

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

RECEIVED

By Bourne Health Department at 3:20 pm, Jan 18, 2023

Revised August 22, 2022, Revised January 11, 2023

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. Attached with this request are revised plans by this firm dated 9/26/22 and revised Architectural plans dated 7/21/22 to address some of the concerns raised by staff at a site meeting on July 19, 2022.

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.”

Although in our opinion, variances are not required for setbacks to coastal banks, we request the following variances from the 150-foot setback to the proposed Soil Absorption System (SAS) and Reserve Area (RA) to be consistent with past practices of the Board:

- SAS to the Salt Marsh southwest from 150' to 138' **(12' variance)**
- SAS to the Salt Marsh northeast from 150' to 101' **(49' variance)**
- SAS to Coastal Bank southwest from 150' to 66' **(84' variance)**
- SAS to Coastal Bank northeast from 150' to 57' **(93' variance)**
- RA to the Salt Marsh to the south from 150' to 126' **(24' variance)**
- RA to the Salt Marsh to the northeast from 150' to 112' **(38' variance)**
- RA to Coastal Bank southwest from 150' to 51' **(99' variance)**
- RA to Coastal Bank northwest from 150' to 64' **(86' variance)**

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. These banks function exclusively as vertical buffers for storm waters. Please refer to the attached letter from Stan Humphries, Coastal Geologist with Environmental Consulting & Restoration, LLC (ECR) submitted with this request in response to the Horsley letter submitted to the Board dated July 11, 2022. This letter states that the proposed septic system will in no way adversely impact the coastal bank through erosion/destabilization. Also refer to the letter from McArdle Gannon Associates, Inc. Geotechnical Engineers dated November 9, 2022 indicating in their opinion that construction of the dwelling and septic system will not impact the coastal bank.

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 technically 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 4-bedroom system is only 2.03 parts per million (PPM) well below the typical standard of 5 PPM. Please note that the proposed number of bedrooms has been reduced from 5 to 4 bedrooms as suggested by the Board's Agent;
- 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 four 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 when specifically evaluating this property with surrounding properties and previous approvals 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.

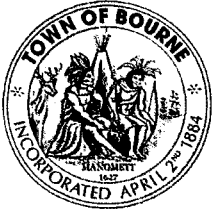
Sincerely,

BRACKEN ENGINEERING, INC.

A handwritten signature in black ink, appearing to read 'Donald F. Bracken, Jr.', written in a cursive style.

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

cc: Marybeth & Steven Bisson
Glenn Wood Esq.



Bourne Board of Health Application for Septic Variance or Waiver Requests



In accordance with the established procedures of the Bourne Board of Health, this application is for septic variances and waivers 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

mbisson@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, Buzzards 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 (4 Bedroom).

5. Type of System (check all that apply): Conventional Title 5 I/A System

- Pumped System Gravity System Pressure Dosed Tight Tank Other

6. Describe the existing/ proposed septic system components: Installation of an Innovative/Alternative septic system
MicroFAST 0.5 unit (H-20)1,500 gallon septic tank and Presby Enviro-Septic Leaching System.

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

110 GPD

Design flow of system:

110 GPD x 4 Bedrooms = 440 GPD

Total design flow of facility:

448 GPD

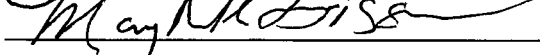
8. Enclose a **letter of request for variances/ waivers** which makes reference to the specific provisions of Title 5 and/ or the Board Bourne of Health Regulations for which a variance is sought. Please use this opportunity to demonstrate compliance with 310 CMR 15.410, and to justify the relevant facts 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 said regulations.

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

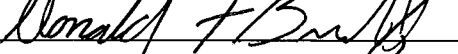
- \$125 filing fee + any other applicable permit application fees paid to the Town of Bourne.
- Application for a Disposal System Construction Permit (may be filled out by installer)
- Six copies of Letter of request describing nature of variances (see samples)
- Six sets of complete engineered plans and specifications, one with original stamp of design engineer; plus, one electronic copy.
- Six sets of floor plans, existing and proposed.
- Nitrogen Loading Calculation Sheet(s), if applicable
- 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 septic 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 may be 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  Date 1-18-23

Print Name Stephen and/or Marybeth Bisson, TR - The Long Point Trust

Signature of Preparer  Date 1/18/2023

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

For Office Use Only

Completed Application Received: _____

Reviewed By: _____

Hearing Date: _____

Permit #: _____ Existing
_____ Proposed

Septic Plans Dated: _____

Floor Plans Dated: _____

Drawn By: _____

Drawn By: _____

Before BOH in past: NO YES *If yes, enclose copy of minutes. (Date _____)*

Notes: _____

Circle all that apply: _____ Approved _____ Continued _____ Disapproved _____ Other

Notes: _____



Town of Bourne - Water Resources Nitrogen Loading and Mitigation Worksheet

See Cape Cod Commission Technical Bulletin 91-001 for further details: https://capecodcommission.org/resource-library/file?url=/depl/commission/team/Website_Resources/regulatory/NitrogenLoadTechBulletin_910001/Watershed%20Worksheet%20-%20Final%20-%2001%202023.pdf

Facility Address: 176 Scraggy Neck Road
Preparer's Name: Bracken Engineering, Inc.
Date: 1/9/2023
Pocasset Harbor

