

# ***EAST-SOUTHEAST, LLC***

*J. Thaddeus Eldredge, P.L.S.*

*Surveying, Geomatics Engineering and Mapping*

*1038 Main Street ° Chatham, Massachusetts 02633*

*41°41'14.73425" N 69°58'24.87695" W -10.019 M*

## **LETTER OF TRANSMITTAL**

**To:** Town of Chatham  
Conservation Commission

**From:** J. Thaddeus Eldredge, PLS

**Date:** July 17, 2019

**Subject:** **450 Old Harbor Road**  
**Susan B. Morgan, Owner/Applicant**  
**SE 010-3335**

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Enclosed please find fourteen (14) copies of the following:

- Notice of Intent** Form - (*form revised 06/28/2016*);
- NOURISHMENT PLAN** revised 07-17-2019;
- Nourishment Plan** prepared by East-SouthEast, LLC, dated 02-25-2019, revised 07-07-2019;
- Exhibits**
  - **U.S.G.S. Map;**
  - **Assessors Map;**
  - **DEM Wetlands Map;**
  - **Massachusetts Natural Heritage Atlas, Estimated Habitats of Rare Wildlife and Certified Vernal Pools;**
  - **July 16, 2014 Flood Zone Map;**
- Site Access Authorization;**
- Certified abutters list;**
- Copy of **Notice of Public Hearing / "Notification to abutters"**; and
- Copy of **U.S. Postal Service Certified Mail Receipts for Notification of all abutters.**

The neighbors have requested that a Condition be added to the Order of Conditions:

Construction or household materials now stored outdoors onsite in the beach coastal zone or land subject to coastal flowage at 450 Old Harbor Road, such as bricks, cinder blocks, door frames, windows, lumber, shingles, equipment, appliances, indoor furniture, mattresses, debris and the like, other than typical personal and seasonal outdoor residential items and working personal vehicles parked in the designated driveway, shall be removed from the site and prohibited going forward.

**Copy:** DEP, Southeast Regional Office

Y:\Clients\Morgan, Susan 0145\Old Harbor Road\450 Old Harbor Road\Notice of Intent\LOT for NOURISHMENT PLAN 2019-07-17.doc

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## **NOURISHMENT PLAN**

**Revised July 17, 2019**

**Property: 450 Old Harbor Road, Chatham, MA**

Pursuant to the Conditions within the Orders of Conditions, DEP SE 10-2247 and DEP SE 10-2611, the following Nourishment Plan is being prepared. This plan and subsequent revised plans will be on file with the Conservation Department and will be referenced in the recorded Order of Conditions recorded against the title of the three properties involved. As conditions change, the owner of 450 Old Harbor Road in conjunction with the Conservation Commission, Department of Environmental Protection or other authority shall revise the Nourishment Plan. The pertinent conditions from the two expired Order of Conditions are attached at the end of the Nourishment Plan for reference.

### **1. Permissions**

- a. The abutters to the north (the owners of 448 Old Harbor Road) and south (the owners of 594 Shore Road) have joined with the applicant for the nourishment on their properties. The order of conditions will be recorded against their titles.
- b. The owner of 450 Old Harbor Road is the primary applicant and has the responsibility to follow the plan.
- c. The abutters to the North and South have the ability to perform any of the efforts permitted within the Order of Conditions. These abutters are not responsible to perform the work outlined in the Nourishment Plan but can voluntarily augment the efforts of the owner of 450 Old Harbor Road either at their own expense or with an agreement with the owner of 450 Old Harbor Road.
- d. The property owner shall review the nourishment plan and the timing of

nourishment with the abutters including those who have rights to easements over these properties.

## **2. Site Compliance**

Currently the site is not within compliance with the existing Orders of Conditions.

