



Truro Board of Health

Tuesday March 18, 2025 at 4:30 PM

Truro Board of Health Notice of Regular (Hybrid) Meeting

Meeting will open at 4:30 PM in the Select Board Chambers at Truro Town Hall on the 2nd floor.

The Truro Town Hall is located at 24 Town Hall Road

This will be a hybrid meeting (in-person and remote access). Citizens in Truro can view the meeting on Channel 8 and on the homepage of the Town of Truro website on the "Truro TV Channel 8" button found under "Helpful Links". Once the meeting has started, click on the green "Watch" button in the upper right of the page. **To join the meeting by phone or to provide comment during the meeting, please call-in toll free at 1-305-224-1968 and enter the following Meeting ID when prompted: Meeting ID: 884 7580 5887** To join this Zoom meeting from your computer, tablet or smartphone enter <https://us02web.zoom.us/j/88475805887> Please note that there may be a slight delay between the meeting and the live-stream (and television broadcast).

If you are watching the meeting and calling in, please lower the volume on your computer or television during public comment so that you may be heard clearly. We ask that you identify yourself when calling in; citizens may also provide public comment for this meeting by emailing the Health Agent at ebecbe@truro-ma.gov with your comments.

I. PUBLIC COMMENT Please note that the Commonwealth's Open Meeting Law limits any discussion by members of the Board of an issue raised to whether that issue should be placed on a future agenda

II. AGENDA ITEMS

1. **Transfer Station Senior Permit Discount Discussion** – Jarrod Cabral, DPW Director
2. **Discussion: Definitive Subdivision Application**, 38 South Highland Road (map 40, parcel 1)
3. **Discussion**: 95 Shore Rd, Cape Truro Cottages
4. **Variance Request**: 14 Great Hills Road & 3 Great Hills Lane, Dalsheimer Family Trust, Dalsheimer Family Trust (*continued from 3/4/2025*)
5. **Water Resources Report**

III. MINUTES

IV. REPORTS

Report of the Chair

Health Agent's Report



Refuse Hauler – Individuals or companies who collect and/or transport refuse from private or commercial sources.

Reusable Goods – items, such as, but not limited to textiles, furniture, books, household items, electronics from an individual that no longer needs or uses it and is redistributed to those who can still find use in the item. The term “Reusable goods” does not apply to refuse, garbage, hazardous materials composted material.

Solid Waste – Waste Materials including garbage and rubbish, exclusive of building, demolition and body wastes. (See refuse)

Unacceptable Waste – Any waste currently not accepted at the transfer station as listed in Article 4.

Yard Waste – Grass clippings, weeds, garden materials, shrub clippings, leaves, pine needles, bark mulch, wood chips and brush less than one inch in diameter.

Article 2 Transfer Station Permits

1) Use of Transfer Station

No person shall enter or dispose of any materials at the Transfer Station unless they are the holder of a valid permit issued in accordance with this Regulation.

License Plate Recognition Software is now being used to monitor use of use of the Transfer Station. Physical stickers will no longer be distributed. Instead, cameras have been installed to read each license plate as vehicles enter the facility. The cameras will take a picture of each license plate and software will compare the plate numbers in the pictures to a listing of authorized users.

2) Eligibility

The following individuals shall be eligible for a Transfer Station Permit:

1. Owners of residential property located in the Town of Truro, as that term is defined herein;
2. Occupants of residential properties located in the Town of Truro, as that term is defined herein;
3. Provided however, that transfer station permits shall only be available for residential addresses with habitable dwelling units that are occupied for at least a portion of the year.

3) Definitions

Owner – for purposes of this Regulation, the term Owner shall refer to the individual listed on the deed or other instrument of ownership on record with the Barnstable County Registry of Deeds for residential properties located in the Town of Truro. If the property is held in trust, only the trustee may be considered an Owner for purposes of this Regulation. Beneficiaries shall not be considered Owners for purposes of this Regulation.

Occupant – for purposes of this Regulation, the term Occupant shall refer to any individual residing at a residential address in the Town of Truro for any period consisting of two or more consecutive nights, with a lease or the written permission of the Owner or by virtue of being the Owner's spouse, domestic partner or dependent over the age of eighteen years old.

4) Types of Permits and Eligibility

Annual Permits – shall be valid for a period of one year from date of purchase and shall be available to (1) Owners and/or (2) Occupants, provided that the Occupant is authorized to occupy the premises for a period of at least twelve months out of the year.

Monthly Permits – shall be valid for a period of thirty days from the date of issue and shall be available to (1) Owners and/or (2) Occupants, provided that the Occupant is authorized to occupy the premises for a period of least thirty consecutive days.

Weekly Permits - shall be valid for a period of seven days from the date of issue and shall be available to (1) Owners and/or (2) Occupants, provided that the Occupant is authorized to occupy the premises for a period of up to twenty-nine consecutive days.

Senior Perks Annual Permit – shall be valid for a period of one year from date of purchase and shall be available to (1) Owners and/or (2) Occupants, provided that the Occupant is authorized to occupy the premises for a period of at least twelve months out of the year. Eligible applicants must be age 65 or older and have the vehicle registered in their name in Truro at the time of purchase. The permit cannot be transferred or designated. The Senior Perks Program is a one-year pilot program offered from May 15, 2025 through May 14, 2026 and provides (1) annual permit per household, purchased during the program period, at a reduced price.

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5) Limitations

1. The number of permits that may be issued and active for a particular household or household held in a trust at any time shall be limited to three annual (including the one Senior Perks Annual Permit per eligible household) and one weekly or monthly at a time.
2. Permits shall only be issued upon presentation of proof of eligibility and payment of the applicable fee.
3. Annual permits shall only be issued to Owners and to Occupants whose vehicle registration shows the address for which the permit is issued; or the name on the vehicle registration corresponds with the Truro address as noted on the deed or lease.
4. Only the vehicles associated with the permit shall be allowed to enter the Transfer Station. If a permit holder will be using an alternative vehicle for any portion of a permit period, the permit may be transferred to the alternative vehicle, provided appropriate documentation (such as a copy of a lease) is provided.
5. Permits may not be transferred to any other person or entity. If the permit holder ceases to qualify, the permit will be revoked.
6. Any permit may be revoked. The Owner or Occupant may appeal to the BOH for any violation of the Transfer Station Rules and Regulations or any other provision of law relative to the use of the Transfer Station.

7. All waste brought to the Transfer Station shall originate within the Town of Truro and shall be related solely to the use of the property for which the permit is issued. Evidence of dumping any waste from other municipalities shall be a violation of these regulations, and is a ticketing offense under the non-criminal violation provisions stated in Section1, article 3.2.

6) Required Documentation

1. If a property owner, ownership will be confirmed through the records of the Board of Assessors.
2. If an Occupant, an original written lease or other form of written authorization with Owner's signature shall be presented with the application (designation form will be provided).
3. Vehicle Registration for each vehicle that will be used with the permit. If the vehicle is not registered to the applicant, sufficient proof of the applicant's authorization to use the vehicle shall be presented.

4. Driver's License.

For Senior Perks Annual Permit:

In addition to the above, applicants for the Senior Perks Program must present the following documentation:

1. Government-issued proof of age (such as driver's license, passport, birth certificate, or other similar public record).
2. Valid vehicle registration registered in the applicant's name and registered to an address in Truro.
3. Completion of a verbal, written, or electronic attestation of the annual household income, in the manner designated.

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7) Fees

- | | |
|--------------------------------------|----------------|
| 1. Annual Permit | \$100.00 |
| <u>2. Senior Perks Annual Permit</u> | <u>\$XX.00</u> |
| 23. Monthly Permit | \$50.00 |
| 34. Weekly Permit | \$25.00 |

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Benjamin E. Zehnder LLC

62 Route 6A, Suite B
Orleans, Massachusetts 02653

Benjamin E. Zehnder, Esq.
bzehnder@zehnderllc.com
Tel: (508) 255-7766

MEMO

To: Truro Board of Health
From: Ben Zehnder, Attorney for Applicant
Date: March 12, 2025
Re: Carmi and Harriet Bee – 38 South Highland Road Definitive Subdivision Preliminary Review

Carmi and Harriet Bee are preparing to submit to the Planning Board a definitive four-lot subdivision plan for their land at 38 South Highland Road. Section 2.5.4 of the Truro Subdivision Regulations, attached, require that the BOH report to the Planning Board its approval, or disapproval regarding areas shown on the plan that cannot be used for a building site without injury to the public health, the reasons thereof and recommendations for adjustments.

The property is located adjacent to the Town of Provincetown wellfield, therefore the applicants are suggesting the implementation of strategies to maximize stormwater retention on the properties and to maximize groundwater recharge, including approval by the Planning Board of property restrictions which include:

1. A prohibition of impervious driveways, such as asphalt;
2. The use of gutters and downspouts on all dwellings; and
3. The use of swales and retention basins to contain stormwater within each property.

Thank you for your attention.

Ben Zehnder

separate plan or in conjunction with the landscape plan described in item #15, shall include the following:

- a. Topographical contours at two-foot intervals.
- b. Drainage patterns and watershed boundaries, if any.
- c. Existing vegetation.
- d. Proposed limit of clearing.
- e. The location, identification and narrative description with detailed drawings of all temporary and permanent erosion and sediment control Best management Practices.
- f. Temporary driveway apron to serve during all phases of site preparation and construction that shall consist of $\frac{3}{4}$ " crushed stone 3" thick or bituminous binder 2-1/2" thick.
- g. Narrative description of the construction schedule and the concurrent sequencing and timing of erosion control measures as shown on the plan.

2.5.3 Staking of Proposed Subdivision

In order to facilitate on-site review by the various reviewing boards, the applicant shall, at the time of filing of a Definitive Plan, stake and brush cut to a minimum of three (3) feet wide the centerline of all proposed ways in the subdivision and shall stake all points where lot lines intersect rights-of-way.

2.5.4 Approval/Disapproval and Endorsement of Definitive Plans

a. Review by the Board of Health

The Board of Health shall, within forty-five (45) days after the Definitive Plan is so filed, report to the Board in writing with a copy to the applicant, its approval or disapproval of said plan. In case of disapproval, it shall make specific findings as to which, if any, areas shown on the plan cannot be used for a building site without injury to the public health, and the reasons therefore, and shall make recommendations for adjustments thereof. The Board shall not take action on a Definitive Plan until said report of the Board of Health has been received or forty-five (45) days has elapsed without such report having been received. Failure of the Board of Health to report to the Board within said 45 days shall be taken as constructive approval.

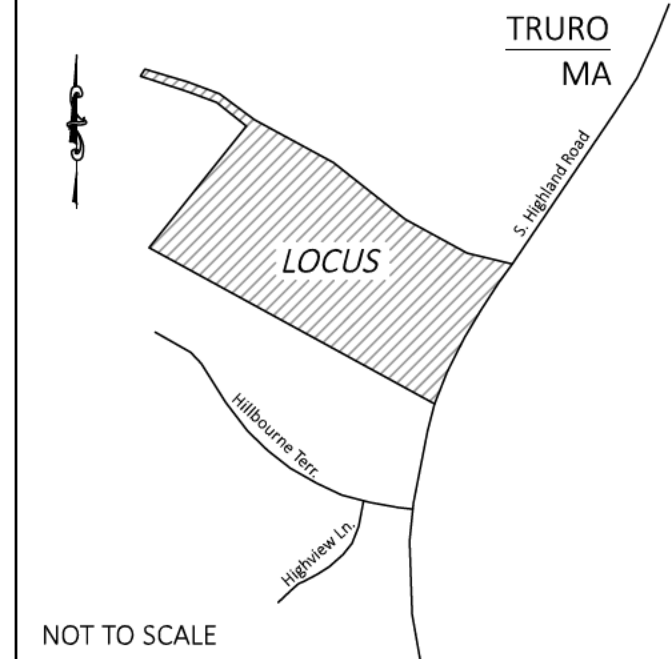
b. Public Hearing

Before approval, modification of approval, or disapproval of the Definitive Plan is given, a public hearing shall be held by the Board, notice of the time and place of which and of the subject matter, sufficient for identification as follows:

1. The Board shall give notice by advertisement in a newspaper of general circulation in the Town of Truro, once in each of two (2) successive weeks, the first publication being not less than fourteen (14) days before the day of such hearing; and,
2. The Board shall give notice by posting such notice in a conspicuous place in the Town Hall for a period of not less than fourteen (14) days before the day of such hearing.
3. The Applicant shall give notice by mailing a copy of such advertisement via certified mail return receipt to abutters to the subject property, abutters to abutters, and properties across the street from the subject property. The notice and a list of names and addresses of abutters certified by the Truro Deputy Assessor, names and addresses, will be supplied to the applicant by the Planning Board or its agent. Said

TOPOGRAPHY & SITE FEATURES NOTE:
THE TOPOGRAPHY AND SITE FEATURES AS SHOWN HEREON
WERE TAKEN FROM THE TOWN OF TRURO G.I.S.

Plan Book 587 Page 68



PLAN BOOK 587
DEED BOOK 33628
ASSESSORS' MAP 40

PAGE 68
PAGE 44
PARCEL 1-0

LEGEND

— 32' —	EXISTING CONTOUR
— 32' —	PROPOSED CONTOUR
X12.34	EXISTING SPOT GRADE
24x5	PROPOSED SPOT GRADE
— W —	WATER SERVICE LINE
— OH —	OVERHEAD UTILITY SERVICE
— E —	ELECTRIC / COMM. SERVICE LINE
— G —	GAS SERVICE LINE
⊙	TEST HOLE / BORING LOCATION
ST	SEPTIC TANK
DB	DISTRIBUTION BOX
SAS	SOIL ABSORPTION SYSTEM
Reserve	RESERVED FOR FUTURE
⊙	UTILITY POLE
⊙	CATCH BASIN
⊙	FIRE HYDRANT
⊙	WELL
⊙	DRAINAGE MANHOLE
■	CONCRETE BOUND, FOUND
— — —	LIMIT OF WORK
— — —	FENCE
— — —	EDGE OF CLEARING

ZONING:

ZONE:	RESIDENTIAL
AREA	33,750 SF (MINIMUM)
FRONTAGE	150 FEET (MINIMUM)
FRONT SETBACK	25 FEET (MINIMUM)
SIDE SETBACK	25 FEET (MINIMUM)
REAR SETBACK	25 FEET (MINIMUM)
HEIGHT	2 STORY- 30 FEET (MAX.)

