

MAIN OFFICE:

49 Herring Pond Road
Buzzards Bay, MA 02532
TEL: (508) 833-0070
FAX: (508) 833-2282



NANTUCKET OFFICE:

19 Old South Road
Nantucket, MA 02554
TEL: (508) 325-0044
www.brackeneng.com

June 14, 2022

Bourne Board of Health
Terri Guarino, RS, CHO
24 Perry Avenue
Bourne, MA 02532

**RE: Variance Request Cover Letter
176 Scraggy Neck Road (Map 51.0, Parcel 1)**

Dear Members of the Board:

On behalf of the homeowner, The Long Point Trust c/o Marybeth and Steven Bisson, Bracken Engineering, Inc. (BEI), we are submitting this Variance Request Package for your review and approval. We are currently in the review process with the Bourne Conservation Commission for the razing of the existing dwelling and construction of a new dwelling.

We understand that the Board of Health typically requires that we file with the Conservation Commission prior to filing the Board of Health application. However, in this case we need to have a simultaneous review given the nature of the project. In our opinion, we feel we have met the filing requirements for the variance request although we do not have floor plans at this time for the Board to review. We can supplement the application with plans during the review if required by the Board.

Thank you for your time and consideration on this matter. We look forward to reviewing this project with the Board of Health at the next scheduled Public Hearing. Should you have any questions regarding this project or require any further information please contact the undersigned at either 508-833-0070 don@brackeneng.com.

Sincerely,

BRACKEN ENGINEERING, INC.

A handwritten signature in black ink that reads 'Donald F. Bracken, Jr.' The signature is written in a cursive style and is positioned above a horizontal line.

Donald F. Bracken, Jr., P.E.
President

cc: Marybeth & Steven Bisson
Glenn Wood Esq.

MAIN OFFICE:
49 Herring Pond Road
Buzzards Bay, MA 02532
TEL: (508) 833-0070
FAX: (508) 833-2282



NANTUCKET OFFICE:
19 Old South Road
Nantucket, MA 02554
TEL: (508) 325-0044
www.brackeneng.com

June 14, 2022

Bourne Board of Health
Terri Guarino, RS, CHO
24 Perry Avenue
Bourne, MA 02532

**RE: Variance Request
176 Scraggy Neck Road (Map 51.0, Parcel 1)**

Dear Members of the Board:

On behalf of the homeowner, The Long Point Trust c/o Marybeth and Steven Bisson, Bracken Engineering, Inc. (BEI), is requesting a variance to the Town of Bourne Board of Health Regulations to replace an existing cottage with a new single-family dwelling at the above referenced location.

A Variance is Requested to the following Local Regulation:

150 FOOT SETBACK REG
TOWN OF BOURNE
BOARD OF HEALTH

"A 150 foot setback will be required for all leaching facilities from the edge of a wetland resource or watercourse, as defined in 310 CMR 15.01 Title V. Setback distance shall be measured during periods of highest ground or surface water conditions."

This Regulation was last amended on June 1, 1988. 310 CMR 15.01 refers to the "old" Title V in effect when the Board of Health adopted this Regulation. Section 15.01 does not have a definition for "wetland resource" but there is a definition for "watercourse" which includes "wetland". The definition reads as follows:

"Watercourse. Any natural or man-made stream, pond, lake, wetland, coastal wetland, swamp or other body of water and should include wet meadows, marshes, swamps, bogs and areas where ground water, flowing or standing surface water or ice provide a significant part of the supporting substrate for a plant community for at least five months of the year."

The only applicable resource area that a variance is required for this property is the Salt Marsh which is a coastal wetland and watercourse per the definition above. Based on the above definition, a coastal wetland must be considered as a "body of water". This is also confirmed in the old Title V 310 CMR 15.03 Location (7) Distances. (1)(2) for setbacks to Watercourses, footnote [2] "All distances shall be measured from the average of the mean annual flood elevation in inland areas and from the Mean High Water in coastal areas."



The following variances are requested from the 150-foot setback to the proposed Soil Absorption System (SAS) and Reserve Area (RA):

- SAS to the Salt Marsh southwest from 150' to 138' (**12' variance**)
- SAS to the Salt Marsh northeast from 150' to 101' (**49' variance**)
- RA to the Salt Marsh to the south from 150' to 118' (**32' variance**)
- RA to the Salt Marsh to the northeast from 150' to 122' (**28' variance**)

Variances are not being requested to the coastal bank as delineated on the plan because they do not meet the definition of a wetland resource or watercourse under the old Title V definition. It is also important to note that the coastal bank areas were developed from a 1992 DEP Policy for delineating coastal banks after the Regulation was adopted. The coastal banks existing on-site consist mainly of well vegetated wooded areas (forested upland) subject to protection under M.G.L. c. 131, § 40 or Resource Areas protected under WPA Regulations at 310 CMR 10.00.

The Regulation was based on the transport rates in glacial outwash soils to protect water bodies and resource areas that could be impacted by septic system contaminants based on actual groundwater flow. Since coastal banks are not associated with groundwater flow, they should not be applicable to the setback requirement.

Also, there are no Title V variances required with this application. The proposed system is located greater than 50' from a BVW, Salt Marsh and the top of any coastal bank. Note: the coastal bank setback is measured from the "most landward edge" of the "top" of coastal bank per 310 CMR 15.211: Minimum Setback Distances footnote (3).

In accordance with the Regulation, a Hydrogeologic study is not required because the SAS and RA are greater than 100 feet from a wetland or watercourse per the applicable definition. As required, this application includes the following documentation prepared by a Professional Engineer:

- Proposed site plan (3 Sheets) which includes: existing conditions information, proposed design information, septic system design and details, wetland resource areas and setbacks to septic system components;
- Soil Evaluation Form including groundwater monitoring information over a tidal cycle;
- Existing and proposed Nitrogen Loading Calculations.

Based on the submitted information, the variances should be granted because of the following:

- The new system will replace an existing cesspool located only 31' from the salt marsh and on the coastal bank. This cesspool provides no treatment, the bottom is only a few feet above the water table and is a direct contaminant source to the salt marsh;
- Nitrogen loading for the proposed 5-bedroom system is only 2.5 parts per million (PPM) well below the typical standard of 5 PPM;
- The system has been designed to include MicroFast denitrification system;
- The system includes the design of a Presby soil absorption system that is equivalent to a pressure distribution system;
- The system location is located at the highest portion of the lot and maintains a 7.7' separation to groundwater, where a minimum of 5' is required;



- A deed restriction shall be placed on the property limiting it to five bedrooms;

In summary, the upgraded system with the increased flow provides better protection of public health and safety and the environment than the existing system with no increase in flow. Given the size of the property and the facts and circumstances of this particular case, it would be manifestly unjust to apply strict adherence to this Regulation. Furthermore, not granting the variance would deprive the owner of reasonable use of the property.

Thank you for your time and consideration on this matter. We look forward to reviewing this project with the Board of Health at the next scheduled Public Hearing. Should you have any questions regarding this project or require any further information please contact the undersigned at either 508-833-0070 don@brackeneng.com.

Sincerely,

BRACKEN ENGINEERING, INC.

A handwritten signature in black ink that reads "Donald F. Bracken, Jr." with a stylized flourish at the end.

Donald F. Bracken, Jr., P.E.
President

cc: Marybeth & Steven Bisson
Glenn Wood Esq.



Bourne Board of Health Application for Septic Variance Requests



In accordance with the established procedures of the Bourne Board of Health, this application for septic variances and waivers is relevant to requests for relief which have not been approved administratively and require approval at a public meeting. Please use the following application form for guidance on how to apply for variances and waivers which serve new construction, changes in use, or increases in flow to on-site sewage disposal systems with design flows of less than 10,000 gallons/ day.

1. Facility Name and Address:

Owner's Name	The Long Point Trust Stephen Bisson and Marybeth Bisson, Trustees
Facility's Street Address	176 Scraggy Neck Road
Owner's Telephone Number	508-335-4856
Owner's E-mail Address	mbbisson@comcast.net & sbisson19@comcast.net
Owner's Mailing Address	P.O. Box 10, Cataumet, MA 02534

2. Applicant or Preparer's Name and Address (if different from above):

Preparer's Name	Donald F. Bracken, Jr., PE
Company	Bracken Engineering, Inc.
Telephone Number	508-833-0070
E-mail Address	don@brackeneng.com
Mailing Address	49 Herring Pond Road, Buzzard Bay
State/ Zip Code	MA / 02532

3. Type of Facility (check all that apply):

- Residential Commercial Institutional School Industrial

4. Describe Facility (i.e. single-family dwelling, 45 seat restaurant): _____
 Single family dwelling

5. Type of System Proposed (check all that apply): Conventional Title 5 I/A System
 Pumped System Gravity System Pressure Dosed Other

6. Describe the proposed septic system components: IA System
Proposed 1,500 gallon BioMicrobics MicroFast 0.9 Unit (H-10)
Proposed Presby Enviro-Septic Field (H-20)

7. Design Flow per 310 CMR 15.203 (in gallons/ day):

Design flow of proposed system: 110 GPD x 5 Bedrooms = 550 GPD

Total design flow of facility: 550 GPD

8. Enclose a letter of request for variances which makes reference to the specific provisions of Title 5 and the Board Bourne of Health Regulations for which a variance is sought. Please use this opportunity to demonstrate compliance with 310 CMR 15.410, and to justify the relevant facts and circumstances of the individual case. Note that with regard to variances for new construction, enforcement of the provision from which a variance is sought must be shown to deprive the applicant of substantially all beneficial use of the subject property in order to be manifestly unjust. Be sure to explain why full compliance with the applicable regulations is not feasible, and how a level of environmental protection that is at least equivalent to that provided under Title 5 and the Board of Health Regulations can be achieved without strict application of the regulations.

9. In order for this Application to be deemed complete, it must be accompanied by all of the following:

- Application Fees paid to the Town of Bourne.
- Letter of request (see samples)
- Six sets of complete plans and specifications. One with original stamp of design engineer.
- Nitrogen Loading Calculation Sheet(s)
- If abutter notification is required, one of each of the following must be submitted:
 - A copy of the certified list of abutters from the Assessor's Department
 - Sample letter for abutter notification postmarked 10 days prior to meeting date
 - Proof of certified mailing (receipts) meeting requirements of 310 CMR 15.405(2)
- Proposals for installation of Innovative/ Alternative systems must be accompanied by:
 - A copy of the Certification for Use including technology specific conditions
 - Draft disclosure notice for the I/A technology to be recorded in the deed
- Hydrogeologic data for all leaching facilities proposed within 100ft of a wetland/ watercourse
- Percentage of Increase Worksheet is required for waivers or increases in flow

10. Certification:

"I certify under penalty of law that this document and all attachments, to the best of my knowledge and belief, are true, accurate, and complete. I am aware that there may be significant consequences for submitting false information, including, but not limited to, penalties or fine and/or imprisonment for deliberate violations."

Facility Owner's Signature Marybeth Bisson Date 6/14/2022

Print Name Stephen & Marybeth Bisson, Trustees
The Long Point Trust

Signature of Preparer Donald F. Bracken, Jr. Date 6/14/2022

Print Name Donald F. Bracken, Jr., PE, of Bracken Engineering, Inc.

COMMONWEALTH OF MASSACHUSETTS

Board of Health, Bourne, MA.

APPLICATION FOR DISPOSAL SYSTEM CONSTRUCTION PERMIT

Application for a Permit to Construct () Repair () Upgrade () Abandon () - [X] Complete System [] Individual Components

Table with 2 columns: Applicant/Installer information and Owner/Designer information. Includes fields for Location, Map/Parcel#, Lot#, Name, Address, and Telephone#.

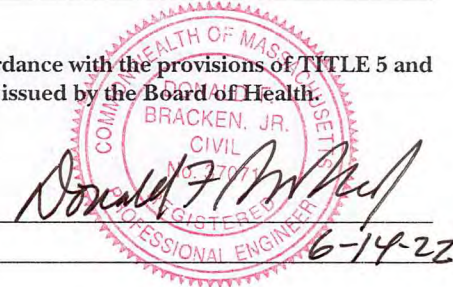
Type of Building: Single-family dwelling. Lot Size: 298,496+/- sq. ft. Dwelling - No. of Bedrooms: 5. Design Flow: 110 gpd. Calculated design flow: 550 GPD. Design flow provided: 565.2 gpd. Plan Date: May 16, 2022. Number of sheets: 3. Revision Date: 6/14/2022. Title: Site and Sewage Disposal Plan in Bourne.

DESCRIPTION OF REPAIRS OR ALTERATIONS: Installation of a new 1,500 gallon MicroFast 0.9 septic tank (H-10), D-Box (H-20) and SAS to consist of Presby Enviro-Septic Wastewater Treatment System (H-20) (624 SF area x 2' deep).

The undersigned agrees to install the above described Individual Sewage Disposal System in accordance with the provisions of TITLE 5 and further agrees to not to place the system in operation until a Certificate of Compliance has been issued by the Board of Health.

Signed _____ Date _____

Inspections _____



COMMONWEALTH OF MASSACHUSETTS

Board of Health, _____, MA.

CERTIFICATE OF COMPLIANCE

Description of Work: [] Individual Component(s) [] Complete System

The undersigned hereby certify that the Sewage Disposal System; Constructed (), Repaired (), Upgraded (), Abandoned ()

by: _____ at _____

has been installed in accordance with the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/as-built plans relating to application No. _____, dated _____. Approved Design Flow _____(gpd)

Installer: _____

Designer: _____ Inspector: _____ Date: _____

The issuance of this permit shall not be construed as a guarantee that the system will function as designed.

COMMONWEALTH OF MASSACHUSETTS

Board of Health, _____, MA.

DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permission is hereby granted to; Construct () Repair () Upgrade () Abandon () an individual sewage disposal system at _____ as described in the application for Disposal System Construction Permit No. _____, dated _____.

Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be met.



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

A. Facility Information

Long Point Trust, Stephen & Marybeth Bisson, TRS

Owner Name

176 Scraggy Neck Road

Street Address

Bourne

City

MA

State

Map 51 / Parcel 1-0

Map/Lot #

02556

Zip Code

B. Site Information

1. (Check one) New Construction Upgrade

2. Soil Survey

Source

Outwash Plain

Landform

252C

Soil Map Unit

None

Soil Limitations

Carver Coarse Sand

Soil Series

Sandy Glaciofluvial deposits

Soil Parent material

3. Surficial Geological Report

2018 / Surficial Materials Map-Onset Quadrangle / Stone, Cohen

Year Published/Source

Coarse Deposits

Map Unit

Sand Deposits composed of v. coarse - v. fine sand, commonly in well sorted layers. Coarser layers may contain up to 25% gravel. Fine layers may contain some very fine sand, silt, & clay.

4. Flood Rate Insurance Map Within a regulatory floodway? Yes No

5. Within a velocity zone? Yes No **Site partially falls within a VE (EI. 17) & an AE (EI 15) flood zones (Test pits located outside of VE zone)

6. Within a Mapped Wetland Area? Yes No

If yes, MassGIS Wetland Data Layer:

Wetland Type

7. Current Water Resource Conditions (USGS):

09/21/2021

Month/Day/ Year

Range: Above Normal

Normal

Below Normal

8. Other references reviewed:

(Zone II, IWPA, Zone A, EEA Data Portal, etc.)

