

EXPERIMENTAL LEASE APPLICATION

1. APPLICANT CONTACT INFORMATION

Applicant	Jeffrey Schroeder
Contact Person	Jeffrey Schroeder
Address	9 Old Lane
City	Hope
State, Zip	Maine, 04847
County	Knox
Telephone	207-706-6567
Email	Jeffschroeder1@yahoo.com

Note: If applicant is a corporation or a partnership, the "Corporate Applicant Information Document" available at: <http://www.maine.gov/dmr/aquaculture/forms/experimental.html> must also be completed.

2. PROPOSED LEASE SITE INFORMATION

Location of Proposed Lease Site	
Town	Cushing
Waterbody	St. George River
General Description (e.g. south of B Island)	Broad Cove
Lease Information	
Total acreage requested (4-acre maximum)	4 acres
Type of culture (check all that apply)	<input type="checkbox"/> Bottom (no gear) <input checked="" type="checkbox"/> Suspended (gear in the water and/or on the bottom) <input type="checkbox"/> Net Pen (finfish)
Is any portion of the proposed lease site above mean low water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Note: If you selected yes, you need to complete the steps outlined in the section titled: "17. Landowner/Municipal Permission Requirements".

3. WATER QUALITY

Directions: Water Quality Information can be found here: <http://www.maine.gov/dmr/shellfish-sanitation-management/closures/pollution.html>

Pollution Area (e.g. "19-A"):	27-B
Pollution Area Section (e.g. "B.2". or "none"):	None
Water Quality Classification (e.g. approved, restricted, etc.):	Approved

Note: If you are proposing to grow molluscan shellfish in waters classified as anything other than open/approved, you will need to contact the Bureau of Public Health to discuss you plans at the following email: DMRPublicHealthDiv@maine.gov

4. GENERAL LEASE INFORMATION

A. Please complete the table below and add additional rows as needed.

Name of species to be cultivated (include both common and scientific names):	Name and address of the source of seed stock, juveniles, smolts, etc., to be cultivated:
1. American or Eastern Oyster (<i>Crassostrea virginica</i>)	Basket Island Oysters, PO Box 94, Portland, ME 04108. Point of Contact: Hillevi Jaegerman
2.	
3.	
4.	
5.	

B. Do you intend to possess, transport, or sell whole or roe-on scallops? Yes No

If you answered "yes" please contact the Bureau of Public Health to discuss you plans at the following email: DMRPublicHealthDiv@maine.gov

Note: If you are proposing to grow molluscan shellfish, this application also serves as your written operational plan as required in the National Shellfish Sanitation Program (NSSP) Model Ordinance Chapter 2, and must be maintained in your files. If you wish to submit an operational plan separate from this application, please contact: DMRPublicHealthDiv@maine.gov

5. VICINITY MAP

Note: You may embed the maps within the document, or attach the maps to the end of your application. If you attach the maps, please label them according to the instructions provided below. If you attach the map, please label it: ‘Vicinity Map’.

Directions: Using a NOAA Chart or USGS topographic map, show the area within a minimum of one-half mile of the proposed lease site.

The map needs to display the following:

- The waters, shore lands, and lines of mean high and mean low water within the general area of the lease
- An arrow indicating true north
- A scalebar
- The approximate lease boundaries

6. BOUNDARY DRAWING

Note: If you attach a drawing, please label it ‘Boundary Drawing’.

Directions: Depict the boundaries of the proposed lease site. Provide a drawing with all corners, directions, and distances labeled. Provide coordinates for each corner as follows:

- Coordinate Description
Provide geographic coordinates for each corner of the lease site in latitude and longitude as accurately as possible (e.g., to the nearest second or fraction of a second). Identify the datum from the map, chart, or GPS unit used to develop these coordinates. The datum will be shown on the map or chart you are using. The Coordinate Description may be provided separately from the Boundary Drawing.

7. RESEARCH PROGRAM AND OPERATIONS

Directions: If you are cultivating more than one species, you will need to provide information for each species. Please attach a separate page if needed.

A. Type of study (**check one**): Scientific Research Commercial Research

Please note:

a) *Scientific research is not kept confidential.*

b) *Experimental leases for commercial research are not renewable. Results of commercial research are kept confidential.*

B. What is the purpose of the study? If scientific, please include a detailed study design.

The purpose of the study is to conduct commercial research to determine if the lease is suitable for long-term oyster cultivation. The study will measure the seasonal temperature changes, turbidity, salinity, tidal flow, tidal variation and potential for run off and pollution. Oysters will be placed into suspended bags in different densities and types of gear to determine the best system for the site.

C. Describe the general culture process for each species proposed.

Oysters obtained from Basket Island Oyster Company (pending transfer permit) and measuring a half inch to one inch will be placed in black suspended oyster bags and Oystergro cages on the site. Measurements will be taken throughout the season to measure new growth and general health observations. As growth occurs, oysters will be placed into larger mesh floating bags at a decreased density based on size of the animal. Every 2-3 weeks, bags will be flipped to dry out fouling and cause chipping of the new growth to encourage thicker shell development.

D. What months will the proposed activities (i.e. seeding, tending, and harvesting) occur?

Set up of the farm including mooring and long line emplacement will occur in April as river temperatures begin to warm up. Seeding of oysters will occur between May and June once 1/2" – 1" seed is purchased from local hatcheries. After June, normal tending and maintenance activities will occur as described below. Once the river temperature drops below 50 degrees, usually around Sep/Oct, oysters will either be sold or placed into oyster condos and sunk on the lease site. By the end of November, all gear oyster bags should be removed from the lease and oysters sink to the bottom in condos.

