATED HABITAT OF RARE WILDLIFE AND PRIORITY HABITAT OF RARE SPECIES.
7. LOCUS DOES NOT FALL WITHIN A ZONE II WELLHEAD PROTECTION AREA OR BOURNE WATER RESOURCE DISTRICT.
8. THE LOCATION OF UNDERGROUND UTILITIES AS REPRESENTED ON THESE PLANS IS BASED UPON PLANS AND INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES OR MUNICIPAL DEPARTMENTS SUPPLEMENTED BY FIELD IDENTIFICATION WHEREVER POSSIBLE. NO WARRENTY IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UNDERGROUND UTILITIES ARE SHOWN. THE CONTRACTOR SHALL CONTACT DIG SAFE AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
9. MEAN HIGH WATER ELEVATION DETERMINED USING THE BUZZARDS BAY ESTUARY TIDAL DATUM VIEWER AND COASTAL LIDAR DATA PROVIDED BY NOAA NOEI COASTAL LIDAR ARCHIVE. MEAN LOW WATER ELEVATION WAS DETERMINED USING THE BUZZARDS BAY ESTUARY TIDAL DATUM VIEWER AND INTERPOLATION USING GROUND SHOTS BY THIS FIRM.

LEGEND

- EXISTING CONTOUR
- EXISTING COASTAL BANK
- LIMIT OF SALT MARSH LINE
- 100' SALT MARSH BUFFER
- 50' COASTAL BANK BUFFER
- FLOOD ZONE LINE per MassMapper GIS
- ACTUAL "AE" FLOOD LINE el. 15'
- LIMIT OF NHESP JURISDICTION

Prepared By:

BRACKEN ENGINEERING INC

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EXISTING CONDITIONS PLAN

IN BOURNE, MA

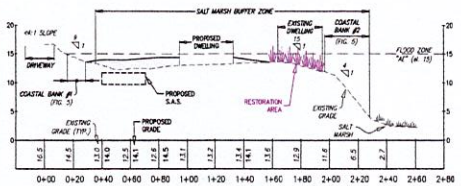
Prepared For:

STEPHEN & MARYBETH BISSON TRUSTEES OF THE LONG POINT TRUST

#176 SCRAGGY NECK ROAD
MAP 51 PARCEL 1 (LOT 2)

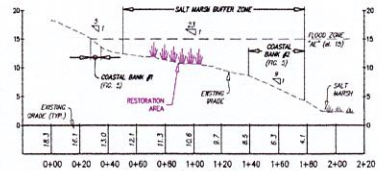
No.	Date	Revision Description	By
2	8/22/22	MISC. LABELS	JPH
1	6/14/22	NO CHANGES	JPH

Date: MAY 18, 2022 | Drawn: JPH/BD | Checked: DFB/AMG | Sheet: 1 of 3



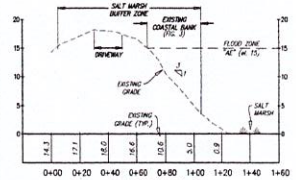
TRANSECT A–A

SCALE: HOR. – 1"=40'
VER. – 1"=10'



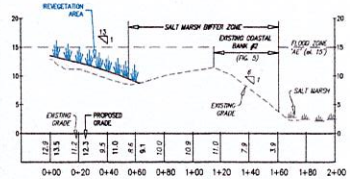
TRANSECT B–B

SCALE: HOR. – 1"=40'
VER. – 1"=10'