MassMapper – Site does NOT fall within a Zone II, IWPA, mapped area of NHESP

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 2 09/21/2021 9:30a 75° Sunny 41°40'11.76"N 70°37'29.71W
 Hole # Date Time Weather Latitude Longitude

1. Land Use Residential Dwelling Mixed species forest/grass None 3-5%
 (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Surface Stones (e.g., cobbles, stones, boulders, etc.) Slope (%)

Description of Location: Test pit located adjacent to gravel driveway, on edge of grass and forest. Parcel located adjacent to Red Brook Harbor

2. Soil Parent Material: Sandy Glaciofluvial Outwash Outwash Plain Plain
 Landform Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body 148+/- feet Drainage Way N/A feet Wetlands 45 +/- feet
 (Mean High Water) (Coastal Bank)
 Property Line 75+/- feet Drinking Water Well N/A feet Other N/A feet

4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: _____ Depth to Weeping in Hole _____ Depth to Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-28	Fill	-	-		Cnc : Dpl:	-	-	-	-	-	-
28-40	ApB	Loamy Sand	10YR 3/2		Cnc : Dpl:	-	-	-	Massive	Friable	-
40-60	Bw	Loamy Sand	10YR 5/4		Cnc : Dpl:	-	-	-	Massive	Friable	-
60-128	C	Med. Sand	2.5Y 5/6		Cnc : Dpl:	-	10%	5% Stone 2% Cobble	Single Grain	Loose	-
					Cnc : Dpl:						
					Cnc : Dpl:						

Additional Notes:
 Perc in TP#2 – See Form 12

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 3 09/21/2021 9:30a 75° Sunny 41°40'11.76"N 70°37'29.71W
 Hole # Date Time Weather Latitude Longitude

1. Land Use: Residential Dwelling Mixed species forest/grass None 3-5%
 (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Surface Stones (e.g., cobbles, stones, boulders, etc.) Slope (%)

Description of Location: Test pit located adjacent to gravel driveway, on edge of grass and forest. Parcel located adjacent to Red Brook Harbor

2. Soil Parent Material: Sandy Glaciofluvial Outwash Outwash Plain Plain
 Landform Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body 132+/- feet Drainage Way N/A feet Wetlands 36+/- feet
 (Mean High Water) (Coastal Bank)
 Property Line 90+/- feet Drinking Water Well N/A feet Other N/A feet

4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-16	A/O	Loamy Sand	10YR 4/1		Cnc : _____ Dpl: _____	-	-	-	Granular	Friable	-
16-30	Bw	Loamy Sand	10YR 5/4		Cnc : _____ Dpl: _____	-	-	-	Massive	Friable	-
36-128	C	Med. Sand	2.5Y 5/6		Cnc : _____ Dpl: _____	-	10%	5% Stone 2% Cobble	Single Grain	Loose	-
					Cnc : _____ Dpl: _____						
					Cnc : _____ Dpl: _____						
					Cnc : _____ Dpl: _____						

Additional Notes:

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 4 09/21/2021 9:30a 75° Sunny 41°40'11.76"N 70°37'29.71W
 Hole # Date Time Weather Latitude Longitude

1. Land Use: Residential Dwelling Mixed species forest/grass None 3-5%
 (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Surface Stones (e.g., cobbles, stones, boulders, etc.) Slope (%)

Description of Location: Test pit located adjacent to gravel driveway, on edge of grass and forest. Parcel located adjacent to Red Brook Harbor

2. Soil Parent Material: Sandy Glaciofluvial Outwash Outwash Plain Plain
 Landform Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body 131+/- feet Drainage Way N/A feet Wetlands 28+/- feet
 (Mean High Water) (Coastal Bank)
 Property Line 92+/- feet Drinking Water Well N/A feet Other N/A feet

4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: _____ Depth to Weeping in Hole _____ Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-16	A/O	Loamy Sand	10YR 4/1		Cnc : _____ Dpl: _____	-	-	-	Granular	Friable	-
16-30	Bw	Loamy Sand	10YR 5/4		Cnc : _____ Dpl: _____	-	-	-	Massive	Friable	-
36-128	C	Med. Sand	2.5Y 5/6		Cnc : _____ Dpl: _____	-	10%	5% Stone 2% Cobble	Single Grain	Loose	-
					Cnc : _____ Dpl: _____						
					Cnc : _____ Dpl: _____						
					Cnc : _____ Dpl: _____						

Additional Notes: _____

D. Determination of High Groundwater Elevation

1. Method Used (Choose one):
- | | | | |
|--|------------------------------|------------------------------|---------------------------------|
| <input type="checkbox"/> Depth to soil redoximorphic features | Obs. Hole #1
_____ inches | Obs. Hole #2
_____ inches | Obs. Hole # 3/4
_____ inches |
| <input type="checkbox"/> Depth to observed standing water in observation hole | _____ inches | _____ inches | _____ inches |
| <input type="checkbox"/> Depth to adjusted seasonal high groundwater (S_h)
(USGS methodology) | _____ inches | _____ inches | _____ inches |

Index Well Number _____

Reading Date _____

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole/Well# _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

*** Tidally influenced Groundwater Elevation determined by Monitoring Well in TP #1. Peak G.W. depth recorded at 124"

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

Yes No

- b. If yes, at what depth was it observed (exclude O, A, and E Horizons)?
- | | | | |
|-----------------------|---------------------|-----------------|----------------------|
| TP 1: Upper boundary: | <u>36</u>
inches | Lower boundary: | <u>140</u>
inches |
| TP 2: Upper Boundary: | <u>60</u>
Inches | Lower Boundary: | <u>128</u>
inches |
| TP 3: Upper Boundary: | <u>36</u>
Inches | Lower Boundary: | <u>128</u>
inches |
| TP 4: Upper Boundary: | <u>36</u>
inches | Lower Boundary: | <u>128</u>
Inches |

- c. If no, at what depth was impervious material observed?
- | | | | |
|-----------------------|--------------|-----------------|--------------|
| TP 2: Upper boundary: | _____ inches | Lower boundary: | _____ inches |
|-----------------------|--------------|-----------------|--------------|

F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.


Signature of Soil Evaluator

ROBERT DEWAR, EIT - SE #14230
Typed or Printed Name of Soil Evaluator / License #

TERRI GIMARINO R.S., C.H.O.
Name of Approving Authority / Witness

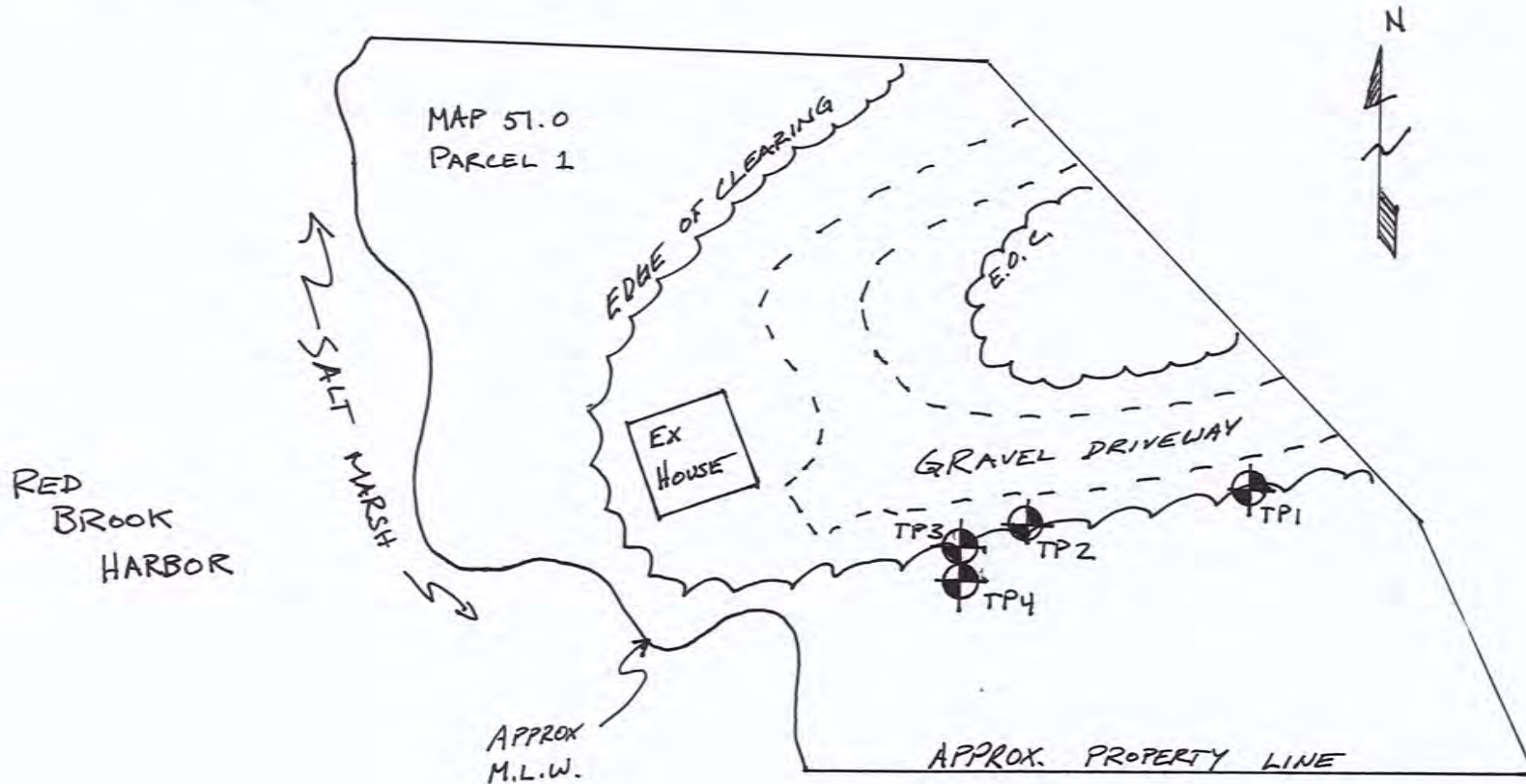
11/19/2021
Date

6/30/2024
Expiration Date of License

BOURNE HEALTH DEPARTMENT / BOARD OF HEALTH
Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with [Percolation Test Form 12](#).

Field Diagrams: Use this area for field diagrams:





Commonwealth of Massachusetts
 City/Town of BOURNE
Percolation Test
Form 12

Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage Disposal. DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Site Information

Long Point Trust, Stephen & Marybeth Bisson, TRS
 Owner Name
 176 Scraggy Neck Road
 Street Address or Lot #
 Bourne MA 02556
 City/Town State Zip Code
 Bracken Engineering, Inc. (Agent) 508-833-0070
 Contact Person (if different from Owner) Telephone Number

B. Test Results

	09/21/2021	9:30a		
	Date	Time	Date	Time
Observation Hole #	#2			
Depth of Perc	60"			
Start Pre-Soak				
End Pre-Soak				
Time at 12"				
Time at 9"				
Time at 6"				
Time (9"-6")	Could Not Presoak			
Rate (Min./Inch)	< 2 MPI			

Test Passed:
 Test Failed:

Test Passed:
 Test Failed:

Robert E. Dewar, EIT, SE14230 of Bracken Engineering, Inc.

Test Performed By:

Terri Guarino - Town of Bourne Health Agent

Board of Health Witness

Comments:

Town of Bourne

Conservation Commission

Nitrogen Loading Calculation Sheet for Residential Housing

The following calculation sheet is based upon Technical Bulletin 91-001 issued by the Cape Cod Commission and deals with nitrate nitrogen (NO₃-N) Use the information from your PLAN OF RECORD to provide the following:

176 Scraggy Neck Road (Existing Conditions)

Number of Bedrooms (Title 5 Definition)	=	1	Bedrooms
Lot Size (in square feet of upland areas)	=	87,006	sq.ft. Upland
Impervious Surfaces;**roof area	=	985	sq.ft.
**Paved Area	=	-	sq.ft.
Natural Area = lot area minus all impervious surfaces	=	86,021	sq.ft.
Lawn Area in sq. ft.	=	8,917	sq.ft.

TITLE 5 FLOW = 110 GAL./ DAY PER BEDROOM

WASTEWATER FLOWS (NITROGEN LOAD & WATER LOAD)

Nitrogen from Title 5 design = 14,572 mg NO₃-N / day / bedroom: or 7911 mg NO₃-N / day/ bedroom with IA Treatment

Water from Title 5 design = 416.3 H₂O / day / bedroom

1a) Number of bedrooms = 1 x 14572 = 14572.00 mg. NO₃-N / day

1b) Number of bedrooms = 1 x 416 = 416.00 L H₂O / day

Actual Nitrogen load = 6071.5 mg NO₃-N / day/ bedroom: 3296 mg NO₃-N / day/ bedroom with IA Treatment

Actual Water load = 173.5 L H₂O / day / bedroom

*Note: This assumes 2.5 people / unit average occupancy within the Town

2a) Number of bedrooms = 1 x 6071.5 = 6071.50 mg. NO₃-N / day

2b) Number of bedrooms = 1 x 173.5 = 173.50 L H₂O / day

IMPERVIOUS SURFACES (NITROGEN LOAD & WATER LOAD)

NO₃-N load number sq. ft. of roof surface X 0.19395 mg NO₃-N / sq. ft.

H₂O load number sq. ft. of roof surface X 0.2586 L / sq. ft.

3a) Roof surface = 985 sq. ft. X 0.19395 = 191.04 mg NO₃-N

3b) Roof surface = 985 sq. ft. X 0.2586 = 254.72 L H₂O / day

NO₃-N load number sq. ft. of paved surface X 0.388 mg / sq. ft.

H₂O load number sq. ft. of paved surface X 0.2586 L / sq. ft.

4a) NO₃-N = 0 sq. ft. paved surface X 0.388 mg / sq. ft. = 0.00 mg NO₃-N

4b) H₂O = 0 sq. ft. paved surface X 0.2586 L / sq. ft. = 0.00 L H₂O

LAWN NITROGEN LOADING = 0.933 mg / sq. ft. lawn surface

$$5) \text{ sq. ft. of lawn} = 8917 \times 0.933 = 8319.56 \text{ mg}$$

NATURAL AREA WATER LOADING

$$\text{Natural area} = \text{lot size} - \text{impervious surfaces} = 86021 \text{ sq. ft.}$$

$$6) \text{ Natural area} = 86021 \times \text{water recharge factor} = 11681.65 \text{ L} \\ \text{(0.1358 L / sq. ft. for Bourne)}$$

SUMMARY OF NITROGEN LOADING

Estimated Title 5 Nitrogen & Water Loading

7a) ADD the above NO₃N load

1a	(+)	3a	(+)	4a	(+)	5	
14572		191.04		0.00		8319.56	23082.60 mg NO ₃ -N / day

7b)

1b	(+)	3b	(+)	4b	(+)	6	
416		254.72		0.00		11681.65	12352.37 L H ₂ O / day

$$7c) \text{ DIVIDE 7a by 7b} = \underline{1.9} \text{ ppm NO}_3\text{-N}^{*****}$$

Actual Nitrogen & Water Loading

8a) ADD the above NO₃N load:

2a	(+)	3a	(+)	4a	(+)	5	
6071.5		191.04		0.00		8319.56	<u>14582.10</u> mg NO ₃ -N / day

8b) ADD the above water (H₂O) load:

2b	(+)	3b	(+)	4b	(+)	6	
173.5		254.72		0.00		11681.7	<u>12109.87</u> L H ₂ O / day

$$8c) \text{ DIVIDE 8a by 8b} = \underline{1.2} \text{ ppm NO}_3\text{-N}^{*****}$$

$$\text{FINAL CALCULATION ADD 7c \& 8c (ppm)} = \underline{3.1} \text{ divide by 2} = \underline{1.5} \text{ ppm NO}_3\text{-N}$$

This is the actual nitrate nitrogen load for the project as designed. The target for coastal areas is 5 ppm nitrate nitrogen. Certain critical embayments may require a LOWER figure to prevent degradation.

*****If your nitrate nitrogen load exceeds the target limit **USE A SECOND CALCULATION SHEET TO SHOW ALTERNATIVES IN TRYING TO ACHIEVE THE 5 PPM NITRATE NITROGEN LEVEL*****

Town of Bourne

Nitrogen Loading Calculation Sheet for Residential Housing

The following calculation sheet is based upon Technical Bulletin 91-001 issued by the Cape Cod Commission and deals with nitrate nitrogen (NO₃-N) Use the information from your PLAN OF RECORD to provide the following:

176 Scraggy Neck Road - Proposed Conditions

Number of Bedrooms (Title 5 Definition)	=	5	Bedrooms
Lot Size (in square feet of upland areas)	=	87,006	sq. ft.
Impervious Surfaces; **roof area	=	4,932	sq. ft.
**Paved Area	=	-	sq. ft.
Natural Area = lot area minus all impervious surfaces	=	82,074	sq. ft.
Lawn Area in sq. ft.	=	7,266	sq. ft.

TITLE 5 FLOW = 110 GAL./ DAY PER BEDROOM

WASTEWATER FLOWS (NITROGEN LOAD & WATER LOAD)

Nitrogen from Title 5 design = 14,572 mg NO₃-N / day / bedroom: or 7911 mg NO₃-N / day/ bedroom with IA Treatment

Water from Title 5 design = 416.3 H₂O / day / bedroom

1a) Number of bedrooms = 5 x 7911 = 39555.00 mg. NO₃-N / day

1b) Number of bedrooms = 5 x 416 = 2080.00 L H₂O / day

Actual Nitrogen load = 6071.5 mg NO₃-N / day/ bedroom: 3296 mg NO₃-N / day/ bedroom with IA Treatment

Actual Water load = 173.5 L H₂O / day / bedroom

*Note: This assumes 2.5 people / unit average occupancy within the Town

2a) Number of bedrooms = 5 x 3296 = 16480.00 mg. NO₃-N / day

2b) Number of bedrooms = 5 x 173.5 = 867.50 L H₂O / day

IMPERVIOUS SURFACES (NITROGEN LOAD & WATER LOAD)

NO₃-N load number sq. ft. of roof surface X 0.19395 mg NO₃-N / sq. ft.

H₂O load number sq. ft. of roof surface X 0.2586 L / sq. ft.