E. How often will you be at the site during seeding and harvesting periods?

During initial set up of the farm and seeding, I will be at the farm almost daily as the work load will be high. Once the oysters are seeded in June, the frequency will drop to 3-5 times a week. During harvesting periods in year 2, I will be at the farm 5 days a week.

F. How frequently will you visit/tend the site for routine maintenance (i.e. flipping cages, etc.)?

Flipping cages – every 2-3 weeks

Grading oysters – every 3-4 weeks

General gear/mooring maintenance – As needed

Observation and measurement – Weekly

Washing – Every 2 weeks

Sales (Years 2-3) – Weekly

G. Describe the harvesting techniques you will use. If you plan on using a drag, please provide the dimensions.

Oysters will grow to market size in suspended or floating mesh bags or Oystergro cages. Bags will be unclipped from the long lines and placed into a Carolina skiff boat and taken to either the floating raft or a land-based site for grading, washing and bagging. Oysters will be washed down using a small “Pacer” water pump and engine with a muffler to reduce noise. A wet storage 12x16 raft will be used to hold oysters prior to bagging and delivering to customers. The raft will also be used for sorting oysters and drying equipment.

H. Describe any overwintering or “off season” plans for the site. For example, will you remove gear from the site and/or deploy gear in different areas within the proposed site?

Suspended bags will be removed from the site. I will use six-bag “oyster condos” or Oystergro cages to sink oysters to the bottom of Broad Cove for overwintering. The depth will allow the oysters to be below any potential ice that could occur.

I. What type of machinery (e.g. generator, drag, grading equipment, etc.) will you be using on the site? When and how often will the machinery be used?

- 16-20 foot Carolina skiff with an outboard motor – daily use

- Small low pressure “Pacer” pump with a 5 horsepower Honda gas engine for washing – every 2-3 weeks

- In later years, I would like to utilize a floating raft for grading, washing and bagging the oysters for market. Grading will initially occur through hand sorting but by years 2-3 may involve using a motorized tumbler.

J. What is the maximum amount of gear that will be deployed on the site (i.e. 200 cages, 100 lantern nets, etc.)?

In year one, I will place gear on one acre of the lease with a planned initial seed purchase of 15012,000 seed. Gear density per acre will be around 600 oyster bags clipped on long lines anchored to the sea floor with helix or 150lb mushroom anchors. Rows will be made up of three long lines will be approximately 100m long and hold up to 200 bags. In years 2-3 I will begin adding gear to additional acreage depending on the success of the first year seed.

K. What is the maximum number (or biomass) of organisms you anticipate being on the site?

The goal is to have 100,000 market size oysters on each acre. In reality and depending on the

conditions around 30-50k oysters should go to market each year per acre.

8. EXISTING USES

Directions: Describe the existing uses of the proposed area. Please include the amount of activity, the time of year the activity occurs, frequency, and proximity to the lease site.

A. Describe the existing uses of the proposed area in questions A.1 through A.5 below.

Please include the a) type b) time of year the activity occurs c) frequency, and d) proximity to the lease site.

1. Commercial Fishing

In Broad Cove, there are only a few lobster traps due to the shallow depths.

2. Recreational Fishing

Some residents, employ Broad Cove for recreational fishing

3. Boating Activities (Please include the distance to any navigable channels from your proposed site at low water

Some residents, use kayaks, sailboats and motor boats on Broad Cove. Traffic is very sparse. The proposed lease site is around 2,000 feet from the main channel of the St. George River

4. Riparian Ingress/Egress

There are approximately 15-18 residences on Broad Cove including 3 private docks.

5. Other uses (kayaking, swimming, etc.)

Residents do kayak and swim in Broad Cove. The existing lease holder, Jim Taylor has two LPAs on this site where he grows oysters in floating bags on long lines similar to my proposed system. Mr. Taylor successfully sold 50,000 oysters in 2019 to wholesalers.

B. Are there private docks, moorings, or other access points within 1,000 feet of the proposed lease? If yes, please include approximate distance from proposed lease.

There are no private docks or moorings within 1,000 feet of the proposed lease.

C. Are there public beaches, parks, or docking facilities within 1,000 feet of the proposed lease site. If yes, please describe and include approximate distances from proposed lease

No

9. CURRENT OPERATIONS

A. Describe your existing aquaculture operations.

I currently volunteer with Pemaquid Oyster Company. I have no other aquaculture operations or

employment

B. What are your plans for any existing leases and/or Limited Purposed Aquaculture (LPA) licenses if the lease is granted? Will any existing leases and/or Limited Purpose Aquaculture (LPA) licenses be relinquished if the lease is granted? If so, please indicate which ones.

Not applicable.

10. EXCLUSIVE USE

If your lease is granted, what activities would you request be excluded from occurring within the boundaries of the lease site? In your answer please address applicable commercial and recreational fishing, boating activities, and other activities you listed in the 'Existing Uses' section of this application.

Any recreational or commercial boating activities or fishing.

11. ENVIRONMENTAL CHARACTERIZATION

Directions: Using your knowledge of the area, describe the environment of the proposed lease site. Be sure to include units of measurement in your answers (i.e. feet, cm/s).