SALTY ROAD SUBDIVISION PRELIMINARY SUBDIVISION PLAN

FOR
38 SOUTH HIGHLAND ROAD
TRURO, MASSACHUSETTS

PREPARED FOR
THE CARMİ BEE REVOCABLE TRUST
AND
THE HARRİET S. BEE REVOCABLE TRUST

0 40 80 120
SCALE 1" = 40' JULY 17, 2024

MADE BY
J.M. O'REILLY & ASSOCIATES, INC.
1573 MAIN STREET, P.O. BOX 1773
BREWSTER, MASSACHUSETTS 02631
508-896-6601 and fax 508-896-6602



Michael & Amy Rogers Trust
PO Box 457
No. Truro, MA 026452
Map 40 Parcel 129

William F. & Mary Ellen Laughlin
3136 Ringwood Meadow
Sarasota, FL 34235
Map 40 Parcel 128

Ann Dercole & Linda Brady
105 W 89th St. Apt 2B
New York, NY 10024
Map 40 Parcel 127

USA-Dept. of Interior Cape Cod
National Seashore
99 Marconi Site Rd
Wellfleet, MA 02667
Map 40 Parcel 999

Widdison Family Trust TRS: John J. Widdison
2277 State Rd.
Plymouth, MA 02360
Map 37 Parcel 17

Town of Provincetown
C/O Water Dept. 260 Commercial St
Provincetown, MA 02657
Map 39 Parcel 181

Town of Provincetown
C/O Water Dept. 260 Commercial St.
Map 39 Parcel 180

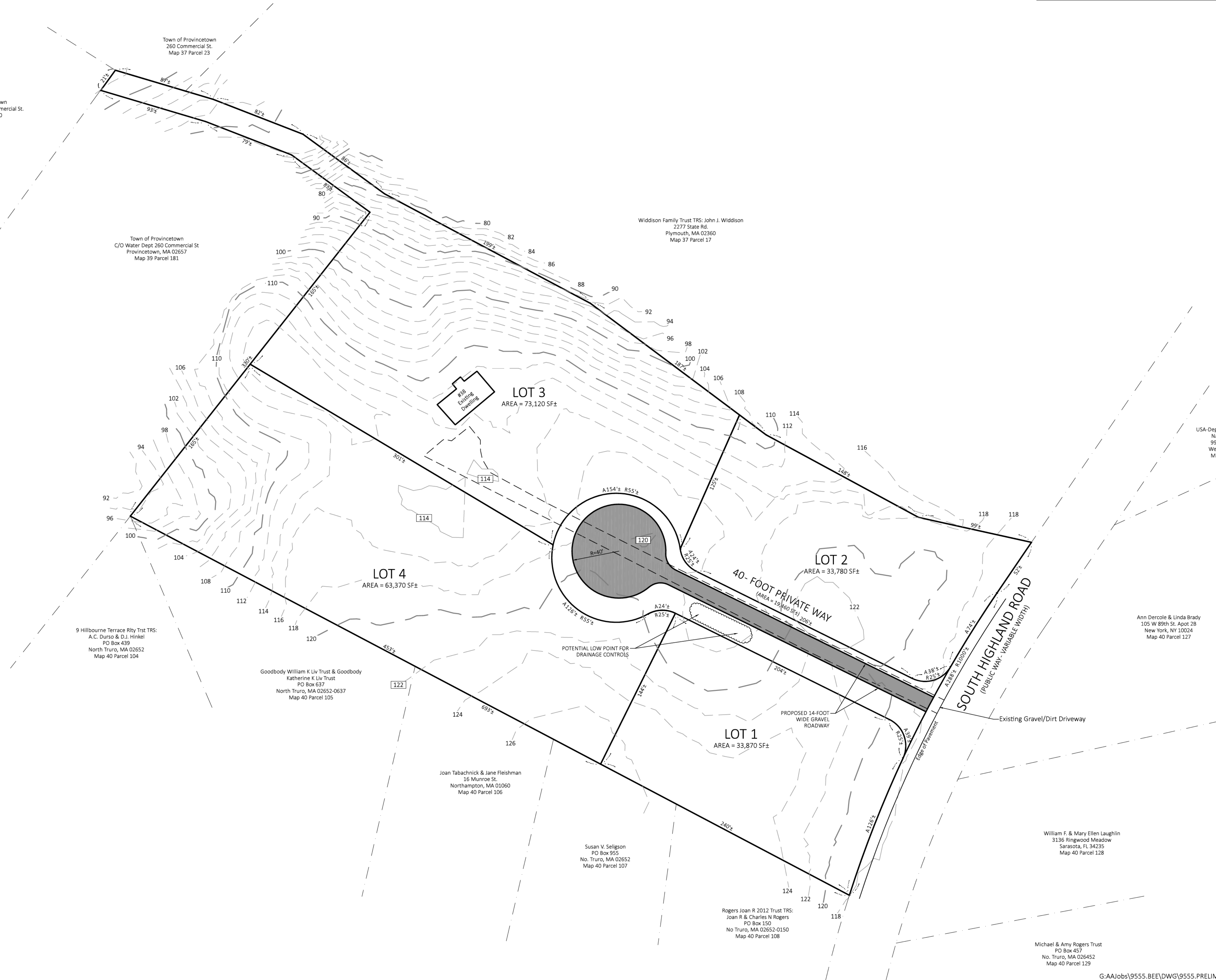
9 Hillbourne Terrace Rlty Trst TRS:
A.C. Durso & D.J. Hinkel
PO Box 439
North Truro, MA 02652
Map 40 Parcel 104

Goodbody William K Liv Trust & Goodbody
Katherine K Liv Trust
PO Box 637
North Truro, MA 02652-0637
Map 40 Parcel 105

Joan Tabachnick & Jane Fleishman
16 Munroe St.
Northampton, MA 01060
Map 40 Parcel 106

Susan V. Seligson
PO Box 955
No. Truro, MA 02652
Map 40 Parcel 107

Rogers Joan R 2012 Trust TRS:
Joan R & Charles N Rogers
PO Box 150
No Truro, MA 02652-0150
Map 40 Parcel 108



PROPOSAL to Truro Board of Health
re **95 Shore Road**
Cape Cod Cottages LLC

There are 9 one bedroom/studio dwelling units on the property located at 95 Shore Road.

95 Shore Road is presently licensed as transient accommodations, but the units are rented as affordable year round housing.

The 9 units are served by three Title V septic systems, two of which have failed.

Cape Cod Cottages LLC retained J.C. Ellis Design to prepare the attached plan for a 9 bedroom (plus 75 gpd for a 700 sq ft office) IA septic system.

Cape Cod Cottages LLC intends to apply for a Special Permit to allow a conversion of the property to a residential use, pursuant to §40.3 of the Truro Zoning Bylaw.

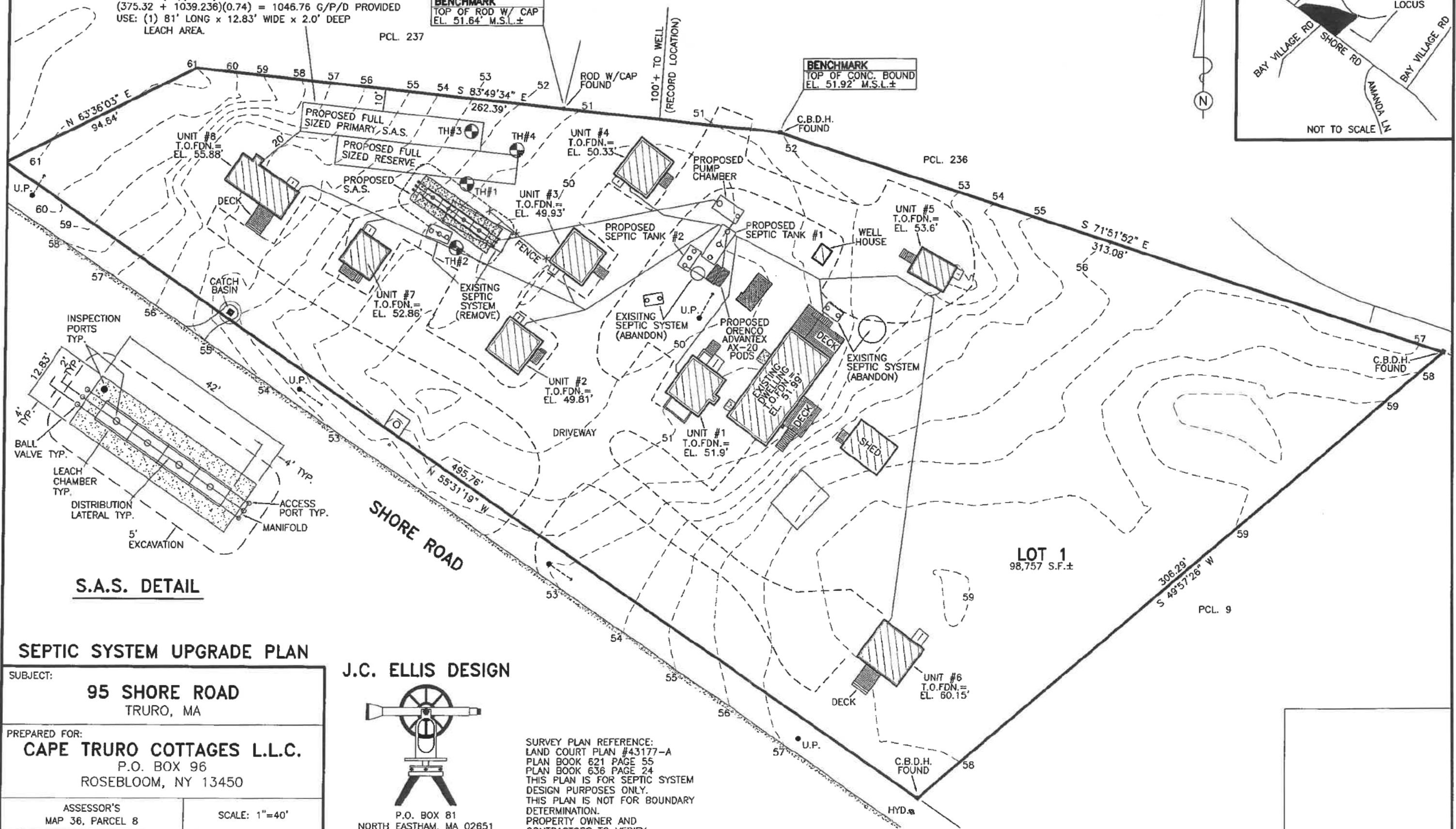
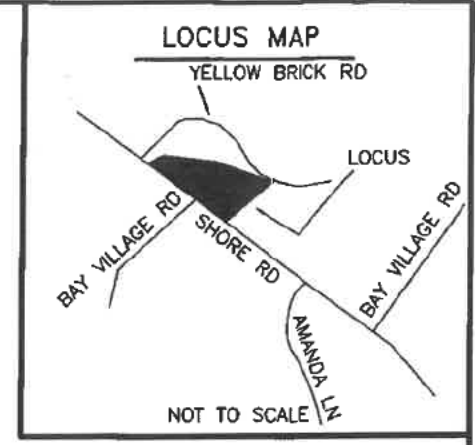
Cape Cod Cottages LLC requests the following relief:

1. before installing the proposed IA system, to be allowed to proceed with an application pursuant for a Special Permit under §40.3, with the Board of Health's consent, and to sell units 7 & 8, in order to free up the capital necessary to the install the IA, and
2. to be allowed to maintain the remaining passing Title V system, serving units 7 & 8, for so long as it functions correctly, and upon its failure to hook up the units 7 & 8 to the IA, which will be installed with sufficient capacity.

PROPOSED POTENTIAL FULL SIZED SOIL ABSORPTION SYSTEM:
 SIDEWALL = $(81 + 12.83)(2)(2) = 375.32$ S.F.
 BOTTOM: $(81)(12.83) = 1039.23$ S.F.
 $(375.32 + 1039.23)(0.74) = 1046.76$ G/P/D PROVIDED
 USE: (1) 81' LONG x 12.83' WIDE x 2.0' DEEP
 LEACH AREA.

BENCHMARK
 TOP OF ROD W/ CAP
 EL. 51.64' M.S.L.±

BENCHMARK
 TOP OF CONC. BOUND
 EL. 51.92' M.S.L.±

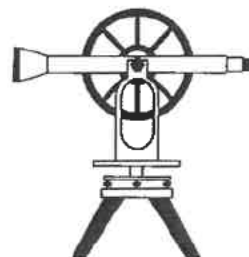


S.A.S. DETAIL

SEPTIC SYSTEM UPGRADE PLAN

SUBJECT:	
95 SHORE ROAD	
TRURO, MA	
PREPARED FOR:	
CAPE TRURO COTTAGES L.L.C.	
P.O. BOX 96	
ROSEBLOOM, NY 13450	
ASSESSOR'S	SCALE: 1"=40'
MAP 36, PARCEL 8	
DATE: APRIL 5, 2022	SHEET 1 OF 3

J.C. ELLIS DESIGN



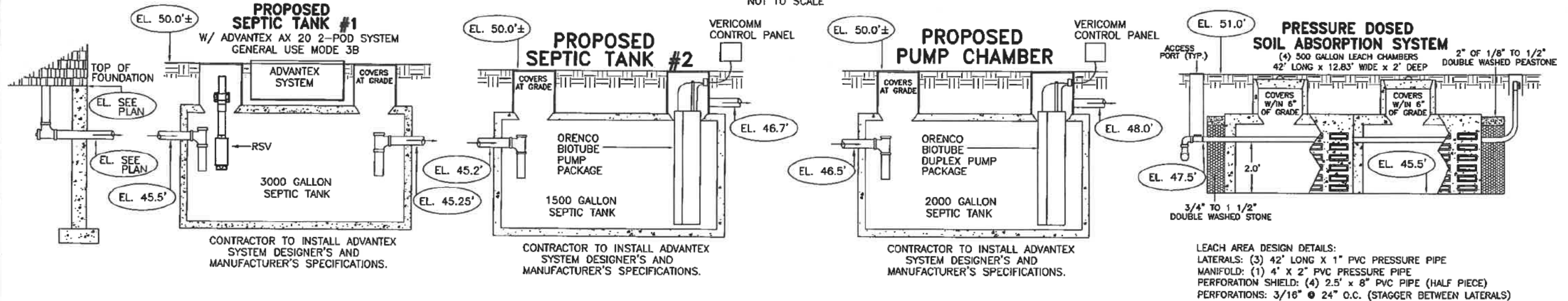
P.O. BOX 81
 NORTH EASTHAM, MA 02651
 (508)240-2220
 Email: jason@jcellisdesign.com

SURVEY PLAN REFERENCE:
 LAND COURT PLAN #43177-A
 PLAN BOOK 621 PAGE 55
 PLAN BOOK 636 PAGE 24
 THIS PLAN IS FOR SEPTIC SYSTEM
 DESIGN PURPOSES ONLY.
 THIS PLAN IS NOT FOR BOUNDARY
 DETERMINATION.
 PROPERTY OWNER AND
 CONTRACTORS TO VERIFY
 ALL WATER LINES AND GAS
 UTILITIES ON PROPERTY.

