



State of Rhode Island and Providence Plantations
 Coastal Resources Management Council
 Oliver H. Stedman Government Center
 4808 Tower Hill Road, Suite 3
 Wakefield, RI 02879-1900



FILE COPY
 (401) 783-3370
 Fax (401) 783-2069

APPLICATION FOR STATE ASSENT

To perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

| | |
|---|---|
| Applicant's Name: Edward Troiano | File No (CRMC use only): 2017-05006 |
| Mailing Address: 4 Connecticut Avenue | Res. Tel. # 401-641-8510 |
| City/Town: Barrington State: RI Zip Code 02806 | Bus. Tel. # _____ |
| Waterway: Upper Narragansett Bay Est. Project Cost \$ 1600 | Fee/Costs: \$ 100 |
| Longitude/latitude of all corners of Proposed Aquaculture Project Location (preferably in decimal degrees): 41°43'25.11"N, 71°19'50.13"W 41°43'25.35"N, 71°19'46.67"W 41°43'24.26"N, 71°19'49.95"W 41°43'24.53"N, 71°19'46.65"W | |

Have you or any previous owner filed an application for and/or received an assent for any activity on this site? (If so please provide the file and/or assent numbers).


No

Is this application being submitted in response to a coastal violation?

Yes _____ No X

If yes, you must indicate NOV or C&D Number _____

Is this site within a designated historic district? No _____

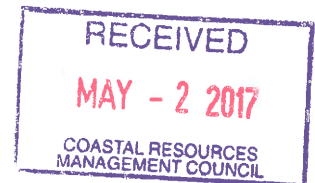
 Edward Troiano
 Owner's Signature (sign and print)

STORMTOOLS (<http://www.beachsamp.org/resources/stormtools/>) is a planning tool to help applicants evaluate the impacts of sea level rise and storm surge on their projects. The Council encourages applicants to use STORMTOOLS to help them understand the risk that may be present at their site and make appropriate adjustments to the project design.

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicant's property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury

01/17

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM



STATEMENT OF DISCLOSURE AND APPLICANT AGREEMENT AS TO FEES

The fees which must be submitted to the Coastal Resources Management Council are based upon representations made to the Coastal Resources Management Council by the applicant. If after submission of this fee the Coastal Resources Management Council determines that an error has been made either in the applicant's submission or in determining the fee to be paid, the applicant understands that additional fees may be assessed by the Coastal Resources Management Council. These fees must be paid prior to the issuance of any assent by the Coastal Resources Management Council.

The applicant understands the above conditions and agrees to comply with them.

E Troiano
Signature

5/2/17
Date

Edward Troiano 4 Connecticut Ave. Barrington, RI 02806
Print Name and Mailing Address



Applicant

Edward Troiano

4 Connecticut Avenue, Barrington, RI 02806

CRMC File Number: 2017-02-024

Background

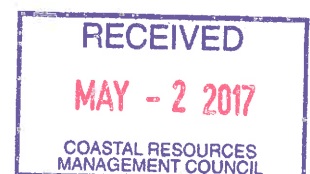
I have resided in the town of Barrington for the past 18 years and have recreationally fished and shellfished in the upper bay since moving there. My son has a student commercial quahog license which I assist him with during the summer months. I began thinking of this venture several years ago and in 2014 attended a course in aquaculture, taught by Professor Dale Leavitt at Roger Williams University.

Type/Location

This application is for a 1/2 acre commercial oyster aquaculture lease site located in upper Narragansett Bay in the Nayatt Point section of Barrington, Rhode Island. For specific site details, including latitude and longitude coordinates please refer to attachments 1, 1A, 2 and 3a. This site will not be used to conduct hatchery or nursery operations and will be limited to a grow-out facility for eastern oysters (*Crassostrea virginica*.)

Site Selection

Being a resident in Barrington and maintaining a boat at a marina in town have allowed me to become thoroughly familiar with the coastal waters and their use. I previously submitted a preliminary determination for a proposed site in the Smith Cove area of Barrington. During the PD process, I contacted shellfishermen from the East Bay area, who informed me that the Smith Cove area was particularly fruitful for quahog harvest and would present a conflict. An alternate site was suggested nearby in the Nayatt Point area of Barrington, which was not utilized due to low shellfish densities. I am thoroughly familiar with this area as it is nearby to my home and the marina where I keep my boat. I have visited the area several times a week, at different times of day, by land and sea. I have taken photographs and monitored public activity in order to determine a proposed cultivation area that would have the least impact to anyone who would potentially use, access the area or otherwise be impacted by the site. This area does have fetch exposure, predominantly from southerly winds, however the particular gear selection and anchoring system will mitigate potential effects from this exposure. Additionally, due to my close proximity to the site, equipment can be monitored and, if



necessary, removed prior to a critical storm event. There is no other aquaculture operation in this area so the cumulative impact is nil.

Seed Selection

Oyster seed will be purchased from state approved nursery operations in the New England region. Regardless of final point of origin for seed selection, all biosecurity protocols for shipment and importation will be adhered to in accordance with DEM Aquaculture regulation section 9.2.