A. What are the approximate depths at mean low water? 7-8 feet (personally observed from a boat on 31 Aug 19)

B. What are the approximate depths at mean high water? 16-18 feet (2003 DMR Site Report)

C. Provide the approximate current speed and direction during the ebb and flow.

2.5 mph flow in a NE/SW direction (data from Jim Taylor)

D. The following questions (D.1 through D.6) may be answered in writing or by submitting a video. If you plan to submit a video, please contact the Department prior to video collection.

1. What are the bottom characteristics (mud, sand, gravel, rock, ledge or some mix, etc.)?

A 2003 DMR site visit revealed the bottom of the proposed lease is relatively flat with around 12" of soft mud. This is not suitable for dredge-harvesting oysters.

2. Describe the bottom topography (flat, steep rough, etc.).

Broad clove is generally a flat bottom. Some ledge occurs to the SW of the proposed lease site.

3. Describe marine organisms by species or common names. Based on your personal observations or other sources of information, are these species abundant, common, or rare?

Per the 2003 DMR study and previous lease holders, Peter McBean and Jim Taylor, the following marine organisms may be present: green crab, American lobster, wry mouthed eel, mud/sand shrimp

4. Are there shellfish beds or fish migration routes in the surrounding area? If so, please describe.

According to the current lease holder, there are no fish migration in the area of the lease.

5. Describe the presence and extent of submerged aquatic vegetation, i.e. eelgrass, within the proposed lease area. Please include the date of this observation along with the method of observation. If submerged aquatic vegetation is observed, please also describe the abundance below and sketch the limits of the beds in the vicinity map.

There is a 5 acre bed of eelgrass located 800m south of the LPA off Bailey's Point (Note: I visited this site on 31 Aug 19 but obtained the data from DMR Aquaculture Map)

6. Describe the general shoreline and upland characteristics (rocky shoreline, forested, residential, etc.)

There are several houses along Broad Cove with minimal forest and some lawn areas. A childrens playground is located to the NE of the site along Cross Road. A new house was built next to the playground with a lawn extending to the shore.

E. Is your proposed lease located within a Maine Department of Inland Fisheries and Wildlife designated Essential Habitat?

No

Note: The location of Essential Habitats in the State of Maine, along with information on how projects within these areas are reviewed, can be found here: <https://www.maine.gov/ifw/fish-wildlife/wildlife/endangered-threatened-species/essential-wildlife-habitat/index.html>

If a project is located within an Essential Habitat, applicants are strongly encouraged to contact the MDIFW Environmental Review Coordinator (John.Perry@maine.gov, phone: 207-287-5254) prior to application submission.

F. Will your operations discharge anything into the water such as feed (pellets, kelp, etc.) or chemical additives (therapeutants, chemical treatments, etc.)?

No

Note: If you answered yes, you must submit a video of the bottom using a method prescribed by the Department. **The video must be filmed between April 1 and November 15.** If a discharge is proposed you will also need to obtain a Maine Department of Environmental Protection (DEP) discharge permit. For information on this permit please contact DEP's Wastewater Licensing

Program (Gregg.wood@maine.gov, 207-287-7693). Further sampling may be required by DMR, or DEP, depending on the characteristics of the site or the proposed activities.

12. STRUCTURES *(if applicable)*

If your operations require the use of cages, nets, ropes, trays, or any object (structure) other than the organism to be grown directly on the bottom or buoys to mark the corners of the lease site, you

must submit an **Overhead View** and **Cross-Section View** of your gear plans. It is important to note that, unlike Limited Purpose Aquaculture (LPA) Licenses, experimental and standard leases require that all gear, including moorings, must be located within the proposed lease boundaries.

Note: You may embed the gear plans, or attach them to the end of your application. If you attach the plans, please label them according to the instructions provided below.

A) Overhead View (please label this “Overhead View”):

Directions: All dimensions need to be labeled with the appropriate units (i.e. 10ft, 10in)

- Show maximum layout of gear including moorings.
- Show dimensions of entire gear layout
- Show approximate spacing between gear.
- Show lease boundaries and the location of proposed markers on all drawings.

B) Cross-Section View (please label this “Cross Section View”):

Directions: The cross-section view must show the following:

- The sea bottom
- Profile of gear in cross-section as it will be deployed
- Label gear with dimensions and materials
- Show mooring gear with mooring type, scope, hardware, and line type and size
- Water depth at mean high and mean low water

Note: Please include an additional Cross Section View, depicting the elements listed above, if there will be seasonal changes to gear layout (i.e. over wintering)

C) Gear Description

Directions: List each individual gear type that you will use in the table below.

Specific Gear Type (e.g. soft mesh bag)	Dimensions (e.g. 16"x20"x2")	Time of year gear will be deployed (e.g. Spring, Winter, etc.)
Soft mesh bag	17"L x 33"W x 3.5"H	May-November
Oystergro cage	67.5"L x 40.5"W x 9"H	May-November
Wire mesh inserts for wet storage	5'L x 5'W x 5'H	May-November
Oyster trays for mesh inserts	30"L x 20"W x 6.25"H	May-November
Six-tray oyster condos	45"L x 40½"W x 18"H	November – May
50 lb mushroom anchors	36"H x 18"W	November-May
5 foot helix anchors	48"H x 3/8 dia	Year round
Floating raft	12"W x 16'L	May-November

D) Gear Drawing (please label this "Gear Drawing").

Directions: Include a drawing of an individual piece of gear for each of the gear type(s) you plan to use. The drawing(s) needs to depict the length, width, and height of each gear type with appropriate units referenced (i.e. 10in, 10ft, etc.).

13. MARKING

Will you be able to mark your site in accordance with DMR regulations, Chapter 2.80?