JASON C. ELLIS, R.S.

SECTION DETAIL - COMPONENTS

NOT TO SCALE



DESIGN CALCULATIONS

FLOW RATE:

(9) 1 BEDROOM DWELLING UNITS = 990 G/P/D REQUIRED
(110 G/P/D PER BEDROOM X 9 BEDROOMS)
700 S.F.± OFFICE SPACE = 52.5 G/P/D REQUIRED
(75 G/P/D PER 1000 S.F. X 700 S.F.)
TOTAL FLOW = 1042.5 G/P/D REQUIRED
NO GARBAGE GRINDER ALLOWED

SEPTIC TANK #1:

1042.5 G/P/D X 2 = 2085 G/P/D REQUIRED
USE 3000 GALLON SEPTIC TANK

SEPTIC TANK #2:

1042.5 G/P/D X 1 = 1042.5 G/P/D REQUIRED
USE 1500 GALLON SEPTIC TANK

SOIL ABSORPTION SYSTEM:

PERC RATE = <2 MIN./IN. - CLASS I SOIL
SIDEWALL = (42 + 12.83)(2)(2) = 219.32 S.F.
BOTTOM: (42)(12.83) = 538.86 S.F.
(219.32 + 538.86)(0.74) = 561.05 G/P/D PROVIDED
USE: (4) 500 GALLON LEACH CHAMBERS W/ STONE
AS SHOWN IN DETAIL.

*47% REDUCTION IN REQUIRED SIZE OF S.A.S. PROVIDED.

NOTES

1. ALL PRECAST COMPONENTS TO BE H-10 RATED. ALL COMPONENTS WITH ANY ANTICIPATED VEHICULAR TRAFFIC TO BE H-20 RATED.
2. ELEVATION DATUM IS FROM USGS QUAD MAP.
3. MUNICIPAL WATER IS AVAILABLE.
4. ALL CONSTRUCTION TO CONFORM WITH 310 CMR 15.000 AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL CODES AND REGULATIONS.
5. INSTALLER/CONTRACTOR TO REVIEW & VERIFY ALL ELEVATIONS AND DETAILS AND REPORT ANY DISCREPANCIES TO DESIGNER PRIOR TO CONSTRUCTION OR ASSUME ALL RESPONSIBILITY.
6. INSTALLER/CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SAFE WORK AREA, VERIFYING ALL UTILITIES AND NOTIFYING DIG SAFE PRIOR TO CONSTRUCTION.
7. ANY CHANGES TO OR DEVIATIONS FROM THIS PLAN MUST BE APPROVED IN WRITING BY J.C. ELLIS DESIGN CO. AND BOARD OF HEALTH.
8. FINISH COVER OVER COMPONENTS IS NOT TO EXCEED 3' PER 310 CMR 15.000.
9. ALL ABANDONED SEPTIC SYSTEM COMPONENTS TO BE PUMPED DRY AND FILLED WITH CLEAN SAND OR REMOVED AND REPLACED WITH CLEAN SAND.
10. ALL COMPONENTS TO BE PROVIDED WITH WATERTIGHT ACCESS PORTS WITHIN 6" OF FINISH GRADE.
11. ALL SEPTIC TANKS, DISTRIBUTION BOXES AND PIPING TO BE INSTALLED WATERTIGHT.
12. NO KNOWN WELLS EXIST WITHIN 100' OF PROPOSED LEACH AREA.
13. THIS IS NOT A CERTIFIED PLOT PLAN AND UNDER NO CIRCUMSTANCES IS THIS PLAN TO BE USED FOR BUILDING OR ZONING PURPOSES.
14. LEACH AREA TO BE PROVIDED WITH AT LEAST ONE INSPECTION PORT CONSISTING OF A PERFORATED FOUR INCH PIPE PLACED VERTICALLY DOWN INTO THE STONE TO THE NATURALLY OCCURRING SOIL OR SAND FILL BELOW THE STONE. THE PIPE SHALL BE CAPPED WITH A SCREW TYPE CAP AND ACCESSIBLE WITHIN 3" OF GRADE.

DEEP HOLE DATA

PERFORMED BY: ALAN CABRAL, S.E.
WITNESSED BY: SUSAN RASK, TRURO BOH
TEST DATE: SEPTEMBER 6, 2002

PERFORMED BY: ALAN CABRAL, S.E.
WITNESSED BY: EMILY BEEBE, TRURO BOH
TEST DATE: MAY 18, 2011

#1	#2	#3	#4
DEPTH 0.00'	DEPTH 0.00'	DEPTH 0.00'	DEPTH 0.00'
ELEV. 51.2'	ELEV. 50.2'	ELEV. 52.2'	ELEV. 50.7'
A LOAMY SAND	A LOAMY SAND	A LOAMY SAND	CF FILL
1.0'	1.0'	1.0'	1.0'
B LOAMY SAND	B LOAMY SAND	B LOAMY SAND	A LOAMY SAND
2.5'	3.0'	2.5'	1.5'
C MEDIUM - COARSE SAND	C MEDIUM - COARSE SAND	C MEDIUM - COARSE SAND	B LOAMY SAND
PERC RATE <2 MIN./IN.	PERC @ 7' <2 MIN./IN.	PERC RATE <2 MIN./IN.	3.0'
11.5'	10.5'	11.0'	C MEDIUM - COARSE SAND
NO WATER ENCOUNTERED	NO WATER ENCOUNTERED	NO WATER ENCOUNTERED	PERC @ 6' <2 MIN./IN.
39.7'	39.7'	41.2'	39.7'

SEPTIC SYSTEM UPGRADE PLAN

SUBJECT:

95 SHORE ROAD
TRURO, MA

PREPARED FOR:

CAPE TRURO COTTAGES L.L.C.
P.O. BOX 96
ROSEBLOOM, NY 13450

ASSESSOR'S
MAP 36 PARCEL 8

DATE: APRIL 5, 2022

SHEET 2 OF 3

JASON C. ELLIS, R.S.

ADVANTEX® AX20 2 POD MODE 3B

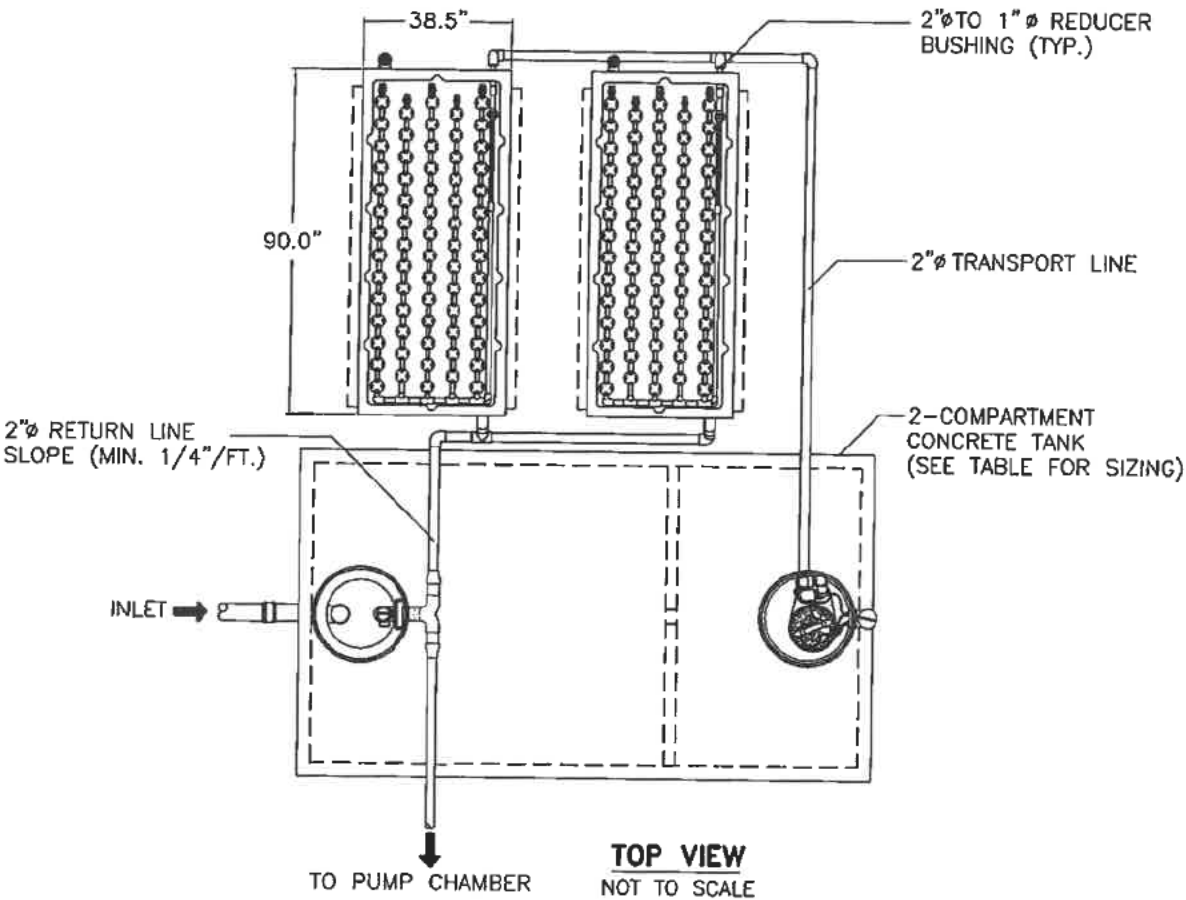
PROCESSING TANK SIZING		
BEDROOMS	OCCUPANTS (MAXIMUM)	2-COMPARTMENT PROCESSING TANK (MIN. GALLONS)
5	10	2,500
6	12	3,000

DESIGN NOTES

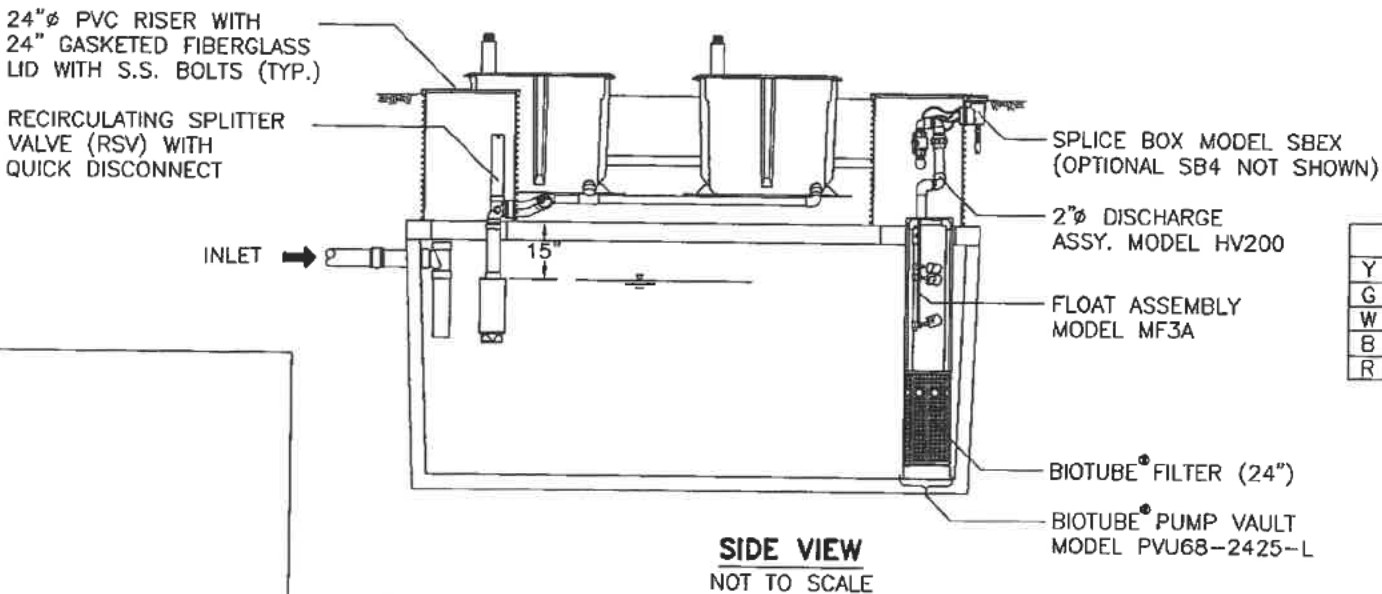
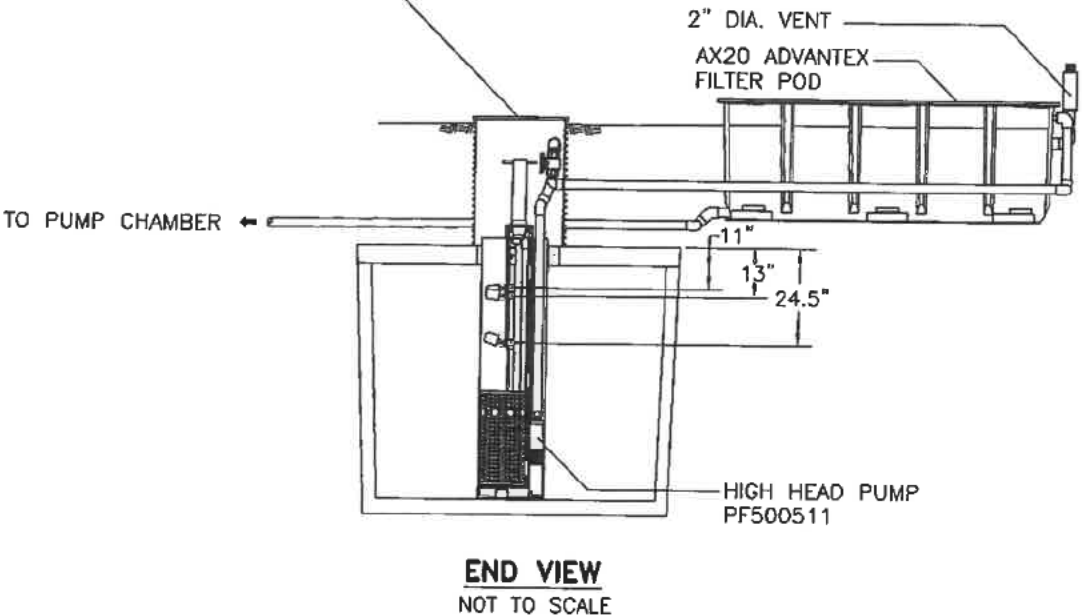
FOR RESIDENTIAL STRENGTH WASTE UP TO 6 BEDROOMS APPLICATIONS GREATER THAN 6 BEDROOMS REQUIRE A DESIGN REVIEW BY ORENCO.

INSTALLATION TO BE PERFORMED BY AN ADVANTEX AUTHORIZED INSTALLER ONLY.