3a) Roof surface = 4932 sq. ft. X 0.19395 = 956.56 mg NO₃-N

3b) Roof surface = 4932 sq. ft. X 0.2586 = 1275.42 L H₂O / day

NO₃-N load number sq. ft. of paved surface X 0.388 mg / sq. ft.

H₂O load number sq. ft. of paved surface X 0.2586 L / sq. ft.

4a) NO₃-N = - sq. ft. paved surface X 0.388 mg / sq. ft. = 0.00 mg NO₃-N

4b) H₂O = - sq. ft. paved surface X 0.2586 L / sq. ft. = 0.00 L H₂O

LAWN NITROGEN LOADING = 0.933 mg / sq. ft. lawn surface

$$5) \text{ sq. ft. of lawn} = 7266 \times 0.933 = 6779.18 \text{ mg}$$

NATURAL AREA WATER LOADING

$$\text{Natural area} = \text{lot size} - \text{impervious surfaces} = 82074 \text{ sq. ft.}$$

$$6) \text{ Natural area} = 82074 \times \text{water recharge factor} = 11145.65 \text{ L} \\ \text{(0.1358 L / sq. ft. for Bourne)}$$

SUMMARY OF NITROGEN LOADING

Estimated Title 5 Nitrogen & Water Loading

7a) ADD the above NO₃N load

1a	(+)	3a	(+)	4a	(+)	5	
39555		956.56		0.00		6779.18	47290.74 mg NO ₃ -N / day

7b)

1b	(+)	3b	(+)	4b	(+)	6	
2080		1275.42		0.00		11145.65	14501.06 L H ₂ O / day

$$7c) \text{ DIVIDE 7a by 7b} = \underline{3.3} \text{ ppm NO}_3\text{-N}^{*****}$$

Actual Nitrogen & Water Loading

8a) ADD the above NO₃N load:

2a	(+)	3a	(+)	4a	(+)	5	
16480		956.56		0.00		6779.18	<u>24215.74</u> mg NO ₃ -N / day

8b) ADD the above water (H₂O) load:

2b	(+)	3b	(+)	4b	(+)	6	
867.5		1275.42		0.00		11145.6	<u>13288.56</u> L H ₂ O / day

$$8c) \text{ DIVIDE 8a by 8b} = \underline{1.8} \text{ ppm NO}_3\text{-N}^{*****}$$

$$\text{FINAL CALCULATION ADD 7c \& 8c (ppm)} = \underline{5.1} \text{ divide by 2} = \underline{2.5} \text{ ppm NO}_3\text{-N}$$

This is the actual nitrate nitrogen load for the project as designed. The target for coastal areas is 5 ppm nitrate nitrogen. Certain critical embayments may require a LOWER figure to prevent degradation.

*****If your nitrate nitrogen load exceeds the target limit **USE A SECOND CALCULATION SHEET TO SHOW ALTERNATIVES IN TRYING TO ACHIEVE THE 5 PPM NITRATE NITROGEN LEVEL*****

QUITCLAIM DEED

Frederick L. Worcester, as Trustee of the Worcester Family Nominee Trust dated May 31, 2002, recorded with the Barnstable County Registry of Deeds in Book 15363, Page 23 ("Grantor"), for consideration of Seven Million Dollars (\$7,000,000.00) paid, grants to Stephen Bisson and Marybeth Bisson, Trustees of The Long Point Trust, a Massachusetts nominee trust, recorded herewith with an address of 178-180 Scraggy Neck Road, Cataumet, Massachusetts 02534, with quitclaim covenants, that certain parcel of land, together with the building and other improvements thereon and all appurtenances thereto, such real property being known as 178-180 Scraggy Neck Road, Cataumet, in Barnstable County, Massachusetts, and being bounded and more particularly as described in Exhibit A attached hereto and made a part hereof, subject all easements, agreements and restrictions of record insofar as in force and applicable.

For Grantor's Title see Deed dated May 31, 2002, recorded with said Registry in Book 15363, Page 29.

IN WITNESS WHEREOF, this Quitclaim Deed has been executed as a sealed instrument to be effective as of the 13th day of December, 2007.

BARNSTABLE COUNTY REGISTRY OF DEEDS
Date: 12-19-2007 @ 01:28PM
Ct1#: 994 Doc#: 72281
Fee: \$23,940.00 Cons: \$7,000,000.00

By: Frederick L. Worcester
Frederick L. Worcester, Trustee as
aforesaid and not individually

COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss.

On this 13th day of December, 2007, before me, the undersigned notary public, personally appeared Frederick L. Worcester, Trustee, of the Worcester Family Nominee Trust proved to me through satisfactory evidence of identification, which was photographic identification with signature issued by a federal or state governmental agency, oath or affirmation of a credible witness, personal knowledge of the undersigned, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose on behalf of the Worcester Family Nominee Trust.

BARNSTABLE COUNTY EXCISE TAX
BARNSTABLE COUNTY REGISTRY OF DEEDS
Date: 12-19-2007 @ 01:28PM
Fee: \$15,940.00 Cons: \$7,000,000.00

Stephen P. Napolitano
Notary Public:
My Commission Expires June 13, 2014
Stephen P. Napolitano
Notary Public
Commonwealth of Massachusetts
My Commission Expires
June 13, 2014



Property Address: 178+180 Scraggy Neck Road,
Cataumet, MA

EXHIBIT A

LEGAL DESCRIPTION

A certain piece or parcel of land situated along the Southerly side of Red-brook harbor, in Cataumet, formerly called South Pocasset, Town of Bourne, County of Barnstable, Commonwealth of Massachusetts, being the Westerly portion of what is commonly known as the Long Point tract, and being shown as Lot 1 and 2 on a plane entitled "Plan of land in Bourne, Mass., owner P.Y. DeNormandie Trust Frederick L. (Ted) Worcester" dated September 8, 1998 and recorded with the Barnstable County Registry of Deeds in Plan Book 544, Page 69, said lots bounded and described as follows:

Beginning at an iron post ten feet North 75° 45' West from the Westerly end of the stone darn or dyke across a creek near Red-brook harbor; thence running on the land now or formerly of Joshua Crane, South 7° 54' West about ninety-one and 7/10 feet to a stake on the edge of the upland; thence South 3° 43' West about seventy-seven and 6/10 feet to a stake; thence South 55° 16' West about fifty-one and 5/10 feet to a stake; thence South 54° 20' West about sixty-one and 5/10 feet to a stake; thence South 7° 51' West about fifty-eight and 5/10 feet to a stake; thence South 60° 36' West about fifty and 2/10 feet to a stake; thence North 76° 13' West about four hundred and ninety and 5/10 feet to a stake beside a boulder at edge of salt pond; thence across said pond on same course North 76° 13' West to the mean low water line of the seashore of Pocasset harbor; thence following the seashore of Pocasset and Red-brook harbors Northerly, thence Easterly, thence Southeasterly to a point at the mean water line of the seashore opposite a rock near the edge of the marsh, thence South 41° 10' West to said rock, thence on same course, South 41° 10' West, about ninety-seven feet to a stake at the mean high water line of the beach; thence South 17° 49' West about eighty-three feet to an iron post at the beginning, containing nine acres more or less, of upland, and about seven acres more or less of marsh land.

Together with right of way over intervening land to Scraggy Neck road, so called, as is more fully set forth in instrument recorded with Barnstable County Deeds, Book 219, Pages 586 and 587.

NOTICE OF ALTERNATIVE SEWAGE DISPOSAL SYSTEM
M.G.L. c. 21A, § 13 and 310 CMR 15.0287(10)

ADDRESS OF PROPERTY SERVED BY ALTERNATIVE SYSTEM:

176 Scraggy Neck Road, Bourne, MA

TITLE REFERENCE FOR PROPERTY SERVED BY ALTERNATIVE SYSTEM

Deed recorded with the **Barnstable** Registry of Deeds in **Book 22554, Page 257**

NAME(S) OF OWNER OF PROPERTY SERVED BY ALTERNATIVE SYSTEM:

The Long Point Trust
Stephen Bisson and Marybeth Bisson, Trustees

OWNER(S) MAILING ADDRESS: P.O. Box 10, Cataumet, MA 02563

WHEREAS, Section 15.280 of Title 5 of the State Environmental Code (“Approval of Alternative Systems”), provides for the Massachusetts Department of Environmental Protection (the “Department”) to approve or certify, as appropriate, all proposals to construct, upgrade or replace on-site sewage disposal systems using alternative systems;

WHEREAS, owners and/or operators of approved or certified alternative systems are subject to general conditions, as specified in Section 15.287 of Title 5 of the State Environmental Code, 310 CMR 15.287, and may be subject to special conditions, as specified in the Department’s approvals or certifications; such general and special conditions potentially including, without limitation, requirements relating to the use of trained operators, periodic inspections, maintenance, sampling, reporting and/or recordkeeping;

WHEREAS, the owners and/or operators this alternative system acknowledges and agrees to comply with the provisions of all of the Bourne Board of Health Alternative Septic System Regulations and any other conditions for the existence of the system;

WHEREAS, Section 15.287(10) of Title 5 of the State Environmental Code, 310 CMR 15.287(10), requires that “prior to obtaining a Certificate of Compliance for installation of a new or upgraded system, the system owner shall record in the chain of title for the property served by the alternative system in the Registry of Deeds and/or Land Registration Office, as applicable, a Notice disclosing both the existence of the alternative on-site system and the Department’s approval of the system. The system owner shall also provide evidence of such recording to the Bourne Board of Health; and

WHEREAS, the Property is served by an alternative sewage disposal system.

NOW, THEREFORE, Notice of an alternative sewage disposal system is hereby given for the above- referenced Property, as follows:

1. Existence System #1. An alternative system has been installed as a new or upgraded alternative sewage disposal system, on or adjacent to the Property, and serves the Property. The trade name and model number(s) of the alternative system are as follows:

Trade name of technology:	<i>MicroFAST®</i>
Manufacturer Name:	Bio-Microbics, Inc.
Model number(s):	MicroFAST 0.9 Unit

2. Approval/Certification. On 12/29/2010, revised 3/20/2015, the Department, pursuant to its authority under the section of Title 5 as specified below, approved or certified the technology used in the above referenced alternative system, under MassDEP Transmittal Number X232831.

- Certified for general use under 310 CMR 15.288

3. Existence System #2. An alternative system has been installed as a new or upgraded alternative sewage disposal system, on or adjacent to the Property, and serves the Property. The trade name and model number(s) of the alternative system are as follows:

Trade name of technology: Presby Enviro-Septic® Wastewater Treatment System

Manufacturer Name: Presby-Environmental, Inc.

4. Approval/Certification. Revised on March 19, 2019, modified October 30, 2019, and February 22, 2022 the Department, pursuant to its authority under the section of Title 5 as specified below, approved or certified the technology used in the above referenced alternative system, under MassDEP Transmittal Number Accela 21-CLM-000073-APP

- Certified for general use under 310 CMR 15.288

A copy of the Department of Environmental Protection's Approval/Certification is available online at the Department's website:

<https://www.mass.gov/guides/approved-title-5-innovativealternative-technologies>

This Notice of Alternative Sewage Disposal System must be submitted to the Bourne Board of Health

WITNESS the execution hereof under seal this ____ day of _____, 2022, made by the above-named Alternative System Owner.

Stephen Bisson, Trustee of the Long Point Trust

COMMONWEALTH OF MASSACHUSETTS

Barnstable, ss

On this _____ day of _____, 2022, before me, the undersigned notary public, personally appeared Stephen Bisson, Trustee of the Long Point Trust, proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

(official signature and seal of notary)

WITNESS the execution hereof under seal this ____ day of _____, 2022, made by the above-named Alternative System Owner.

Marybeth Bisson, Trustee of the Long Point Trust

COMMONWEALTH OF MASSACHUSETTS

Barnstable, ss

On this _____ day of _____, 2022, before me, the undersigned notary public, personally appeared Marybeth Bisson, Trustee of the Long Point Trust, proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

(official signature and seal of notary)

Approved and Accepted By:

Terri A. Guarino, Health Agent
Town of Bourne
Health Department



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

CERTIFICATION FOR GENERAL USE

Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

Bio-Microbics, Inc.
8450 Cole Parkway
Shawnee, KS 66227

Trade name of technology and models:

FAST Treatment Systems with Nitrogen Reduction including models *MicroFAST® 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0*, *HighStrengthFAST® 1.0, 1.5, 3.0, 4.5, 9.0* and *NitriFAST® 0.5, 0.75, 1.0, 1.5, 3.0, 4.5, 9.0* (all hereinafter the "System") for facilities with design flows less than 2,000 gallons per day (GPD). Schematic drawings illustrating the models and an Inspection Checklist are part of this Certification.

Transmittal Number: X232831

Date of Issuance: December 29, 2010, revised March 20, 2015

Authority for Issuance:

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection (hereinafter "the Department") hereby issues this General Use Approval to: Bio-Microbics, Inc., 8450 Cole Parkway, Shawnee, KS 66227 (hereinafter "the Company"), approving the above referenced FAST technology (hereinafter "the Technology" or "System") for use in the Commonwealth of Massachusetts subject to the conditions herein. Sale and use of the Technology are subject to compliance by the Company, the Designer, the System Installer, the Operator, and the System Owner with the terms and conditions herein. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

David Ferris, Director
Wastewater Management Program
Bureau of Water Resources

March 20, 2015

Date

I. Purpose

This information is available in alternate format. Call Michelle Waters-Ekanem, Diversity Director, at 617-292-5751. TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

1. Subject to the conditions of this Approval and any other local requirements, the purpose of this Approval is to allow the use of the System in Massachusetts on a General Use basis. With the necessary permits and approvals required by 310 CMR 15.000, this Certification authorizes the installation and use of the System in Massachusetts.
2. The System may be installed for residential facilities with design flow less than 2,000 GPD where a system in compliance with 310 CMR 15.000 exists on-site or could be built and for which a site evaluation in compliance with 310 CMR 15.000 has been approved by the local approving authority; or by the Department if Department approval is required by 310 CMR 15.000. This Approval allows for the use of the System as an equivalent alternative technology in accordance with 310 CMR 15.202 on facilities for nitrogen reduction in a Department designated nitrogen sensitive or limited area as defined in 310 CMR 15.214 and 15.215.

Non-residential facilities are not allowed under this approval. Non-residential facilities include properties with businesses and/or commercial establishments.

3. The technology shall meet or exceed the following effluent discharge requirements:
 - Effluent Total Nitrogen (TN) concentration of 19 mg/L (for 660 gallons per day per acre -gpda- loading) or 25 mg/L (for 550 gpda loading).
 - Effluent pH range shall be 6.0 to 9.0.
 - The System is approved for use at facilities with a maximum design flow less than 2,000 GPD.
4. The System Owner or the designated System Operator (or 'Operator') has responsibility for oversight and sampling of the System if the property served was allowed to increase the discharge rate per acre above 440 gpda in an area subject to Nitrogen Loading Limitations.

The System Owner will be required to repair, replace, modify or take any other action as required by the Department or the local approving authority, if the Department or the local approving authority determines that the System is not capable of meeting the required reduction in nitrogen in the effluent.

The Company is responsible for the approved technology as described below.