TRANSECT C–C

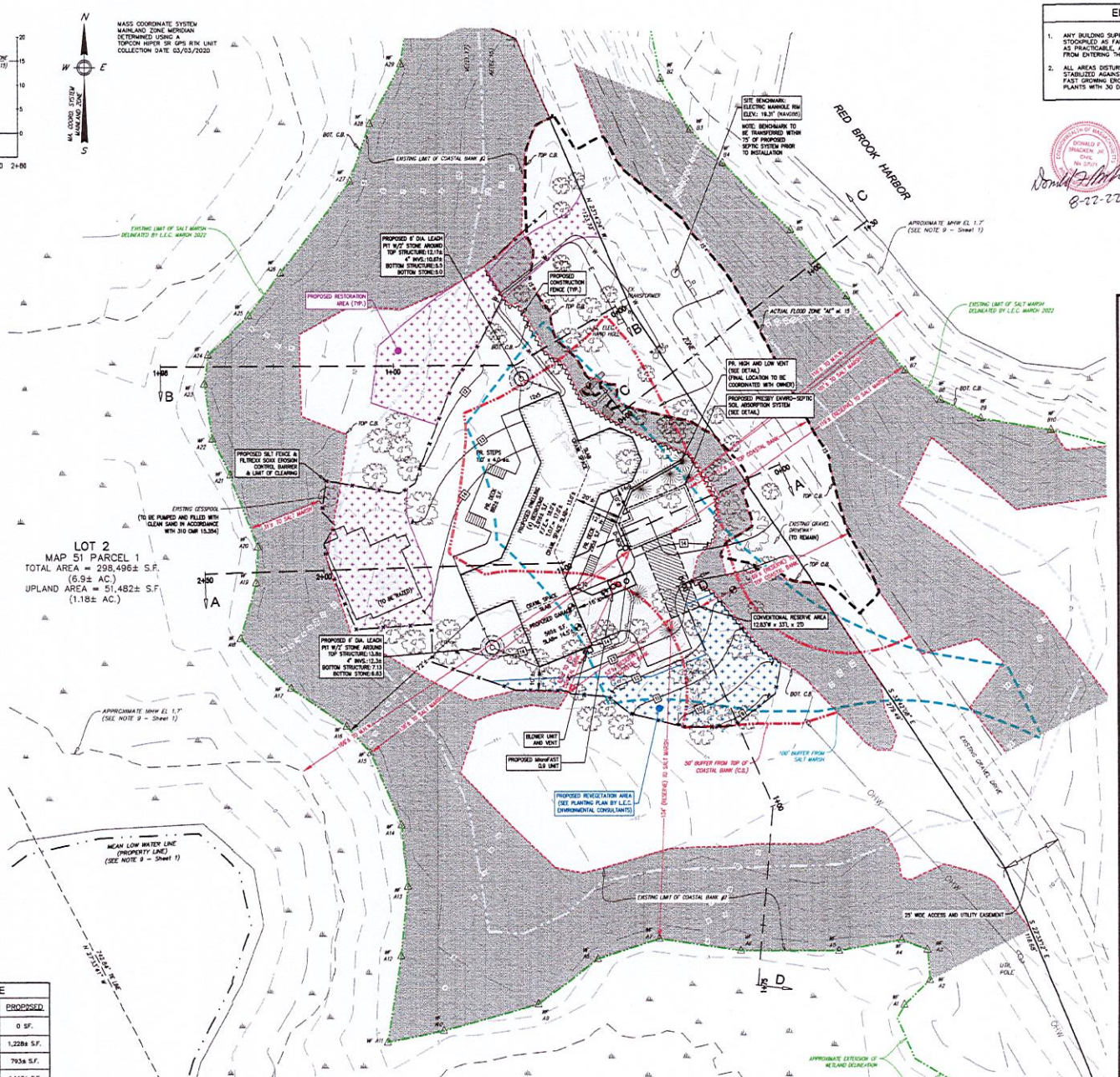
SCALE: HOR. – 1"=40'
VER. – 1"=10'



TRANSECT D–D

SCALE: HOR. – 1"=40'
VER. – 1"=10'

SUMMARY OF DISTURBED AREAS - COASTAL BANKS & BUFFER ZONE		
DESCRIPTION	EXISTING	PROPOSED
STRUCTURE WITHIN COASTAL BANK	6± S.F.	0 SF.
STRUCTURE WITHIN 50' BUFFER TO COASTAL BANK	986± S.F.	1,228± S.F.
DRIVEWAY & PARKING WITHIN 50' BUFFER TO COASTAL BANK	1,539± S.F.	793± S.F.
TOTAL NON-VEGETATED AREA WITHIN 50' BUFFER TO COASTAL BANK (NOT INCLUDING STRUCTURES, DRIVEWAY & PARKING)	6,205± S.F.	4,143± S.F.