START-UP AND SERVICE TO BE PERFORMED BY AN ADVANTEX AUTHORIZED SERVICE PROVIDER ONLY.

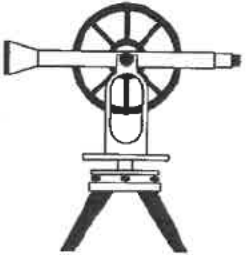


24" PVC RISER WITH 24" GASKETED FIBERGLASS LID WITH S.S. BOLTS (TYP.) SIMPLEX PUMPING SYSTEM



FLOAT FUNCTIONS	
Y	High Level Alarm
G	Override Timer ON/OFF
W	LLA/RO
B	Pump On
R	Pump Off

J.C. ELLIS DESIGN



P.O. BOX 81
NORTH EASTHAM, MA 02651
(508)240-2220
Email: jcellisdesign@verizon.net

SEPTIC SYSTEM UPGRADE PLAN
ADVANTEX AX20 2 POD MODE 3B

SUBJECT:	
95 SHORE ROAD TRURO, MA	
PREPARED FOR:	
CAPE TRURO COTTAGES L.L.C. P.O. BOX 96 ROSEBLOOM, NY 13450	
ASSESSOR'S MAP 36 PARCEL 8	
DATE: APRIL 5, 2022	SHEET 3 OF 3

Benjamin E. Zehnder LLC

62 Route 6A, Suite B
Orleans, Massachusetts 02653

Benjamin E. Zehnder, Esq.
bzehnder@zehnderllc.com
Tel: (508) 255-7766

MEMO

To: Truro Board of Health
From: Ben Zehnder, Attorney for Applicant
Date: March 14, 2025
Re: 14 Great Hills Road and 3 Great Hills Lane Variance Requests

Please find following proposed additional findings of fact for the above variance requests:

1. Variance from Buildable Upland Calculations for Nitrogen Loading Limitations set forth in Section VI, Articles 11 and 13:

- a. Although the property does not contain buildable upland pursuant to Section VI Definitions, the majority of the property is landward of the landward limit of the active coastal dune, therefore the majority of the property will function to provide active fresh water recharge at all times other than coastal storm overwash;
- b. The location of the sewage disposal system soil absorption system (SAS) is approximately 95' landward of the active coastal dune, and will function as intended;
- c. The lot at 3 Great Hills Lane contains 67,374 square feet of land. While the lot at 14 Great Hills Road contains 71,693 square feet of land, for a combined total of 139,064 square feet (3.2Ac.), almost all of which is landward of the active coastal dune, meaning that there is significant land area available to offset the minimal increase in nitrogen loading of 0.95 ppm attributed to the new two-bedroom dwelling.

2. Variance from Section VI, Article 9 for distance of septic tank, pump chamber and SAS from wetland resource

- a. The additional SAS area is approximately 95 feet landward of the active coastal dune and is no closer than the existing SAS area;
- b. The SAS, septic tanks and pump chamber are located in a “Stable Dune Area” identified by Coastal Geologist James O’Connell in his report dated November 28, 2022, attached. See Fig 3: *MA Department of Environmental Protection Wetland & Wetland Area Change Map* showing and delineating DEP's published ‘landward limit of Coastal Dune’ (white line)' in Mr O'Connell's Report, (p. 4). However, as stated by DEP, the ‘Landward Boundary/Limit of Coastal Dune’ shown on any MA DEP Wetlands Map is only ‘approximate’
- c. Groundwater flow shown on Tighe Bond plan dated August 19, 2024 appears to be in a southerly and southwesterly direction, and movement of the water well to a location northerly of the existing and proposed SAS location will remove the existing water well for 3 Great Hills Lane from its present downgradient location.

3. Variance from Section VI, Article 10 for increase in design flow to existing system to serve new construction.

- a. The purpose of this section is to eliminate an increase in nitrogen loading in connection with new construction and to protect groundwater.
- b. The proposal will reduce overall nitrogen loading concentration by 3.22 ppm compared to the existing septic system.
- c. The increase in nitrogen loading concentration attributed to the new structure (0.95 ppm) is less than 20% of the 5ppm general nitrogen concentration loading standard of the Cape Cod Commission and less than 10% of the State DEP standard of 10 ppm.
- d. The applicants’ family has provided 14.36 acres of land in the same area and of the same type as open space thus significantly reducing nitrogen discharge in the area and mitigating the impact of the 0.95 ppm increase in nitrogen loading concentration attributable to the new structure.

END



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November 28, 2022

Dalsheimer Family Nom Trust

c/o Nancy Savage

cc: Kenny Dalsheimer, Susie Poncelet, Dalsheimer Family Nom Trust

cc: Brad Malo, Coastal Engineering Company



RE: 14 Great Hills Road, Truro – ‘Landward Limit of Coastal Dune’ Delineation

Dear Nancy, Kenny, and Susie:

The following is a Report outlining my methodology to determine if a Coastal Dune exists and, if yes, to delineate the ‘*Landward limit of Coastal Dune*’ on your 14 Great Hills Road, Truro, MA, property.

Locus

The 14 Great Hills Road property is a 1.650-acre undeveloped parcel (#49-36-0) bordered by Truro Conservation Trust land to the north, Town of Truro land to the west, private property to the south, and Great Hills Road to the east (**Figure 1 below**).



Fig 1: Town of Truro Assessor map showing 14 Great Hills Road & adjacent parcels

Two Google Earth aerial photographs of the site are shown in **Figures 2A & 2B below.**



Fig 2A: Aerial photo of 14 Great Hills Road and adjacent areas



Fig 2B: Aerial photo (2021) close-up of 14 Great Hills Road property

Coastal Dune: Definition

Report: Landward Limit of Coastal Dune
 Coastal Advisory Services 11/26/2022
 f: Dune Delin Rpt 11-28-22 Final Rpt

The sediment depositional processes, sediment composition, landform shape, and topography define ‘Coastal Dune’ based on definitions in the MA Department of Environmental Protection (DEP) and Truro Conservation Regulations.

Coastal Dune is defined in the MA DEP and Truro Wetland Protection Regulations as, ‘Any natural hill, mound, or ridge of sediment landward of a Coastal Beach deposited by wind action or storm over wash. Coastal Dune also means sediment deposited by artificial means and serving the function of storm damage prevention or flood control.’

The identification of a wetland landform type and its delineation will inform the Truro Conservation Commission and the MA DEP which specific Wetland Regulatory ‘Performance Standards’ that must be met for any proposed activity on or adjacent to that resource area.

Research Data and Maps Necessary to Determine if a Coastal Resource exists on a Site

The identification and delineation of ‘Coastal Dune’, as well as any other regulated coastal resource, is based on site research, including, for example: aerial photographs; MA Department of Environmental Protection (DEP) Wetland Resource Area Maps; Barnstable County Soil Survey; USGS surficial geology map; topography: Truro Assessor Data; applicable Truro and DEP Wetland Protection Regulations; and, other coastal geology-related information gathered during the project.

In addition to the research data and maps cited above, if a regulated ‘coastal resource’ is identified on the property, additional research data, such as FEMA Flood Insurance Rate Maps and accompanying data, and shoreline change data, are required to determine/opine if the ‘coastal resource’ is ‘functioning’ in a manner to be ‘*significant to the interests*’ in the Wetland Protection Regulations, such as ‘storm damage prevention, and flood control’.

Figure 3 below is a DEP Wetland Resource Area Map identifying the existence of a ‘Coastal Dune’ and delineating the ‘approximate’ ‘landward limit of coastal dune’ on the 14 Great Hills Road property.

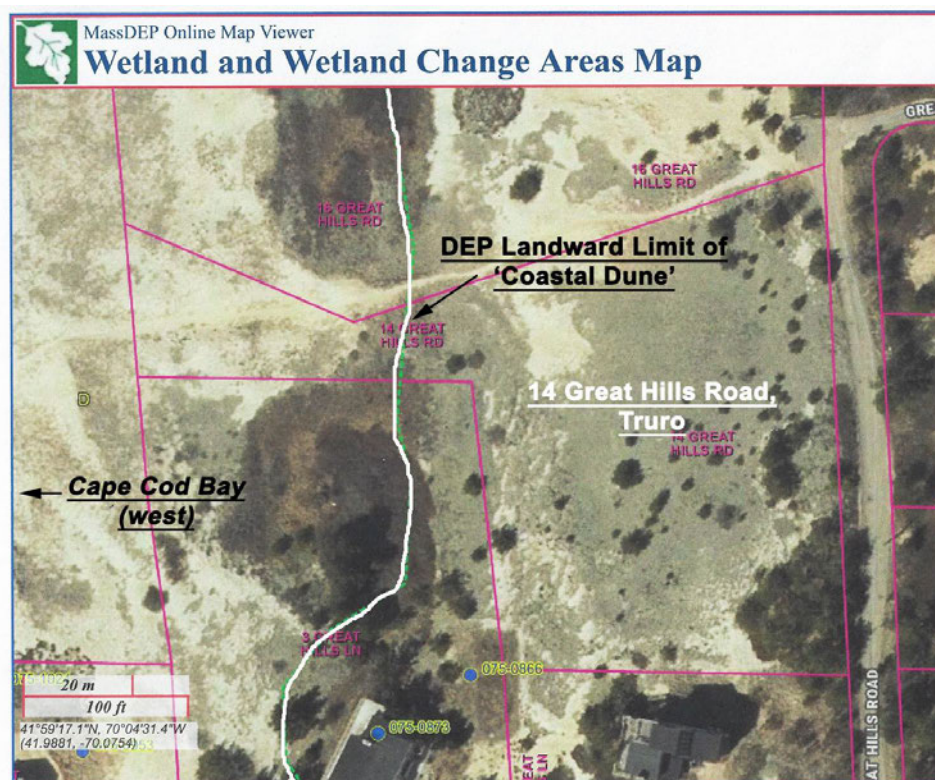


Fig 3: DEP Map showing and delineating the ‘landward limit of Coastal Dune’ (white line)

However, although the ‘*Landward Boundary/Limit of Coastal Dune*’ shown on any MA DEP Wetlands Map is only ‘approximate’. The DEP web site that displays these maps state, ‘*Wetlands and areas of wetland change represented on this map have been determined primarily through photo-interpretation. They do not represent, and should not be used as, wetlands delineation under the Wetlands Protection Act (M.G.L. c. 131, § 40) and the implementing regulations (310 CMR 10.00 et seq.)*’.

As a result, it is always required by Conservation Commissions and MA DEP to conduct further research to specifically identify the wetland resource type and particularly, the boundaries of the wetland resource area(s) before filing for a wetland permit (i.e., Order of Conditions) for any proposed activity on property where wetland resource areas exist.

The Natural Resources Conservation Service (NRCS) ‘Soil Survey’ for the property and surrounding areas was examined next in order to analyze the soil composition throughout the site that was mapped by NRCS.

Figure 4 below is the NRCS ‘*soil survey map*’ for 14 Great Hills Road.



Fig 4: NRCS Soil Survey Map for 14 Great Hills Road

The NRCS 'soil survey' shows that 'Coastal Dune' exists on the site, designated by the number '612C' and the accompanying soil/sediment data.

However, similar to the DEP Wetlands Map, the NRCS web site states, *'Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:25,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.'*

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Thus, as with the DEP Wetland Map, further research is required to specifically identify the wetland resource type and particularly, the boundaries of the wetland resource area(s).

Importantly, as noted when comparing **Figure 3** with **Figure 4** above, the DEP Wetlands Resource Map and boundary delineation and the NRCS 'Soils Survey' have very distinct differences, particularly in the 'landward boundary/limit of Coastal Dune'.

Thus, detailed on-site field analysis and further research is (always) necessary to accurately delineate wetland resource areas, including the 'Landward Limit of Coastal Dune', before filing

for a Wetland-related permit to conduct any activity, such as construction of a building, on property that contains wetland resource areas.

Methodology used to Analyze on-site Sediment Composition and to Delineate the ‘Landward Limit of Coastal Dune’

The ‘*Landward Limit of Coastal Dune*’ delineation is based on on-site analyses and research, primarily sediment composition and topography.

Two site visits were conducted to analyze and document existing site conditions and relate these existing conditions to the technical research data and maps cited above.

Detailed analyses of the on-site soils/sediment composition are necessary.

Seven shallow borings were conducted to visually analyze surface and sub-surface sediments.

The sediments in each boring were photo-documented, including obtaining GPS coordinates. Two to three sediment samples were taken at various depths in each boring hole, each identified and bagged for subsequent sieve analyses, to determine the sediment composition and size distribution, as outlined and detailed in the Report below. These parameters are necessary to determine the physical processes that formed the landform, and thus, the landform type.

Wooden stakes were driven and orange ribbons attached at each boring location to identify the boring number to match each with a description in this Report. CAS was written on the ribbons signifying the borings were conducted by Coastal Advisory Services.

Due to the complexity of the surface and sub-surface sediments and site topography throughout this landform, a preliminary sieve analysis of each sediment sample, 14 in total, was necessary to determine the physical depositional processes that formed this landform.

The boring locations and sediment analyses results are described below.

Boring Locations and Sediment Descriptions

Figures 5 & 6 below show the location of each individual boring on a Google Earth aerial photograph, a DEP Wetlands Map, and the 7/20/21 Coastal Engineering Company ‘Plan showing Existing Conditions’.