To expedite a revenue stream and to ensure that a high percentage of the initial batch of oysters grow unaffected from environmental stress related factors, the oyster seed grown in the first season will be primarily 10mm in size. Oysters planted at 10mm have a greater ability to resist environmental stressors. The remaining portion of the seed purchased at the 5 to 8 mm size will stagger the market size oyster yield. Approximately 50,000 seed will be purchased initially, approximately 60% at 10 mm and 40% at 5 to 8 mm.

Gear

The 1/2 acre least site will be used to grow up to 100,000 market size Eastern oysters using a submerged long line system. This system was selected after significant research and conversations with other growers in Narragansett Bay. The long line system has proven to be an effective aquaculture system in various types of locations, including the northeast. Additionally, a low-profile submerged long line system is suitable for the water depth at the proposed site. It will preserve the scenic resources by being below the waterline at all times. The seed will be placed in approximately 480, rounded wire cages, similar to "Sepa" cages, though not necessarily the name brand. Mesh size of the bags will vary dependent upon size class. Each cage will measure approximately 12 inches in width, 6 inches in height and 36 inches in length. The cage will be suspended from a three-quarter inch braided nylon rope. The rope will be secured at each end by helix sea anchors. The helix anchor specs will consist of a 6" diameter disc, 1" diameter shaft and 48" length. 1 1/2" PVC pipe supports will be used at 10 foot intervals to support the cages off the sea floor. The PVC supports will be hand-driven into the seabed. There will be a minimum clearance of one foot below mean low water for all gear. There will also be a minimum clearance of 12" above the seabed. There will be no barges or any other type of work platform regularly maintained at the site. Attachments



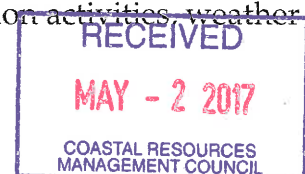
4, 4a and 5 show gear detail. Attachment 4a is an additional cross section, reduced in scale to match the site plan as instructed in the aquaculture application.

The site itself will be delineated on all four corners by the required marker buoys in accordance with CRMC Section 300.11F(1)c and RIGL Section 20-10-9(a). Each buoy will be marked with the designated CRMC permit number, self-righting and equipped with a blinking light for increased visibility and navigational safety in low light conditions.

Shellfish Harvesting Area Classification

The proposed shellfish aquaculture operation is located in the upper Narragansett Bay's Conditional Area "A" (GA1-1) and it is designated as type 4 waters. It should be noted that there is currently an approved oyster aquaculture site in Conditional Area A, which has been in operation since 2000. I have personally spoken with the owner of this site about his operation and my proposal. Conditional Area A, which is approved for shellfish harvesting in accordance with the national shellfish sanitation program, is periodically closed due to temporary degradation in water quality conditions which would prohibit harvesting shellfish, wild or farmed, for public consumption. The conditional closures are primarily weather dependent, in that rain events cause closures. However, historically, closures were also due to sewage treatment plant bypass events. The frequency and duration of the closure of conditional area A, due to bypass events, has been significantly reduced due to the operation of Narragansett Bay Commission's Combined Sewer Overflow (CSO) tunnels. Prior to the completion of the CSO tunnels, RI DEM data shows that area A was closed for 195 days in 2010, and 216.5 days in 2011. Completion of phase 2 of the CSO abatement project occurred in December of 2014. In 2015, subsequent to completion of Phase II, there was a total closure rate of 97.5 days. In 2016, Conditional Area A was closed for 102 days.* Meaning that conditional area A was open for harvesting roughly 74 percent of the time in 2015 and 72% of the time in 2016. This substantive reduction in the number of closure days and the consistency of this rate over the past two years makes it financially feasible for the successful operation of oyster culturing in Area A. In addition, the fact that this operation will not be the primary source of income for the proprietor, allows for absorption of the negative economic impact of any prolonged closure periods.

Unless current regulations change, maintenance of gear will only occur when closure conditions do not exist, Harvesting will only occur when the area is open. If emergency maintenance of gear must occur when closure conditions exist, RI DEM fish and wildlife enforcement will be contacted to hire enforcement staff to oversee the non-harvesting activities. To maximize the avoidance of closure condition activities, weather



forecasts will be monitored to schedule maintenance of gear and harvest activities on a weekly basis or more frequently as required. The operation manager will contact RI DEM office of water resources closures recorded hotline at 401-222-2900, which provides a daily notice of closure and reopening's. The above cited mitigation measures will ensure this product complies with the national shellfish sanitation program and that no harm to public health or safety will result.

*All of Narragansett Bay was closed to shellfishing for an additional 8 day period in October of 2016 due to a toxic algal bloom.