EROSION CONTROL NOTES

1. 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.
2. 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.

DONALD F. UNGACKEN JR. CIVIL No. 27431 — 8-22-22

ALAN W. GRADY No. 37739 REGISTERED LAND SURVEYOR — 8/22/22

PLAN SCALE

0 4 8 12 16 20 30 40 60
1 inch = 20 feet

LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR
- EXISTING COASTAL BANK
- LIMIT OF SALT MARSH LINE
- 100' SALT MARSH BUFFER
- 50' COASTAL BANK BUFFER
- FLOOD ZONE LINE per MassMapper GIS
- PROPOSED RESTORATION AREA (SEE PLANTING PLAN BY L.E.C. ENVIRONMENTAL CONSULTANTS)
- PROPOSED REVEGETATION AREA (SEE PLANTING PLAN BY L.E.C. ENVIRONMENTAL CONSULTANTS)
- ACTUAL "AE" FLOOD LINE el. 15'
- LIMIT OF NHESP JURISDICTION
- 4" PVC ROOF DRAIN
- PROPOSED WATER SERVICE
- PROPOSED ELECTRIC SERVICE
- (X) (Y) APPROXIMATE SLOPE RATIO
- A A TRANSECT

Prepared By:
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PROPOSED SITE PLAN

IN BOURNE, MA

Prepared For:
STEPHEN & MARYBETH BISSON TRUSTEES OF THE LONG POINT TRUST
#176 SCRAGGY NECK ROAD
MAP 51 PARCEL 1 (LOT 2)

No.	Date	Revision Description	By
2	8/22/22	REVISE HOUSE & SEPTIC LOCATIONS. TRANSECTS, LABELS, AREAS.	JPH
1	6/14/22	REVISE SEPTIC LOCATION, RE-LOCATE WATER & ELECTRIC UTILITIES, MISC. and REVISIONS	JPH

Date: MAY 16, 2022 | Drawn: JPH/BD | Checked: DFB/AMG | Sheet: 2 of 3

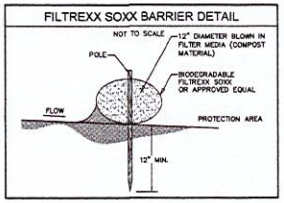
Notes

1. BENCHMARK: ELEVATION = 19.31 (NAVD88)
   ELECTRIC MANHOLE RIM
2. ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO TITLE 5 AND THE TOWN OF BOURNE BOARD OF HEALTH REGULATIONS.
3. ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
4. NO FIELD MODIFICATION TO THE SYSTEM SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER AND BOARD OF HEALTH.
5. ALL JOINTS AND COVERS TO BE WATERTIGHT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES.
7. A CERTIFICATE OF COMPLIANCE MUST BE OBTAINED PRIOR TO BACKFILLING SYSTEM.
8. OWNER/APPLICANT:
   STEPHEN BISSON
   MARYBETH BISSON trustees of
   THE LONG POINT TRUST
   P.O. BOX No. 10
   CATAUMET MA, 02563
9. DEED REFERENCE: Deed Bk: 22554 Pg: 257
10. PLAN REFERENCE: Plan Bk: 687 Pg: 11 (LOT 2)
11. 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.
12. THIS SYSTEM IS NOT DESIGNED NOR INTENDED FOR USE WITH A GARBAGE GRINDER.
13. THE SYSTEM OWNER SHALL BE RESPONSIBLE TO PUMP THE SEPTIC TANK AT LEAST ONCE EVERY THREE YEARS.
14. LOCUS DOES NOT FALL WITHIN A ZONE II WELLHEAD PROTECTION AREA.
15. LOCUS PARTIALLY FALLS WITHIN AN NHESP ESTIMATED HABITAT OF RARE WILDLIFE AND PRIORITY HABITAT OF RARE SPECIES.
16. THE PROPOSED SEPTIC SYSTEM DOES FALL WITHIN A SPECIAL FLOOD HAZARD ZONE "AE" (EL. 15) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP No. 25001C-0482-J & 25001C-0511-J BOTH dated 7/16/2014.
17. CONTRACTOR TO REFER TO ALL MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS FOR INSTALLATION OF THE MICROFAST UNIT AND PRESBY ENVIRO-SEPTIC SYSTEM.
18. 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.
19. 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.
20. CONTRACTOR TO COORDINATE PLACEMENT OF ALL ALARM/CONTROL PANELS WITH THE HOMEOWNER & SYSTEM MANUFACTURERS PRIOR TO INSTALLATION.
21. CONTRACTOR TO COORDINATE FINAL LOCATIONS OF HIGH AND LOW VENTS WITH OWNER AND ENGINEER.
22. 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 SHALL BE CONSULTED.