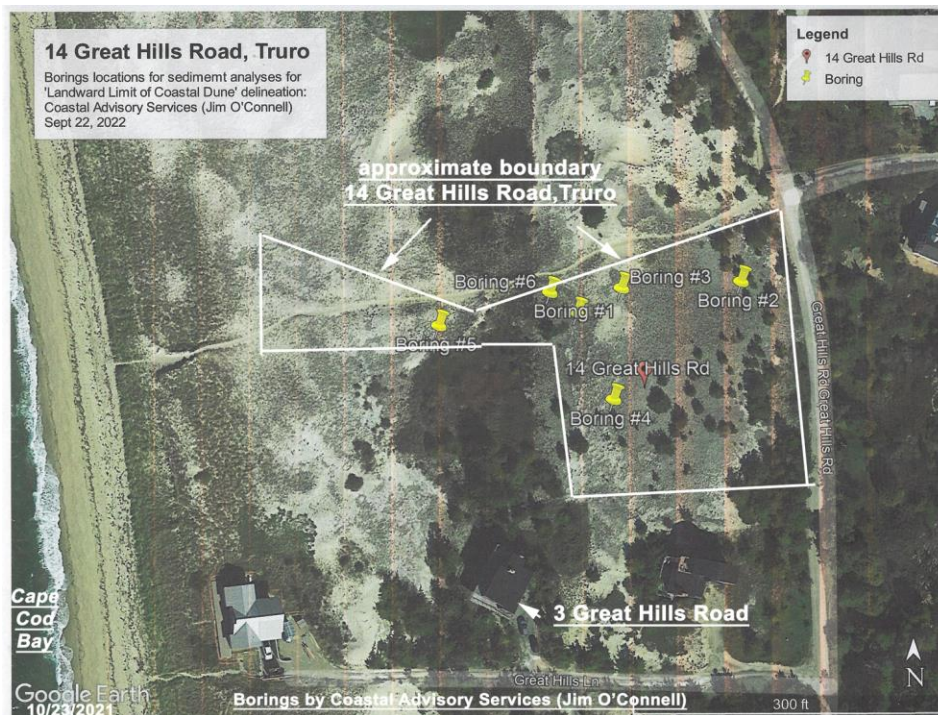


Fig 5 showing the boring locations on a Google Earth aerial photograph

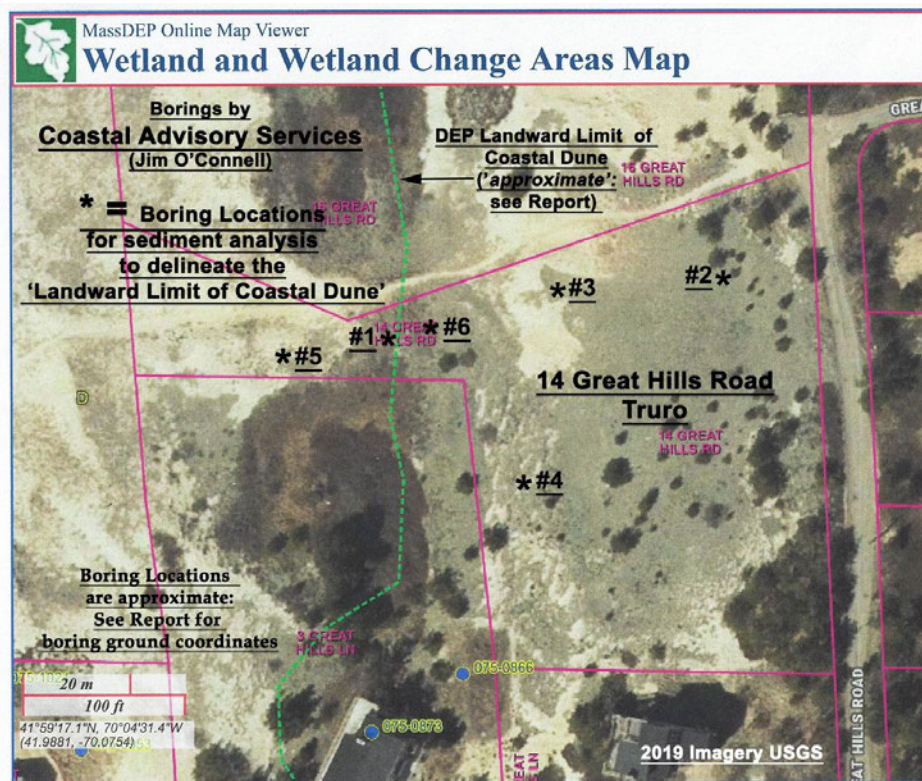


Fig 6 showing the boring locations on a MA DEP Wetlands Map

Figures 7 & 8 below show the location of and sediments in **Boring #1**.



Figure 7 showing the location of & sediments in Boring #1

Note Boring #1 in **Figures 7 above & 8 below** is in a densely vegetated 'trough'.
'Groundwater' was encountered at -2.0' in Boring #1.



Fig 8 showing Boring #1 located in a densely vegetated 'trough'

Figure 9 below shows the locations of **Borings #2, #3 & #4**.

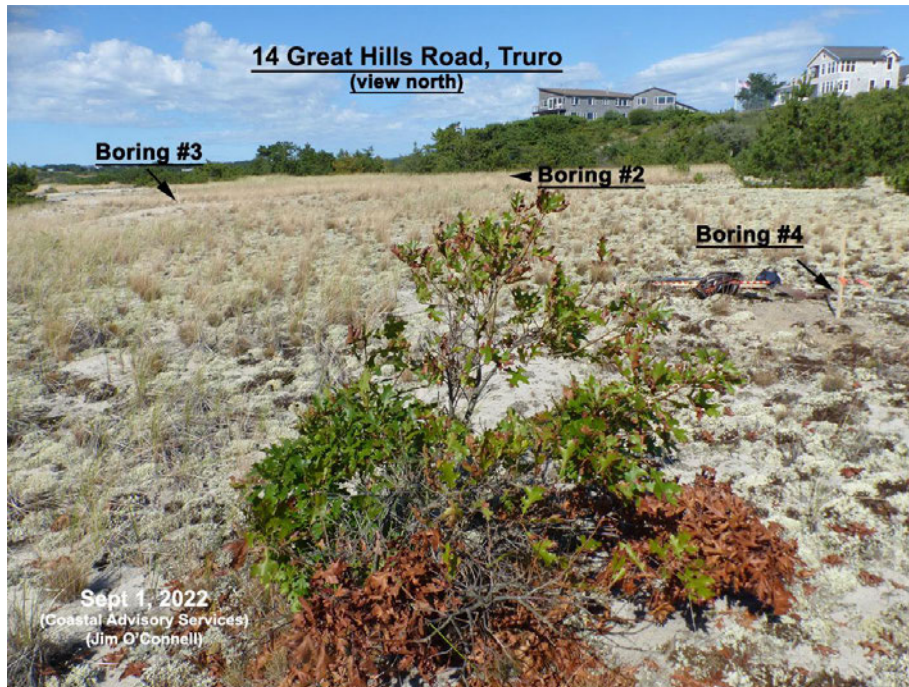


Fig 9 showing the locations of Borings #2, #3, & #4

Figures 10A & 10B below show the location of and sediments in **Boring #2**.



Fig 10A showing the location of & sediments in boring #2 (**view east**)



Fig 10B showing the location of & sediments in Boring #2 (**view west**)

Note the relatively **flat/level topography** surrounding **Boring #2** in **Figures 9, 10A & 10B above**. The property in the distance is not 14 Great Hills Rd (see **Figure 1** above).

Figure 11# below shows the location of and sediments in Boring #3.



Fig 11 showing the location of & sediments in Boring #3 (**view north**)

Note the relatively **flat/level topography surrounding Boring #3 in Figure 11 above**. The property ends before the tree shown in **Figure 11 above**. A pedestrian footpath exists where the arrow in **Figure 11 above** points (see also **Figures 8 & 9 above**).

Figures 12A, 12B and 13 below show the location of and sediments in Boring #4.



Fig 12A showing the location of & sediments in Boring #4 (**view south**)

Note the relatively **flat/level topography surrounding Boring #4 in Figure 12A above**.



Fig 12B showing the location of & sediments in Boring #4 (**view west**)

Note the relatively flat/level topography surrounding Boring #4 in Figure 12B above.



Fig 12C showing the location of & sediments in Boring #4 (view east)

Note the relatively flat/level topography surrounding Boring #4 in Figure 12C above

The location and sediments in **Boring #5** are shown in **Figures 13A & 13B** below.



Figure 13A showing the location of & sediments in Boring #5 (view west)

Note on **Figure 13A** above that the subject property ends at the end of the measuring tape (at the arrow).



Fig 13B showing the location of & sediments in Boring #5 (**view east**)

Note the angle of the 'mound' of sediment at Boring #5 in **Figure 13B** above (not shore-parallel).

Note also on **Figure 13B** above that Borings #2, 3, 4 & 6 lie on the relatively flat/level plateau in the distance on 14 Great Hills Road property.

Figure 14 below shows the location of Boring #s 3, 4 & 6.

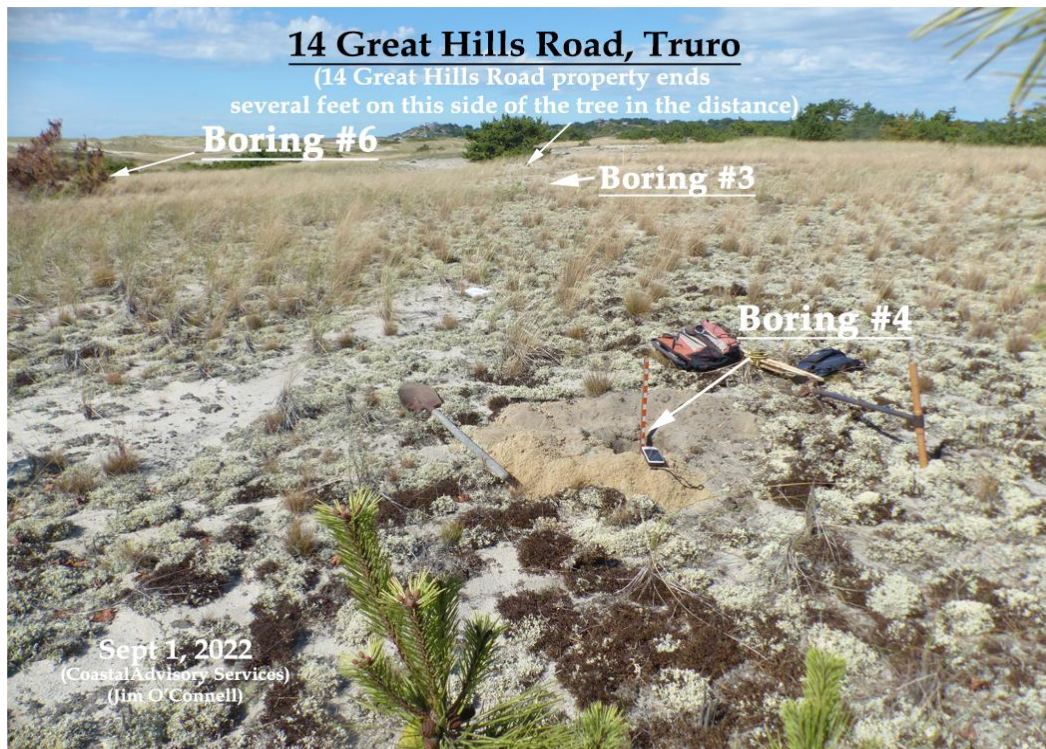


Fig 14 showing the locations of Borings #3, 4, & 6, & the sediments from Boring #4

Figures 15A & 15B below show the location of and sediments in **Boring #6**.



Fig 15A showing the location of & sediments in Boring #6 (**view west**)

Note the relatively flat/level topography at Boring #6 in **Figure 15A** above.



Fig 15B showing the location of & sediments in Boring #6 (& Boring #3) (**view east**)

Note the relatively flat/level topography surrounding **Boring #6** in **Figures 15A & 15B** above.

Sediment Composition

Two to three sediment samples were taken at each of the 6 on-site borings. Samples were also obtained and sieved from the foredune slope, foredune surface and mid-beach on the property seaward (west) of 14 Great Hills Road for comparison.

Figures 16A, 16B, & 16C below are 3 photograph examples of the sediment size distribution found in the sediments in all borings. Note the apparent similarity in the volume of each sample.