- a. There is no Nourishment Plan in place. This plan is intended to satisfy the requirement.
- b. The rip rap base seaward of the wall will be reconstructed over time. As stones are relocated downdrift by littoral transport, they will be collected and redistributed as follows:
  - a. Concrete, bricks and other debris shall be removed from the site.
  - b. Very Coarse Pebbles (<2.5") shall be removed from the site.
  - c. Small Cobbles (2.5" to 8") shall be relocated to the lowest available locations along the base of the wall. Small Cobbles shall be placed on sand and not over other stones.
  - d. Large Cobbles (8" to 10.1") shall be relocated over the Small Cobbles.
  - e. Small Boulders (10.1" to 16") shall be relocated over the Large Cobbles.
- c. Most of the stone and debris that have migrated south onto the southerly abutters' property have been removed and relocated to the subject property. Additional efforts shall be made to remove stones that have clearly originated from the bulkhead at 450 Old Harbor Road. Unless approved by the Conservation Commission, the removal of naturally occurring stones is prohibited.
- d. Additional Small Boulders (10.1" to 16") shall be placed along the northerly extent of the bulkhead to minimize wave energies that may exacerbate impacts to adjoining beaches.
- e. The site shall be nourished in accordance with the ongoing nourishment provisions of this document.
- f. Photographic documentation shall be acquired before and after all site work. See Inspections and Report.

## **3. Inspections and Reporting**

- a. The site shall be inspected at least twice a year by an independent third party.
- b. The site shall be inspected after substantial storms with particular attention to the abutting properties where deflection may exacerbate

erosion.

- c. Photographs shall be taken to document the conditions. These photographs shall be taken from similar vantage points.
- d. An annual report shall be prepared and submitted to the Conservation Commission. The photographs shall be included.
- e. At the Conservation Agents' discretion, a survey of the area will be performed and a comparison to the previous survey shall be completed to determine the volumes of change. A digital elevation model shall be provided to the Conservation Commission to provide to a different firm should the consultant change.
- f. The top of the anchor wale of the northern bulkhead jog is at elevation 8.1 and the bottom is at elevation 7.4. The trigger for nourishment shall be when any part of the bottom of the wale is exposed.
- g. The bottom of the wooden cap of the westerly end of the southern bulkhead jog is at elevation 6.6. The trigger for nourishment here will be when the sand is 12" below the bottom of the wale.

#### **4. Nourishment**

- a. Prior to adding nourishment to the site, the Conservation Agent shall be notified. The Agent will determine if a site visit is necessary before the work commences.
- b. The area shall be photographed prior to the start of work. The area shall be photographed after the completion of work.
- c. Any stones that have been relocated to the south onto the abutters' property shall be removed or relocated pursuant to Section 2.
- d. All nourishment shall be placed above Mean High Water.
- e. All nourishment shall be sand compatible with the sands found in the area.
- f. All nourishment is to be considered sacrificial. There will be no fencing, matting or other efforts made to hold these sands in place.
- g. The nourishment along the north side of locus shall be within the Beach Easement. It shall be placed to cover the wall along the northerly jog leaving the cap exposed.
- h. The nourishment along the south side of locus shall be within allowed areas authorized by the abutter. It shall be placed to cover the wall along the southerly jog leaving the cap exposed.
- i. The ground elevation behind the low section of wall shall be nourished

when other nourishment occurs. This area is identified on the plan as the proposed nourishment, Approximately 20 yards over 500 S.F.

- j. The property owner may nourish before the erosion exposes the trigger points described in the Inspection Section.
- k. Machinery and materials access shall be from the north side within the easement for work on the north side. It shall be over the lawn for work on the south side. No removal of vegetation is proposed. Temporary protective matting can be placed during work. Any damage from the machinery shall be repaired immediately.

#### **5. Modification of the Nourishment Plan**

- a. Site conditions are likely to change and review of the plan will likely be necessary.
- b. The submitted Annual Reports shall be used to determine the revisions to the Nourishment Plan.
- c. The Conservation Agent shall determine the level of filing needed for a revised nourishment plan. A substantial change is expected to require the filing of a Notice of Intent where a minor change could be approved under a field change.
- d. The independent third party reviewer of the property will alert the owner of 450 Old Harbor Road at times when the Nourishment Plan is not meeting the requisite goals. The owner of 450 Old Harbor Road will immediately engage the services of a qualified professional to prepare revisions to the document and review the same with the Conservation Agent.
- e. The enforcement of this Nourishment Plan and the Order of Conditions shall be performed by the Conservation Agent or other responsible parties in accordance with the applicable regulations in effect at the time of a report of non-compliance with the plan.