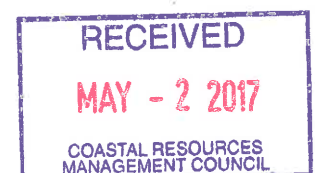
Daily and seasonal maintenance and care

The facility will be accessed and maintained via a 22 foot Sailfish center console boat, which I currently own. Cages will invariably accumulate various types of fouling agents, sea creatures and other floating organic and nonorganic debris. The rounded cage will assist with maintenance, in that floating debris will be less likely to settle on the cage surface, restricting water flow and oyster growth/health. Each cage will be rotated/shaken at least once every week. In addition, a brush will be used to remove fouling on the outside of the cages. There will be no mechanized equipment used at the site.

Harvesting

The seed will be placed in the nursery cages in April and remain in the water until harvest. The oyster growing process will begin with small mesh cages and after doubling in size, the oysters will be sorted by size. Like sized oysters will be re-caged in place. The sorting process will be repeated a few times on each year class until they reach market size. When the oysters reach market size, the product will be harvested. This method of harvest is seasonally dependent and will be discontinued by November 15th, resuming April 1st. There will be no storage of oysters, upon harvest they will be immediately transported for sale. Harvested oysters will be sold to licensed dealers in the East Bay area of Rhode Island. During the summer months temperature control of the product will be insured utilizing a gel ice blanket during transportation to the wholesaler. All product will be delivered to the dealer within the specified time frame as designated by DEM Aquaculture of Marine Species Regulations section 12. Water temperature monitoring will be conducted during each visit to the site.

Recordkeeping



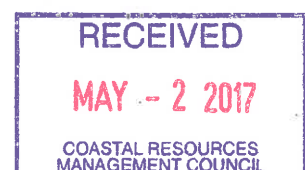
Any/all shipments of seed oysters brought into Rhode Island will be tagged indicating the origin (operator/company name, license number and body of water) date of importation and destination in accordance with the aforementioned CRMC biosecurity policy. A permanent log will be maintained with this information as well as daily lease activity, to include: water temperature, conditional area status, work performed (maintenance, harvest, sorting, etc.). The log will also include the disposition of all harvested product, to include time of harvest, quantity, time of delivery to the dealer and dealer's name and location. All product delivered to shellfish dealers will be tagged in accordance with DEM shellfish tagging procedures as designated in section 11.2 of the Aquaculture of Marine Species Regulations.

Performance Bond

Upon receiving lease approval, a performance bond will be obtained in conformance with the guidelines set forth by CRMC.

Section 300.1 Category Requirements

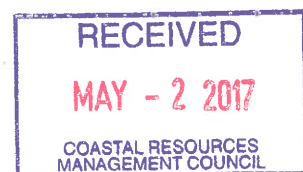
1. The proposed oyster cultivation site is an ecologically beneficial business, which will provide a modest supplemental income to the owner.
2. Not applicable.
3. The site is located in the Nayatt Point area of Barrington. There are no anticipated land area or coastal boundaries that would be directly affected. The proposed 1/2 acre site, at its closest point, is 600 feet from the shore of Nayatt Point.
4. This type of cultivation operation has been in existence for decades and is not known to cause erosion. There will be no shellfish or non-indigenous organic materials discarded in the area.
5. The oyster cultivation site will only add to the diversity and abundance of plant and animal life. Cultivation gear will provide a habitat for a wide array of native species. The seed/spat of the cultivated oysters will be released into the water in this area helping to restore the wild oyster population.
6. The most proximal shore is a beach area between Nayatt Point and Rhode Island Country Club, which is adjacent to a marshy wetland area (see attachments 1 and 1A). Although the property is privately owned, there is public access and the shore area is used by residents primarily for walking/dog walking. This activity and other sporadic use of the shore and/or tidal waters by the public would not



be significantly impacted, due to the site's minimum distance of at least 600 feet from shore. Additionally, the site will be accessed by boat not land further reducing any potential impact.

7. The cages will be stationary and suspended below the surface in the water column. Since the cages are stationary, there will be no expected impact on turbidity or sedimentation. Due to the proposed spacing and small area the cages will occupy, there will be a negligible effect on circulation or flushing.
8. One of the ecological benefits of oyster farming is the *increase* in water quality that oysters contribute. The oyster's ability to filter up to 50 gallons of water per day, by extension, would mean this site has the ability to filter upwards of 5 million gallons of water per day, reducing algal blooms and increasing the oxygen levels and clarity of the water.
9. The proposed site is not in an area that has any known historical or archaeological significance.
10. As previously stated, I have personal experience with this area over the past 18 years by land and sea. The area is shallow with a mean low tide level of approximately 3 feet. The site is in a sandy area with no bottom structure or contour. Due to the shallowness and proximity to the exposed rocks on Nayatt Point, the site would not significantly impact boating activities or navigation, which primarily take place to the south of the site where the water level is deeper and there are no navigational hazards. I have contacted the Barrington Harbormaster and provided him a map delineating the site and GPS coordinates. The Harbormaster did not have any objection to the proposed area. There are no moorings or docks in the area. Sporadic kayaking activity does take place in this area, however, due to the shallow draft and maneuverability of these vessels they could easily navigate over the top or between the submerged gear. As an avid recreational angler, I regularly fish in this general area and know that the particular site area is not regularly used by other anglers. Potential swimming activity, which has not been observed and occurs primarily at the town beach, would not be significantly impacted due to the distant location of the site from shore and the relatively small area it would occupy.
11. The proposed site is submerged and would not be plainly visible above the waterline, with the exception of required CRMC marker buoys. In addition, the site is not directly adjacent to any residences or roadways. It lies approximately 600 feet offshore from undeveloped land, adjacent to the Rhode Island Country Club. The nearest residence is approximately ¼ mile from the site.