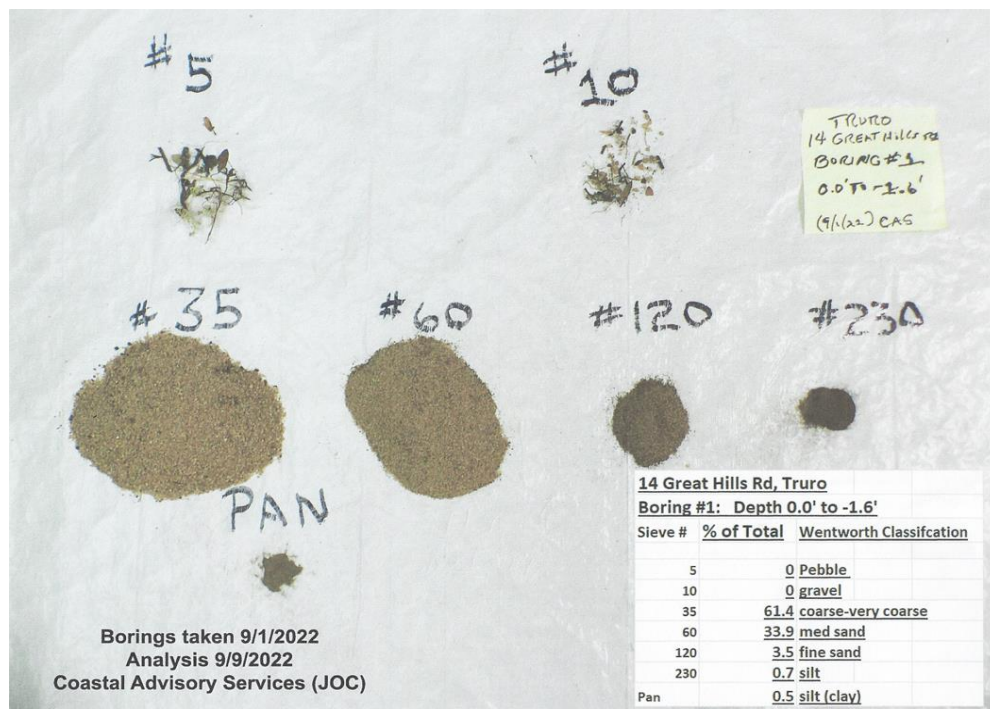


Fig 16A showing the sediment size distribution in Boring #1

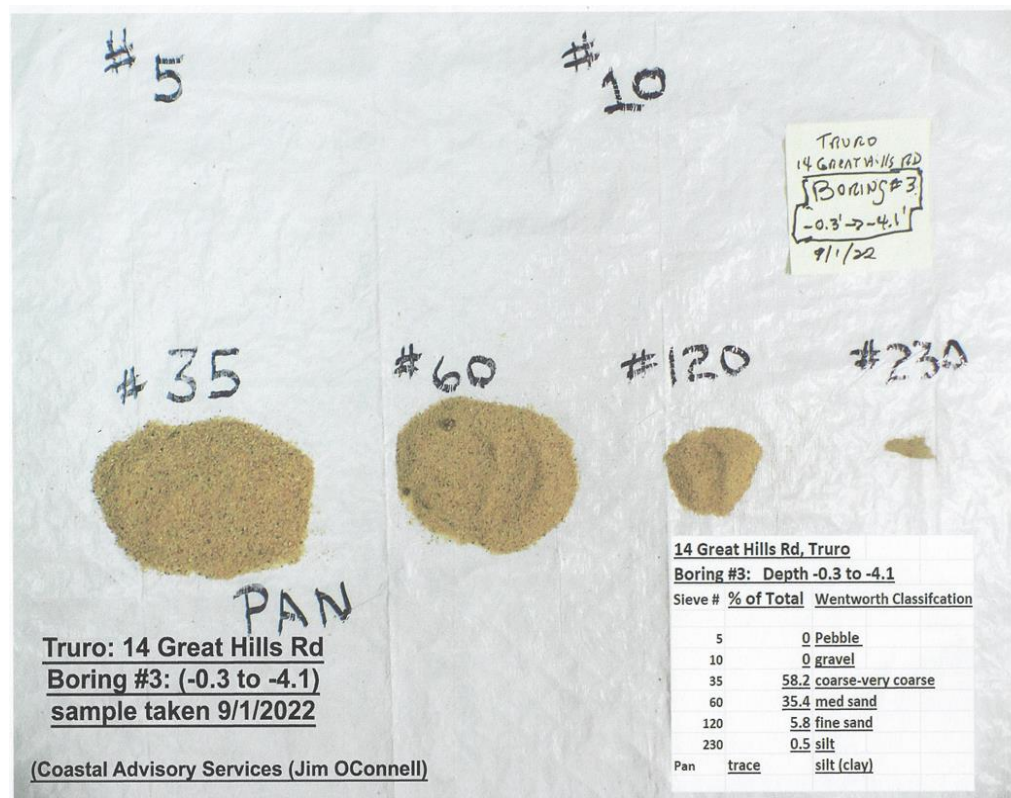


Fig 16B showing the sediment size distribution in Boring #3

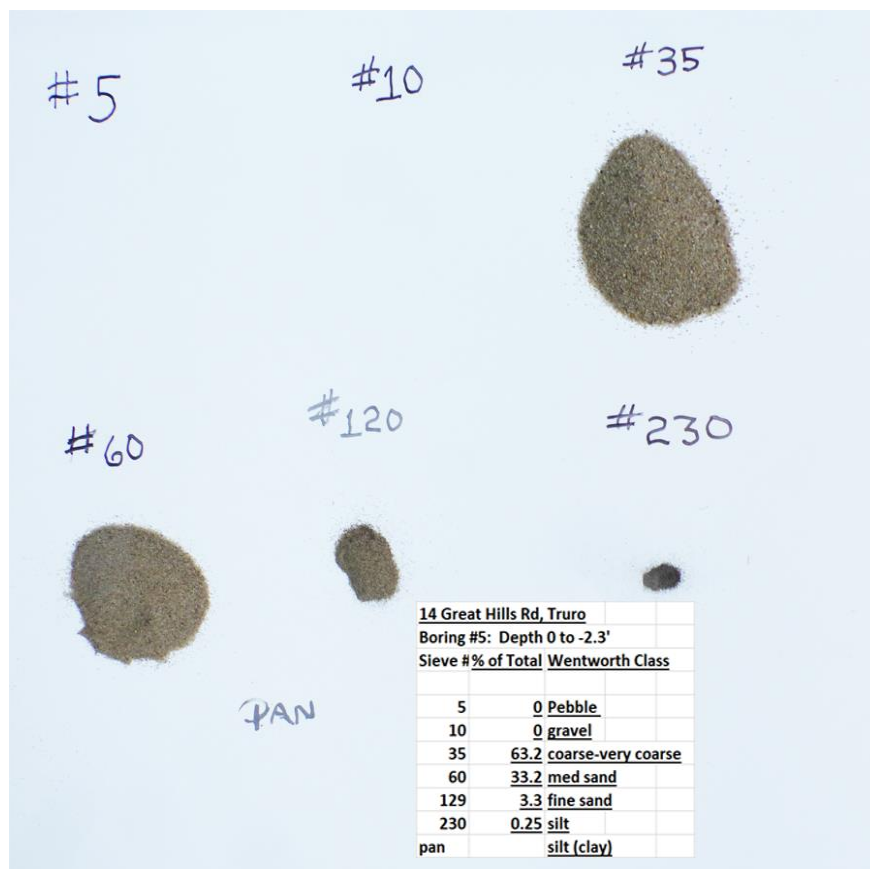


Fig 16C showing the sediment size distribution in Boring #5

Tables 1, 2 & 3 below show the results of each sieved sediment sample.

Borings, sieves & calculations by Coastal Advisory Services (Jim O'Connell): 10/25/2022 (page 1 of 3)								
14 Great Hills Rd, Truro			14 Great Hills Rd, Truro			14 Great Hills Rd, Truro		
Boring #1: Depth 0.0' to -1.6'			Boring #2: Depth -2.5 to -4.5			Boring #3: Depth 0.0' to -0.3'		
Sieve #	% of Total	Wentworth Class	Sieve #	% of Total	Wentworth Class	Sieve #	% of Total	Wentworth Class
5	0	Pebble	5	0.17	Pebble	5	0	Pebble
10	0	gravel	10	15.6	gravel	10	0	gravel
35	61.4	coarse-very coarse	35	46.6	coarse-very coarse	35	58.2	coarse-very coarse
60	33.9	med sand	60	32.4	med sand	60	37.7	med sand
120	3.5	fine sand	120	4.3	fine sand	120	3.3	fine sand
230	0.7	silt	230	0.4	silt	230	0.6	silt
Pan	0.5	silt (clay)	Pan	0.17	silt (clay)	Pan	0.2	silt (clay)
14 Great Hills Rd, Truro			14 Great Hills Rd, Truro			14 Great Hills Rd, Truro		
Boring #1: Depth -2.0' (groundwater at 2')			Boring #2: Depth 0 to -2.2'			Boring #3: Depth -0.3 to -4.1		
Sieve #	% of Total	Wentworth Class	Sieve #	% of Total	Wentworth Class	Sieve #	% of Total	Wentworth Class
5	0	Pebble	5	0	Pebble	5	0	Pebble
10	0	gravel	10	0	gravel	10	0	gravel
35	78.3	coarse-very coarse	35	54	coarse-very coarse	35	58.2	coarse-very coarse
60	18.5	med sand	60	41	med sand	60	35.4	med sand
120	1.8	fine sand	120	4.6	fine sand	120	5.8	fine sand
230	0.47	silt	230	0.23	silt	230	0.5	silt
Pan	0.3	silt (clay)	Pan	0.1	silt (clay)	Pan	trace	silt (clay)

Table 1 showing the results of sieving boring #s 1, 2 & 3

Borings, sieves & calculations by Coastal Advisory Services (Jim O'Connell): 10/25/2022 (page 2 of 3)								
14 Great Hills Rd, Truro			14 Great Hills Rd, Truro			14 Great Hills Rd, Truro		
Boring #4: Depth 0.0' to -0.4'			Boring #5: Depth 0 to -2.3'			Boring #6: Depth surface to -0.1		
Sieve #	% of Total	Wentworth Class	Sieve #	% of Total	Wentworth Class	Sieve #	% of Total	Wentworth Class
5	1	Pebble	5	0	Pebble	5	0	Pebble
10	0.07	gravel	10	0	gravel	10	0.5	gravel
35	57.5	coarse-very coarse	35	63.2	coarse-very coarse	35	47.2	coarse-very coarse
60	40.5	med sand	60	33.2	med sand	60	42.8	med sand
120	0.65	fine sand	120	3.3	fine sand	120	6.8	fine sand
230	0.14	silt	230	0.25	silt	230	1.9	silt
Pan	0.14	silt (clay)	pan		silt (clay)	Pan	0.74	silt (clay)
14 Great Hills Rd, Truro			14 Great Hills Rd, Truro			14 Great Hills Rd, Truro		
Boring #4: Depth -1.4' to -4.0'			Boring #5: Depth -4.0'			Boring #6: Depth -0.1 to -2.2		
Sieve #	% of Total	Wentworth Class	Sieve #	% of Total	Wentworth Class	Sieve #	% of Total	Wentworth Class
5	0	Pebble	5	0	Pebble	5	1.76	Pebble
10	0	gravel	10	0	gravel	10	15.7	gravel
35	55.6	coarse-very coarse	35	55.7	coarse-very coarse	35	43.4	coarse-very coarse
60	40	med sand	60	39.7	med sand	60	32.3	med sand
120	4.12	fine sand	120	4.4	fine sand	120	4.5	fine sand
230	0.26	silt	230	0.1	silt	230	1.1	silt
Pan	0	silt (clay)	pan	0	silt (clay)	Pan	0.5	silt (clay)

Table 2 showing the results of sieving boring #s 4, 5 & 6

Borings, sieves & calculations by Coastal Advisory Services (Jim O'Connell): 10/25/2022 (p 3 of 3)								
<u>14 Great Hills Rd, Truro</u>			<u>14 Great Hills Rd, Truro</u>			<u>14 Great Hills Rd, Truro</u>		
<u>Boring #Dune Surface for Comparison</u>			<u>Boring #Foredune Scarp</u>			<u>Boring #mid-Beach at footpath</u>		
<u>Seawardmost Dune 10' landward</u>			<u>on property seaward of 14 Great Hills Rd</u>			<u>on property seaward of 14 Great Hills Rd</u>		
<u>on property seaward of 14 Great Hills Rd</u>								
<u>Sieve #</u>	<u>% of Total</u>	<u>Wentworth Class</u>	<u>Sieve #</u>	<u>% of Total</u>	<u>Wentworth Class</u>	<u>Sieve #</u>	<u>% of Tot</u>	<u>Wentworth Class</u>
5	0	<u>Pebble</u>	5	0	<u>Pebble</u>	5	0	<u>Pebble</u>
10	0	<u>gravel</u>	10	0	<u>gravel</u>	10	0	<u>gravel</u>
35	75.4	<u>coarse-very coarse</u>	35	85	<u>coarse-very coarse</u>	35	97	<u>coarse-very coarse</u>
60	22.7	<u>med sand</u>	60	14	<u>med sand</u>	60	2.8	<u>med sand</u>
120	1.9	<u>fine sand</u>	120	0.78	<u>fine sand</u>	120		<u>fine sand</u>
230	0	<u>silt</u>	230	0	<u>silt</u>	230	0	<u>silt</u>
Pan	0	<u>silt (clay)</u>	Pan	0	<u>silt (clay)</u>	Pan	0	<u>silt (clay)</u>

Table 3 showing the results of sieving samples from the foredune slope, foredune surface and mid-beach in the property fronting (west of) 14 Great Hills Road, i.e., off-site for comparison

As shown on **Tables 1, 2 & 3 above**, based on sieving of sediment samples from all 7 borings (10 samples) a relatively similar sediment size ‘distribution’ and ‘mineral composition’ was the result.

For the most part, the sieving revealed a principally ‘bi-modal’ sediment size distribution.

Based on the Wentworth Classification for sediment sizes, **Tables 1, 2 & 3 above** show most of the sand size ranges from ‘*coarse to very coarse sand*’ ranging from 46% to 78% in the sample ‘% of total’ for all borings.

‘*Medium sand*’ dominated the second highest volume of sand size in all borings ranging from 32% to 42.8% in the sample ‘% of total’.

All samples also have a minor ‘% of total’ of ‘*fine sand*’ ranging from 0.65% to 6.8%, followed by a lower ‘% of total’ of ‘*silt*’ ranging from 0.1% to 1.9% percent in each sample.

Several of the samples also had a very minor ‘% of total’ of ‘*silt/clay*’ ranging from 0.14% to 0.74%.

The mineral ‘type and shape’ in the sediment samples were primarily *sub-angular to sub-rounded* quartz grains, with minor volumes of other minerals.

These sediment characteristics are indicative of the source of the Truro sandy beach deposits that are primarily being transported from the eroding coastal banks of ‘lacustrine-fluvial outwash’ deposits immediately south of the subject site.

Ockay & Hubert, (1995) found that the combined outwash and beach sands of the Outer Cape averaged 89% quartz and 4% feldspar; the medium-sand fractions average 91% quartz and 5% feldspar.

Similar soils/sediments to 14 Great Hills Road were also found at neighboring 3 Great Hills Lane as shown on the ‘deep observation hole logs’ by Coastal Engineering Company in 2011 while permitting a septic upgrade. ‘Loamy sand’ (25% or more very coarse, coarse, and medium sand, plus less than 50% of any other single grade of sand) at 0.0” to -12”, and medium to coarse sand at -12” to -120” were documented.

The Coastal Processes that created the Landform at 14 Great Hills Road

The sediment analyses, particularly the sieving analyses, revealed a somewhat similar sediment composition and size distribution of the sediments in all borings.

This suggests that the physical coastal processes that created the landform at 14 Great Hills Road must have been somewhat similar throughout its historic formation.

Figure 17 below shows the ‘form and extent’ of 14 Great Hills Road and surrounding land in 1848, 1889 and 2021.

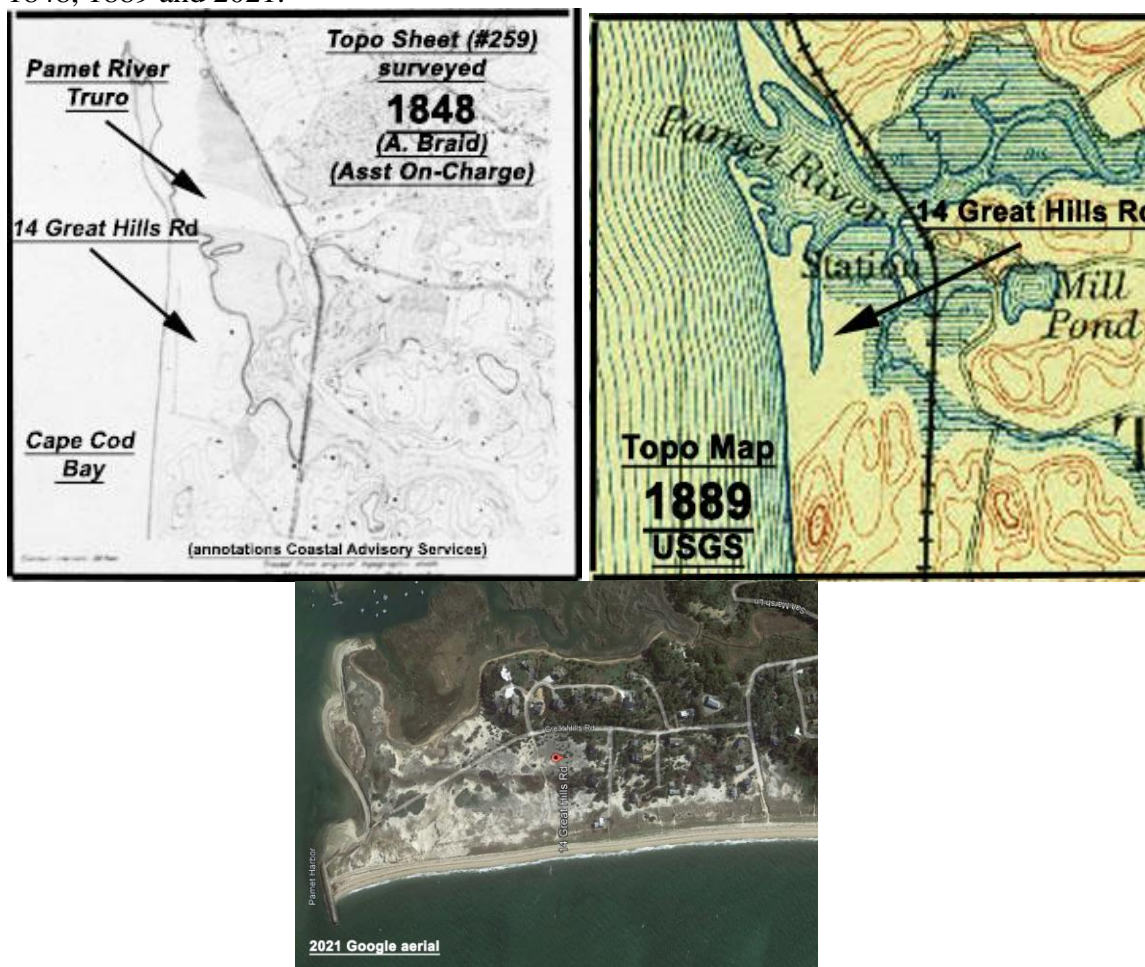


Figure 17 showing the ‘form and extent’ of 14 Great Hills Road and surrounding land in 1848, 1889 and 2021

A notable difference is the existence of a ‘tidal creek’ on the property on the USGS 1889 Topographic Map on **Figure 17** above. The tidal creek has since filled in with sediment. The tidal creek appears to be in the area of Boring #6 where ground water was encountered at -2.0’.