II. General Description of the Technology and Design Standards

1. The tank containing the FAST® insert is installed between the building sewer and the soil absorption system (SAS). The SAS shall be designed and constructed in accordance with 310 CMR 15.100 - 15.279 and subject to the provisions of this Certification.
2. Technology Description - The FAST® system is an aerobic wastewater treatment system that utilizes a completely submerged fixed film process to treat organics and nitrify, and a passive recycle system for denitrification. Each model contains submerged media specific to the application. Microorganisms grow on the media and remove soluble contaminants from the wastewater, utilizing them as a source of energy for growth and production of new microorganisms. The FAST® system insert consists of a liner around the media and an airlift to provide aeration and mixing within the confines of the liner. The area outside the liner in the septic tank remains anoxic for denitrification and a passive recirculation system

moves the aerated wastewater to the outside of the liner to obtain denitrification. The aeration and circulation inside the liner are provided by a blower that pumps air into a draft tube that extends down the center of the media. Treated effluent passes out of the aerobic zone of the treatment plant through a pipe connected directly to a baffled quiescent area in the liner. Final effluent is discharged to a soil absorption system. Specific model considerations are as follows:

- The MicroFAST® 0.5, 0.75 and 0.9, HighStrengthFAST® 1.0 and NitriFAST® 0.5, 0.75 and 0.9 are installed in the second compartment of a two-compartment tank with a total liquid capacity of at least 1,500 gallons constructed in accordance with 310 CMR 15.226.
 - The MicroFAST®, HighStrengthFAST® and NitriFAST® 1.5 are installed in the second compartment of a two compartment 3000-gallon tank constructed in accordance with 310 CMR 15.226.
 - The MicroFAST®, HighStrengthFAST® and NitriFAST® 3.0 is installed in a separate tank constructed in accordance with 310 CMR 15.226 and located between a standard Title 5 septic tank, designed in accordance with 310 CMR 15.223 and 15.224, and the soil adsorption system (SAS). In this larger system, an additional recycle pump may be needed to send nitrified effluent back to the septic tank for added denitrification. Consult the Company for proper layout.
 - The NitriFAST® models can also be used for additional nitrification in series after the MicroFAST® models or HighStrengthFAST® models. In this configuration the tanks used for the NitriFAST® shall be constructed in accordance with 310 CMR 15.226 and meet the minimum dimensions and volumes required by the Company.
 - Flow equalization may also be employed prior to the FAST® system depending on the type of facility. Consult Company for proper layout.
3. All access ports and manhole covers shall be readily removable, of durable material and installed and maintained at grade to allow for maintenance of the System. No structures shall be located directly upon or above the access locations which could interfere with performance, access, inspection, pumping, or repair. Sufficient access for infrequent maintenance of the System treatment media and all other treatment works shall be evaluated, and addressed in the System design if necessary, by the designer. System control panel(s) including alarms shall be mounted in a location accessible to the operator of the System.
4. Wastewater Loading and Effluent Concentration Design Standards
- For new residential construction in an area subject to the Nitrogen Loading Limitations of 310 CMR 15.214, and the facility does not meet with the Nitrogen Loading Limitations pursuant to the aggregation provisions of 310 CMR 15.216, an increase in calculated nitrogen loading per acre is allowed for facilities with design flow less than 2000 gpd with limitations as follows:
- The design flow shall not exceed 660 gallons per day per acre (gpda) and the total nitrogen (TN) concentration in the effluent shall not exceed 19 milligrams per liter (mg/L); or

- The design flow shall not exceed 550 gallons per day per acre (gpda) and the total nitrogen (TN) concentration in the effluent shall not exceed 25 milligrams per liter (mg/L).
- TN is measured as the total of TKN (Total Kjeldhal Nitrogen), NO₃-N (Nitrate nitrogen) and NO₂-N (Nitrite nitrogen).

III. General Conditions

1. The provisions of 310 CMR 15.000 is applicable to the use and operation of this System, the System owner and the Company, except those that specifically have been varied by the terms of this Certification.
2. Any required operation and maintenance, monitoring and testing shall be performed in accordance with a Department approved plan. Any required sample analysis shall be conducted by an independent U.S. EPA or DEP approved testing laboratory, or a DEP approved independent university laboratory, unless otherwise provided in the Department's written approval. It shall be a violation of this Certification to falsify any data collected pursuant to an approved testing plan, to omit any required data or to fail to submit any report required by such plan.
3. The facility served by the System and the System itself, shall be open to inspection and sampling by the Department and the local approving authority at all reasonable times.
4. In accordance with applicable law, the Department and the local approving authority may require the System owner to cease operation of the system and/or to take any other action as it deems necessary to protect public health, safety, welfare or the environment.
5. The Department has not determined that the performance of the System will provide a level of protection to public health and safety and the environment that is at least equivalent to that of a sanitary sewer system. Accordingly, no System shall be upgraded or expanded, if it is feasible to connect the facility to a sanitary sewer, unless as allowed by 310 CMR 15.004.
6. Design, installation, and use of the System shall be in strict conformance with the Company's DEP approved plans and specifications and 310 CMR 15.000, subject to this Certification.

IV. Conditions Applicable to the System Owner

1. The System owner shall at all times have the System properly operated and maintained by a Company approved Operator in accordance with this Certification, the designer's operation and maintenance requirements and the Company's approved procedures.
2. The System is certified only in connection with the discharge of sanitary wastewater from facilities with a design flow of less than 2000 gpd. Any non-sanitary wastewater generated and/or used at the facility served by the System shall not be introduced into the System and shall be lawfully disposed of.

3. The System Owner shall provide access to the site for the System Operator to perform inspections, maintenance, repairs, responding to alarm events, field testing, and sampling as may be required by the Approval.

Operation and Monitoring Requirements

4. System effluent total nitrogen (TN) concentrations shall not exceed 19 or 25 mg/L and effluent pH shall not be less than 6.0 or more than 9.0. Field test observations of dissolved oxygen (DO) shall equal or exceed 2 mg/L and for Turbidity shall be equal or less than 40 NTU.
5. All samples shall be taken at a flowing discharge point, i.e. distribution box, pipe entering a pump chamber or other Department approved location from the treatment unit.
6. Inspection, operation and maintenance (O&M), sampling, and field testing of the System required by the Approval shall be performed by a Company approved Operator who has been certified at a minimum of Grade Level 4 (four) by the Board of Registration of Operators of Wastewater Treatment Facilities, in accordance with Massachusetts regulations 257 CMR 2.00, and is an approved Title 5 System Inspector in accordance with 310 CMR 15.340.
7. Prior to commencement of construction of the System, the System Owner shall provide to the local approving authority a copy of a signed O&M Agreement that meets the requirements of paragraph IV (8).
8. The System Owner shall maintain, at all times, an O&M Agreement with a qualified System Operator approved by the Company. The Agreement shall be at least for one year and include the following provisions:
 - a) The name of a System Operator who is an approved System Inspector in accordance with 310 CMR 15.340 and who meets any additional qualification requirements specified in the Approval;
 - b) The System Operator must inspect the Alternative System as required by paragraph IV (9) and (12);
 - c) The System Operator shall be responsible for submitting the monitoring results to the System Owner in accordance with paragraph IV (13) and to the local approving authority in accordance with paragraph IV (14); and
 - d) In the case of a System failure, an equipment failure, alarm event, components not functioning as designed, or violations of the Approval, procedures and responsibilities of the System Operator and System Owner shall be clearly defined for corrective measures to be taken immediately. The System Operator shall agree to provide written notification within five days, describing corrective measures taken, to the System Owner and the local board of health.
9. The System Owner shall comply with the following monitoring requirements if the System is subject to a TN concentration limit in accordance with paragraph II (4):

- a) Year-round installations shall be inspected and have effluent sampled for at least the TN parameter quarterly for the first year, then a minimum of twice/year thereafter, at least 5 months apart and with at least one sample taken between December 1 and March 1 of each year. Field testing shall be completed per paragraph IV (11) below, and as determined necessary by the System Operator. See DEP Field Testing Protocol at <http://www.mass.gov/dep/water/laws/policies.htm#t5pols>. Wastewater flow shall be recorded at each inspection, see 'Flow Metering' paragraph IV (10).
- b) Seasonal installations shall be inspected and have effluent sampled for at least the TN parameter a minimum of twice/year. At least one sample must be taken 30 to 60 days after each seasonal occupancy begins. A second sample must be taken no less than 2 months after the first sample. Field testing shall be completed per paragraph IV (11) below, and as determined necessary by the System Operator. Wastewater flow shall be recorded at each inspection, see 'Flow Metering' paragraph IV (10).
- c) Systems in operation prior to issuance of this Approval, which have received approval of sampling reduction from the Department may continue with that System monitoring frequency.

Properties occupied at least 6 months per year are considered year-round properties. Properties occupied less than 6 months per year are considered seasonal properties.

TN is measured as the total of TKN (Total Kjeldhal Nitrogen), NO₃-N (Nitrate nitrogen) and NO₂-N (Nitrite nitrogen).

10. Flow Metering: Reporting of residential System water use is not required, however it is recommended the Operator record water meter readings if available at all inspections, or otherwise estimate System flow, to assist in addressing possible operational problems or issues. Flow measurement when recorded shall be based on:
 - a) actual metering data of wastewater flow to the System or actual water meter data of flow to fixtures that discharge to the wastewater system; or
 - b) actual water meter data for the total facility with either actual meter data or estimated flows for non-wastewater usage subtracted from the total facility water usage. If estimating the wastewater portion of metered water usage, the System Operator shall provide a best estimate of wastewater discharged to the System with the method of estimating, such as pump run times, occupancy rates, adjustment due to seasonal outdoor watering use, etc.; or
 - c) for Systems installed under a prior Approval that did not include a wastewater flow data reporting requirement, if no flow meters are available, the System Operator shall provide a best estimate of wastewater discharged to the System with the method of estimating, such pump run times, occupancy rate, etc.
11. Field Testing: Temperature, turbidity, pH and DO shall be measured and recorded in the field whenever the effluent is sampled for TN. See applicable sections of the Department's Field Testing Protocol at <http://www.mass.gov/dep/water/laws/policies.htm#t5pols>.

12. At a minimum, the System Operator shall inspect the System:
 - a) quarterly for the first year then two times per year thereafter;
 - b) in accordance with the approved O&M manual, the Designer's operation and maintenance requirements, and the requirements of the local approving authority; and
 - c) any time there is an alarm event, equipment failure, or system failure.

Recordkeeping and Reporting

13. Within 60 days of any site visit, the System Operator shall submit an O&M report and inspection checklist to the System Owner and the Company. It is recommended the System Owner and Company maintain copies of these items for possible Department audit. The O&M report shall include, at a minimum:
 - a) for a System failing, any corrective actions taken;
 - b) wastewater analyses, wastewater flow data, field testing results and inspection checklists;
 - c) any violations of the Approval;
 - d) any determinations that the System or its components are not functioning as designed or in accordance with the Company specifications; and
 - e) any other corrective actions taken or recommended.
14. By February 15th of each year the System Owner or the System Operator if designated by the owner, shall submit to the local approving authority all monitoring results with all O&M reports and inspection checklists completed by the System Operator during the previous 12 months.
15. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Operator shall notify the System Owner immediately.
16. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Owner and the System Operator shall be responsible for the notification of the local approving authority within 24 hours of such determination.
17. The System Owner shall notify the Approving Authority and the Company in writing within seven days of any cancellation, expiration or any other change in the terms and/or conditions of the O&M Agreement required by Paragraph IV (8).
18. Violations of the TN concentration in the System effluent shall not constitute a failure of the System for the purposes of 24-hour notification or 5-day written reporting as required in Paragraphs IV (16) and (8).
19. The System owner shall provide a copy of this Approval, prior to the signing of a purchase and sale agreement for the facility served by the System or any portion thereof, to the proposed new owner.

20. The System owner shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.
21. Prior to issuance of a Certificate of Compliance of the System, and after recording and/or registering the Notice required by 310 CMR15.287(10), the System Owner shall provide to the Local Approving Authority a copy of: (i) a certified Registry copy of the Notice bearing the book and page/or document number; and (ii) if the property is unregistered land, a Registry copy of the System Owner's deed to the property, bearing a marginal reference on the System Owner's deed to the property. The Notice to be recorded shall be in the form of the Notice provided by the Department.
22. Prior to signing any agreement to transfer any or all interest in the property served by the System, or any portion of the property, including any possessory interest, the System Owner shall provide written notice of all conditions contained in the Approval to the transferee(s). Any and all instruments of transfer and any leases or rental agreements shall include as an exhibit attached thereto and made a part of thereof a copy of the Approval for the System. The System Owner shall send a copy of such written notification(s) to the Local Approving Authority within 10 days of giving such notice to the transferee(s).

V. Conditions Applicable to the Company

1. The Company shall notify the Director of the Wastewater Management Program at least 30 days in advance of the proposed transfer of ownership of the technology for which this Certification is issued. Said notification shall include the name and address of the proposed new owner and a written agreement between the existing and proposed new owner containing a specific date for transfer of ownership, responsibility, coverage and liability between them. All provisions of this Certification applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.
2. The Company shall develop maintain and update as necessary the following: minimum installation requirements; an operating manual, including information on substances that should not be discharged to the System; a maintenance checklist; and a recommended schedule for maintenance of the System consistent with the Department's requirements essential to consistent successful performance of the installed Systems.
3. The Company shall institute and maintain a program of operator training and continuing education. The Company shall maintain and annually update, and make available the list of qualified operators by February 15th and make the list known to local approving authorities, the Department and to users of the technology.
4. The Company shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.
5. The Company shall include copies of this Certification and the procedures described in Section V (3) with each System that is sold. In any contract executed by the Company for distribution or re-sale of the System, the Company shall require the distributor or re-seller to provide each purchaser of the System with copies of this Certification and the procedures described in Section V (3).

6. A copy of the wastewater analyses, wastewater flow data, field testing results, and System Operator O&M reports and inspection checklists from each installed System shall be maintained by the Company or its designee for possible Department audit.
7. If the Company wishes to continue this Certification after its expiration date, the Company shall apply for and obtain a renewal of this Certification. The Company shall submit a renewal application at least 180 days before the expiration date of this Certification, unless written permission for a later date has been granted in writing by the Department. This Certification shall continue in force until the Department has acted on the renewal application.

VI. Conditions Applicable to the System Designer

1. Upon submission of an application for a DSCP, the Designer shall provide to the local approving authority:
 - a) a certification, signed by the owner of record for the property to be served by the System, stating that the property owner:
 - i) has been provided a copy of the Approval, the Owner's Manual, and the Operation and Maintenance Manual, if applicable, and the Owner agrees to comply with all terms and conditions;
 - ii) has been informed of all the owner's costs associated with the operation including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
 - iii) understands the requirement for a service contract;
 - iv) agrees to fulfill his responsibilities to provide a Deed Notice as required by 310 CMR 15.287(10) and the Approval;
 - v) agrees to fulfill his responsibilities to provide written notification of the Approval to any new owner, as required by 310 CMR 15.287(5);
 - vi) if the design does not provide for the use of garbage grinders, the restriction is understood and accepted;
 - vii) if the design is for an upgrade of failed or nonconforming system, the System Owner has been provided a copy of the evaluation of the existing system;
 - viii) whether or not covered by a warranty, the System Owner understands the requirement to repair, replace, modify or take any other action as required by the Department or the local approving authority, if the Department or the local approving authority determines that the Alternative System is not capable of meeting the performance standards; and
 - b) a certification, signed by the Designer that the design conforms to the Approval with Conditions and 310 CMR 15.000.

VII. Reporting

1. All notices and documents required to be submitted to the Department by this Certification shall be submitted to:

Director
Wastewater Management Program
Department of Environmental Protection,
One Winter Street - 5th floor
Boston, Massachusetts 02108

VIII. Rights of the Department

1. The Department may suspend, modify or revoke this Certification for cause, including, but not limited to, non-compliance with the terms of this Certification, non-payment of the annual compliance assurance fee, for obtaining the Certification by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Certification, or as necessary for the protection of public health, safety, welfare or the environment, and as authorized by applicable law. The Department reserves its rights to take any enforcement action authorized by law with respect to this Certification and/or the System against the owner or operator of the System and/or the Company.

Transmittal: X232831 (formerly W101238)



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

MODIFIED GENERAL USE CERTIFICATION

Pursuant to Title 5, 310 CMR 15.00

Name and Address of Applicant:

Presby Environmental, Inc.
143 Airport Road
Whitefield, NH 03598

Trade name of technology and models: **Enviro-Septic® Wastewater Treatment System** (hereinafter called the “System”). The Advanced Enviro-Septic Design & Installation Manual, System Installation Form and Inspection Checklist are part of this Certification.

Transmittal Number: Accela - 21-CLM-000073-APP
Date of Issuance: Revised March 19, 2019, Modified October 30, 2019,
February 22, 2022

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental, Protection hereby issues this Certification for General Use to: Presby Environmental, Inc., 143 Airport Road, Whitefield, NH 03598 (hereinafter “the Company”), certifying the System described herein for General Use in the Commonwealth of Massachusetts. The sale, design, installation, and use of the System are conditioned on compliance by the Company, the Designer, the Installer and the System Owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

/s/ Marybeth Chubb
Marybeth Chubb, Section Chief
Wastewater Management Program
Bureau of Resource Protection

2/22/2022
Date

Technology Description

The System is an alternative subsurface Soil Absorption System (SAS) that replaces a conventional SAS designed in accordance with 310 CMR 15.000. The System consists of an 11 5/8-inch diameter corrugated, high-density plastic pipe with a 9.5-inch interior diameter and a standard length per unit of 10 feet. The pipe is perforated with eight holes equally distributed around its inner circumference at each corrugation. Each hole has a plastic skimmer extending inwards. The exterior of the pipe has ridges on the peak of each corrugation and is wrapped with two layers fabric materials. The inner layer is a thick layer of coarse, randomly oriented polypropylene fibers. The outer fabric layer is a thinner non-woven geotextile polypropylene. The System includes required connectors designed to connect pipe units together. The System also includes sand surrounding the pipe units, specified as concrete sand meeting the ASTM C-33 specification, also called System Sand. The System Sand must be placed with a minimum thickness of (6") six inches below, (3") three inches above and six inches to the sides of the pipe units.