X Yes No

If you answered no, explain why and suggest alternate markings.

Note: If a lease is granted, you will also be required to mark the site in accordance with appropriate US Coast Guard Regulations. If you have questions about US Coast Guard regulations contact: 1st Coast Guard District, Aids to Navigation Office.

14. RIPARIAN LANDOWNERS AND SITE ACCESS

A. If your lease is within 1,000ft of shorefront land (which extends to mean low water or 1,650 ft. from shore, whichever is less), the following supporting documents are required:

1. A labeled copy of a tax map(s) depicting the location of the proposed lease site and including the following elements:
 - Label the map “Tax Map: Town of (name of town).”
 - Legible scale
 - Tax lot numbers clearly displayed
 - The boundaries of the proposed lease
2. Please use the Riparian Landowner List (included on the next page) to list the name and address of every shorefront landowner within 1,000ft of the proposed lease site. Have the tax collector or clerk of the municipality certify the list.
3. If any portion of the site is intertidal you need to complete the steps outlined in “17. Landowner/Municipal Permission Requirements”.

B. Will your access to the lease area be across riparian land?

Yes No

Note: If you selected yes, you will need to complete the landowner permission requirements included in “17. Landowner/Municipal Permission Requirements” of this application.

C. How will you access the proposed site?

I will access the proposed site via skiff boat moored at the Thomaston Marina.

D. How will your proposed activities affect riparian ingress and egress?

Riparian landowner access should not be impeded by the proposed lease site as it is between 1,900 and 3,900 feet from the nearest residence. Landowners may simply navigate around the site.

RIPARIAN LANDOWNER LIST

*THIS LIST MUST BE **CERTIFIED** BY THE TOWN CLERK*

On this list, please include the map number, lot number, and the current owners' names and mailing addresses for all shorefront parcels within 1,000 feet of the lease site. It is the applicant's responsibility to assemble the information for the Town Clerk to certify. The Town Clerk *only* certifies that the information is correct according to the Town's records. Once you have completed the form, ask the Town Clerk to complete the certification section below. If riparian parcels are located within more than one municipality, provide a separate, tax map and certified riparian list for each municipality.

TOWN OF: _____

MAP #	LOT #	Landowner name(s) and address(es)

Please use additional sheets if necessary and attach hereto.

CERTIFICATION

I, _____, Town Clerk for the Town of _____ certify that the names and addresses of the property owners listed above, as well as the map and lot numbers, are those listed in the records of this municipality and are current as of this date.

SIGNED: _____ **DATE:** _____

15. ESCROW ACCOUNT OR PERFORMANCE BOND

Check the category that describes your operation:

Check Here	Lease Category	Amount of Required Escrow or Performance Bond
	No gear/structure, no discharge	None
	No gear/structure, discharge	\$500.00
	≤ 400 square feet of gear/structure, no discharge	\$1,500.00
X	>400 square feet of gear/structure, no discharge	\$5,000.00*
	Gear/Structure, discharge	\$25,000.00

*DMR may increase the bond/escrow requirements for leases with more than 2,000 feet of structure.

I, (*printed name of applicant*) Jeffrey Schroeder have read DMR Aquaculture Regulations 2.64(10) (D) and if this proposed lease is granted by DMR I will either open an escrow account or obtain a performance bond, depending on the category of lease.

Jeff Schroeder
Applicant Signature
Note: Add title if signing on behalf of a corporate applicant.

6/20/19
Date

ADDITIONAL APPLICANTS: Each applicant must sign this section indicating that they will open an escrow account or obtain a performance bond. Use the space below for additional persons listed on the application. You may attach additional pages, if necessary.

I, (*printed name of applicant*) _____ have read DMR Aquaculture Regulations 2.64(10)(D) and if this proposed lease is granted by DMR I will either open an escrow account or obtain a performance bond, depending on the category of lease.

Applicant Signature
Note: Add title if signing on behalf of a corporate applicant.

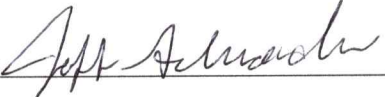
Date

16. APPLICANT SIGNATURE PAGE

I hereby state that the information included in this application is true and correct. I have also read and understand the requirements of the Department's rules governing aquaculture and the application instructions pertaining to the experimental lease process.