Project Nitrogen Load	Existing Conditions														
<p>Proposed Wastewater</p> <p>Project Title-5 wastewater flows: <input type="text" value="440.0"/> gpd (a)</p> <p>Actual wastewater flows: <input type="text" value="175.0"/> gpd (b)</p> <p>Average wastewater flows: <input type="text" value="307.5"/> gpd (a)+(b) ÷ 2 = (A)</p> <p><small>* Title-5 flows prescribed by T891-001 for commercial uses</small></p> <p>Place <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No in applicable box:</p> <p><input checked="" type="checkbox"/> Will the project be connected to sewer?</p> <p><input checked="" type="checkbox"/> If (S) is project Title-5 wastewater flow 10,000 gpd or greater?</p> <p>Place <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No in applicable box and multiply unsewered wastewater flow by applicable conversion factor:</p> <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Standard Title-5 System (35-ppm-N)</td> <td>x</td> <td>0.048359</td> <td rowspan="4" style="font-size: 2em; vertical-align: middle;">}</td> <td rowspan="4" style="vertical-align: middle;">Type of system: ... Microfast</td> </tr> <tr> <td><input type="checkbox"/> DEP-approved I/A System (25-ppm-N)</td> <td>x</td> <td>0.034542</td> </tr> <tr> <td><input checked="" type="checkbox"/> DEP-approved I/A System (19-ppm-N)</td> <td>x</td> <td>0.028252</td> </tr> <tr> <td><input type="checkbox"/> DEP-approved Enhanced I/A (12-ppm-N)</td> <td>x</td> <td>0.016580</td> </tr> </table> <p>Wastewater nitrogen load (Title-5 flows) = <input type="text" value="11.55"/> kg-N/yr (B)</p> <p>Wastewater nitrogen load (Actual flows) = <input type="text" value="4.59"/> kg-N/yr (C)</p>	<input type="checkbox"/> Standard Title-5 System (35-ppm-N)	x	0.048359	}	Type of system: ... Microfast	<input type="checkbox"/> DEP-approved I/A System (25-ppm-N)	x	0.034542	<input checked="" type="checkbox"/> DEP-approved I/A System (19-ppm-N)	x	0.028252	<input type="checkbox"/> DEP-approved Enhanced I/A (12-ppm-N)	x	0.016580	<p>Calculate (A) through (P) as w/ (A) through (P):</p> <p>Title-5 wastewater flows: <input type="text" value="110.0"/> gpd</p> <p>Actual wastewater flows: <input type="text" value="175.0"/> gpd</p> <p>Avg. wastewater flows: <input type="text" value="142.5"/> gpd (A')</p> <p>Place <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No in applicable box:</p> <p><input type="checkbox"/> Is existing development on sewer? (If 'Yes', then go to line 2.)</p> <p><input checked="" type="checkbox"/> Standard Title-5 System</p> <p><input type="checkbox"/> DEP-approved I/A System (commercial)</p> <p><input type="checkbox"/> DEP-approved I/A System (residential)</p> <p><input type="checkbox"/> DEP-approved enhanced I/A</p> <p>Standard Title-5 System wastewater offsets: <input type="text" value="5.32"/> kg-N/yr (B')</p> <p>DEP-approved I/A System (commercial) wastewater offsets: <input type="text" value="8.46"/> kg-N/yr (C')</p>
<input type="checkbox"/> Standard Title-5 System (35-ppm-N)	x	0.048359	}			Type of system: ... Microfast									
<input type="checkbox"/> DEP-approved I/A System (25-ppm-N)	x	0.034542													
<input checked="" type="checkbox"/> DEP-approved I/A System (19-ppm-N)	x	0.028252													
<input type="checkbox"/> DEP-approved Enhanced I/A (12-ppm-N)	x	0.016580													
<p>Stormwater Runoff</p> <p>Town of Bourne Recharge rate for Bourne (inches, for natural areas from Technical Bulletin 91-001): <input type="text" value="21"/> (RECH)</p> <p>Project site area: <input type="text" value="6.853"/> acres (D)</p> <p>Project site wetland area: <input type="text" value="4.855"/> acres (E)</p> <p>Project site upland area: <input type="text" value="1.997"/> acres (F)</p> <p>Pervious unpaired upland: <input type="text" value="1.898"/> acres (G)</p> <p>Paved area: <input type="text" value="0"/> s.f. (H)</p> <p>Factor may be adjusted for employment of LID -- LID = low impact development</p> <p>Roof area: <input type="text" value="4.317"/> s.f. (J)</p> <p>Managed turf/lawn area: <input type="text" value="6.583"/> s.f. (K)</p> <p>Fertilizer Previous unpaired upland - roof area = <input type="text" value="6.583"/> s.f. (L)</p> <p>Managed turf/lawn area = <input type="text" value="6.583"/> s.f. (L)</p> <p>Fertilizer offset: <input type="text" value="3.034"/> kg-N/yr (L)</p>	<p>Project site area: <input type="text" value="6.853"/> acres (D)</p> <p>Project site wetland area: <input type="text" value="4.855"/> acres (E)</p> <p>Project site upland area: <input type="text" value="1.997"/> acres (F)</p> <p>Pervious unpaired upland: <input type="text" value="1.975"/> acres (G')</p> <p>Paved area: <input type="text" value="0"/> s.f. (H')</p> <p>Paving runoff offset: <input type="text" value="0.0000"/> kg-N/yr (I)</p> <p>Roof area: <input type="text" value="985"/> s.f. (J')</p> <p>Roof runoff offset: <input type="text" value="0.0697"/> kg-N/yr (K')</p> <p>Managed Turf/ lawn area: <input type="text" value="8.917"/> s.f. (L')</p> <p>Fertilizer offset: <input type="text" value="3.034"/> kg-N/yr (L')</p>														
<p>Total Nitrogen Load</p> <p>Total project nitrogen load (Title-5 flows): <input type="text" value="14.10"/> kg-N/yr (M) = (B)+(H)+(K)+(L)</p> <p>Total project nitrogen load (Actual flows): <input type="text" value="7.14"/> kg-N/yr (N) = (C)+(I)+(K)+(L)</p> <p>Nitrogen load per acre (Average): <input type="text" value="1.55"/> kg-N/yr/acre (O) = (M)+(N) ÷ 2 + (F)</p>	<p>Existing nitrogen load (Title-5 flows): <input type="text" value="8.42"/> kg-N/yr (M')</p> <p>Existing nitrogen load (Actual flows): <input type="text" value="11.57"/> kg-N/yr (N')</p> <p>Nitrogen offset per acre: <input type="text" value="1.46"/> kg-N/yr/acre (O')</p>														
<p>Proposed Nitrogen Loading Concentration</p> <p>Project nitrogen loading concentration (Title-5 flows): <input type="text" value="2.76"/> ppm-N (P) = (M) ÷ (D)</p> <p>Project nitrogen loading concentration (Actual flows): <input type="text" value="1.50"/> ppm-N (Q) = (N) ÷ (D)</p> <p>Project nitrogen loading concentration (Average): <input type="text" value="2.13"/> ppm-N (R) = (P)+(Q) ÷ 2</p>	<p>Existing nitrogen loading concentrations:</p> <p>Title-5 flows: <input type="text" value="1.87"/> ppm-N (P')</p> <p>Actual flows: <input type="text" value="2.52"/> ppm-N (Q')</p> <p>Average: <input type="text" value="2.19"/> ppm-N (R')</p>														