Conditions of Approval

The term "System" refers to the Alternative Soil Absorption System in combination with the other components of an on-site treatment and disposal system that may be required to serve a facility in accordance with 310 CMR 15.000.

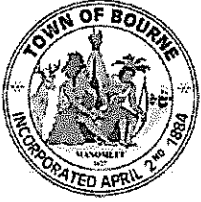
The term "Approval" refers to the technology-specific Special Conditions, the Standard Conditions for General Use Certification of Alternative Soil Absorption Systems, the General Conditions of 310 CMR 15.287, and any Attachments.

For Alternative Soil Absorption Systems that have been issued General Use Certification for the installation of Systems to serve facilities where the site meets the requirements for new construction, the Department authorizes reductions in the effective leaching area (310 CMR 15.242), subject to the *Standard Conditions that apply to all Alternative Soil Absorption Systems* with General Use Certification found here: <https://www.mass.gov/doc/standard-conditions-for-alternative-soil-absorption-systems-with-general-use-certification/download> and subject to the Special Conditions below applicable to this Technology.

Special Conditions

1. The System is approved Patented Sand Filter for use as an Alternative Soil Absorption System. In addition to the Special Conditions contained in this Approval, the System shall comply with all Standard Conditions for Alternative Soil Absorption Systems, except where stated otherwise in these Special Conditions.
2. The System is approved for facilities where a conventional system with a reserve area exists or can be built on-site in full compliance with the new construction requirements of 310 CMR 15.000 and has been approved by the local approving authority.

3. This Certification shall not be used for the installation of a System to upgrade or replace an existing failed or nonconforming system, unless the facility meets the siting requirements for new construction, including a reserve area.
4. The separation distance to the estimated seasonal high groundwater elevation shall be measured from the bottom of the System sand below the Enviro-Septic Wastewater Treatment System.
5. The System shall only be installed in bed or field configuration, as described in 310 CMR 15.252. The System shall not be installed in trench configuration and no sidewall area shall be considered in the total effective leaching area provided. The effective leaching area shall be the bottom area only (length times width) of the sand bed.
6. System does not require a five foot over dig as indicated at 310 CMR 15.255(5).
7. Systems shall be installed with differential venting for aeration and inspection access at end of each run of pipe, section or serial bed and whenever the System is installed under impervious surfaces.
8. Serial distribution laterals shall be limited to no more than 500 gpd with each lateral a maximum of 100 feet, and must be laid level. Multi-level systems shall not be allowed.
9. The Advanced Enviro-Septic proprietary product (AES) will be sized at a minimum of seventy (70) linear feet per bedroom (lf/br) and will not exceed 100 feet in length.
10. System component material specifications for the pipe, plastic components, fabric and sand shall comply with the specifications identified in the initial Enviro-Septic I/A technology approval.
11. Prior approval from the Department for any change from these specifications shall be requested in writing.
12. Any changes to the approved plans must receive Local Approving Authority (LAA) approval prior to any changes. Before a Certificate of Compliance can be issued by the LAA the System Designer must include any changes to the approved plan into the as-built plans.
13. Design, installation and operation shall be in strict conformance with the Company's DEP approved plans and specifications of Enviro-Septic Wastewater Treatment System Massachusetts Design and Installation Manuals Copyright September 2019, Presby Environmental, Inc., 310 CMR 15.000 and this Approval.



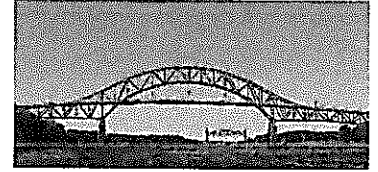
TOWN OF BOURNE

Board of Assessors

24 Perry Avenue

Buzzards Bay, MA 02532

(508) 759-0600 Ext. 1510 ♦ Fax (508) 759-8026



Michael Leitzel, Chairperson
Ellen Doyle Sullivan, Clerk
Donna Barakauskas, Member

Rui Pereira, MAA
Director of Assessing

May 10, 2022

The Long Point Trust
c/o Bracken Engineering, Inc.
49 Herring Pond Rd.
Buzzards Bay, MA 02532

Reference: Abutters List for Map 51 Parcel 1
Subject Property: 176 Scraggy Neck Road

Pursuant to the provisions of Massachusetts General Laws Chapter 141, Section 40, as amended, and the Town of Bourne Wetlands Protection Bylaw Article 3.7, enclosed is a list of names and addresses which constitutes abutters within 100 feet of the subject property on the most recent tax list of the Town of Bourne. The purpose of the abutters list is for a Notice of Intent application for the Conservation Commission.

Abutting properties are: Map 47 Parcel 45; Map 51.1 Parcels 1, 3 & 4.

The Assessor's Office has received your payment of \$10.00.

Please be advised that this abutters list is only good for 30 days from the date on this letter. Expired abutters list can be recertified for an additional filing fee.

See enclosed Data Base Inquiry Forms for abutters mailing addresses.

Board of Assessors

*Ellen Doyle Sullivan -
Donna Barakauskas
Michael Leitzel*

Extract: ABUTTERS LIST
 Database: LIVE
 Filter: Key IN 14473,10762,10763,10764
 Sort:

Report #24: Owner Listing Report
 Fiscal Year 2023

Bourne MA

Key	Parcel ID	Owner	Location	LCI/CI	Bk-Pa(Cert) /Dt	Mailing Street	Mailing City	ST	Zip Cd/County
14473	47.0-45-0	BISSON STEPHEN & MARYBETH TRS OF LONG POINT TRUST	178-180 SCRAGGY NECK RD	N	22554/257 1090 12/19/2007	PO BOX 10	CATAUMET	MA	02534
10762	51.1-1-0	KEENE HENRY R SR & JANE A KEENE	0 WINSOR RD	N	01220/0396 1320	74 MARTIN BATES ST	DEDHAM	MA	02026-4118
10763	51.1-3-0	GALLIGAN MARYFRANCES B TR GALLIGAN BEACH NOM TR	170 SCRAGGY NECK RD	Y	1010 7/13/2000	4 LAUREL TERRACE	WELLESLEY HILLS	MA	02481
10764	51.1-4-0	MCCAREY KATHERINE DENORMANDIE	168 SCRAGGY NECK RD	N	25508/171 1010 6/15/2011	11 BRIGHAM ROAD	LEXINGTON	MA	02420-3408

Total Records 4

MAIN OFFICE:
49 Herring Pond Road
Buzzards Bay, MA 02532
TEL: (508) 833-0070
FAX: (508) 833-2282



NANTUCKET OFFICE:
19 Old South Road
Nantucket, MA 02554
TEL: (508) 325-0044
www.brackeneng.com

July XX, 2022

CERTIFIED MAIL

RE : Notice of Public Hearing

Dear Abutter:

In accordance with the State Environmental Code, Title 5: 310 CMR 15.00, you are hereby notified that **The Long Point Trust, Stephen & Marybeth Bisson, Trustees** have requested a hearing before the Bourne Board of Health for relief from the Bourne Board of Health Regulations for the installation of an Innovative/Alternative Septic System. The location of the property for which approval is sought is **176 Scraggy Neck Road (Map 51, Parcel 1 (Lot 2)), Cataumet** where you are listed as an abutter. At said hearing the Board will discuss and possibly vote on:

The following variances are requested from the 150-foot setback to the proposed Soil Absorption System (SAS) and Reserve Area (RA):

- SAS to the Salt Marsh southwest from 150' to 138' (**12' variance**)
- SAS to the Salt Marsh northeast from 150' to 101' (**49' variance**)
- RA to the Salt Marsh to the south from 150' to 118' (**32' variance**)
- RA to the Salt Marsh to the northeast from 150' to 122' (**28' variance**)

This hearing is tentatively scheduled for **Wednesday, July 13th, 2022, at 5:00 p.m.** in Conference Room #2 at the Bourne Veteran's Memorial Community Building, 239 Main Street, Buzzards Bay. Information regarding the hearing may be available for your review one week prior to the meeting by contacting the Bourne Health Department at 508-790-0600, Ext. 1513, Monday through Friday from 8:30 a.m. until 4:30 p.m.

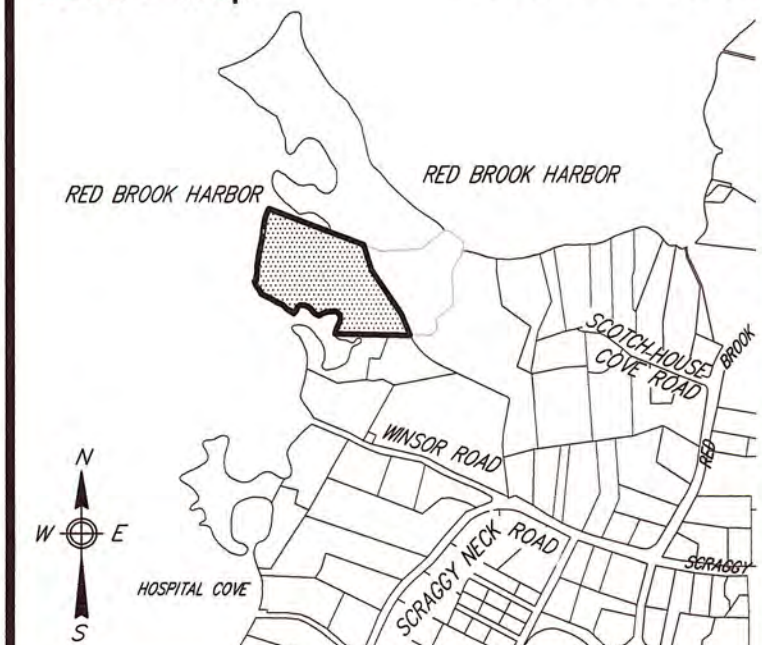
Meeting agendas are posted on the Town of Bourne website, www.townofbourne.com/health no less than 48 hours in advance of the hearing. Please confirm the date, time, and location of the meeting with the Town, in case of any changes. Should you have any questions or concerns, please do not hesitate to contact the undersigned at don@brackeneng.com or the Bourne Health Department at 508-790-0600, Ext. 1513.

Sincerely,

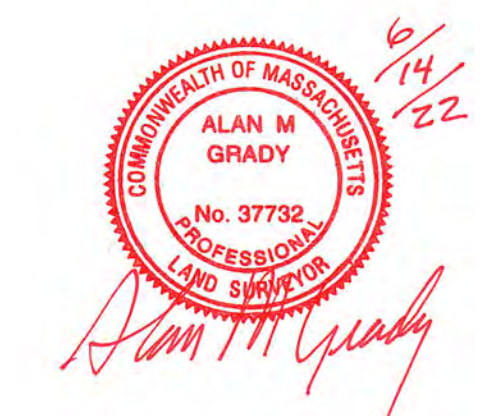
BRACKEN ENGINEERING INC.

A handwritten signature in black ink, appearing to read 'Donald F. Bracken, Jr.', is written over a large, faint, diagonal watermark that says 'DRAFT'.

Donalds F. Bracken, Jr., PE
President
Agent for the Applicant



MASS COORDINATE SYSTEM
MAINLAND ZONE MERIDIAN
DETERMINED USING A
TOPCON HIPER SR GPS RTK UNIT
COLLECTION DATE 03/03/2020



- Notes**
- LOCUS: #176 SCRAGGY NECK ROAD MAP 51 PARCEL 01 (LOT 2)
 - OWNER: STEPHEN BISSON and MARYBETH BISSON trustees of THE LONG POINT TRUST PO BOX 10 CATAUMET MA, 02534
 - DEED REF: Bk: 22554 Pg: 257
 - PLAN REF: Plan Bk: 687 Pg: 11 (LOT 2)
 - 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.
 - LOCUS PARTIALLY FALLS WITHIN AN NHESP ESTIMATED HABITAT OF RARE WILDLIFE AND PRIORITY HABITAT OF RARE SPECIES.
 - LOCUS DOES NOT FALL WITHIN A ZONE II WELLHEAD PROTECTION AREA OR BOURNE WATER RESOURCE DISTRICT.
 - 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 WARRANTY 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.
 - MEAN HIGH WATER ELEVATION DETERMINED USING THE BUZZARDS BAY ESTUARY TIDAL DATUM VIEWER AND COASTAL LIDAR DATA PROVIDED BY NOAA NCEI 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**
- 12 --- EXISTING CONTOUR
 - [Red dashed line] EXISTING COASTAL BANK
 - 12 --- LIMIT OF SALT MARSH LINE
 - 12 --- 100' SALT MARSH BUFFER
 - 12 --- 50' COASTAL BANK BUFFER
 - 12 --- FLOOD ZONE LINE per MassMapper GIS
 - 12 --- ACTUAL "AE" FLOOD LINE el. 15'
 - 12 --- LIMIT OF NHESP JURISDICTION

Prepared By:

BRACKEN ENGINEERING, INC.

49 HERRING POND ROAD BUZZARDS BAY, MA 02532 (tel) 508.833.0070 (fax) 508.833.2282

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

EXISTING CONDITIONS PLAN IN BOURNE, MA

Prepared For:

STEPHEN & MARYBETH BISSON TRUSTEES OF THE LONG POINT TRUST

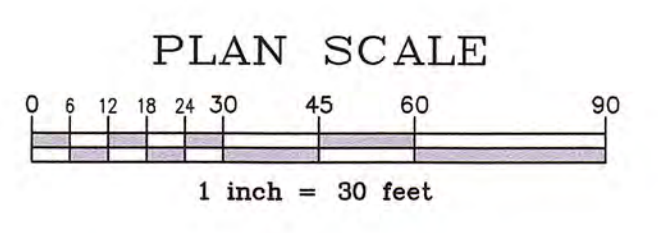
#176 SCRAGGY NECK ROAD MAP 51 PARCEL 1 (LOT 2)

No.	Date	Revision Description	By
1	6/14/22	NO CHANGES	JPH

Date: MAY 16, 2022 Drawn: JPH/BE Checked: DFB/AMG Sheet: 1 of 3

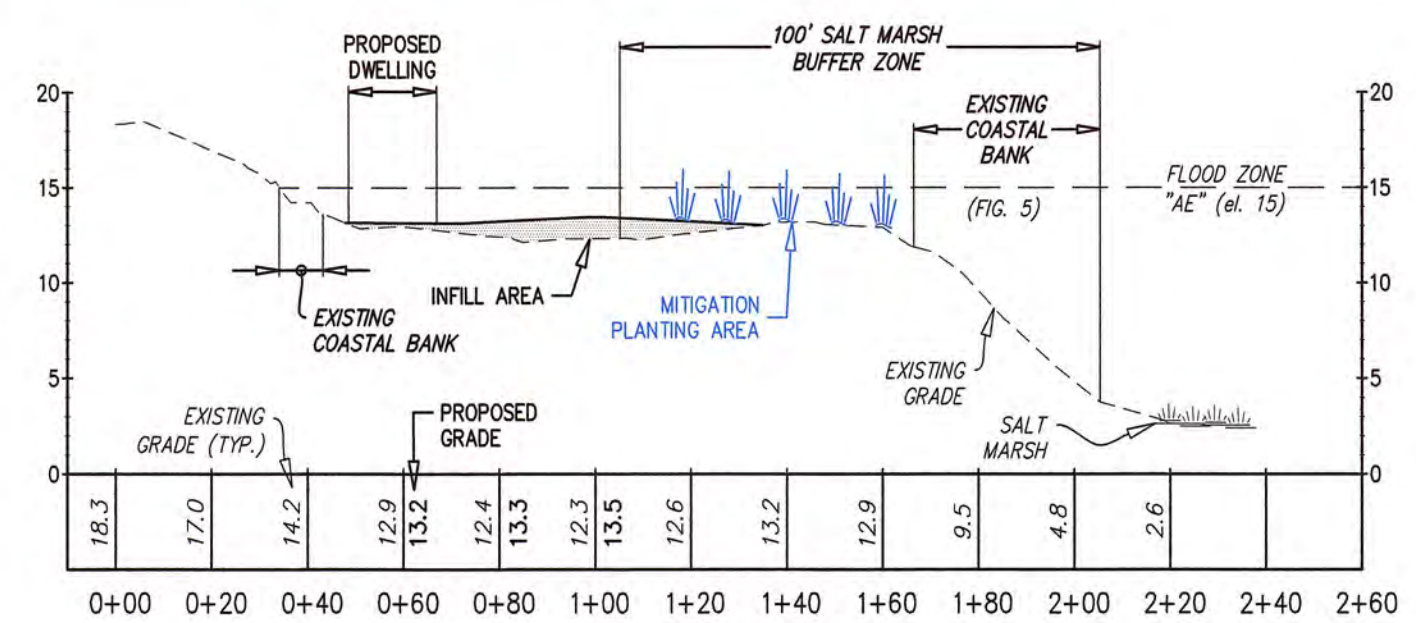


LOT 2
MAP 51 PARCEL 1
TOTAL AREA = 298,496± S.F.
(6.9± AC.)
UPLAND AREA = 51,482± S.F.
(1.18± AC.)