Printed name: Jeffrey Schroeder

Title (if corporate applicant): _____

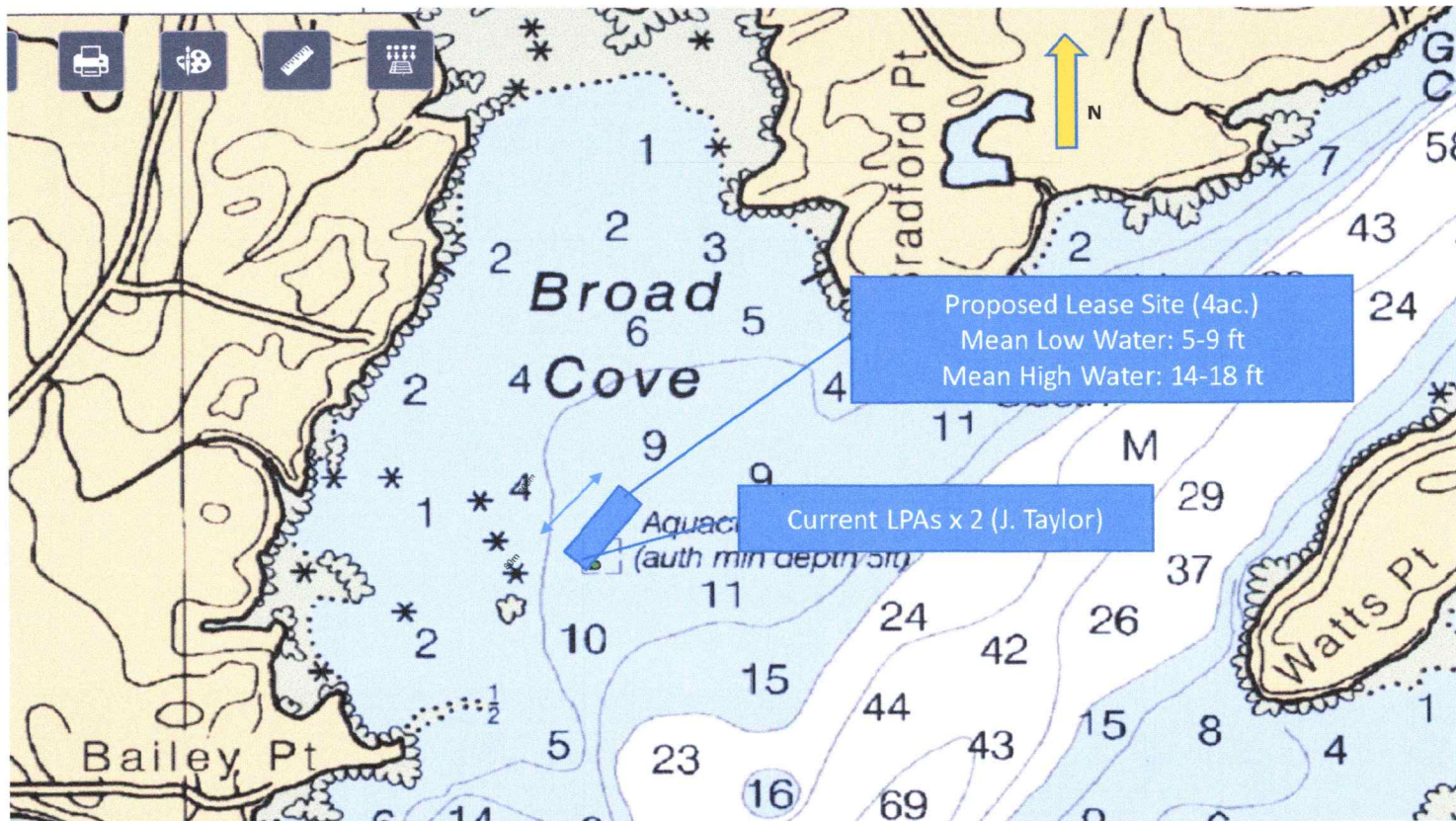
Signature:  Date: 12/20/19

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Note:

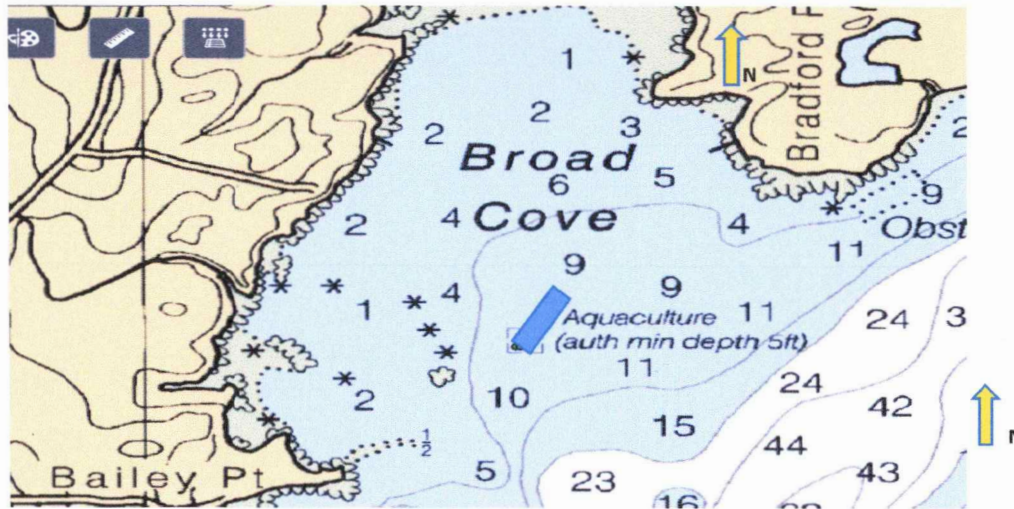
- All applicants must sign and date this page. Please use the space below, if additional signatures are required.
- Corporate applicants, please be sure to include the title (i.e. President, Treasurer, etc.) of the individual(s) signing on the company's behalf.