Resource/ Impact Based Criteria

Marine Water Recharge Areas / Coastal Embayments

2. Yes No Is the project located in any of the following watersheds: **Buttermilk Bay Basins, Phinneys Harbor / Back River / Eel Pond, Pocasset River Basin, Pocasset Harbor / Hen Cove / Red Brook Harbor, Megansett / Squeteague Harbors**** ? (If 'No', then go to line 3.)

Name of Watershed (from Regional Policy Plan Data Viewer): Pocasset Harbor

Critical Nitrogen-loading limit** : kg-N/year/acre (S)

Does project's nitrogen load (O) exceed the existing load (O') AND the critical nitrogen load (S) ? (If 'No', then go to line 3.)

Excess project nitrogen load to be mitigated: kg-N/yr (T) = LESSER OF (O)-(S) x (F) AND (O)-(O') x (F)

** When a nitrogen-loading limit has been determined through either a Total Maximum Daily Load (TMDL), a Massachusetts Estuaries Project-accepted technical report, or specified by a Commission-approved comprehensive wastewater management plan pursuant to Objective WR3, or if impaired water quality has been documented for the receiving coastal waters, the nitrogen loading limit shall be 0 kg-N/yr per acre pursuant to Objective WR3.

Groundwater Quality

3. Yes No Does the project's nitrogen loading concentration in groundwater (R) exceed the greater of 5 ppm or the existing concentration (R') ? (If 'Yes', the project will need to provide an alternative strategy for meeting these thresholds by using another worksheet)

Potential Public Water Supply Areas

4. Yes No Is project in a Potential Public Water Supply Area (PPWSA) ? (If 'No', then go to line 5.)

Does the project's nitrogen loading concentration (R) exceed the greater of 1 ppm or the existing concentration (R') ? (If 'Yes', the project must provide an alternative strategy for meeting Objective WR1)

Does the project use, treat, generate, store or dispose of hazardous materials in excess of the greater of a) household quantities or b) existing quantities ? (If 'Yes', the project must provide an alternative strategy for meeting Objective WR1)

Wellhead Protection Areas

5. Yes No Is project in a Wellhead Protection Area (WHPA) ?

Does the project's nitrogen loading concentration (R) exceed the greater of 5 ppm or the existing concentration (R') ? (If 'Yes', the project must provide an alternative strategy for meeting Objective WR1)

Does the project use, treat, generate, store or dispose of hazardous materials in excess of the greater of a) household quantities or b) existing quantities ? (If 'Yes', the project must provide an alternative strategy for meeting Objective WR1)

Fresh Water Recharge Areas

6. Yes No Is project wastewater disposed of within 300 feet of a stream or fresh surface water body? (If 'No', then go to line 7.)

Is the project located in a freshwater recharge area (FWRA) hydraulically upgradient of a stream or fresh surface water body? (If 'Yes', the project must provide an alternative strategy for meeting Objective WR2)

Other Potential Impacts

7. Yes No Will the project withdraw more than 20,000 gallons of water per day ? (If 'Yes', then the project must provide documentation demonstrating that there will not be significant impacts to water levels, surface waters and wetlands)

8. The project must demonstrate compliance with Objective WR4, including use of Low Impact Development to mitigate impacts of stormwater runoff and O & M plans for maintaining stormwater infrastructure and landscaping.

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:

(Actual water load based on 2.5 people @ 55 gpd/person or 137.5 gpd/unit)

176 Scraggy Neck Road - Proposed Conditions

Number of Bedrooms (Title 5 Definition)	=	4	Bedrooms
Lot Size (in square feet of upland areas)	=	87,006	sq.ft.
Impervious Surfaces;**roof area=	4,317	sq.ft.	**Paved Area = - sq.ft.
Natural Area = lot area minus all impervious surfaces	=	82,689	sq.ft.
Lawn Area in sq. ft.	=	6,583	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
 With IA Treatment = 7,911 mg NO₃-N day/bedroom
 Water from Title 5 design = 416.3 H₂O / day / bedroom

1a) Number of bedrooms	=	4	x 7911 =	31644.00 mg. NO ₃ -N / day
1b) Number of bedrooms	=	4	x 416 =	1664.00 L H ₂ O / day

Actual Nitrogen load = 6071.5 mg NO₃-N / day/ person (@ 35 ppm); or
 With IA Treatment = 3,296 mg NO₃-N / day/person (@ 19 ppm)
 Actual Water load = 173.5 L H₂O / day / bedroom

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

2a) Number of People	=	2.5	x 3296=	8240.00 mg. NO ₃ -N / day
2b) Number of People	=	2.5	x 208.2 =	520.50 L H ₂ O / day

IMPERVIOUS SURFACES (NITROGEN LOAD & WATER LOAD)

NO ₃ -N load number sq. ft. of roof surface	X	0.19395 mg NO ₃ -N / sq. ft.
H ₂ O load number sq. ft. of roof surface	X	0.2586 L / sq. ft.