Given the *general similarity of the sediment composition and size distribution* in all the borings throughout the site, including the foredune slope, foredune surface, and coastal beach on adjacent seaward property, i.e., primarily very coarse, coarse and medium sand with minor volumes of fine sand and silt, coupled with the *evolution of the form and extent of the landform* since the mid-1800s to the present, suggests that the *source of the sediment* is coming from the *eroding glacial outwash landforms to the south* with waves induced currents transporting the eroded sediment northward, i.e., northward longshore sediment transport.

Some volume of source sediment (glacial outwash) on the landward (east) side was also more than likely provided by the Pamet River, particularly in historic time, and Eagles Neck Creek.

Thus, the sediments at 14 Great Hills Road and surrounding land were created through the coastal processes of northward ‘longshore sediment transport’ and storm wave ‘overwash’ driven by ‘relative sea level rise’ and coastal storms, and more than likely the Pamet River in historic time.

These are the same coastal processes that created most of the beaches and barrier beaches in Massachusetts. A particular example for 14 Great Hills Road is Sandy Neck in Barnstable. ‘Secondary’ coastal landforms, such as coastal dunes, formed by the winnowing of sediment from coastal beaches by wind and storm wave overwash.

Based on this analysis, I suggest that the entire landform on 14 Great Hills Road was formed by re-worked/transported glacial outwash sediments formed into beaches and low-elevation landforms, and, thus, may be considered ‘Coastal Dune’.

Some volume of the more landward sediment on 14 Great Hills Road may have been formed by the placement of ‘fill’, possibly as a result of the creation of Great Hills Road. Site ‘topography’ also bears out that the entire landform may be considered ‘Coastal Dune’.

Topography

Recall that the definition of Coastal Dune in the DEP and Truro Wetland Protection Regulations is stated as, ‘*Coastal Dune means any natural hill, mound, or ridge of sediment landward of a coastal beach deposited by wind action or storm overwash. Coastal dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.*

Figure 18 below is a copy of Coastal Engineering Company’s ‘Plan Showing Existing Site Conditions’ showing the location of 2 transects that were used to create ‘topographic profiles’ to determine were a hill, mound or ridge’ may exist on the subject lot.

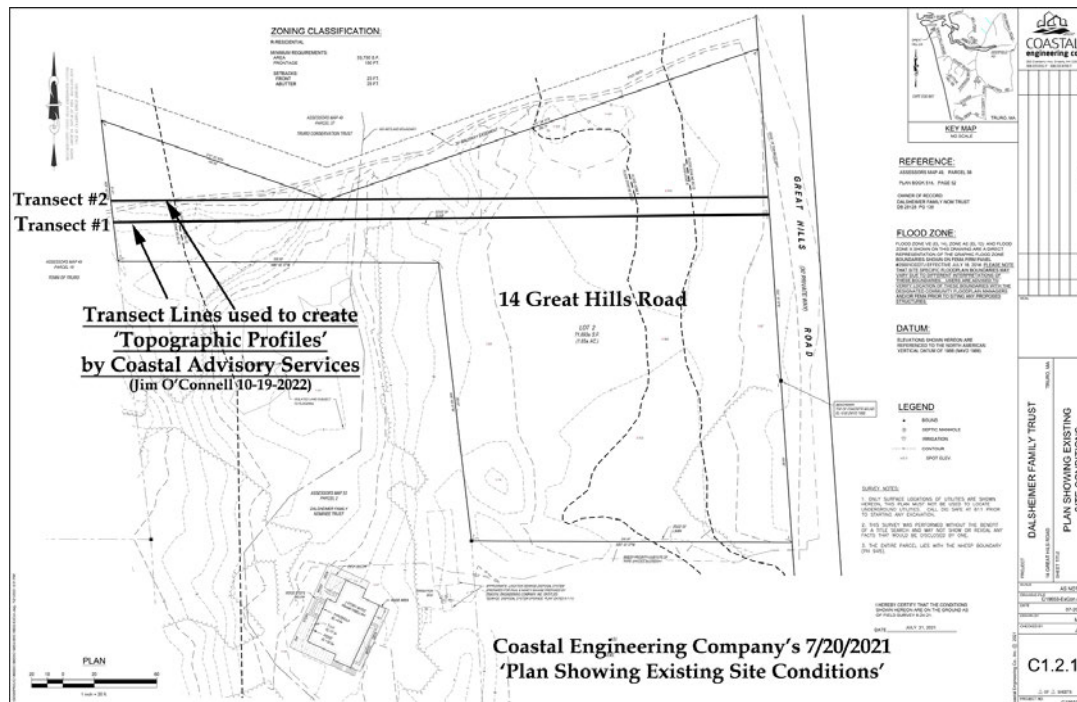


Figure 18: Coastal Engineering Company's 'Plan Showing Existing Conditions' showing the location of 2 transects that were used to create 'topographic profiles'

Figure 19 below are topographic profiles of two transects across the subject site based on topography as shown on Coastal Engineering Company's 7/20/2021 'Plan Showing Existing Site Conditions'.

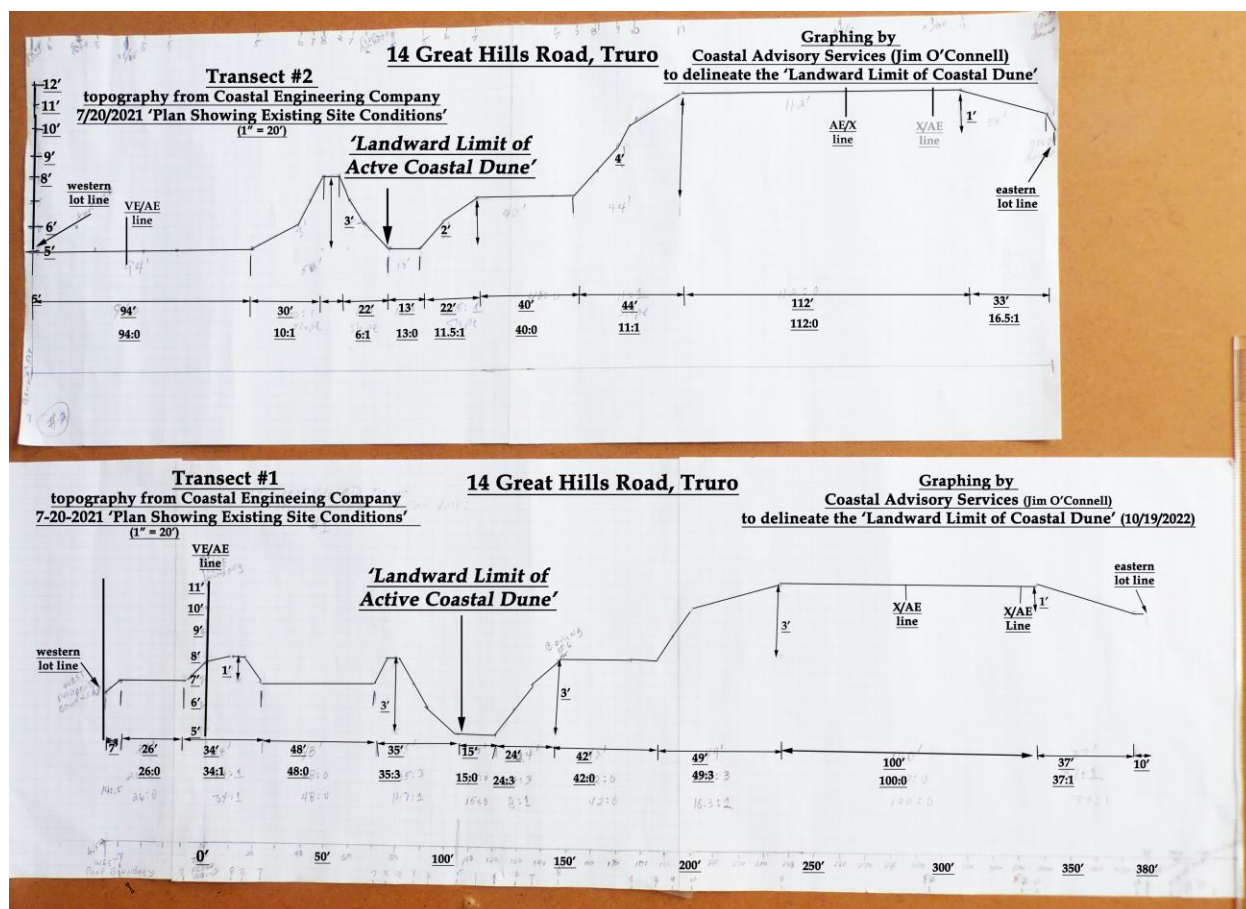


Figure 19 showing topographic profiles of two transects across the subject site based on topography shown on Coastal Engineering Company's 7/20/2021 'Plan Showing Existing Site Conditions'.

As shown on **Figure 19** above, isolated 'mounds' of sand, i.e., active coastal dunes, exist on the narrow section of land at the western end on the subject site. However, the isolated 'mounds' of sand cease at the location of the arrow pointing from the '*Landward Limit of active Coastal Dunes*' on **Figure 19** above.

In addition, as **Figure 19** shows the slope of the land to the east of the notation, '*Landward Limit of Active Coastal Dunes*' is higher in elevation and relatively level/flat with slopes ranging between 37:1 to 100:1, along ~251 linear feet on Transect 1, and ~252 linear feet along Transect 2.

Thus, I would characterize the area to the east (right side of the arrow pointing from '*Landward Limit of Active Coastal Dune*' on **Figure 19**) as relatively '*stable*' coastal dune as westward landward migration is inhibited due to that area of the landforms massive size, primarily very coarse and coarse sediment size, relatively flat/level surface, extensive vegetation, and Great Hills Road exists at the landforms landward edge.

In addition, a glacial landform, moraine or outwash plain as signified by the number 252D on the NRCS Soil Survey Map in **Figure 4 above**, lies at the landward edge of Great Hills Road, inhibiting eastward landward migration.

Furthermore, the majority of the site lies within an AE Flood-zone (EL12 NAVD), with a land area designated as an X-Zone that crosses the entire site where flood water is not anticipated, sandwiched between two separate AE EL 12 Flood-zones where only stillwater is anticipated.

Figures 20A & 20B below show the ‘active’ Coastal Dune area vs. the relatively flat/level plateau-shaped relatively ‘stable’ dune on Coastal Engineering Company’s 2021 ‘Plan Showing Existing Site Conditions’ and a on a ground photograph.

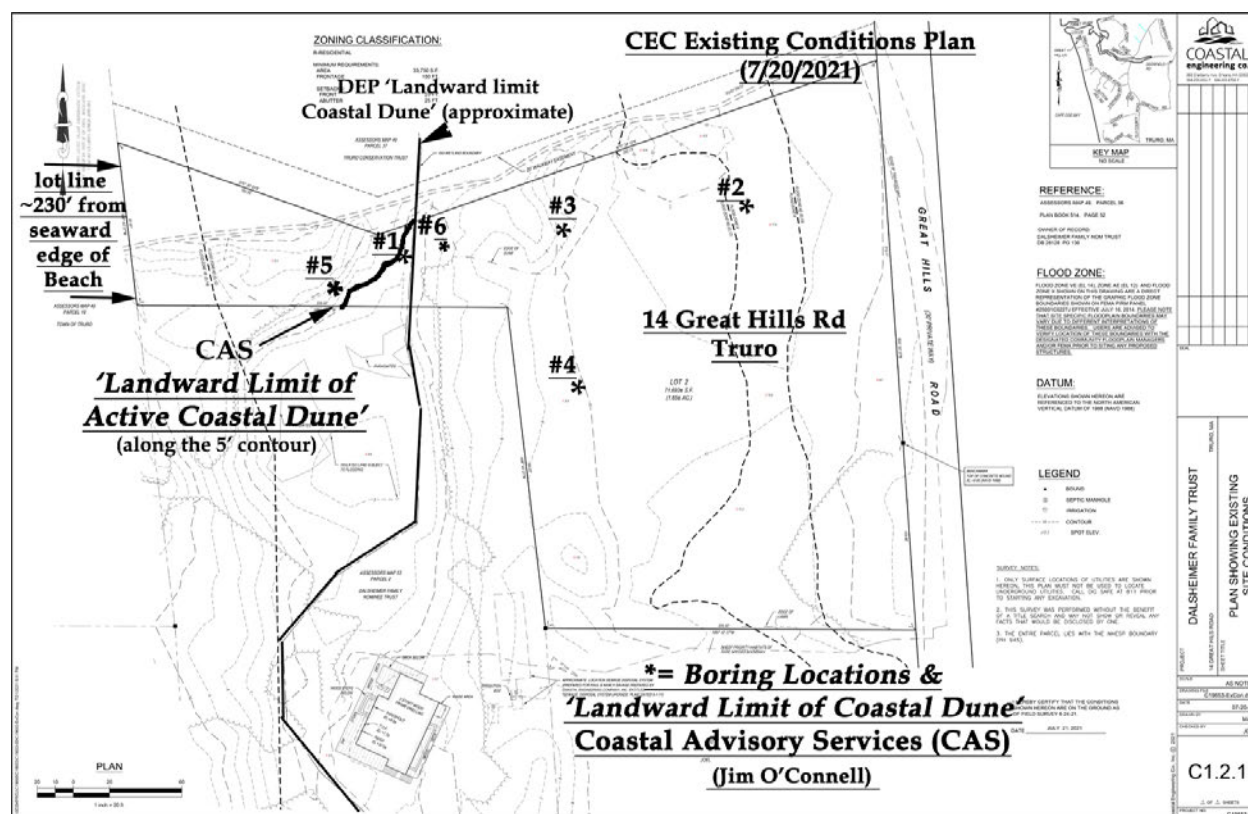


Figure 20A showing the ‘active’ Coastal Dune area to the west (left side of the black line) vs. the relatively flat/level plateau-shaped ‘stable’ dune to the east (right side of the black line)



Figure 20B showing the seaward ‘active’ Coastal Dune area vs. the landward flat/level plateau-shaped relatively ‘stable’ dune

Summary

This Report provides a detailed technical analysis that was necessary to answer the principal question asked of me: ‘Does a ‘Coastal Dune’ exist on the property at 14 Great Hills Road?’.