Sections 160 and 300.11 of the RICRMP have been reviewed.



The proposed site does not affect pedestrian access to the shore. The requested lease area is only 1/2 acre, minimizing the area which could impact other uses. As addressed in this proposal, the proposed area is infrequently used by the public. However, regardless of the frequency of use, the proposed gear layout will allow for other use of the area. The gear will be submersed a minimum of 1 foot below mean low tide level, in six lines, spaced approximately 15 feet apart. The width of each line is only one foot. This layout will allow for easy access between, around and/or over the top of the gear, dependent upon the type of potential activity.

Benefits of operation

This culture operation is a true green business that will produce a 100% organic, renewal product and capitalize on our states natural resources to generate income, tax revenue and a locally grown food product to be consumed in area restaurants. If approved, it would contribute to the continual improvement of the water quality in the upper bay as a whole and in the coastal waters of Barrington, in particular. The proposed site is located offshore from significant sources of nutrient run-off into the bay. Oysters can help reduce the nutrient load and in turn harmful algal blooms. It would aid in the restoration of the once thriving native oyster population which existed in the upper bay. It would be an educational resource for area high school and college students studying our environment and marine habitats. It will add a small, "green" business to the town and state economy. These benefits can all be accomplished with no negative impact to other competing uses in the area.



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Arillo



Proposed 1/2 Acre Site
Zoom Medium

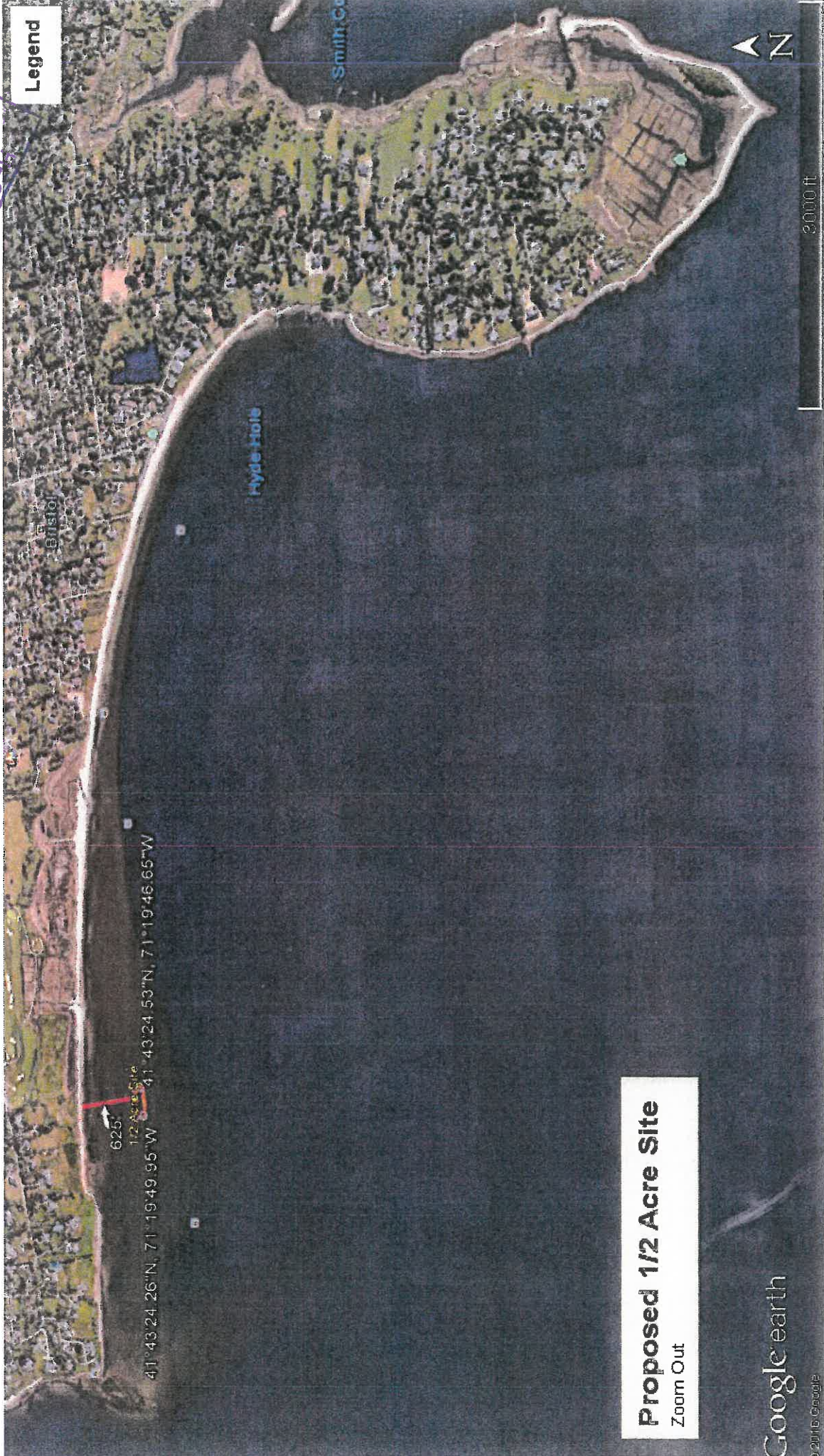
41°43'25.11"N, 71°19'50.13"W
41°43'25.35"N, 71°19'46.67"W
41°43'24.53"N, 71°19'46.65"W
41°43'24.26"N, 71°19'49.95"W