3a) Roof surface	=	4317	sq. ft.	X	0.19395 =	837.28 mg NO ₃ -N
3b) Roof surface	=	4317	sq. ft.	X	0.2586 =	1116.38 L H ₂ O / day

NO ₃ -N load number sq. ft. of paved surface	X	0.388 mg / sq. ft.
H ₂ O load number sq. ft. of paved surface	X	0.2586 L / sq. ft.

4a) NO ₃ -N	=	-	sq. ft. paved surface X 0.388 mg / sq. ft.	0.00 mg NO ₃ -N
4b) H ₂ O	=	-	sq. ft. paved surface X 0.2586 L / sq. ft.	0.00 L H ₂ O

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)	=	4	Bedrooms
Lot Size (in square feet of upland areas)	=	87,006	sq. ft.
Impervious Surfaces;**roof area	=	4,317	sq. ft.
**Paved Area	=	-	sq. ft.
Natural Area = lot area minus all impervious surfaces	=	82,689	sq. ft.
Lawn Area in sq. ft.	=	6,583	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 = 4 x 7911 = 31644.00 mg. NO₃-N / day

1b) Number of bedrooms = 4 x 416 = 1664.00 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 = 4 x 3296 = 13184.00 mg. NO₃-N / day

2b) Number of bedrooms = 4 x 173.5 = 694.00 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 = 4317 sq. ft. X 0.19395 = 837.28 mg NO₃-N

3b) Roof surface = 4317 sq. ft. X 0.2586 = 1116.38 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

$$5) \text{ sq. ft. of lawn} = 6583 \times 0.933 = 6141.94 \text{ mg}$$

NATURAL AREA WATER LOADING

$$\text{Natural area} = \text{lot size} - \text{impervious surfaces} = 82689 \text{ sq. ft.}$$

$$6) \text{ Natural area} = 82689 \times \text{water recharge factor} = 11229.17 \text{ L} \\ \text{(0.1358 L / sq. ft. for Bourne)}$$

SUMMARY OF NITROGEN LOADING

Estimated Title 5 Nitrogen & Water Loading

7a) ADD the above NO₃N load

1a	(+)	3a	(+)	4a	(+)	5	
31644		837.28		0.00		6141.94	38623.22 mg NO ₃ -N / day

7b)

1b	(+)	3b	(+)	4b	(+)	6	
1664		1116.38		0.00		11229.17	14009.54 L H ₂ O / day

7c) DIVIDE 7a by 7b = 2.8 ppm NO₃-N*****

Actual Nitrogen & Water Loading

8a) ADD the above NO₃N load:

2a	(+)	3a	(+)	4a	(+)	5	
13184		837.28		0.00		6141.94	<u>20163.22</u> mg NO ₃ -N / day

8b) ADD the above water (H₂O) load:

2b	(+)	3b	(+)	4b	(+)	6	
694		1116.38		0.00		11229.2	<u>13039.54</u> L H ₂ O / day

8c) DIVIDE 8a by 8b = 1.5 ppm NO₃-N*****

FINAL CALCULATION ADD 7c & 8c (ppm) = 4.3 divide by 2 = 2.2 ppm NO₃-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*****

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

$$5) \text{ sq. ft. of lawn} = 6583 \times 0.933 = 6141.94 \text{ mg}$$

NATURAL AREA WATER LOADING

$$\text{Natural area} = \text{lot size} - \text{impervious surfaces} = 82689 \text{ sq. ft.}$$

$$6) \text{ Natural area} = 82689 \times \text{water recharge factor} = 11229.17 \text{ L} \\ (\text{0.1358 L / sq. ft. for Bourne})$$

SUMMARY OF NITROGEN LOADING

Estimated Title 5 Nitrogen & Water Loading

7a) ADD the above NO₃N load

1a	(+)	3a	(+)	4a	(+)	5	
31644		837.28		0.00		6141.94	38623.22 mg NO ₃ -N / day

7b)

1b	(+)	3b	(+)	4b	(+)	6	
1664		1116.38		0.00		11229.17	14009.54 L H ₂ O / day

7c) DIVIDE 7a by 7b = 2.8 ppm NO₃-N*****

Actual Nitrogen & Water Loading

8a) ADD the above NO₃N load:

2a	(+)	3a	(+)	4a	(+)	5	
8240		837.28		0.00		6141.94	<u>15219.22</u> mg NO ₃ -N / day

8b) ADD the above water (H₂O) load:

2b	(+)	3b	(+)	4b	(+)	6	
520.5		1116.38		0.00		11229.2	<u>12866.04</u> L H ₂ O / day

8c) DIVIDE 8a by 8b = 1.2 ppm NO₃-N*****

FINAL CALCULATION ADD 7c & 8c (ppm) = 3.9 divide by 2 = 2.0 ppm NO₃-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:
(Actual water load based on 2.5 people/unit @ 70 gpd/person or 175 gpd/unit)