COMMONWEALTH OF MASSACHUSETTS — DONALD T. BRACKEN, JR. — CIVIL — No. 39010 — REGISTERED PROFESSIONAL ENGINEER

Donald T. Bracken Jr. 9-22-22

FILTREXX SOXX BARRIER DETAIL



DESIGN CALCULATIONS

SOIL TEXTURAL CLASS: CLASS 1
PERC. RATE: <2 MINUTES/INCH
NO. OF BEDROOMS: 4
DESIGN FLOW REQUIRED: 440 GPD
SEPTIC TANK REQUIRED: 1,500 GALLONS
SEPTIC TANK PROVIDED: MicroFAST 0.5 Unit

LEACHING SYSTEM:
PRESBY ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEM
505 S.F. AREA x 2' DEEP SYSTEM (SEE DETAIL FOR FIELD DIMENSIONS)

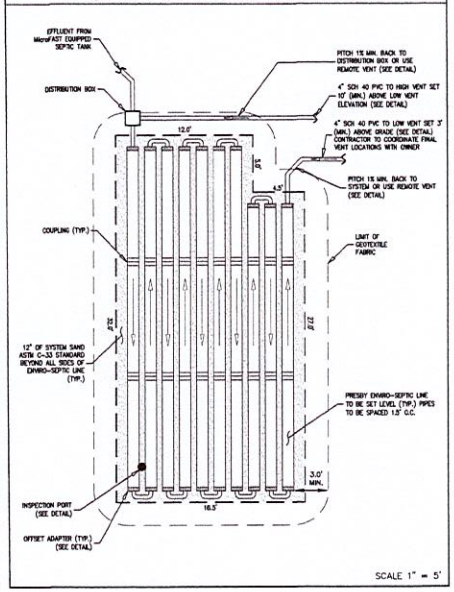
EFFECTIVE LEACHING: (BASED ON GENERAL USE APPROVAL) TRANSMITTAL No. Access-21-CLM-090073-APP

ENVIRO-SEPTIC PIPE REQUIRED: 70 L.F. PER 110 GAL/DAY
110 GAL/DAY / 70 L.F. = 1.57 GAL/DAY/L.F.

ENVIRO-SEPTIC PIPE PROVIDED
10 SERIAL LINES AT 285 L.F. TOTAL
TOTAL LENGTH = 7 x 30 L.F. + 3 x 25 L.F. = 285 L.F.
285 L.F. * 1.57 GAL/DAY/L.F.= 447.45 GAL/DAY > 440 GAL/DAY
LINES SPACED 1.50' ON CENTER

CONVENTIONAL SYSTEM DESIGN:
12.83'WIDE x 33' LONG x 2' DEEP
BOTTOM AREA= 423 S.F. TOTAL= 806 S.F.
SIDEWALL AREA= 383 S.F.
LOADING RATE = 0.74 GPD/SF
FLOW PROVIDED: 448 GPD > 440 GPD

PRESBY ENVIRO-SEPTIC LEACHING SYSTEM LAYOUT

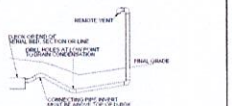


SCALE 1" = 5'

REMOTE VENTING DETAIL

N.T.S.