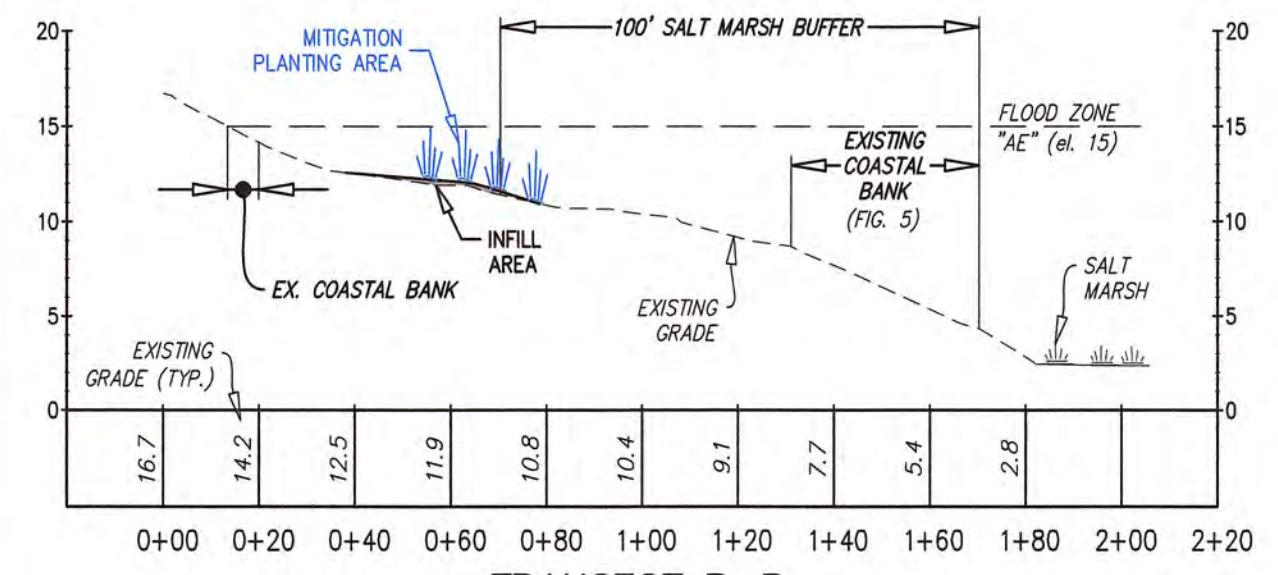


THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM BRACKEN ENGINEERING, INC. ANY REPRODUCTION OR TRANSMISSION WITHOUT THE WRITTEN PERMISSION OF BRACKEN ENGINEERING, INC. SHALL RENDER IT INVALID AND UNLAWFUL.

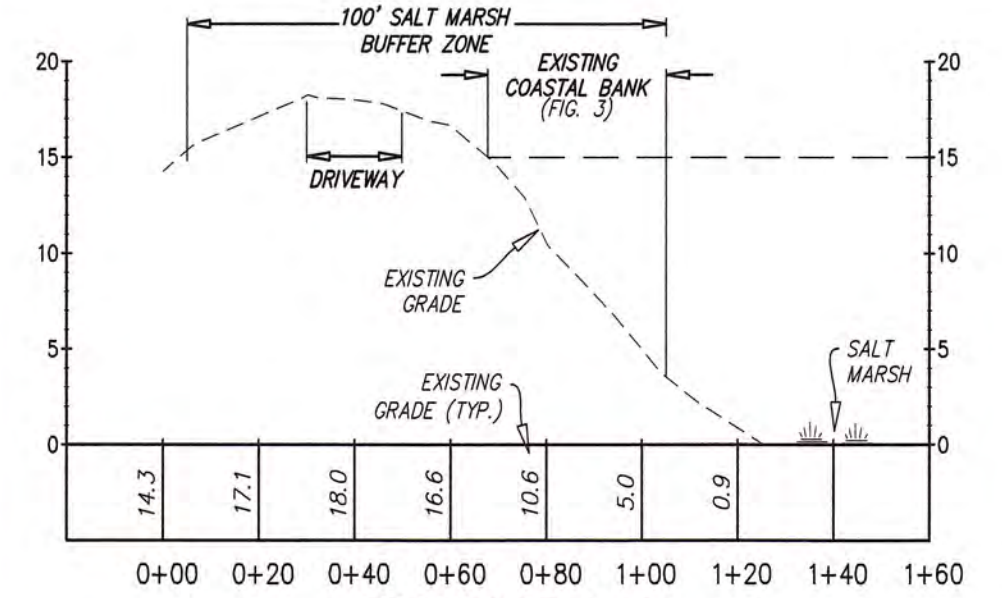
MASS COORDINATE SYSTEM
 MAINLAND ZONE MERIDIAN
 DETERMINED USING A
 TOPCON HIPER SR GPS RTK UNIT
 COLLECTION DATE 03/03/2020



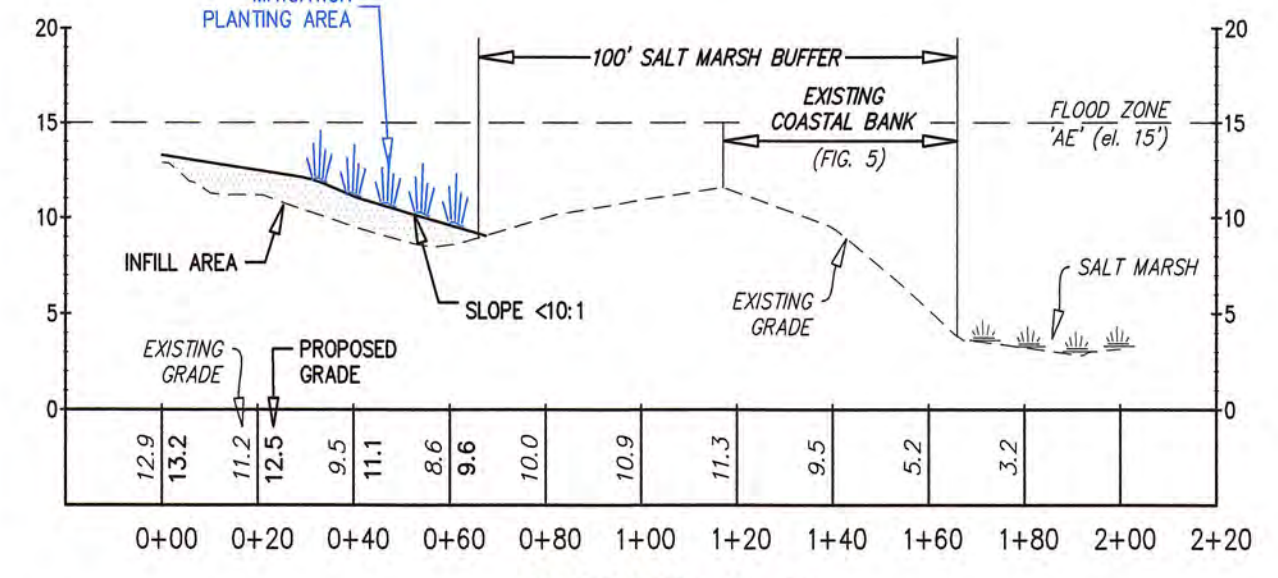
TRANSECT A-A
 SCALE: HOR. - 1"=40'
 VER. - 1"=10'



TRANSECT B-B
 SCALE: HOR. - 1"=40'
 VER. - 1"=10'



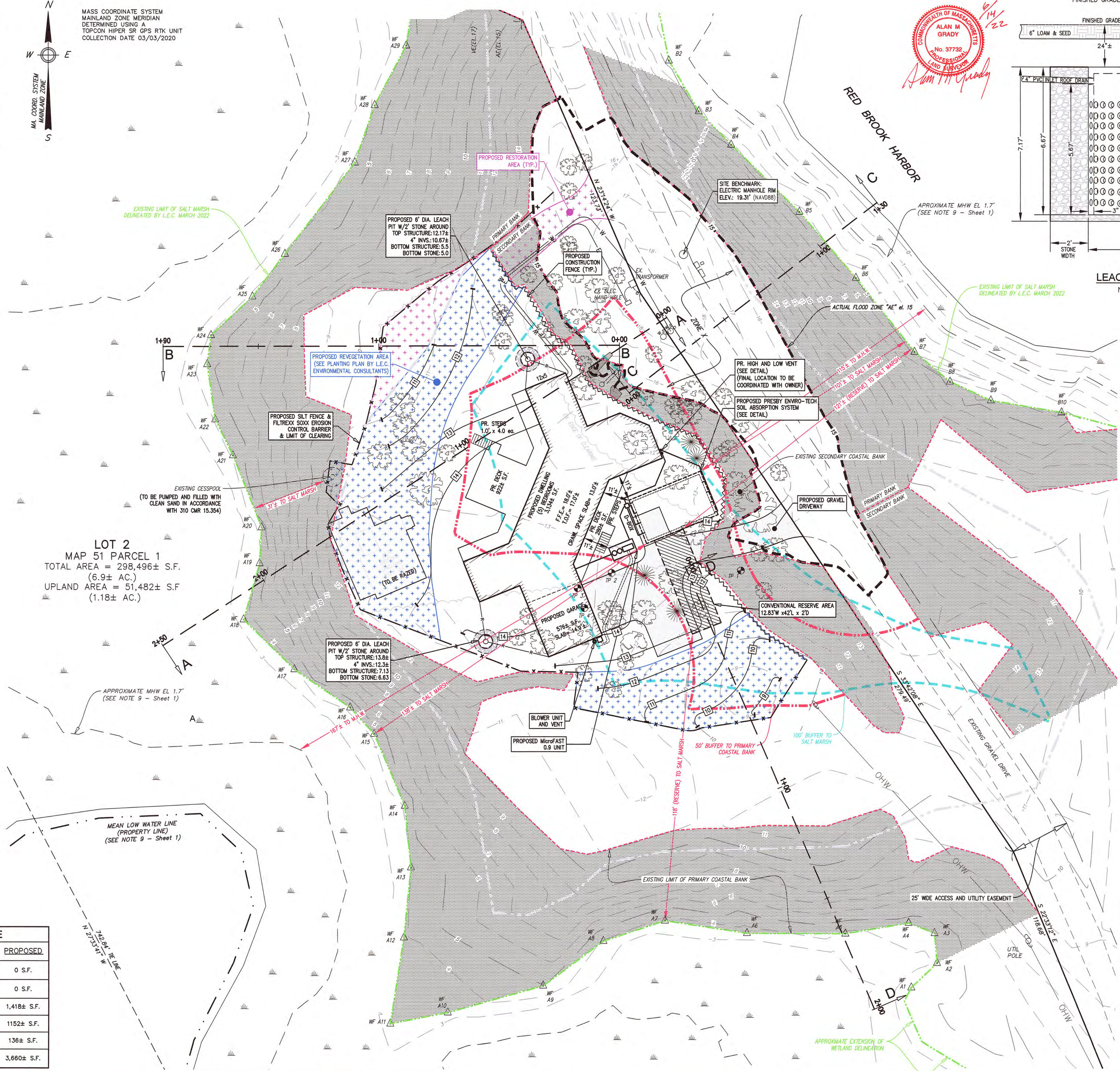
TRANSECT C-C
 SCALE: HOR. - 1"=40'
 VER. - 1"=10'



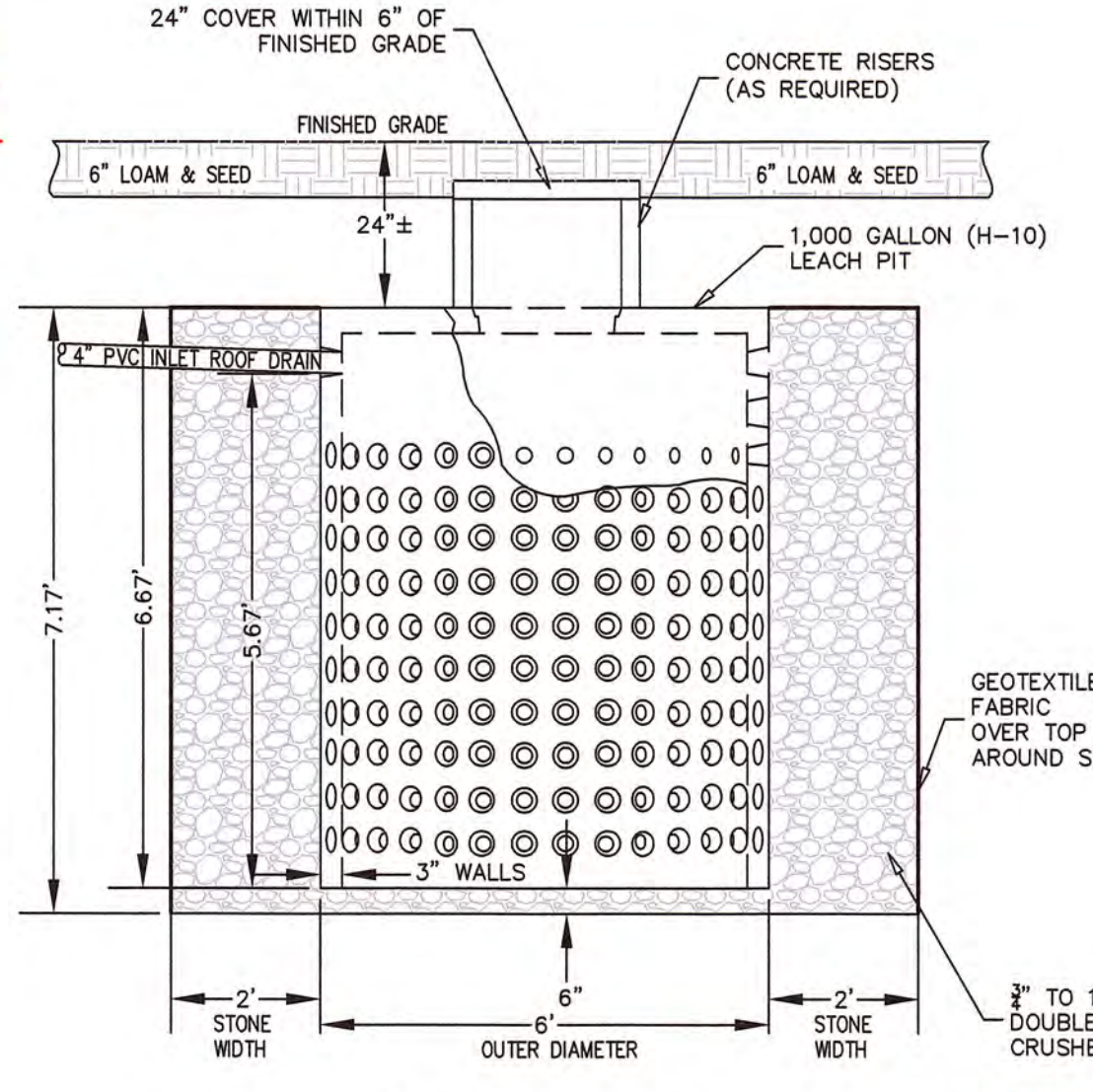
TRANSECT D-D
 SCALE: HOR. - 1"=40'
 VER. - 1"=10'

LOT 2
MAP 51 PARCEL 1
 TOTAL AREA = 298,496± S.F.
 (6.9± AC.)
 UPLAND AREA = 51,482± S.F.
 (1.18± AC.)

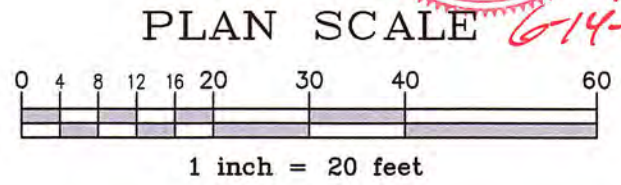
SUMMARY OF DISTURBED AREAS - COASTAL BANKS & BUFFER ZONE		
DESCRIPTION	EXISTING	PROPOSED
STRUCTURE WITHIN PRIMARY COASTAL BANK	6± S.F.	0 S.F.
STRUCTURE WITHIN SECONDARY COASTAL BANK	0 S.F.	0 S.F.
STRUCTURE WITHIN 50' BUFFER TO PRIMARY COASTAL BANK	986± S.F.	1,418± S.F.
DRIVEWAY & PARKING WITHIN 50' BUFFER TO PRIMARY COASTAL BANK	1,539± S.F.	1,152± S.F.
DRIVEWAY AND PARKING WITHIN SECONDARY COASTAL BANK	373± S.F.	136± S.F.
TOTAL NON-VEGETATED AREA WITHIN 50' BUFFER TO PRIMARY COASTAL BANK (NOT INCLUDING STRUCTURES, DRIVEWAY & PARKING)	6,205± S.F.	3,660± S.F.