176 Scraggy Neck Road - Proposed Conditions

Number of Bedrooms (Title 5 Definition)	=	4	Bedrooms
Lot Size (in square feet of upland areas)	=	87,006	sq.ft.
Impervious Surfaces;**roof area=	=	4,317	sq.ft.
	**Paved Area =	-	sq.ft.
Natural Area = lot area minus all impervious surfaces	=	82,689	sq.ft.
Lawn Area in sq. ft.	=	6,583	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
 With IA Treatment = 7,911 mg NO₃-N / day/bedroom
 Water from Title 5 design = 416.3 H₂O / day / bedroom

1a) Number of bedrooms	=	4	x 7911 =	31644.00 mg. NO ₃ -N / day
1b) Number of bedrooms	=	4	x 416 =	1664.00 L H ₂ O / day

Actual Nitrogen load = 9273.25 mg NO₃-N / day/ person: 5034.05mg NO₃-N / day/person
 with IA Treatment = 5034.05mg NO₃-N /day/person (@ 19 ppm with IA)
 Actual Water load = 175 gpd/unit or 70 gpd/person @ 2.5 people/unit = 265 L H₂O / day / person
 *Note: This assumes 2.5 people / unit average occupancy within the Town

2a) Number of People	=	2.5	x 5034=	12585.00 mg. NO ₃ -N / day
2b) Number of People	=	2.5	x 265.0 =	662.38 L H ₂ O / day

IMPERVIOUS SURFACES (NITROGEN LOAD & WATER LOAD)

NO ₃ -N load number sq. ft. of roof surface	X	0.19395 mg NO ₃ -N / sq. ft.
H ₂ O load number sq. ft. of roof surface	X	0.2586 L / sq. ft.

3a) Roof surface =	=	4317	sq. ft.	X	0.19395 =	837.28 mg NO ₃ -N
3b) Roof surface =	=	4317	sq. ft.	X	0.2586 =	1116.38 L H ₂ O / day

NO ₃ -N load number sq. ft. of paved surface	X	0.388 mg / sq. ft.
H ₂ O load number sq. ft. of paved surface	X	0.2586 L / sq. ft.

4a) NO ₃ -N	=	-	sq. ft. paved surface X 0.388 mg / sq. ft.		0.00 mg NO ₃ -N
4b) H ₂ O	=	-	sq. ft. paved surface X 0.2586 L / sq. ft.		0.00 L H ₂ O

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

$$5) \text{ sq. ft. of lawn} = 6583 \times 0.933 = 6141.94 \text{ mg}$$

NATURAL AREA WATER LOADING

$$\text{Natural area} = \text{lot size} - \text{impervious surfaces} = 82689 \text{ sq. ft.}$$

$$6) \text{ Natural area} = 82689 \times \text{water recharge factor} = 11229.17 \text{ L} \\ (\text{0.1358 L / sq. ft. for Bourne})$$

SUMMARY OF NITROGEN LOADING

Estimated Title 5 Nitrogen & Water Loading

7a) ADD the above NO₃N load

1a	(+)	3a	(+)	4a	(+)	5	
31644		837.28		0.00		6141.94	38623.22 mg NO ₃ -N / day

7b)

1b	(+)	3b	(+)	4b	(+)	6	
1664		1116.38		0.00		11229.17	14009.54 L H ₂ O / day

7c) DIVIDE 7a by 7b = 2.8 ppm NO₃-N*****

Actual Nitrogen & Water Loading

8a) ADD the above NO₃N load:

2a	(+)	3a	(+)	4a	(+)	5	
12585		837.28		0.00		6141.94	<u>19564.22</u> mg NO ₃ -N / day

8b) ADD the above water (H₂O) load:

2b	(+)	3b	(+)	4b	(+)	6	
662.375		1116.38		0.00		11229.2	<u>13007.92</u> L H ₂ O / day

8c) DIVIDE 8a by 8b = 1.5 ppm NO₃-N*****

FINAL CALCULATION ADD 7c & 8c (ppm) = 4.3 divide by 2 = 2.1 ppm NO₃-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*****



November 9, 2022
MGA Job No. W0960

Don Bracken, P.E.
Bracken Engineering, Inc.
49 Herring Pond Road
Buzzards Bay, Massachusetts 02532

RE: Geotechnical Review – Coastal Bank Impacts – 176 Scraggy Neck Road, Bourne,
Massachusetts

Don:

At your request, McArdle Gannon Associates, Inc. (MGA) has prepared this letter summarizing our geotechnical review of the proposed new dwelling and primary septic soil absorption system in regard to their impacts (if any) on the existing coastal bank(s) as a result of the proposed redevelopment of 176 Scraggy Neck Road in Bourne, Massachusetts.

BACKGROUND

Our understanding of the project, as presented herein, is based on our discussions with you and review of the following documents:

- A plan set entitled “Proposed Site Plan in Bourne, MA” dated May 16, 2022, Revision 3 dated September 26, 2022 by Bracken Engineering, Inc. (Bracken), and
- A plan entitled “Surficial Materials Map of the Onset Quadrangle, Massachusetts,” dated 2018, by The United States Geological Survey (USGS).

The site is located on the Scraggy Neck peninsula at 176 Scraggy Neck Road in Bourne, Massachusetts. The property (Lot 2) comprises a total area of approximately 6.9± acres, of which 1.18± acres is upland area. Lot 2 is bounded by a 25-foot wide access drive and utility easement to the east, Red Brook Harbor to the west, and wetlands to the north and south. The site is currently developed with an existing 1-story residence that we understand will be demolished.

Existing site grades generally slope down to the north, south and west from a high point of about Elevation 18± feet along the eastern property line, to Elevations between 6.5± to -1± feet at southern, western, and northern property limits.