REMOTE VENT PIPING SHOULD SLOPE DOWNWARD TOWARD THE SYSTEM TO PREVENT MOISTURE FROM COLLECTING IN THE PIPING AND BLOCKING AIR PASSAGE. IF SITE CONDITIONS DO NOT ALLOW THE PIPE TO THE VENT TO SLOPE BACK TOWARD THE SYSTEM, THE LOW POINT OF THE CONNECTING PIPE SHOULD BE DRILLED TO ALLOW DRAINAGE PROVIDED THAT THE CONNECTING PIPE INVERT IS ABOVE THE HIGHEST POINT OF THE D-BOX AND ALL OF THE EX. LINES.



SOIL LOGS

TP NO. 1	GRD. EL. 11.3	GW. EL. NONE to 23	TP NO. 2	GRD. EL. 12.7	GW. EL. NONE to 21	TP NO. 3	GRD. EL. 12.8	GW. EL. NONE to 21	TP NO. 4	GRD. EL. 12.8	GW. EL. NONE to 21
0" 12.3	A/O LOAMY SAND 10YR 4/1		0" 12.7	FILL		0" 12.8	A/O LOAMY SAND 10YR 4/1		0" 12.8	A/O LOAMY SAND 10YR 4/1	
12" 11.3	Bw LOAMY SAND 10YR 5/4		28" 10.4	Apb LOAMY SAND 10YR 3/2		16" 11.5	Bw LOAMY SAND 10YR 5/4		16" 11.5	Bw LOAMY SAND 10YR 5/4	
36" 9.3	C1 MEDIUM SAND 2.5Y 5/6		40" 9.4	Bw MEDIUM SAND 10YR 5/4		36" 9.8	C MEDIUM SAND 2.5Y 5/6		36" 9.8	C MEDIUM SAND 2.5Y 5/6	
80" 5.6	C2 MEDIUM SAND 2.5Y 5/8		60" 7.7	C MEDIUM SAND 2.5Y 5/6							
100" 4.0	C3 MEDIUM SAND 2.5Y 6/4										
WEEPING AT 128" 1.6											
140" 0.6	WEEPING @ 128"		128" 2.1	NO MOTTLES NO WATER		128" 2.2	NO MOTTLES NO WATER		128" 2.2	NO MOTTLES NO WATER	

DATE PERFORMED: SEPTEMBER 21, 2021
SOIL EVALUATOR: ROBERT E. DOWAR, E.I.T. (SE #1430)
WITNESSED BY: TERRI GUARINO – BOH AGENT
PERC. RATE: <2 MINUTES/INCH (TP #2)
SOIL CLASS: CLASS 1
MAX. GROUND WATER ELEV.: 1.94
METHOD OF DETERMINATION: MONITORING WELL
(SEE SOIL REPORT FOR MORE DETAILED DESCRIPTION)

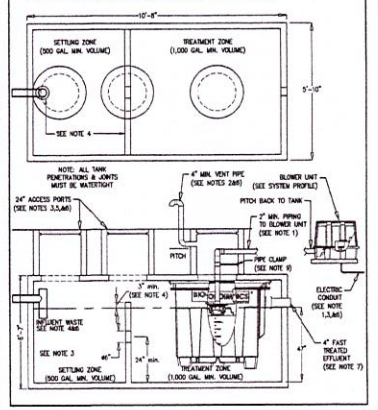
EXCAVATION NOTE

THIS SYSTEM REQUIRES THE EXCAVATION OF ALL UNSUITABLE AND/OR SPOILED SOIL BELOW THE SOIL ABSORPTION SYSTEM. SOIL SHALL BE EXCAVATED TO THE EXISTING C SAND LAYER. ENGINEER TO CONFIRM SOIL DEPTH PRIOR TO INSTALLATION. THE EXCAVATION SHALL BE INSPECTED BY THE DESIGN ENGINEER PRIOR TO BACKFILLING. SOIL IS TO BE REPLACED WITH SAND CONFORMING TO 310 CMR SECTION 15.255. CONSTRUCTION IN FILL. CONTRACTOR IS RESPONSIBLE TO PROVIDE ENGINEER WITH SAND SAMPLE FOR SIEVE ANALYSIS.