QUESTION #5: VICINITY MAP

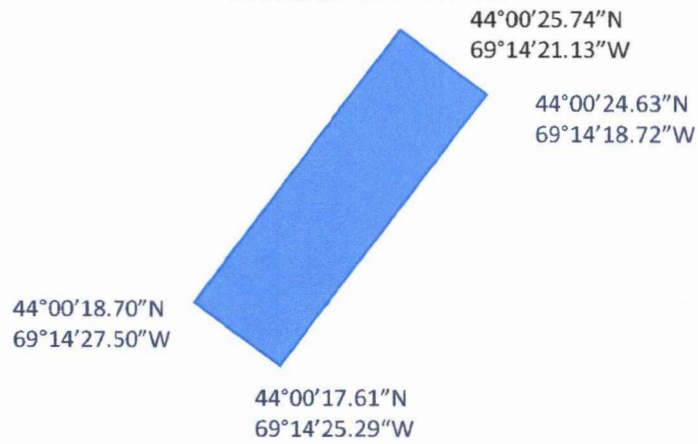


1000 ft

QUESTION #6: BOUNDARY DRAWING



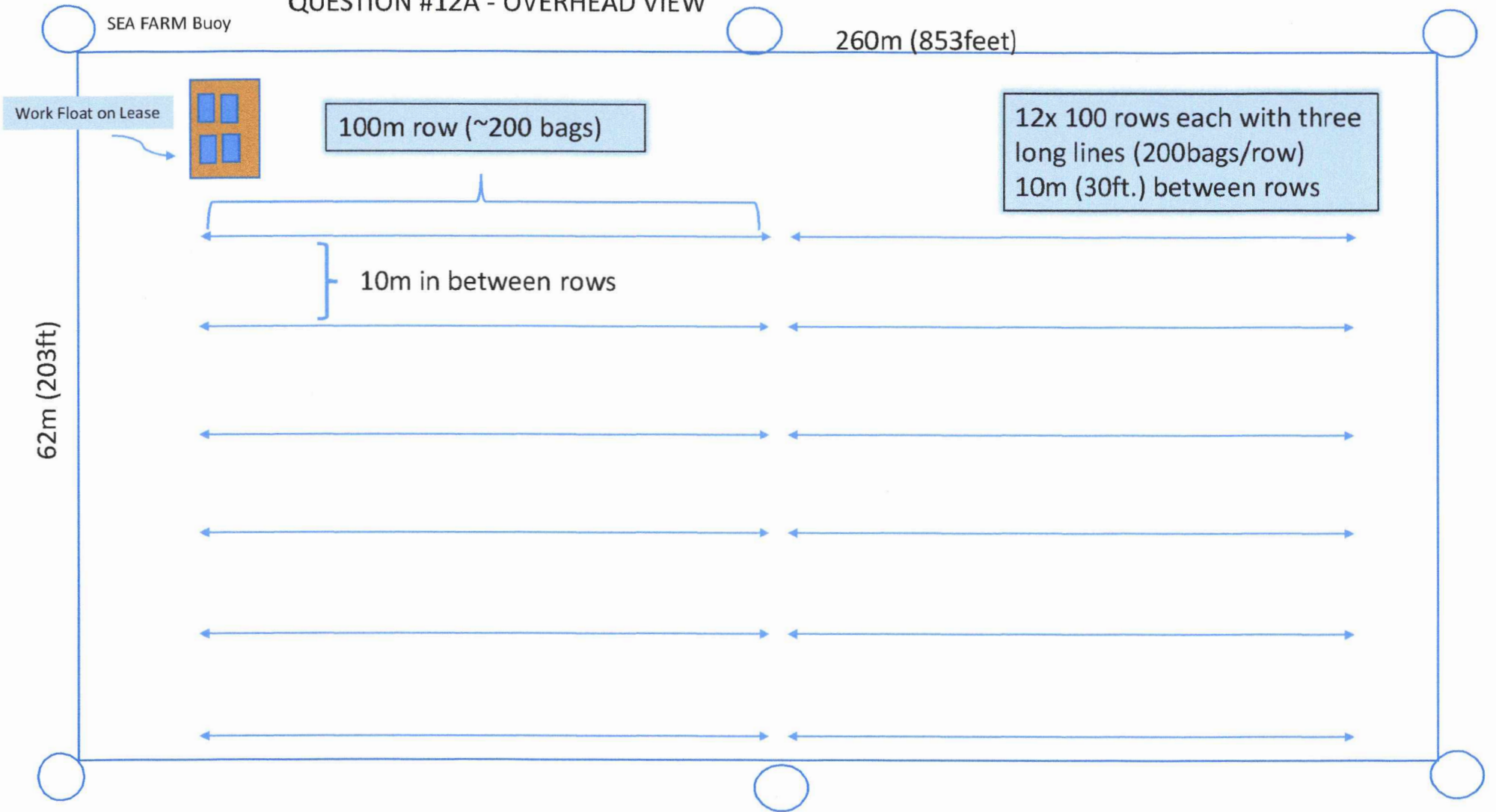
BOUNDARY COORDINATES



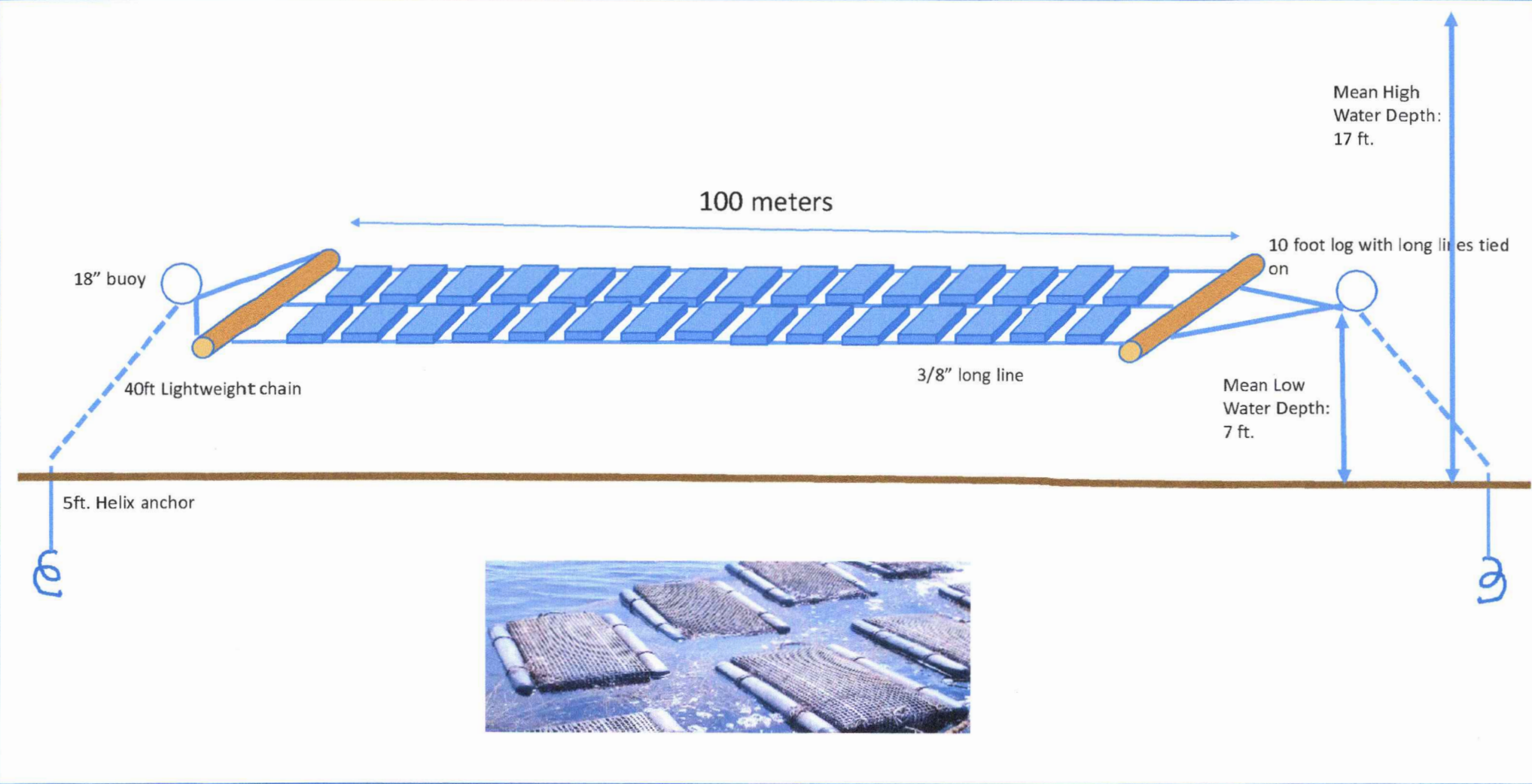
Updated coordinates
(as of 19 Dec 2019)