6/14/22
 ALAN M GRADY
 PROFESSIONAL LAND ENGINEER
 COMMONWEALTH OF MASSACHUSETTS



LEACHING PIT DETAIL
 NOT TO SCALE



6/14/22
 DONALD F. BRACKEN, JR.
 CIVIL ENGINEER
 COMMONWEALTH OF MASSACHUSETTS

- 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
 - PROPOSED REVEGETATION AREA
 - ACTUAL "AE" FLOOD LINE el. 15'
 - LIMIT OF NHESP JURISDICTION
 - 4" PVC ROOF DRAIN
 - TRANSECT

Prepared By:
BRACKEN ENGINEERING, INC.
 49 HERRING POND ROAD BUZZARDS BAY, MA 02532
 19 OLD SOUTH ROAD NANTUCKET, MA 02554
 (tel) 508.833.0070 (tel) 508.325.0044
 (fax) 508.833.2282 (www.brackeneng.com)

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
1	6/14/22	REVISE SEPTIC LOCATION, RE-LOCATE WATER & ELECTRIC UTILITIES, MISC. and REVISIONS	JPH

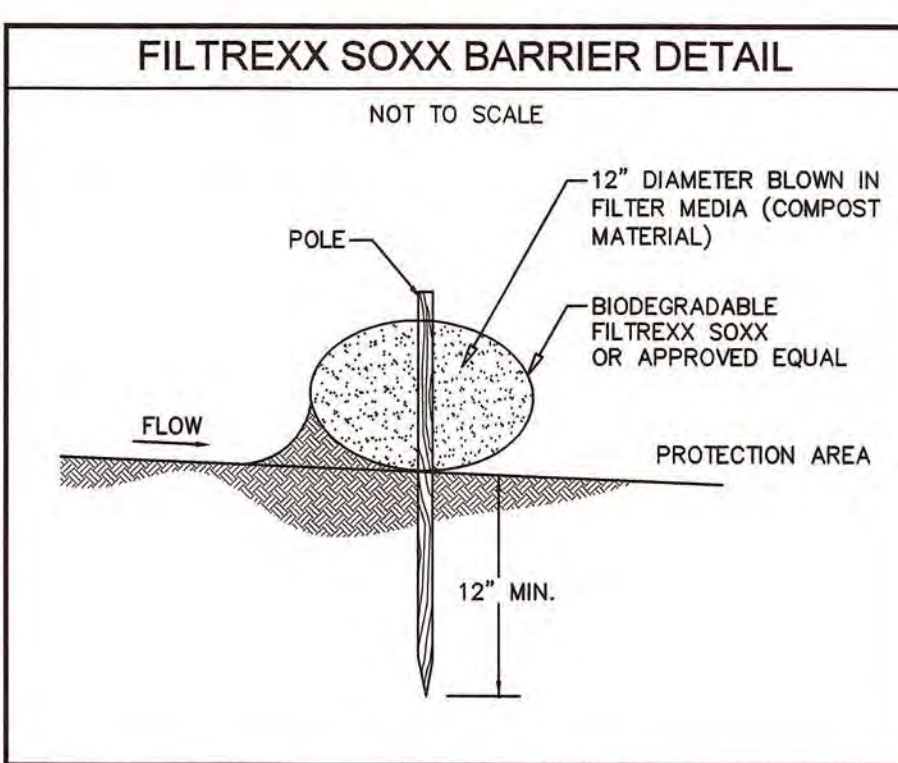
Date: MAY 16, 2022 Drawn: [] Checked: [] Sheet: 2 of 3

NO PART OF THIS DOCUMENT MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN CONSENT OF BRACKEN ENGINEERING, INC. ANY UNAUTHORIZED USE OF THIS DOCUMENT WITHOUT THE WRITTEN PERMISSION OF BRACKEN ENGINEERING, INC. SHALL CONSTITUTE VIOLATION OF MASSACHUSETTS LAWS.

- ### Notes
- BENCHMARK: ELEVATION = 19.31 (NAVD88)
ELECTRIC MANHOLE RIM
 - 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 WATERTIGHT.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES.
 - A CERTIFICATE OF COMPLIANCE MUST BE OBTAINED PRIOR TO BACKFILLING SYSTEM.
 - OWNER/APPLICANT:
STEPHEN BISSON
MARYBETH BISSON Trustees of
THE LONG POINT TRUST
P.O. BOX No. 10
CATAUMET MA, 02563
 - DEED REFERENCE: Deed Bk: 22554 Pg: 257
 - PLAN REFERENCE: Plan Bk: 687 Pg: 11 (LOT 2)
 - 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.
 - LOCUS PARTIALLY FALLS WITHIN AN NHESP ESTIMATED HABITAT OF RARE WILDLIFE AND PRIORITY HABITAT OF RARE SPECIES.
 - 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-0492-J & 25001C-0511-J BOTH 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.
 - 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/CONTROL PANELS WITH THE HOMEOWNER & SYSTEM MANUFACTURERS PRIOR TO INSTALLATION.
 - CONTRACTOR TO COORDINATE FINAL LOCATIONS OF HIGH AND LOW VENTS WITH OWNER AND ENGINEER.
 - 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.