A new 1½ to 2-story 2,735± square foot residence with a partial crawl space is planned in the eastern portion of the property. Portions of the new building will be located within the 50-foot

coastal bank buffer and within an AE flood zone (Elevation 15 feet). The first floor of the residence will have a finished floor elevation (FFE) at Elevation 18.0 feet, with the crawl space slab at Elevation 13.0 feet. The attached garage in the southern portion of the building will have an FFE at Elevation 14.5 feet. A new Presby Enviro-Septic soil absorption system is located just east of the new building.

Based on our review of a series of test pit logs prepared by Bracken for the septic leaching field design, we anticipate generalized soil conditions at the site consist of surficial topsoil/subsoil deposits underlain by natural outwash deposits (sand) with an estimated seasonal high groundwater at Elevation 1.9± feet within the septic leaching field.

REVIEW COMMENTS

Proposed Dwelling: A portion of the northern edge of the proposed house is located between about 3.7± and 4.3± feet from Coastal Bank #3. Assuming the new exterior wall foundations (or those footings in unheated areas) will be founded 4 feet below finish grade for frost protection, temporary shoring will be necessary to allow safe access for foundation construction and to protect the coastal bank in this area of the site. We anticipate either soldier piles with wood lagging or steel sheet piling could be installed between the house and Coastal Bank #3 prior to foundation construction. Design of the temporary shoring system should be performed by a Massachusetts registered professional engineer. Excavations for the remaining portions of the new building, including the garage and decks, are not expected to encroach upon or impact the coastal banks.

Presby Enviro-Septic Soil Absorption System: Excavation for the Presby Enviro-Septic soil absorption system is expected to extend about 3.3± feet below existing grades with the bottom of the system shown at Elevation 9.7± feet. Assuming the perimeter of the excavation is laid back in general accordance with OSHA trench safety guidelines using the most conservative soil type (Type C), an overdig of about 5± feet is anticipated. Given that the closest portion of the new field is located about 7.5± to 11± feet from Coastal Bank #3, we don't believe excavation and installation of the system will impact the coastal bank.

If you have any questions or require clarification, please do not hesitate to call.

MCARDLE GANNON ASSOCIATES, INC.



Wayne A. McArdle, P.E.
Principal

WAM/slh

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 _____, 2023, 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 _____, 2023, 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 _____, 2023, 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 _____, 2023, 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

GRANT OF TITLE 5 BEDROOM COUNT DEED RESTRICTION

This Grant of Title 5 Bedroom Count Deed Restriction is made as of _____, 2023 by The Long Point Trust, Stephen Bisson and Marybeth Bisson, Trustees, with a mailing address of P.O. Box 10, Cataumet, MA 02534, Barnstable County, Massachusetts, pursuant to M.G.L. c. 21A, §13 and 310 CMR 15.000 (collectively, "Title 5").

WITNESSETH

WHEREAS, Grantor, being the owner in fee simple of that certain parcel of land located 176 Scraggy Neck Road, Bourne, Barnstable County, Massachusetts, with the buildings and improvements thereon, pursuant to a deed from Frederick L. Worcester, as Trustee of the Worcester Family Nominee Trust dated May 31, 2002, recorded with Barnstable Registry of Deeds in Book 15363, Page 23, to Grantor, dated December 19, 2007, and recorded with Barnstable County Registry of Deeds in Book 22554, Page 257, said parcel of land, shown as **New Lot 2** on the Lot Line Adjustment Plan of Land in Bourne prepared by Bracken Engineering, Inc., dated June 4, 2020 and recorded with Barnstable County Registry of Deeds in Plan Book 687, Page 11 ("Property"), as supplemental to original plan entitled Plan of Land in Bourne, Mass., owner P.Y DeNormandie Trust, Frederick L. (Ted) Worcester", dated September 8, 1998 prepared by Wm. M. Warwick & Assoc. Inc. and recorded with Barnstable County Registry of Deeds in Plan Book 544, Page 69; and

WHEREAS Grantor desires to restrict the number of bedrooms, as the term bedroom is defined at 310 CMR 15.002 ("Bedroom") and the Board of Health regulation dated effective April 24, 1992 and amended on September 22, 2022, regarding bedroom definition, through the granting of this Title 5 Bedroom Count Deed Restriction;

NOW, THEREFORE, Grantor does hereby GRANT to the Town of Bourne of Barnstable County, Massachusetts, a municipal corporation located in Barnstable County, having a mailing address of 24 Perry Avenue, Buzzards Bay, Massachusetts, and acting by and through its Board of Health ("Local Approving Authority"), for nominal and nonmonetary consideration, the sufficiency and receipt of which are hereby acknowledged, with QUITCLAIM COVENANTS, a TITLE 5 BEDROOM COUNT DEED RESTRICTION ("Restriction") in, on, upon, through, over and under the Property.

Said Restriction operates to restrict the Property as follows:

1. Restriction. Grantor hereby restricts the total number of Bedrooms in, on, upon, through, over and under the Property to **Four (4) Bedrooms**, such that at no time shall there exist more than **Four (4) Bedrooms** in, on, upon, through, over and under said Property.

2. Severability. Grantor hereby agrees that, in the event that a court or other tribunal determines that any provision of this instrument is invalid or unenforceable:

- (i) That such provision shall be deemed automatically modified to conform to the requirements for validity and enforceability as determined by such court or tribunal; or
- (ii) That any such provision, by its nature, cannot be so modified, shall be deemed deleted from this instrument as though it had never been included herein.

In either case, the remaining provisions of this instrument shall remain in full force and effect.