The property is, for the most part, mapped as an AE flood zone, i.e., primarily stillwater flooding.

The seaward property line of 14 Great Hills Road is approximately 230’ landward of the landward edge of a Coastal Beach.

Thus, it would typically be anticipated that sediment size distribution would become primarily finer as one moves landward.

Sediment size distribution throughout this property is primarily designated an AE-Zone, with the seaward property line approximately 230’ landward of the landward edge of the Coastal Beach, fronting an approximate 50’ high glacial landform, as exists immediately landward of this property, would be anticipated to generally become primarily finer as one moves landward.

However, as revealed by the results of the sieving analyses, the sediment size distribution and composition throughout this property remained relatively similar from the foredune landward to Great Hills Road, with primarily very coarse and coarse sediment size, followed by medium size sediments, with minor volumes of silt.

Thus, the landform on this property appears to have been created as a series of seaward prograding sand depositional episodes and beach ridges, i.e., 'advanced towards the sea as a result of the accumulation of waterborne sediment'. The source of sediment appears to have, and continues to, come from both the Cape Cod Bay and the Pamet River and Eagles Neck Creek sides, and subsequently shaped by storm overwash, wind, and longshore currents.

To answer the question I was asked, *'Does a 'Coastal Dune' exist on the property at 14 Great Hills Road?'*: the depositional mode and landform shape on this property meet the criteria as defined for 'Coastal Dune' in the MA DEP Wetlands Protection and Truro Conservation Regulations. 'Coastal Dune' is defined in 310 CMR 10.28(2), and Truro Conservation Regulations at Sec.2, C.5(2) as follows: *'Any natural hill, mound, or ridge of sediment landward of a Coastal Beach deposited by wind action or storm over wash. Coastal Dune also means sediment deposited by artificial means and serving the function of storm damage prevention or flood control.'*

However, in this Report as a result of the detailed research and technical analyses, I am suggesting that the landform be segmented into 2 separate areas distinguishing an 'active' dune area on the seaward (west) side and a relatively 'stable' dune area on the landward (east) side as described in the Report and shown on **Figures 20A & 20B**.

Furthermore, the property is backed by Great Hills Road and an approximate 50' high glacial landform, i.e., glacial outwash plain or moraine as mapped by NRCS (**Figure 4 above**), inhibiting the landforms potential landform migration.

This segmentation of the property into 'active and relatively stable' dune sediment areas 'may' lead to the potential ability of conducting certain activities on the property in the relatively 'stable area' with a 'variance' from the applicable Wetlands Regulations, that may not otherwise be permitted in an active dune area.

That decision rests entirely with the Truro Conservation Commission and MA DEP.

If you have any questions, as always, please feel free to contact me at any time.

I look forward to discussing this Report with you and your consultants.

Yours Truly,

Jim O'Connell

Jim O'Connell, Coastal Geologist/Coastal Floodplain Specialist
Coastal Advisory Services

Ockay & Hubert, 1996, 'Mineralogy and Provenance of Pleistocene Outwash-plan and Modern Beach Sands of Outer Cape Cod, Massachusetts', Marine Geology, V. 130, Issues 1 & 2, pgs. 121-137)



TOWN OF TRURO BOARD OF HEALTH

P.O. Box 2030
Truro MA 02666-0630

Board of Health Meeting Minutes: January 21, 2025

This was a hybrid meeting held in person at Truro Town Hall in the Select Board chambers and via Zoom. **Board members present:** Chair Tracey Rose, Vice Chair Jason Silva, Board Members Brian Koll and Helen Grimm; **Also Present Virtually:** Alternate member John Dundas; **Absent:** Board member Tim Rose; **Also Present:** Health Agent Emily Beebe, Assistant Health Agent Courtney Warren, Select Board Member Susan Girard-Irwin (present virtually).

The meeting was called to order at 4:32 pm by the Chair, who described the remote meeting procedures and the process for public participation.

Public Comment:

Laura Kelly from POCCA requested to present to the Board of Health about Home Rule petitions for pesticide and fertilizer reduction. Resident Karen Ruymann and Lili Flanders, Chair of the Climate Action Committee, made comments to express their support for the effort.

Change of Manager: Anchorage on the Bay, 596 Shore Road, proposed new manager Henry Stoll is a member of the Trustees for Anchorage on the Bay. He would be the on-site manager. Chair Tracey Rose asked if he had previous experience as a manager and he replied that he had been a manager for Anchorage. The Agent stated that the application was complete. **Motion:** Board member Helen Grimm moved to approve the change of manager; **Second:** Board member Brian Koll; **Vote:** 5-0; the motion carried.

New Business Application: Kung Fu Dumplings, 8 Highland Rd, Unit E
Chuang Tong and Feng Lin were present in person for the new business application for Kung Fu Dumplings. They have operated their Provincetown location for 11 years. The property is under agreement; the tentative closing date is 2-14-2025. The Agent asked to schedule a walk-through with the owners after the closing and a pre-operational inspection. Board member Brian Koll asked about a few missing items from the application and those will be forthcoming. All of the Board members expressed support and wished the new owners the best of luck. **Motion:** Board member Brian Koll moved to approve the new business application; **Second:** Vice Chair Jason Silva; **Vote:** 4-0-1. Chair Tracey Rose abstained. The motion carried.

Reorganization of the Board:

Motion: Chair Tracey Rose nominated Dr. Brian Koll as Vice Chair; **Second:** Helen Grimm; **Vote:** 5-0-0. **Motion:** Chair Tracey Rose nominated Jason Silva as Clerk; **Second:** Board member Helen Grimm; **Vote:** 5-0-0. **Motion:** Board member Jason Silva nominated Tracey Rose to continue as Chair; **Second:** Board member John Dundas; **Vote:** 5-0-0.

Water Resources Report:

The Agent stated that the first round of PFAS testing adjacent to the DPW office was completed and expects results within the month. The Agent noted that 73% of the cesspool upgrade process is complete. She said that the feasibility study for Beach Point is nearing completion, and it analyses sewerage and enhanced I/A treatment options. The costs for these options are similar. The infrastructure and design costs would have the benefit of cost-sharing with Provincetown. The project should be considered as part of a broader conversation about infrastructure and, climate change resilience. The Agent expected the release of the draft of the Comprehensive Wastewater Management Plan to include a presentation to the TBOH by the engineers completing the plan-GHD. It is hoped that funds from the Cape and Islands Water Protection Fund may be available. Board Member John Dundas agreed with The Agent's suggestions and emphasized the importance of a joint application for grants. The Agent stated that it is likely that the town will need a nitrogen target for the Pamet River watershed and anticipates the CWMP may discuss a process for a TMDL in lieu of EPA's 25% removal target. Jack Reimer asked when the CWMP draft would be released. The Agent said that a draft will be presented as soon as it is available.

The Agent also reminded the BOH and public of the upcoming joint meeting of the Provincetown Water & Sewer Board with both the Truro and Provincetown Select boards at Provincetown town hall at 6:00pm on February 24, 2025.

Karen Ruymann expressed her excitement about the cooperative work on improving wastewater treatment in North Truro and the potential for healing natural resources but also highlighted the concern about the cost of such projects and the vulnerability of the area.

Minutes: November 19, 2024; **Motion:** Board member Helen Grimm moved to accept the minutes as presented; **Second:** Board Member Jason Silva; **Vote:** 5-0; the motion carried.

Report of the Chair:

Tracey Rose reported on the last Water & Sewer Board meeting and noted that she took a moment for public education on the importance of water conservation during the water abatement hearings.

Health Agent's Report:

The Agent reminded the public of the upcoming Tdap vaccination clinic in Eastham on February 5, 2025. Vice Chair Dr. Brian Koll commented that if you are unsure when you had your last booster, it won't be harmful to get it again. Select Board member Susan Girard-Irwin stressed the importance of grandparents being vaccinated to help protect their grandchildren.

Alternate Member John Dundas asked if Laura Kelley's draft petitions were available for review. The Agent can forward information and noted that the information was in the December 17, 2024 Select Board meeting packet. Information will also be included in the packet for the next BOH meeting. The Agent noted the hiring of Climate Action Coordinator, Chris Palmer.

Motion: Board member Helen Grimm moved to adjourn the meeting; **Second:** Board member Jason Silva; **Vote:** 5-0-0, the motion carried.

The meeting was adjourned at 5:45 PM.

Respectfully submitted by Nora Bates



TOWN OF TRURO BOARD OF HEALTH

P.O. Box 2030
Truro MA 02666-0630

Board of Health Meeting Minutes: February 4, 2025

This was a hybrid meeting held in person at Truro Town Hall in the Select Board chambers and via Zoom. **Board members present:** Chair Tracey Rose, Vice Chair Brian Koll, Board Member Jason Silva, Helen Grimm, Tim Rose; **Also Present Virtually:** Alternate member John Dundas (left meeting at 5pm); **Absent:** no one; **Also Present in person:** Health Agent Emily Beebe, Assistant Health Agent Courtney Warren. The meeting was called to order at 4:30 pm by the Chair, who described the remote meeting procedures and the process for public participation.

Public Comment: There was no public comment.

Presentation: Proposal for Home Rule Petition for a Pesticide Reduction Bylaw.

Laura Kelley of POCCA (Protect Our Cape Cod Aquifer), described the process Orleans used to develop a home rule petition for a fertilizer reduction Bylaw in 2022 and for pesticide reduction in 2023. She has since brought the same language to neighboring towns. She is requesting a letter of support from the Board of Health to the Select Board for a home rule petition for reduce of Pesticide use for the Annual Town Meeting. She clarified that it is not a ban on the sale or use of pesticides, but a reduction in use. Chair Tracey Rose thanked Laura Kelley for the presentation and noted that more information was available on the Orleans town website. The Agent asked how Orleans addressed the larvicide used by Cape Cod Mosquito Control with concern about how a Bylaw would limit this important tool. She responded that there was language in the bylaw for exemptions. Chris Lucy, Truro resident and licensed pesticide applicator, expressed concern that organic alternatives were less effective and more costly. He described the standards for licensure and the heavy fines for violations. Vice Chair Brian Koll asked the Agent about the time constraints of such a support letter and expressed a desire to hear from Truro Town Council, especially regarding the National Seashore. Citizen Jack Riemer expressed his support for these efforts. **Motion:** Board member Helen Grimm moved to write a support letter to the Select Board; **Second:** Vice Chair Jason Silva; **Vote:** 4-1-0 with Brian Koll opposed; the motion carried.

Public Hearing: Transfer Station Fees

The Agent presented on behalf of the DPW director, Jarrad Cabral. There would be no increase to residential permits, but there would be an increase on white goods, commercial tonnage, and commercial permitting. Board Member Tim Rose expressed concern about the impact of the increase on commercial haulers. The Agent commented that the increase is in keeping with fees in place in other towns. The recommendation was that the new fees become effective on March 1st. **Motion:** Vice Chair Brian Koll moved to approve the new transfer station fees effective March 1, 2025; **Second:** Board Member Helen Grimm; **Vote:** 4-1-0 with Board Member Tim Rose opposed; the motion carried.

Variance Request: 14 Great Hills Rd & 3 Great Hills Ln, Dalsheimer Family Trust

The property owners were represented by Attorney Ben Zehnder and Taria McGrail from Tighe & Bond. The parcel has been owned by the family since 1995 and was divided into three lots with 14.8 acres being donated to the Conservation Trust. The family has never rented and now proposes to build a house on the remaining lot which is in the flood plain and the coastal dune with no buildable upland. Ben Zehnder noted that they identified an elevated area for a two-bedroom single-story home and would modify the septic system at 3 Great Hills Rd to a 7 bedroom I/A system that would serve both dwellings. Nitrogen loading calculations were provided showing a 61% decrease in N with the proposed system. Groundwater flow monitoring was done to show the direction of flow. The well would be moved out of the direction of groundwater flow. The Agent suggested discussion on each variance and the standard of review. She appreciated the groundwater flow data, but a more thorough conversation was needed and she would like to prepare a memo for the board to guide their discussions. Taria McGrail noted that shared systems under Title 5 have requirements for maintenance, etc. Vice Chair Brian Koll requested more specific verbiage and clarity regarding the variances. The Chair asked the board members to submit any questions to the Agent prior to the next meeting. **Motion:** Chair Tracey Rose moved to continue to the March 4, 2025 meeting; **Second:** Vice Chair Brian Koll; **Vote:** 5-0-0; the motion carried.

Bird Flu: Update & Protocols

Vice Chair Dr. Brian Koll provided an update on avian influenza, or HPAI. There have been ~66 human cases in the US, mostly mild, with one death. The concern was that it would mutate to impact other animals including humans. He questioned whether the dead birds that are seen along Rt 6 had been hit or if they were sick. The Agent replied that MDAR and MA Division of Fish and Wildlife were testing. The safest approach was to not touch any dead bird. The Agent noted that 5 or more dead birds in an area are reportable. Dogs must be kept away from dead birds and cats should be kept indoors as the virus is communicable to them. The Agent stressed not to touch dead birds, even with gloves. Board member Helen Grimm asked about bird feeders and Brian Koll recommended washing hands and keeping cats indoors. Those who keep chickens should also take measures to protect their flock from exposure to wild birds. Further information can be found on the CDC website: <https://www.cdc.gov/bird-flu/situation-summary/index.html>

Minutes: December 3, 2024 minutes; **Motion:** Vice Chair Brian Koll moved to approve the minutes as presented; **Second:** Board Member Tim Rose; **Vote:** 5-0, the motion carried.

Report of the Chair:

Chair Tracey Rose deferred to the Agent.

Health Agent's Report:

The Agent had nothing to report.

Motion: Board member Tim Rose moved to adjourn the meeting; **Second:** Board member Helen Grimm; **Vote:** 5-0-0, the motion carried.
The meeting was adjourned at 6:24 PM.

Respectfully submitted by Nora Bates