The pertinent conditions from the 2006 Order (SE 10-2247) include:

- Project Description / Findings 5 - Property owner to the south expressed concern about potential impact to their property, but was agreeable to the project as proposed due to the commitment to nourish the beach on both properties as needed. **The applicant agrees to repair any damage caused over time by the project to the property.**
- Project Description / Findings 7 – **Nourishment** of approximately 44 cubic yards of compatible beach material will be spread in the areas in front, behind, to the north and to the south of the bulkhead.
- Excavation, Site Disturbance and Revegetation 6 – **One foot rip rap stone** may be placed at the foot of the bulkhead as proposed.
- Excavation, Site Disturbance and Revegetation 7 – **No debris of any sort** shall be left on the site. As a condition of this Order, the debris shall be removed from the site and disposed of properly, including the abandoned boat on the abutting property which is within the project footprint.
- Excavation, Site Disturbance and Revegetation 8 – **Nourishment material** shall be clean and of compatible grain size with existing material. This condition shall be an ongoing condition that will apply to any future nourishment and shall be recorded on the Certificate of Compliance as such.
- General 1 – **A maintenance plan**, including the commitment to protect his immediate southern neighbor from negative impact by the project, shall be written and signed by the applicant. The maintenance plan shall include provisions for monitoring. The monitoring shall include the submission of photographs of the project site on an annual or semi-annual basis, taken from the same vantage point, et. And shall permit an inspection of the site by the Agent/Commission for the purposes of determining conditions and the need for nourishment. The details of this maintenance plan shall be considered an ongoing condition and will be referenced on the Certificate of Compliance as such, thereby binding any future property owner to ongoing maintenance.
- General 4 – **The two foot wall extension** shall remain covered with sand. This condition shall be recorded on the Certificate of Compliance as an ongoing requirement.
- General 6 – As the **maintenance plan** may not be appropriate infinitum due to changes in site conditions, the Commission reserves the right in the future to require that a hearing be held, at the applicant's expense. This would be done for the purpose of determining whether conditions on the site have changed substantially, particularly in relation to the change in mean high water elevation or other. The Commission may determine that the maintenance plan is to be modified as necessary to protect the interests of the Act.

The pertinent conditions from the 2009 Order (SE 10-2611) include:

- Project Description 4 – The Commission made **no determination of the actual Mean High Water (MHW) elevation** under this Order, however the Commission felt confident that the project allowed under this Order is indeed above MHW.
- Project Description 5 – The areas south and north of the dwelling and bulkhead had experienced recent erosion. Therefore, the **extensions of the bulkhead** flanking the dwelling to both the