3. Enforcement. Grantor expressly acknowledges that a violation of the terms of this Restriction could result in the following:

(i) upon determination by a court of competent jurisdiction, in the issuance of criminal and civil penalties, and/or equitable remedies, including, but not limited to, injunctive relief, such injunctive relief could include the issuance of an order to modify or remove any improvements constructed upon the Property in violation of the terms of this Restriction; and

(ii) in the initiation of an enforcement action and/or assessment of penalties by the Bourne Board of Health and/or the Massachusetts Department of Environmental Protection, a duly constituted agency with a principal office located at 100 Cambridge Street, 9th Floor Boston, MA 02108 (DEP), to enforce the terms of this Restriction pursuant to Title 5; M.G.L. c.111, §§ 2C, 17, 31, 122, 123, 125, 127A-O, inclusive, and 129; and M.G.L c. 83, §11.

4. Provisions to Run with the Land. The rights, liabilities, agreements and obligations created under this Restriction shall run with the Property and any portion thereof for the term of this Restriction. Grantor hereby covenants for [himself/herself/itself] and [his/her/its] executors, administrators, heirs, successors and assigns, to stand seized and to hold title to the Property and any portion thereof subject to this Restriction.

The rights granted to the Bourne Board of Health, its successors and assigns, do not provide, however, that a violation of this Restriction shall result in a forfeiture or reversion of Grantor's title to the Property.

5. Concurrence Presumed. It is agreed that:

(i) Grantor and all parties claiming by, through, or under Grantor agree to and shall be subject to the provisions of this Restriction; and

(ii) Grantor and all parties claiming by, through, or under Grantor, and their respective agents, contractors, sub-contractors and employees, agree that the Restriction herein established shall be adhered to and shall not be violated, and that their respective interests in the Property shall be subject to the provisions herein set forth.

6. Incorporation into Deeds, Mortgages, Leases, and Instruments of Transfer. Grantor hereby agrees to incorporate this Restriction, in full or by reference, into all deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer by which an interest and/or a right to use the Property, or any portion thereof, is conveyed.

7. Recordation. Grantor shall record and/or register this Restriction with the appropriate Registry of Deeds and/or Land Registration Office within 30 days of receiving the approved Restriction from the Local Approving Authority. Grantor shall file with the Bourne Board of Health and the DEP a certified Registry copy of this Restriction as recorded and/or registered within 30 days of its date of recordation and/or registration.

8. Amendment and Release. This Restriction may be amended only upon the approval and acceptance of such amendment by the Local Approving Authority. Release of this Restriction shall be granted by the Local Approving Authority upon (i) Grantor's request of such release; and (ii) the Property being connected to a municipal sewer system and the septic system serving the Property being abandoned in accordance with 310 CMR 15.354. Any such amendment or release shall be recorded and/or registered with the appropriate Registry of Deeds and/or Land Registration Office and a certified Registry copy of said amendment or

release shall be filed with the Bourne Board of Health and the DEP within 30 days of its date of recordation and/or registration.

9. Term. This Restriction shall run in perpetuity and is intended to conform to M.G.L. c.184, §26, as amended.

10. Rights Reserved. This Restriction is granted to the Bourne Board of Health. It is expressly agreed that acceptance of this Restriction by the Bourne Board of Health shall not operate to bar, diminish, or in any way affect any legal or equitable right of the Bourne Board of Health or of DEP to issue any future order with respect to the Property or in any way affect any other claim, action, suit, cause of action, or demand which the Bourne Board of Health or DEP may have with respect thereto. Nor shall acceptance of the Restriction serve to impose any obligations, liabilities, or any other duties upon the Bourne Board of Health.

11. Effective Date. This Restriction shall become effective upon its recordation and/or registration with the appropriate Registry of Deeds and/or Land Registration Office.

12. No construction permits shall be issued for the Property until a certified Registry copy is submitted to the office of the Bourne Board of Health unless written approval is otherwise granted by the Board of Health.

WITNESS the execution hereof under seal this _____ day of _____, 2023.

Stephen Bisson, Trustee
The Long Point Trust

Marybeth Bisson, Trustee
The Long Point Trust

COMMONWEALTH OF MASSACHUSETTS

_____, ss

Date: _____

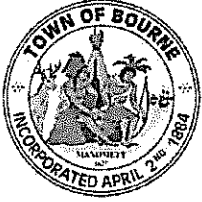
Then personally appeared the above-named Stephen Bisson, Trustee and Marybeth Bisson, Trustee and acknowledged the foregoing instrument to be their free act and deed before me.

Notary Public:
My commission expires:

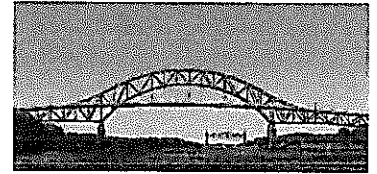
Approved and Accepted By:

Terri A. Guarino, RS, CHO
Health Director
Town of Bourne

Date: _____



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

January 10, 2023

The Long Point Trust
c/o Bracken Engineering, Inc.
49 Herring Pond Rd.
Buzzards Bay, MA 0255932

Re: Abutters List for Map 51 Parcel 1
Property address: 176 Scraggy Neck Road

As required by the Bourne Board of Health, pursuant with section 310 CMR 15.411(1), this is to certify that the attached list of names and addresses constitutes all of the parties in interest as shown on the most recent tax list of the Town of Bourne.

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

Your payment of \$10.00 has been received by the Bourne Assessor's Office.

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 for abutters mailing addresses.