625'

Google earth
© 2016 Google

Att: [illegible]

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MANAGEMENT COUNCIL



625'
1/2 Acre Site
41° 43' 24.26" N, 71° 19' 49.95" W
41° 43' 24.53" N, 71° 19' 46.65" W

Legend

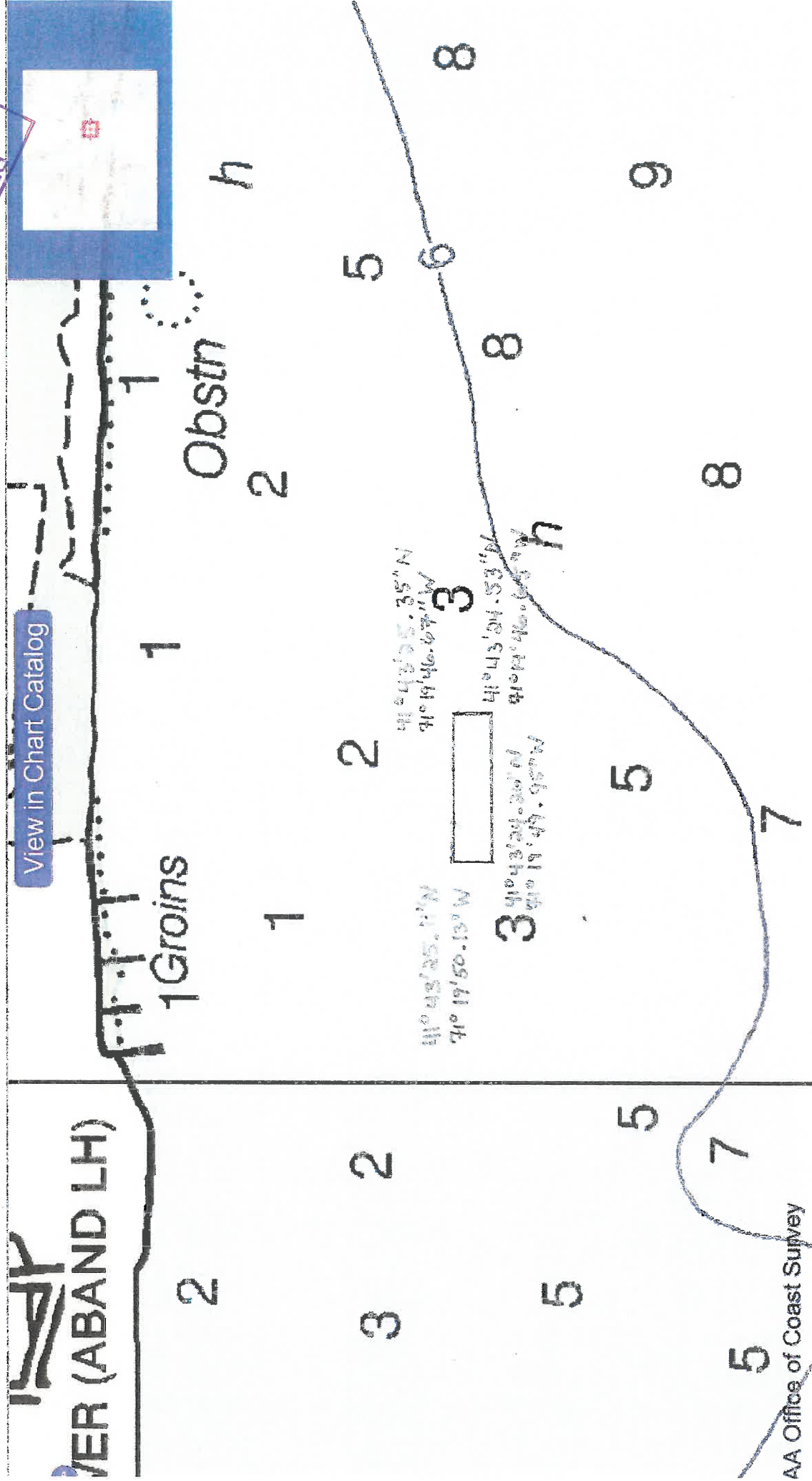