Source: Google Earth; imagery date 6/19/2018

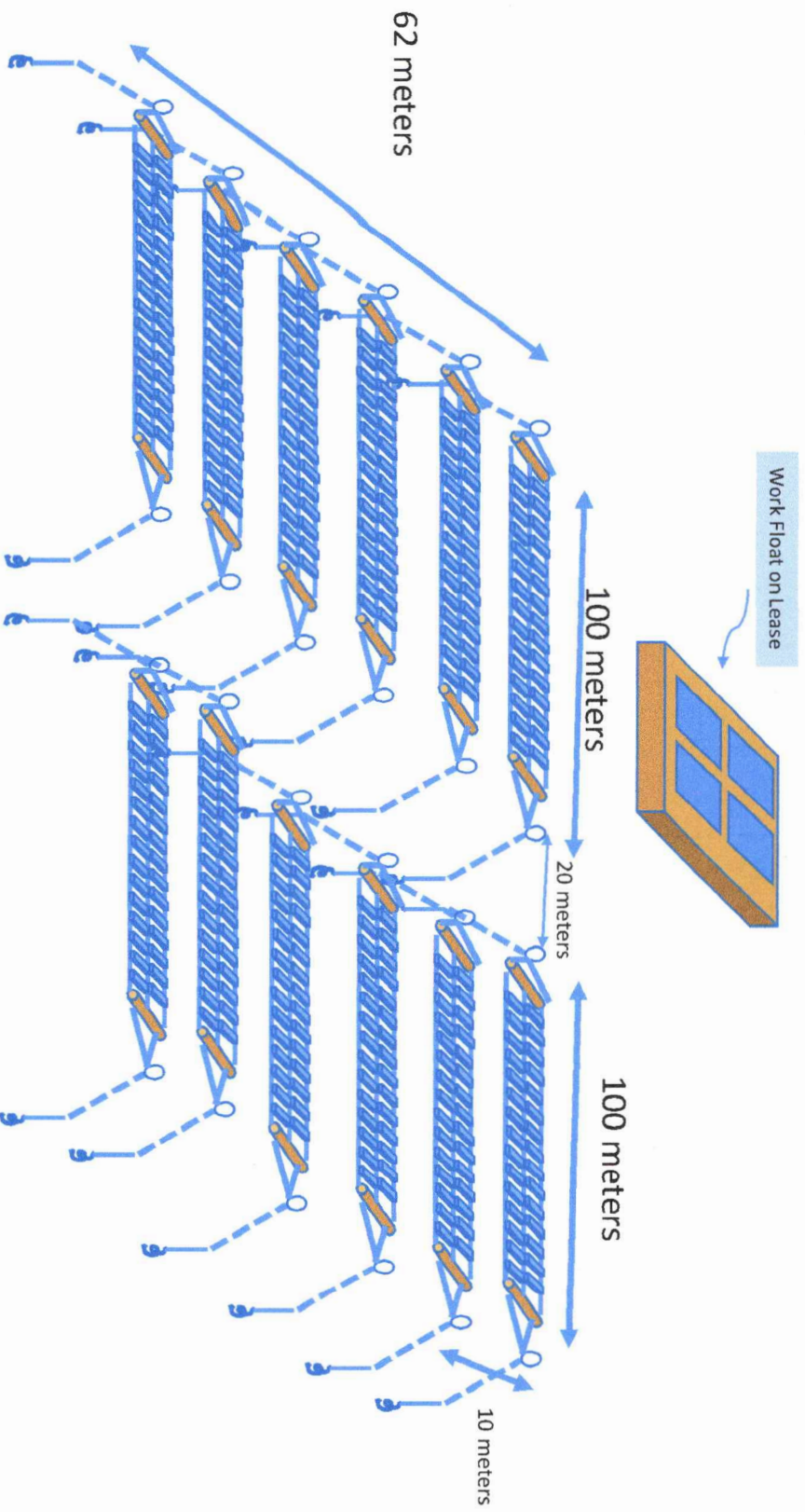
QUESTION #12A - OVERHEAD VIEW



QUESTION 12B - CROSS VIEW – ONE ROW

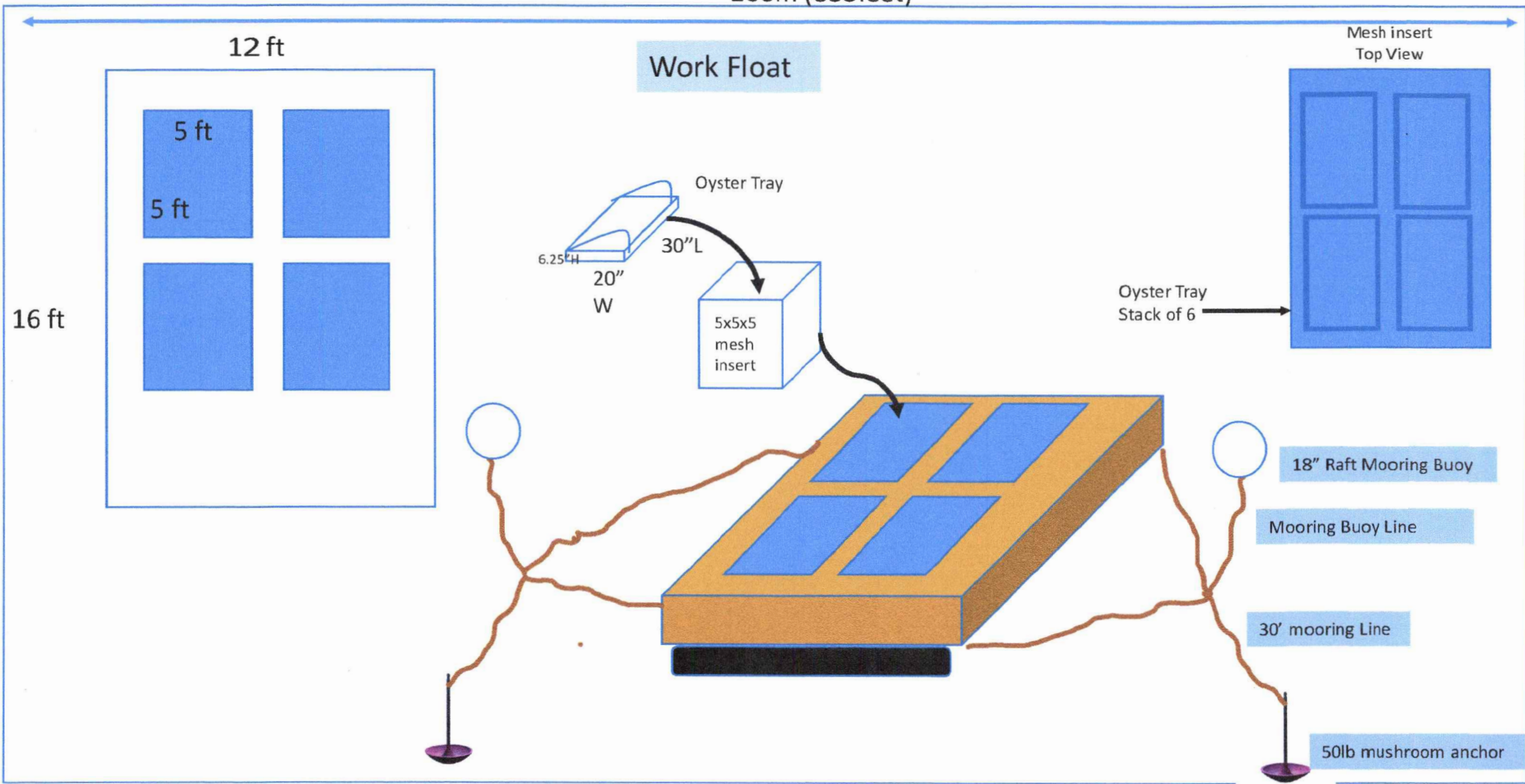


QUESTION 12B - CROSS VIEW



QUESTION 12B - CROSS VIEW

260m (853feet)



QUESTION 12B - CROSS VIEW - OVERWINTER

Not to scale

Detail of winter mooring