Board of Assessors

*Ellen Doyle Sullivan -
Donna Barakauskas
Michael Leitzel*

Report #24: Owner Listing Report
Fiscal Year 2023

ABUTTERS LIST
LIVE
Key IN 14473,10762,10763

Extract:
Database:
Filter:

Bourne MA

Key	Parcel ID	Owner	Location	LC/CI	Bk-Par(Cert) /DI	Mailing Street	Mailing City	ST	Zip Cdf/County
14473	47.0-45-0	BISSON STEPHEN & MARYBETH TRS OF LONG POINT TRUST	178-180 SCRAGGY NECK RD. N 1090	N	22554/257 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 1320	N	01220/0396	74 MARTIN BAYES ST	DEDHAM	MA	02026-4118
10763	51.1-3-0	GALLIGAN MARYFRANCES B TR GALLIGAN BEACH NOM TR	170 SCRAGGY NECK RD Y 1010	Y	7/13/2000	4 LAUREL TERRACE	WELLESLEY HILLS	MA	02461

Total Records 3

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

January 12, 2023

Certificate of Mailing

RE : Notice of Public Hearing

Dear Abutter:

In accordance with the Town of Bourne Board of Health Regulations, 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 upgraded 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 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**)
- SAS to Coastal Bank southwest from 150' to 66' (**84' variance**)
- SAS to Coastal Bank northeast from 150' to 57' (**93' variance**)
- RA to the Salt Marsh to the south from 150' to 126' (**24' variance**)
- RA to the Salt Marsh to the northeast from 150' to 112' (**38' variance**)
- RA to Coastal Bank southwest from 150' to 51' (**99' variance**)
- RA to Coastal Bank northwest from 150' to 64' (**86' variance**)

This hearing is tentatively scheduled for Wednesday, January 25th at **5:30 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 horizontal line.

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

7022 1670 0003 0401 9440

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Postage: \$.57
Certified Fee: \$ 4.00
Return Receipt Fee: \$ 3.25
Total Postage & Fees: \$ 7.82



MaryFrances B. Galligan, TR
Galligan Beach Nom TR
4 Laurel Terrace
Wellesley Hills, MA 02481
176 Scraggy Neck Road, Bourne - BOH

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 1670 0003 0401 9457

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Postage: \$.57
Certified Fee: \$ 4.00
Return Receipt Fee: \$ 3.25
Total Postage & Fees: \$ 7.82



Henry R. Keene Sr. &
Jane A. Keene
74 Martin Bates Street
Dedham, MA 02026-4118
176 Scraggy Neck Road, Bourne - BOH

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Scale: 1" = 1,000'



Notes

1. LOCUS PARTIALLY FALLS WITHIN AN INESP JURISDICTION MAP 51 PARCEL 1 (LOT 2)
2. OWNER: STEPHEN BISSON and MARYBETH BISSON TRUSTEES OF THE LONG POINT TRUST 176 SCRAGGY NECK ROAD MAP 51 PARCEL 1 (LOT 2) CAWMAIT, MA, 02534
3. DEED REF: BK 22564 Pg. 257
4. PLAN REF: Plan Bk. 887 Pg. 11 (LOT 2)
5. PORTIONS OF THE LOCUS FALL WITHIN A SPECIAL FLOOD ZONE (SFZ) AND A SPECIAL FLOOD HAZARD ZONE (SFHZ) AS SHOWN ON THE FLOOD HAZARD MAPS AS OF 07/16/2014. A 25000-C011-2, BOTH SHEETS.
6. LOCUS PARTIALLY FALLS WITHIN AN INESP ESTIMATED RARE SPECIES WILDLIFE AND PRIORITY HABITAT OF RARE SPECIES.
7. LOCUS DOES NOT FALL WITHIN A ZONE II WELLSHEAD DISTRICT.
8. THE LOCATION OF UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN AND INFORMATION PROVIDED BY THE RESPECTIVE UTILITY OWNERS HAS BEEN OBTAINED BY FIELD INVESTIGATION, WHERE POSSIBLE, AND BY REVIEW OF RECORD DRAWINGS AND UTILITY RECORDS. THE LOCATION OF ALL UNDERGROUND UTILITIES ARE LOCATED 72 HOURS PRIOR TO THE START OF THE DATE AT THE TIME OF FIELD INVESTIGATION.
9. MEAN HIGH WATER ELEVATION ESTIMATED USING THE BUZZARD BAY ESTUARY TIDAL DATA WENT AND THE LOCAL MEAN HIGH WATER ELEVATION WAS DETERMINED AS 112.24'. MEAN LOW WATER ELEVATION WAS DETERMINED AS 110.24'. MEAN TIDE INTERPOLATION USING GROUND SURVEY BY THIS FIRM.

LEGEND

- EXISTING CONTOUR
- EXISTING COASTAL BANK
- LIMIT OF SALT MARSH
- 100' SALT MARSH BUFFER
- 50' COASTAL BANK BUFFER
- 50' BOTTOM COASTAL BANK BUFFER
- FLOOD ZONE LINE PAF
- FEMA FIRM
- ACTUAL "AE" FLOOD LINE el. 15'
- LIMIT OF INESP JURISDICTION

Prepared By:
BRACKEN ENGINEERING INC.
 45 BRACKEN DRIVE
 BURLINGTON, MA 01803
 (978) 683-0070
 (978) 683-2544
 www.brackeneng.com

EXISTING CONDITIONS PLAN
 N 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	BY	REVISION
1	3/9/2022	JM	MISC. LABELS
2	3/9/2022	JM	MISC. LABELS
3	3/9/2022	JM	REVISION DESCRIPTION
4	3/9/2022	JM	REVISION DESCRIPTION

MASS CONSERVATION SERVICE
 WILDLIFE ZONE NORTHEAST
 TOWN OF BURLINGTON
 COLLECTION DATE: 03/03/2020

MA COOPER SYSTEM
 BIRD AND ZONE

ADVISOR: ALAN M. HARRIS
 100 WASHINGTON STREET
 BURLINGTON, MA 01803
 978-683-0070

DATE: 3/9/2022
 CONCEPT: BIRDS AND WILDLIFE