Proposed 1/2 Acre Site
Zoom Out

Google earth

© 2016 Google

Attachment 2
Location Map

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AA Office of Coast Survey

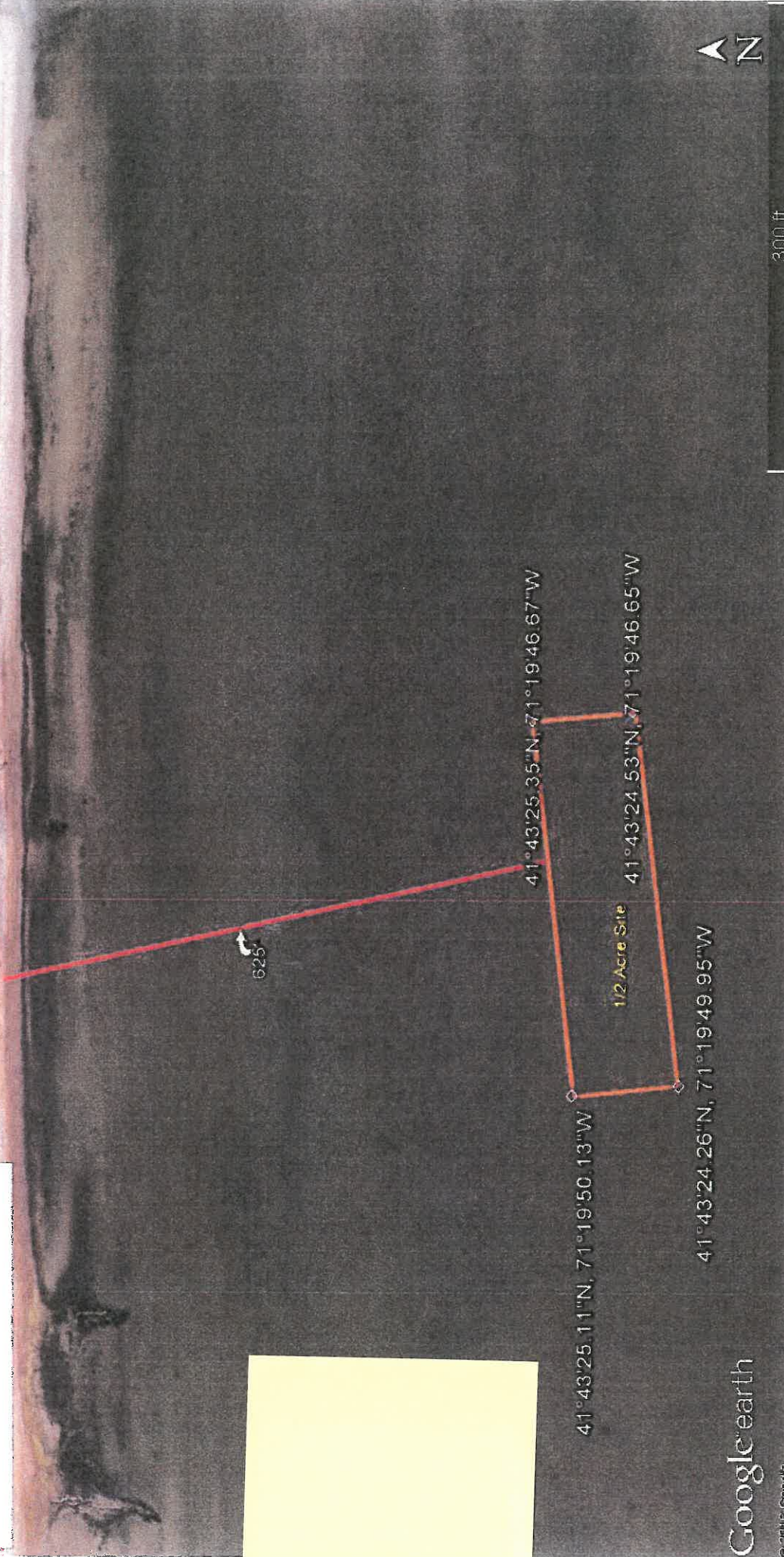
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Proposed 1/2 Acre Site