MicroFAST 0.5 FAST UNIT (INTERNAL MOUNT)
(H-20 LOAD RATED)

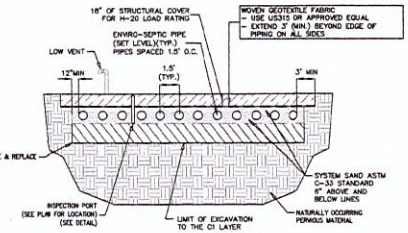
BIO-MICROBICS INCORPORATED

MicroFAST Notes:
1. Blower piping in FastIe may not exceed 100FT total length and use a maximum of 4 elbows. For distances greater than 100FT – consult factory. Blower must be located above flood/standing water levels, on a concrete base 24" X 18" X 2" minimum or underground as shown in system profile. Blower and vent piping to pitch back toward tank.
2. Vent to be located above finish grade or higher to avoid infiltration. Cap with vent grate w/at least 7.1 sq in. open surface area. Secure with stainless steel screws or Run vent to desired location and cover opening with vent grate w/at least 12 sq in. of open surface area. Secure with stainless steel screws. Vent piping must not allow excess moisture build up or back pressure.
3. Only approved wastes for FASTN (e.g. tank pump-outs, etc.) must conform to all county, state, provinces, and local plumbing and electrical codes. The blower control system is provided by Bio-Microbics, Inc.
4. Either the influent pipe tee shall be fitted with a plain 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 2" higher than the water level as shown on the drawing.
5. Tank, baffles, piping and pump out ports must be secured to prevent accidental or unauthorized access.
6. Tank, baffles, piping, conduit, blower housing and vent vents are provided by others.
7. All piping and ancillary equipment installed after FASTN must not impede or restrict the flow of effluent.
8. No more than 4 FT of fill may be placed over unit tk. (see system profile for tank depth).



TYPICAL ENVIRO-SEPTIC IN-GROUND LEVEL SECTION

N.T.S.

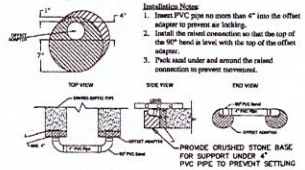


OFFSET ADAPTER WITH ENVIRO-SEPTIC PIPE RAISED CONNECTION DETAIL

N.T.S.

Raised connections consist of offset adapters, 4" PVC sewer and drain pipe, and 90° elbows. Use raised connections to connect lines of Enviro-Septic® pipe. They enable greater liquid storage capacity and increase the bacterial surfaces being developed. Here are some diagrams along with installation notes.

Installation Notes
1. Insert PVC pipe no more than 4" into the offset adapter to prevent air locking.
2. Install the raised connection so that the top of the 90° bend is level with the top of the offset adapter.
3. Pack sand under and around the raised connection to prevent movement.

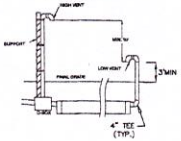


DIFFERENTIAL VENTING DETAIL

N.T.S.

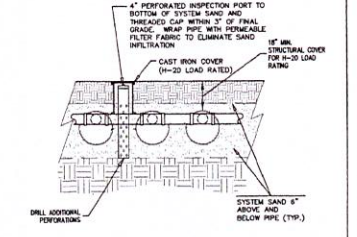
THIS DIAGRAM SHOWS A HIGH VENT INSTALLED IN A D-BOX. THIS CONFIGURATION IS REQUIRED IN PUMPED SYSTEMS OR WHEN OTHER RESTRICTIONS OF VENTS ARE INSTALLED BETWEEN THE LOW VENT AND THE ROOF VENT. CHARCOAL SHALL NOT BE PLACED ON ANY PRESBY ENVIRO-SEPTIC VENTS.