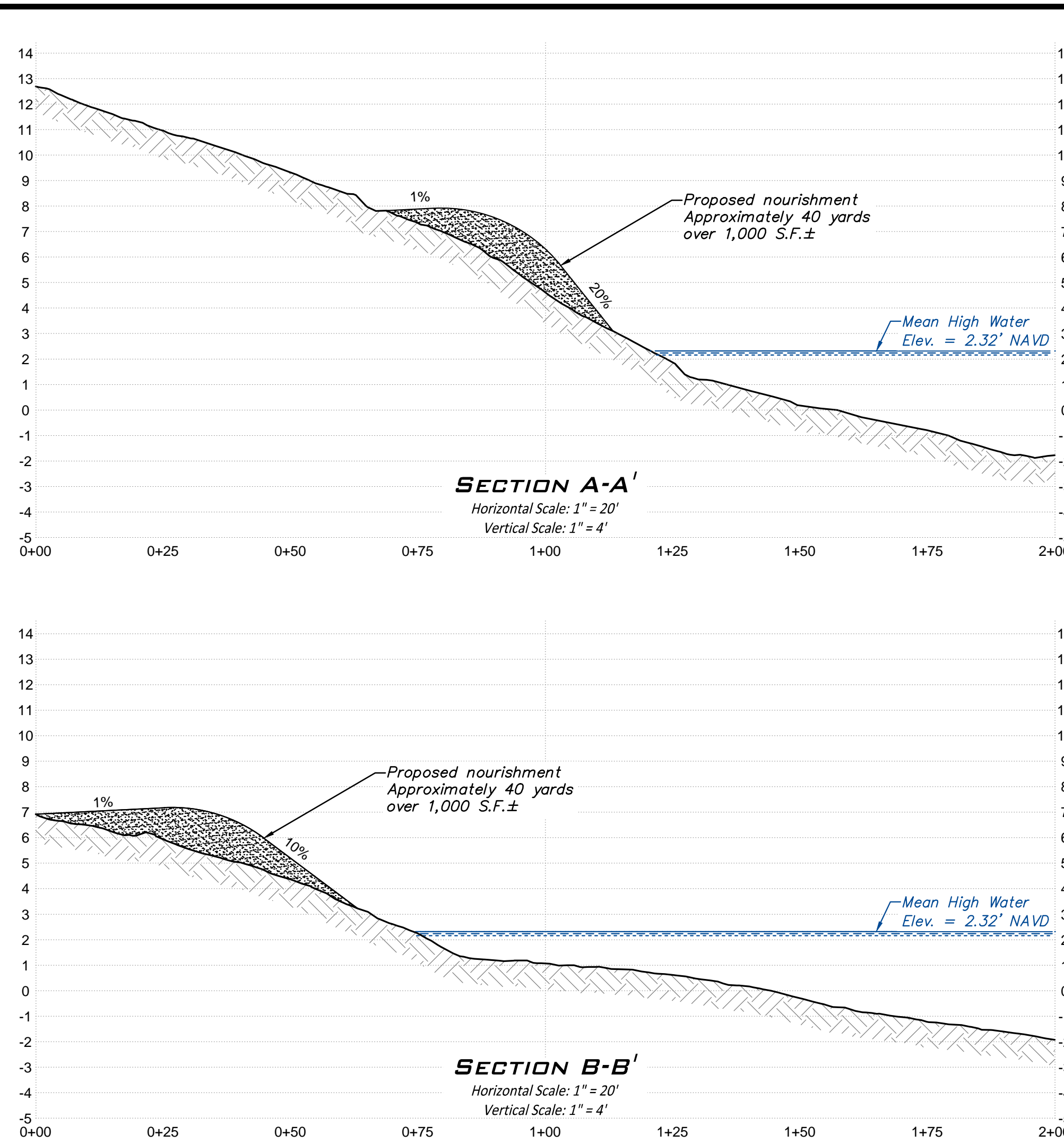
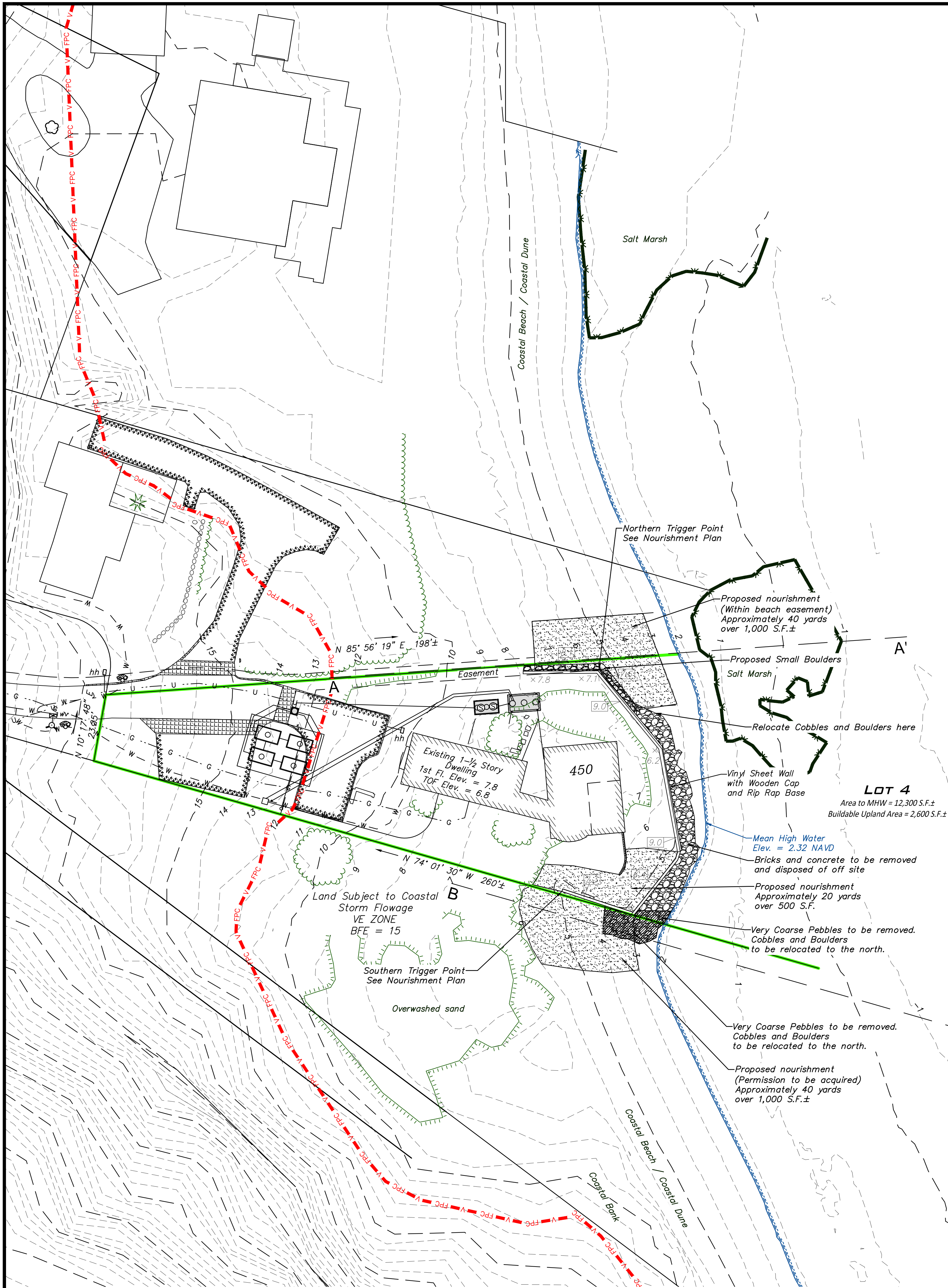
north and south are proposed with additional backfill and nourishment as mitigation totaling 80 cu. yds.