Zoom Close

Legend



300 ft



Google earth

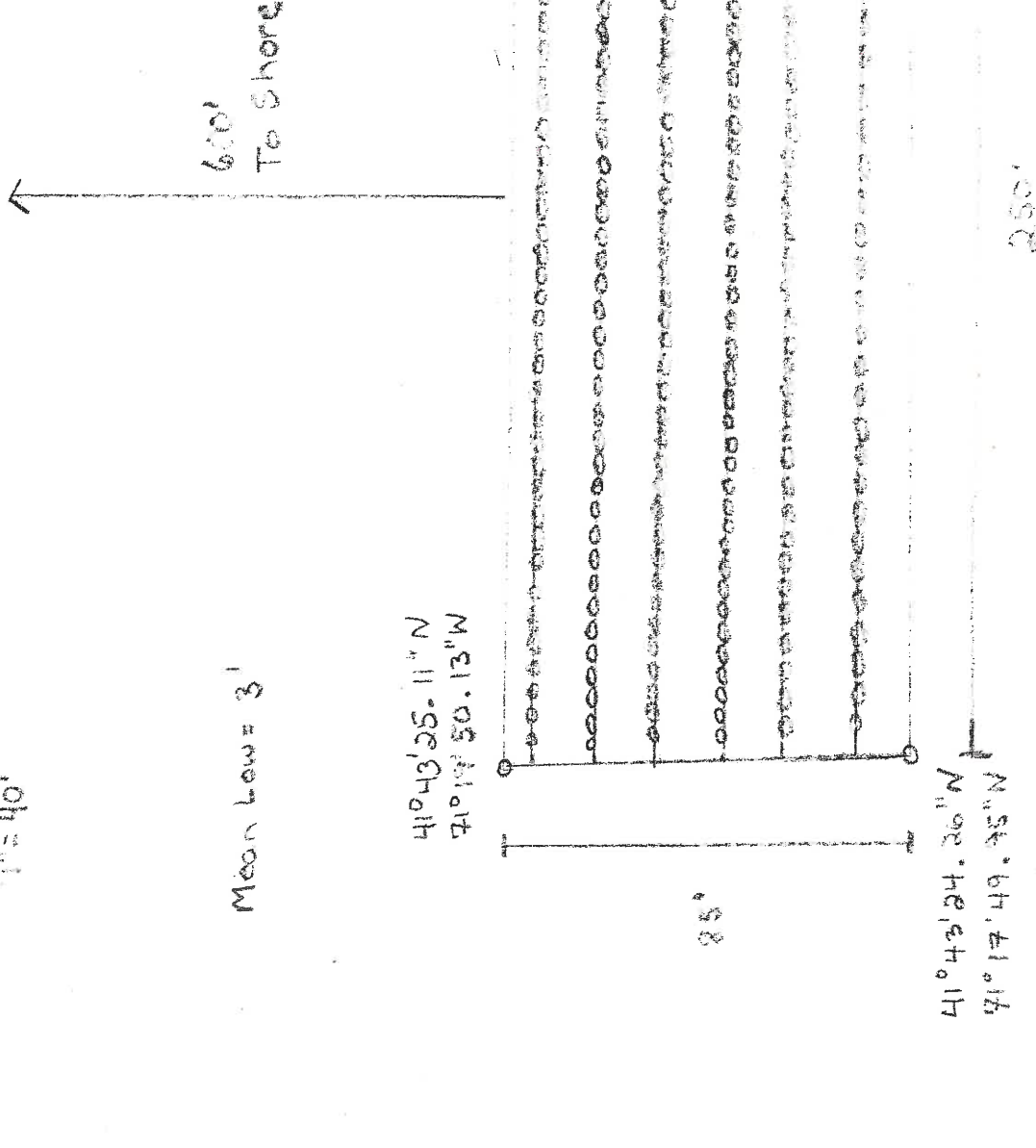
© 2015 Google

SITE PLAN - ATTACHMENT 3

Applicant: Edward Troiano

Date of Preparation: February 8, 2014

Scale: 1" = 40'

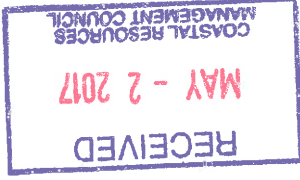


Mean Low = 3'

Cross Section View - Attachment 4

Applicant: Edward Tricano

Date of Preparation: February 24, 2017

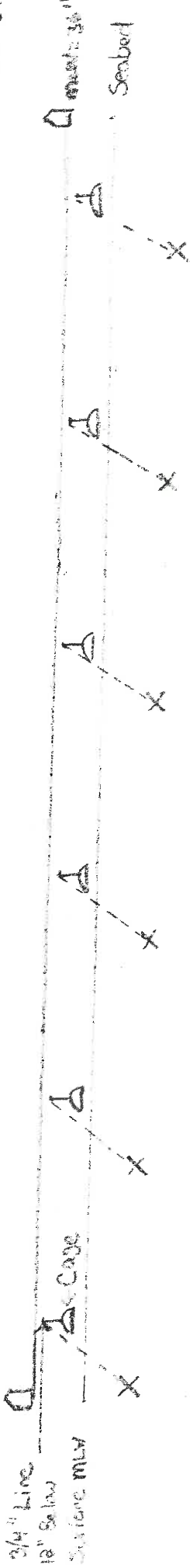


← N
(Magnetic)