DIFFERENTIAL VENTING
(TYPICAL - NOT TO SCALE)



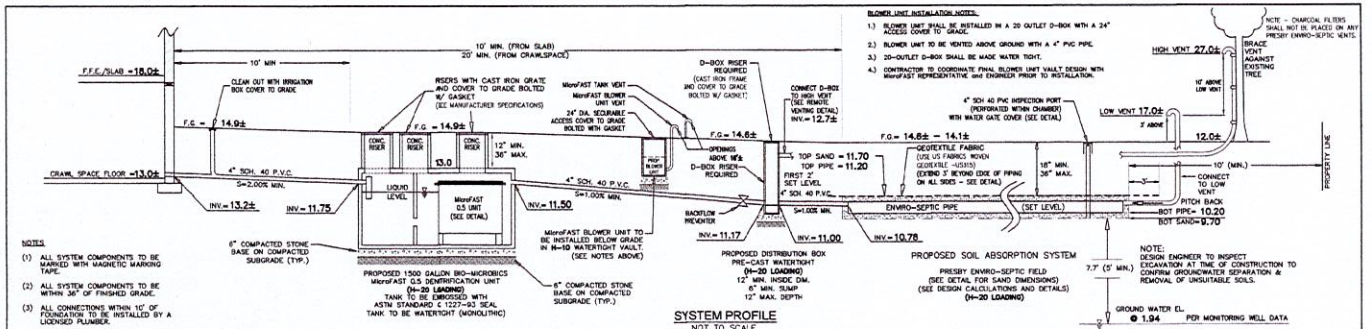
INSPECTION PORT DETAIL

N.T.S.



SYSTEM PROFILE

NOT TO SCALE

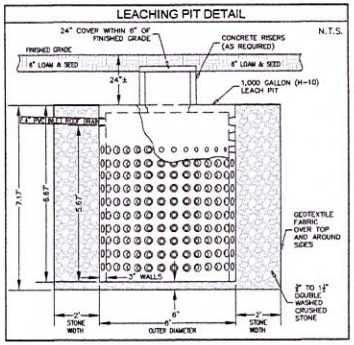


NOTES:
(1) ALL SYSTEM COMPONENTS TO BE MARKED WITH MAGNETIC MARKING TAPE.
(2) ALL SYSTEM COMPONENTS TO BE WITHIN 36" OF FINISHED GRADE.
(3) ALL CONNECTIONS WITHIN 10' OF FOUNDATION TO BE INSTALLED BY A LICENSED PLUMBER.

BLOWER UNIT INSTALLATION NOTES:
1.) BLOWER UNIT SHALL BE INSTALLED IN A 20 OUTLET D-BOX WITH A 24" ACCESS COVER TO GRADE.
2.) BLOWER UNIT TO BE VENTED ABOVE GROUND WITH A 4" PVC PIPE.
3.) 20-OUTLET D-BOX SHALL BE MADE WATER TIGHT.
4.) CONTRACTOR TO COORDINATE FINAL BLOWER UNIT VAULT DESIGN WITH MicroFAST REPRESENTATIVE and ENGINEER PRIOR TO INSTALLATION.

LEACHING PIT DETAIL

N.T.S.



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SEPTIC DETAILS
IN BOURNE, MA

Prepared For:
STEPHEN & MARYBETH BISSON
TRUSTEES OF THE LONG POINT TRUST
#176 SCRAGGY NECK ROAD
MAP 51 PARCEL 1 (LOT 2)

No.	Date	Revision Description	By
2	9/22/22	REVISE SEPTIC LAYOUT, MISC. DETAILS	JPH
1	6/14/22	REVISE SEPTIC LAYOUT, MISC. DETAILS	JPH

Date: MAY 16, 2022 | Drawn: JPH/BC | Checked: DFB/AMG | Sheet: 3 of 3

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