- Excavation and Site Disturbance 5 – **Machinery and/or material access** will be from the driveway and lawn area on the north of the dwelling. The granting of this permit does not obviate the applicant's need to gain proper permission from any abutter whose property is to be used for access.
- Excavation and Site Disturbance 10 – If, after consulting with qualified coastal engineers or coastal geologists, the Commission finds that the bulkhead or its extensions have caused or accelerated erosion on the site or on nearby properties, it may order the applicant to either nourish the beaches using clean sand of similar or larger grain size with an amount of material equal to the engineers/geologists calculation of the loss caused by the structure or take other action. **The Commission may order re-nourishment as necessary.**
- Excavation and Site Disturbance 11 – **The site shall be monitored** in conjunction with the maintenance program under SE 10-2247. Nourishment shall be added as necessary to maintain appropriate beach profiles. Prior to any nourishment, notice shall be given to the Commission/Agent so that site conditions may be reviewed.
- Excavation and Site Disturbance 12 – **Any re-nourishment or maintenance** of the site shall comply with the conditions of this Order and the Order issued under SE 10-2247.

**Copy:** DEP, Southeast Regional Office

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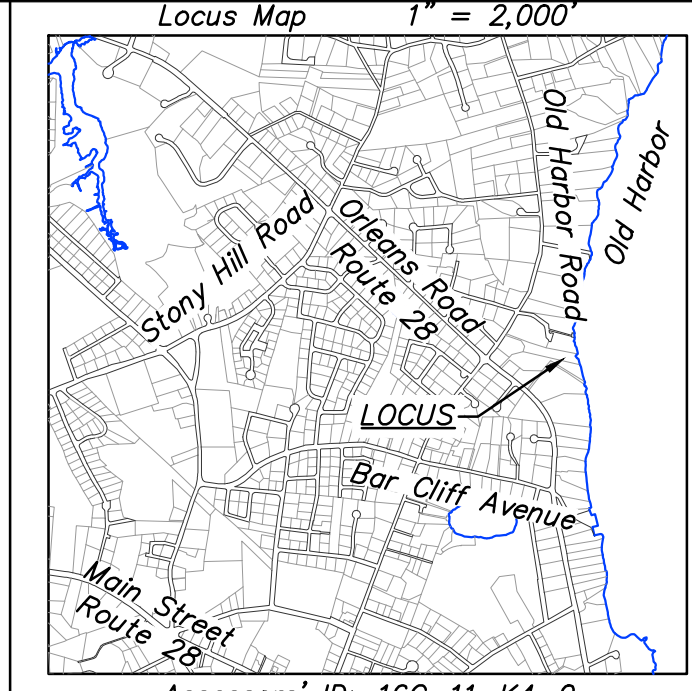