NW Corner
41°43'25.11"N
71°19'56.13"W

SW Corner
41°43'24.20"N
71°19'49.95"W

March 2014



1" = 10'
Scale

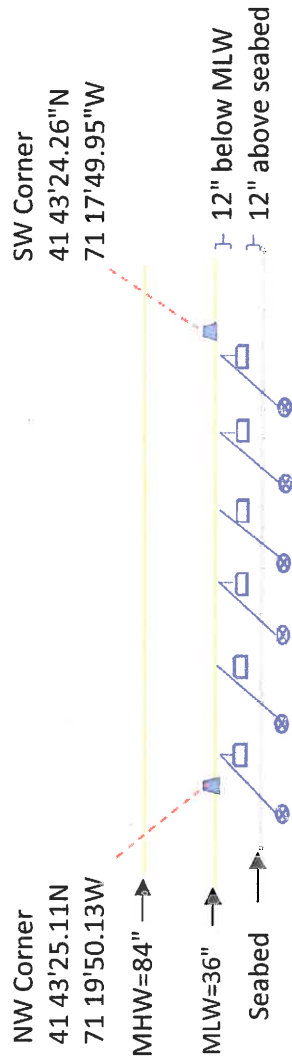
Legend - \square - CRMC marker
X - Helix sea anchor

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Attachment 4a - Cross Section View

Applicant: Edward Troiano
Preparation Date: 5/2/17

← N (magnetic)



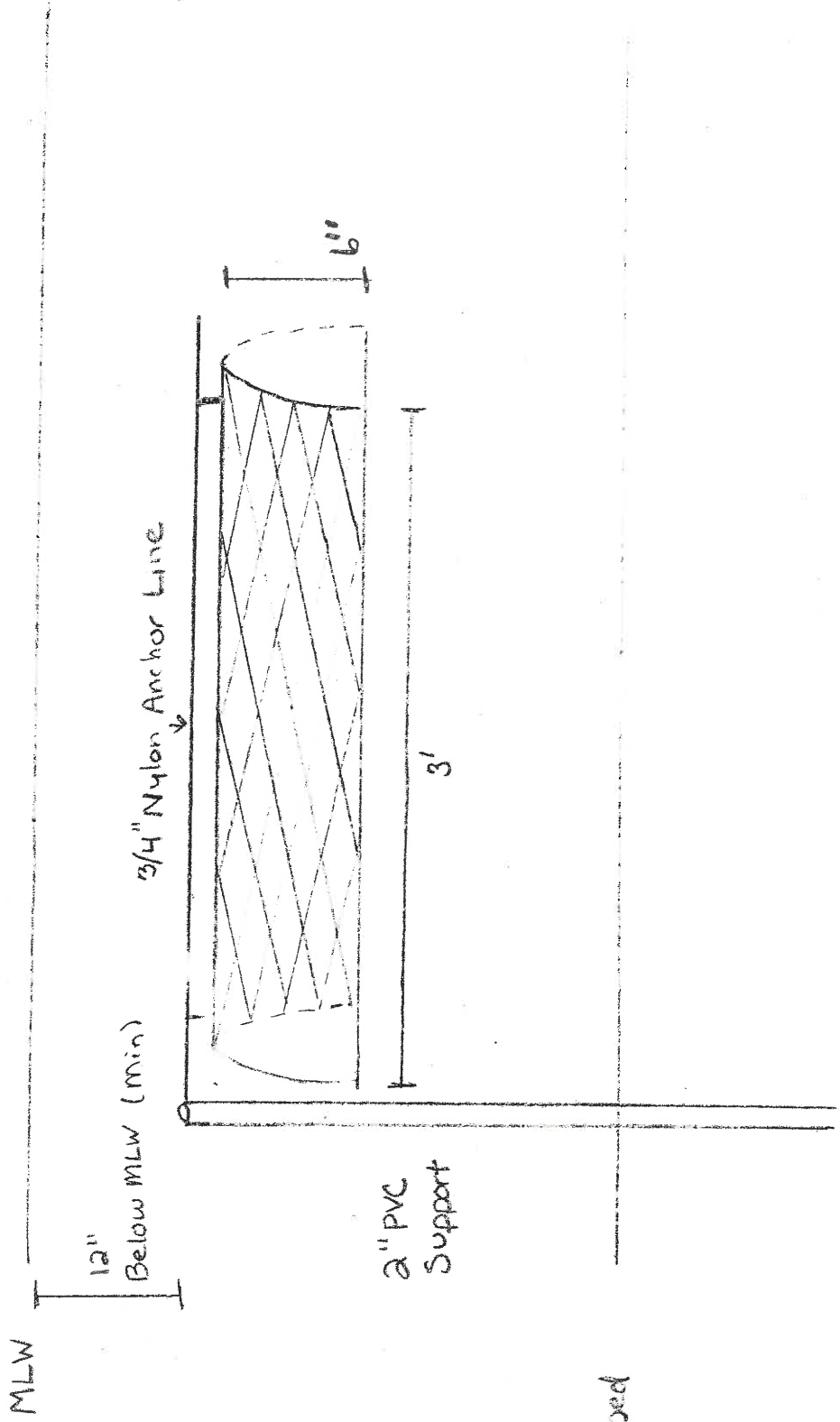
1"=40'
Scale

Legend

- ▲ - CRMC Buoy
- ⊗ - Helix Anchor
- - Oyster Cage

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Gear Detail - Attachment 5
6" H x 12" W x 36" L - "Sepa" type suspended cage



Scribed