ADDITIONAL EROSION CONTROL NOTES

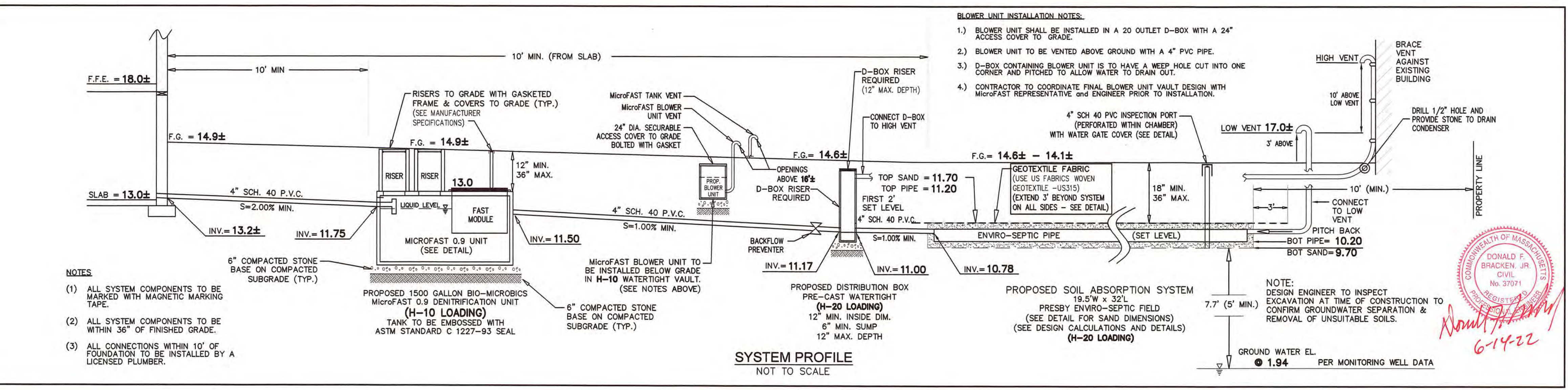
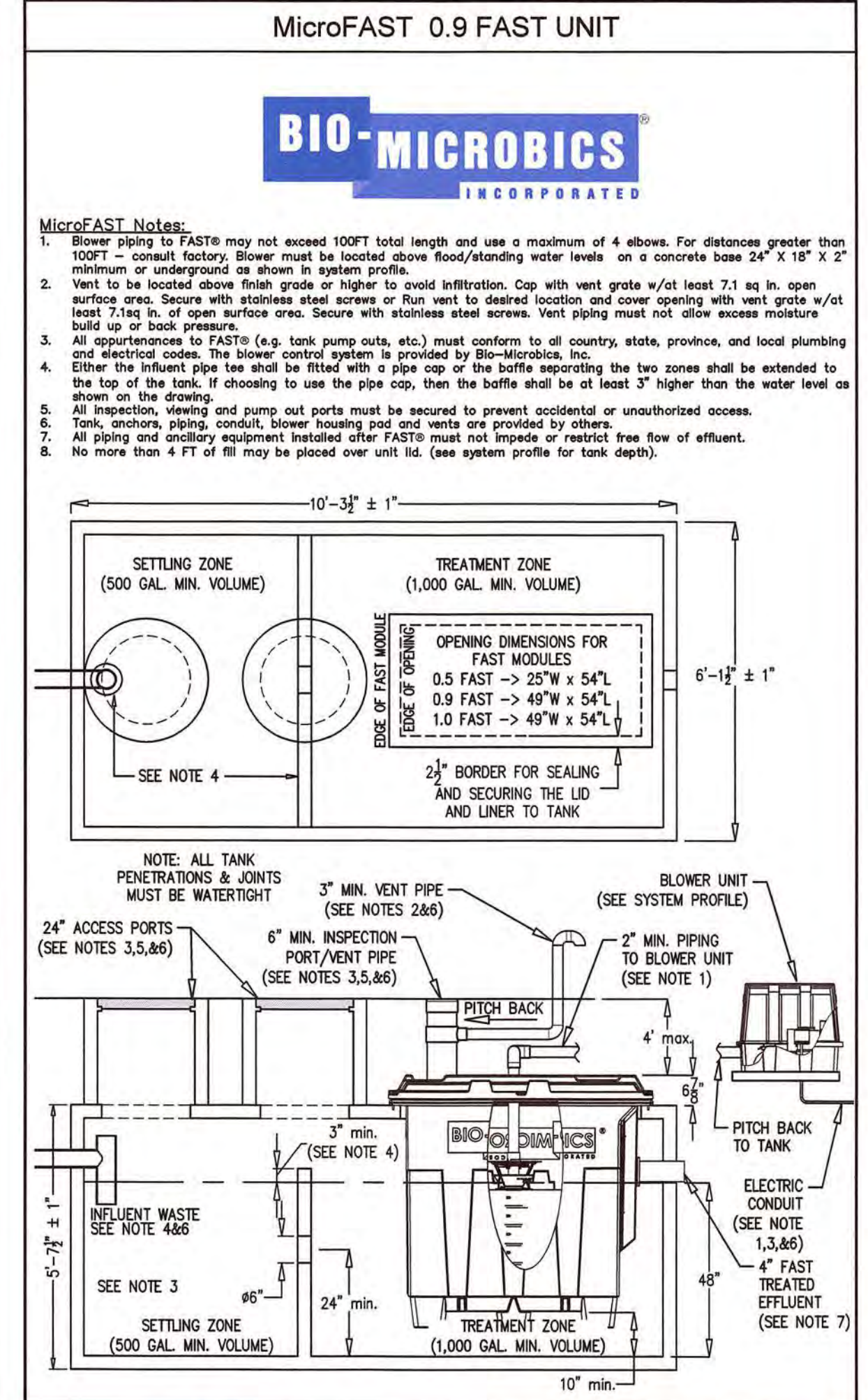
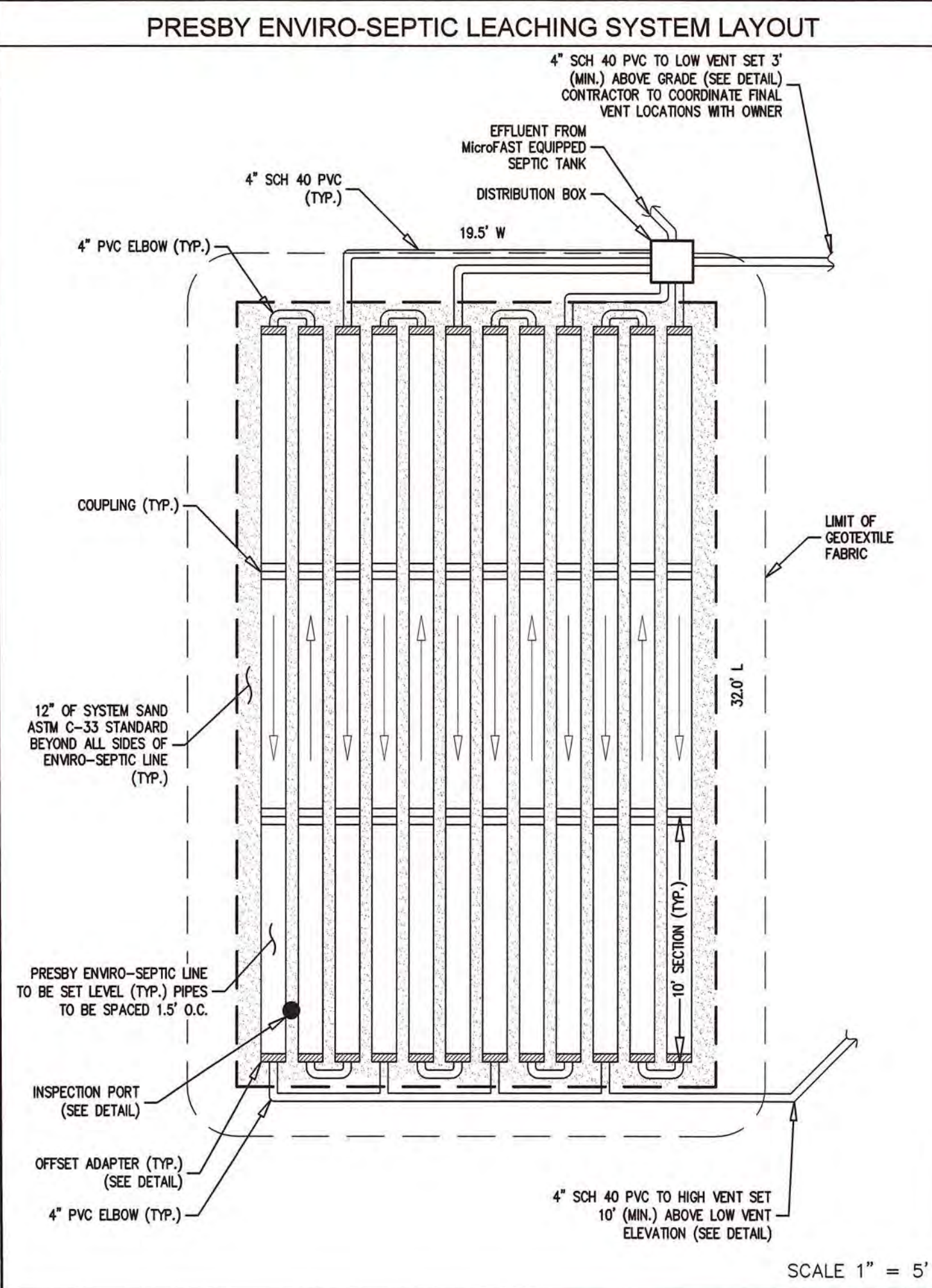
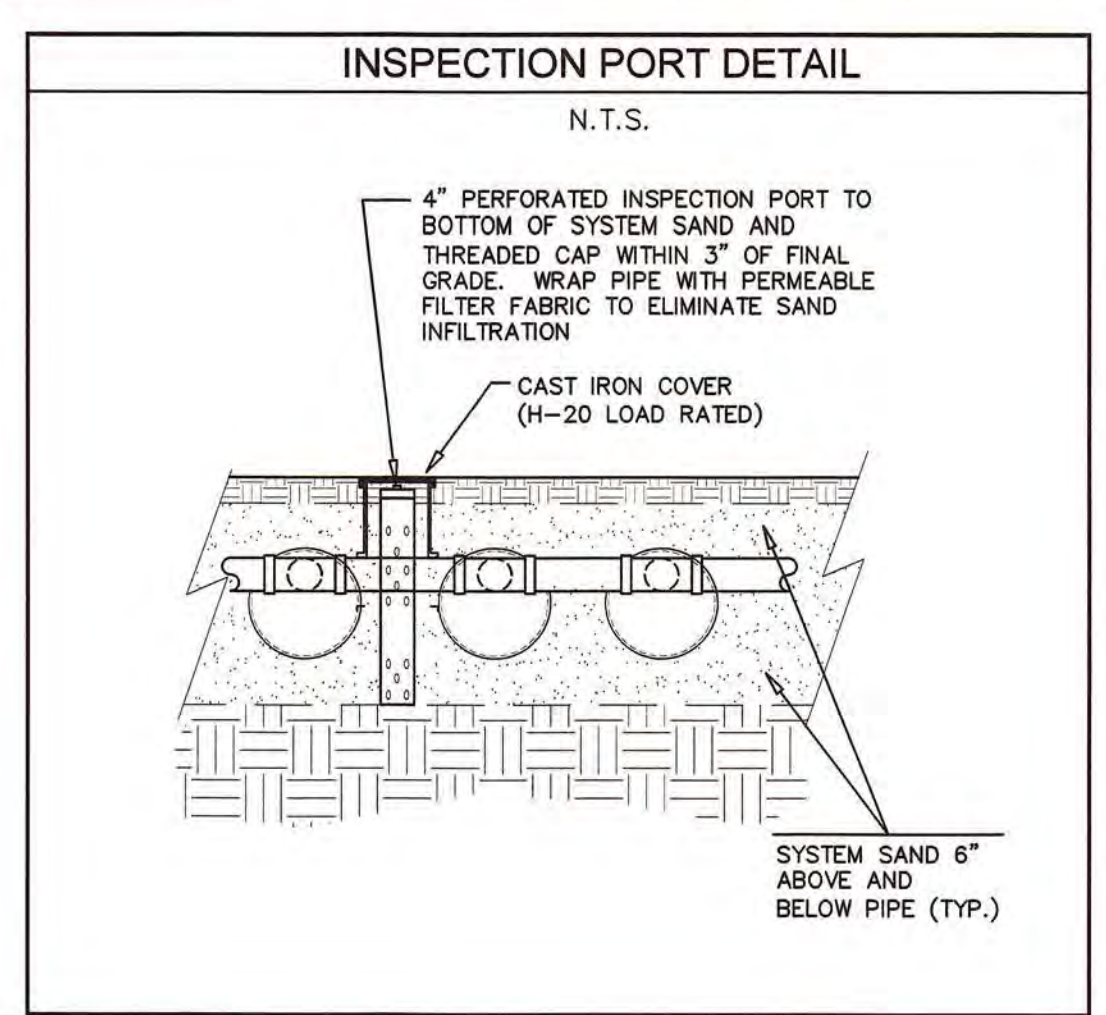
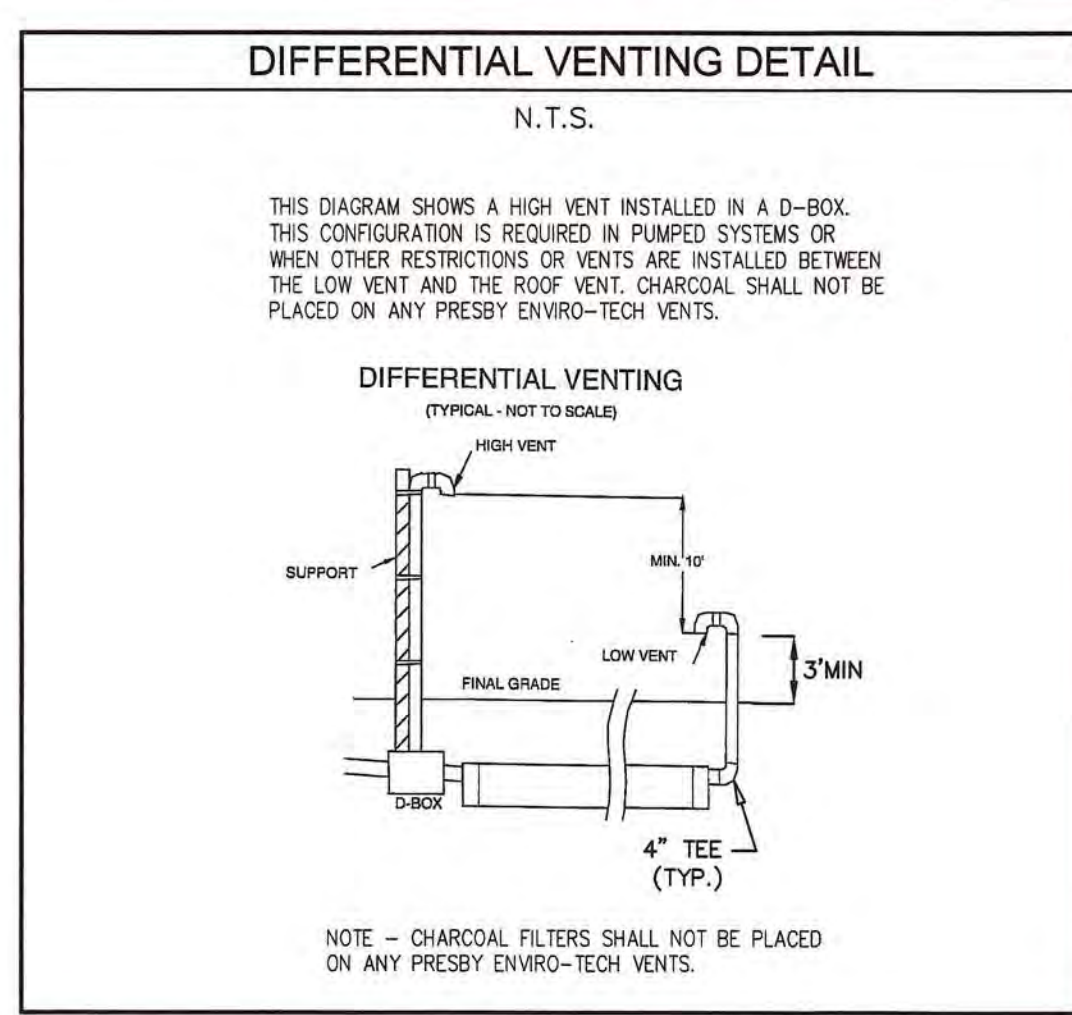
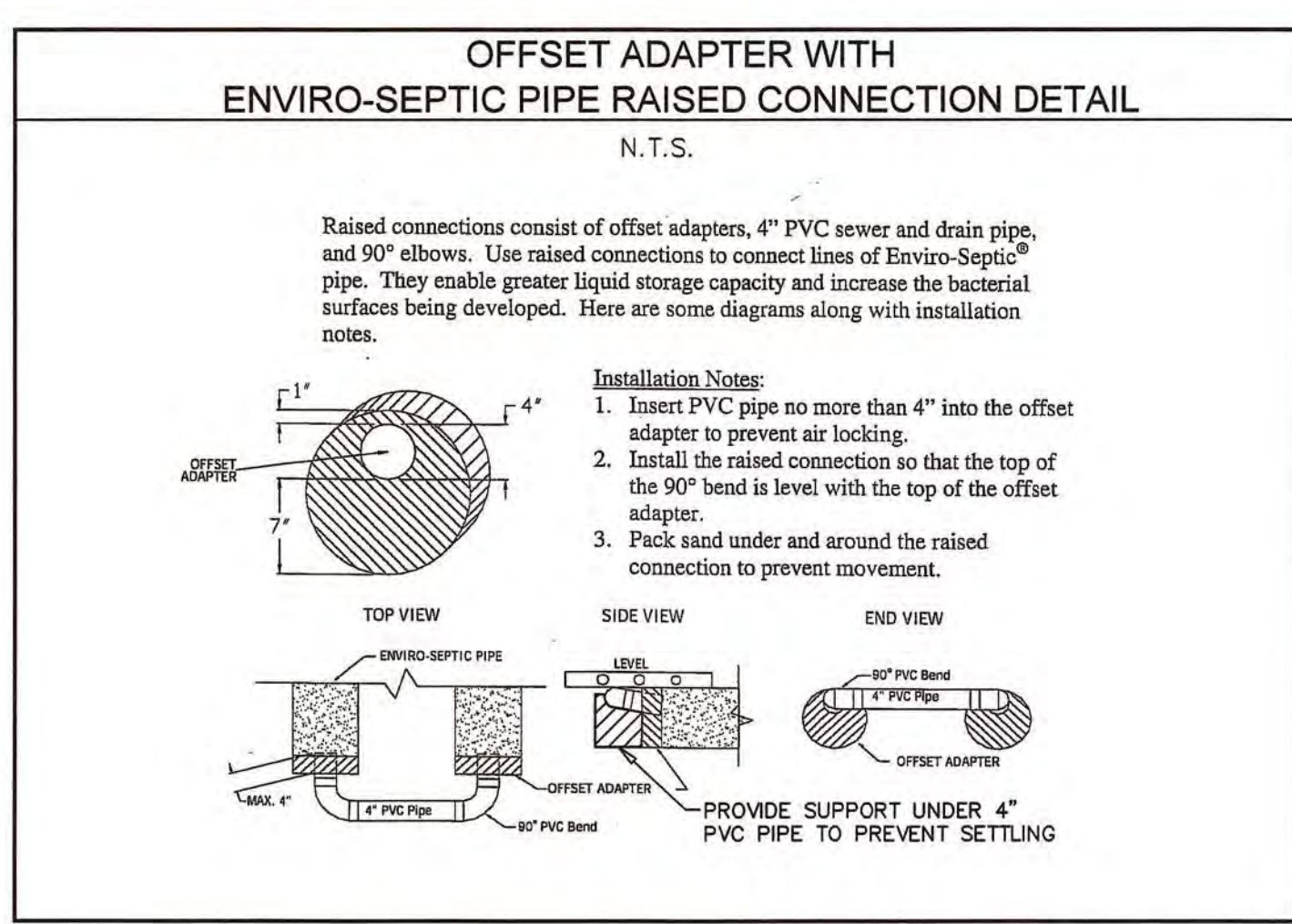
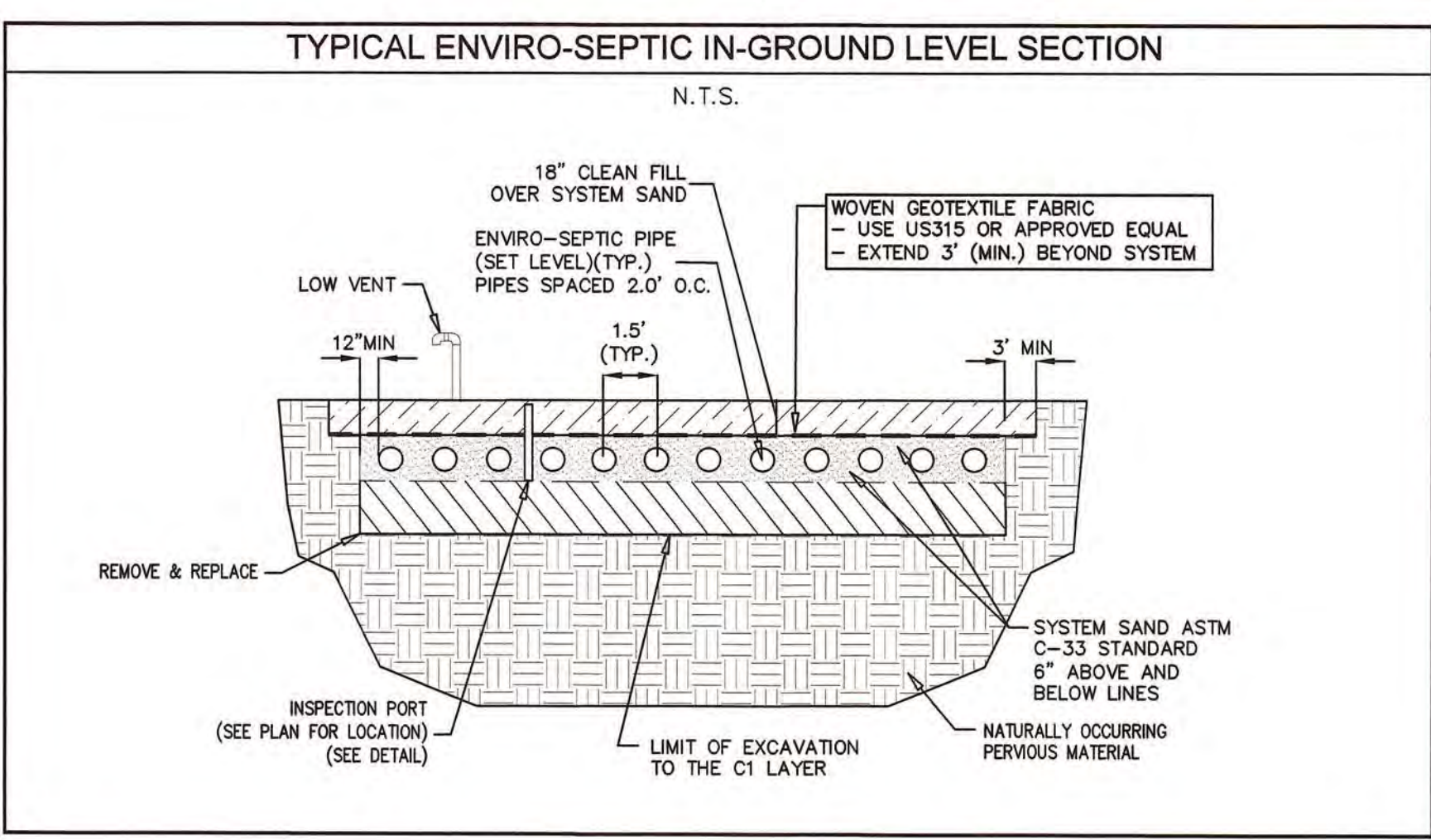
- ANY BUILDING SUPPLIES, DEBRIS, FILL OR OTHER MATERIALS SHALL BE STOCKPILED AS FAR AWAY FROM DESIGNATED WETLAND RESOURCE AREAS AS PRACTICABLE, AND AT A LOCATION TO PREVENT SUCH MATERIALS FROM ENTERING THE RESOURCE AREA.
- ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE IMMEDIATELY STABILIZED AGAINST 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	3	4
GRD. EL.	12.3	12.7	12.8	12.8
GW. EL.	NONE to 2.5	NONE to 2.1	NONE to 2.1	NONE to 2.1
0"	A/O LOAMY SAND 10YR 4/1	FILL	A/O LOAMY SAND 10YR 4/1	A/O LOAMY SAND 10YR 4/1
12"	Bw LOAMY SAND 10YR 5/4	Apb LOAMY SAND 10YR 3/2	Bw LOAMY SAND 10YR 5/4	Bw LOAMY SAND 10YR 5/4
36"	C1 MEDIUM SAND 2.5Y 5/6	Bw MEDIUM SAND 10YR 5/4	C MEDIUM SAND 2.5Y 5/6	C MEDIUM SAND 2.5Y 5/6
80"	C2 MEDIUM SAND 2.5Y 5/6	C MEDIUM SAND 2.5Y 5/6	C MEDIUM SAND 2.5Y 5/6	C MEDIUM SAND 2.5Y 5/6
100"	C3 MEDIUM SAND 2.5Y 6/4	C MEDIUM SAND 2.5Y 5/6	C MEDIUM SAND 2.5Y 5/6	C MEDIUM SAND 2.5Y 5/6
140"	WEEPING @ 128"	NO MOTTLES NO WATER	NO MOTTLES NO WATER	NO MOTTLES NO WATER

DATE PERFORMED: SEPTEMBER 21, 2021
 SOIL EVALUATOR: ROBERT E. DEWAR, EIT (SE #4230)
 WITNESSED BY: JERRI GUARINO - BOH AGENT
 PERC. RATE: <2 MINUTES/INCH
 SOIL CLASS: CLASS I
 MAX. GROUND WATER ELEV.: 1.94
 METHOD OF DETERMINATION: MONITORING WELL
 (SEE SOIL REPORT FOR MORE DETAILED DESCRIPTION)



DESIGN CALCULATIONS

SOIL TEXTURAL CLASS: CLASS I
 PERC. RATE: <2 MINUTES/INCH
 NO. OF BEDROOMS: 5
 DESIGN FLOW REQUIRED: 550 GPD
 SEPTIC TANK REQUIRED: 1,500 GALLONS
 SEPTIC TANK PROVIDED: MicroFAST 0.9 Unit

LEACHING SYSTEM:
 PRESBY ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEM
 624 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
 110 GAL/DAY / 70 L.F. = 1.57 GAL/DAY/L.F.

ENVIRO-SEPTIC PIPE PROVIDED
 4 SECTION WITH 3 LINES OF 30' LENGTH EACH
 TOTAL LENGTH = 4 x (3 x 30') = 360 L.F.
 360 L.F. * 1.57 GAL/DAY/L.F. = 565.2 GAL/DAY > 550 GAL/DAY
 LINES SPACED 1.50' ON CENTER

Prepared By:
BRACKEN ENGINEERING, INC.
 48 HERRING POND ROAD BUZZARDS BAY, MA 02532
 19 OLD SOUTH ROAD NANTUCKET, MA 02554
 (tel) 508.833.0070
 (fax) 508.833.2282
 (tel) 508.325.0044
 www.brackengeng.com

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)

1/6/14/22 REVISE SEPTIC LAYOUT, MISC. DETAILS JPH
 No. Date Revision Description By
 Date: MAY 16, 2022 Drawn: JPH/BEI Checked: DFB/AMG Sheet: 3 of 3

NO PART OF THIS DOCUMENT IS TO BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF BRACKEN ENGINEERING, INC. DRAWING AND UNDESIGNABLE.