**LEGEND**

450  
Existing 1-1/2 Story Dwelling  
1st Fl. Elev. = 7.8  
TOF Elev. = 6.8

TH 1	Test hole	UP #	Utility Pole	UP	Overhead Utilities	U	Underground Utility Line	U	Underground Utility Manhole	U	Underground Electric Meter	U	Underground Electric Manhole	U	Underground Electric Box	U	Underground Electric Transformer	U	Underground Electric Line
TB	Test boring	OHU	Guy Pole	OHU	Overhead Anchor	U	Underground Utility Pole	U	Underground Guy Wire	U	Underground Telephone Pedestal	U	Underground Telephone Manhole	U	Underground Cable Manhole	U	Underground Cable Pedestal	U	Underground Communications Line
Spot Lamp	Wooden Lamp	Metal Lamp	Concrete Lamp	G	Gas Line	S	Sewer Service	S	Sewer Valve	S	Sewer Manhole	S	Sewer Cleanout	S	Septic Vent	S	Septic Cleanout	S	Septic Manhole
Utility Manhole	Electric Meter	Electric Manhole	Electric Box	Electric Transformer	Electric Line	Guy Pole	Utility Pole	Guy Wire	Anchor	Telephone Pedestal	Telephone Manhole	Cable Manhole	Cable Pedestal	Chain Link Fence	Guardrail	Picket Fence	Post and Rail Fence	Stockade Fence	Wire Fence
Sewer Cleanout	Sewer Valve	Sewer Manhole	Sewer Cleanout	Septic Cleanout	Septic Manhole	Sprinkler Head	Irrigation Control Box	Monitoring Well	Well	Water Shut Off	Water Meter Pit	Water Valve	Hydrant	Water Main	Catch Basin	Drainage Manhole	Round Catch Basin	Drainage Line	Step
Outdoor Shower	Chimney	Bay Window	Window Well	Foundation	Deck	Air Conditioning Unit	Generator	Interval Contour	Index Contour	Top of Slope	Bottom of Slope	Contour Label	Brick Wall	Concrete Wall	Stone Wall	Stone Wall	Stone Wall	Stone Wall	Edge of Brush
Confirous Bush	Deciduous Bush	Edge of Garden	Edge of Landscaping	Edge of Lawn	Confirous Tree	Deciduous Tree	Treeline	Chain Link Fence	Guardrail	Picket Fence	Post and Rail Fence	Stockade Fence	Wire Fence	Solid Fence	Mailbox	Concrete Bollard	Metal Ballard	Flag Pole	Centerline
Striping	Edge of Asphalt	Edge of Brick	Edge of Concrete	Asphalt Curb	Concrete Curb	Edge of Brick	Stone Curb	Edge of Dirt	Flowline	Edge of Rock	Edge of Shell	Edge of Stone	Edge of Tile	Edge of Wood					



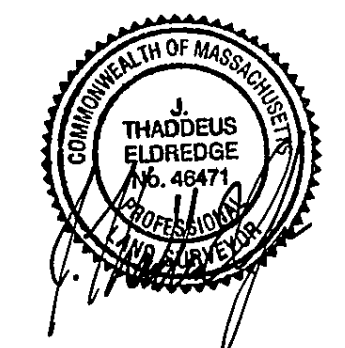
**NOURISHMENT PLAN**  
450 Old Harbor Road, Chatham, Massachusetts  
February 25, 2019

OWNER OF RECORD:  
Susan B. Morgan  
Deed Book 26,926, Page 300  
Plan Book 629, Page 69, Lot 4

Description of Revision	Date
Revised stone sizes and limits of removal	07-07-2019

**SUSAN MORGAN**  
Professional Engineer  
No. 48471

**EAST-SOUTHEAST, LLC**  
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Vertical Datum: NAVD '88  
Horizontal Datum: NAD '83 (2011)

