

**STATE OF ALASKA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF MINING, LAND AND WATER  
SOUTHCENTRAL REGION LAND OFFICE**

**PRELIMINARY BEST INTEREST FINDING  
AQUATIC FARMSITE LEASE**

**APPLICANT: TREVOR SANDE  
ADL #108094  
*Marble Seafoods***

**LOCATION: EAST BETTON ISLAND/CLOVER PASSAGE**

The Department of Natural Resources is accepting public comment on the following preliminary decision document for an aquatic farm site. **Written comments must be received on or before 5:00 p.m., Thursday, September 15, 2011.**

**PROPOSED ACTION:** The applicant is requesting the approval of a 10.51 acre aquatic farm in the channel between Betton Island and Hump Island located approximately 10 nautical miles northwest of Ketchikan. The applicant is proposing two parcels of tide and submerged land. Parcel #1 is proposed to be a 10.33 acre site measuring 300 feet x 1500 feet comprised of suspended floats for the culture of Pacific Oysters. The site will also include a work raft for farm product maintenance. Parcel #2 is being proposed for a hardening and cleaning area for market-ready oysters. It is proposed to be located within the rocky beach area off Betton Island within a 30 foot x 266 foot area equaling 0.18 acres.

The total combined acreage of the sites is 10.51 acres, more or less.

The proposed farm site locations are only accessible by boat or floatplane. A location map is attached to this decision.

**AUTHORITY:** AS 38.05.035; AS 38.05.070; AS 38.05.075; AS 38.05.083; AS 38.05.127;  
AS 38.05.128; 11 AAC 63.020

This decision addresses and is based on those issues under the authority of the Department of Natural Resources (DNR) under Title 38. While other issues may be addressed that are not within the scope of DNR's responsibilities, this decision's purpose is to determine whether or not to issue a DNR lease and does not make any determinations whatsoever on the issuance of other agency authorizations that are necessary for aquatic farming activities. Information included in the original preliminary decision document may not be included in this document if conditions have not been altered. Original preliminary decisions for this lease can be obtained by contacting the aquatic farm program manager for the DNR in Anchorage.

**ADMINISTRATIVE RECORD:** The administrative record for this renewal application is ADL 108094.

**LOCATION:**

**USGS MAP COVERAGE:** Ketchikan (C-6) Quadrangle

**NAUTICAL CHART:** 17422

**LEGAL DESCRIPTION:**

Those tide and submerged lands located in southeast Alaska lying within:

Township 73 South, Range 90 East, Copper River Meridian,

SE ¼ of Section 20 and the NE ¼ of Section 29 – within a passage between Betton Island and Hump Island encompassing one area measuring 300 feet by 1500 feet for oyster grow-out plus an area measuring 30 feet by 266 feet for hardening and cleaning oysters, according to the site drawings attached to this document.

2 Parcels equaling 10.51 acres

Parcel 1 - Oyster Culture Area - 300 feet x 1,500 feet = 10.33 acres

NW Corner: Latitude 55 31.278 N Longitude 131 45.978 W  
SE Corner: Latitude 55 31.028 N Longitude 131 45.948 W  
SW Corner: Latitude 55 31.034 N Longitude 131 46.038 W  
NE Corner: Latitude 55 31.272 N Longitude 131 45.894 W

Parcel 2 - Hardening and Defouling Area - 30 feet x 266 feet = 0.18 acres

NE Corner: Latitude 55 31.272 N Longitude 131 46.048 W  
SE Corner: Latitude 55 31.268 N Longitude 131 46.045 W  
SW Corner: Latitude 55 31.242 N Longitude 131 46.105 W  
NW Corner: Latitude 55 31.246 N Longitude 131 46.110 W

Parcels are located in the Ketchikan Recording District.

**GEOGRAPHIC:** The proposed farm site is located on state-owned tide and submerged lands in the channel between Betton Island and Hump Island located approximately 10 nautical miles northwest of Ketchikan.

**POLITICAL INFORMATION:**

**BOROUGH/MUNICIPALITY:** The proposal is within the Ketchikan Gateway Borough.

**REGIONAL CORPORATION:** Sealaska Corporation

**FISH AND GAME ADVISORY COMMITTEES:** Region 1 – Southeast, (1A) Ketchikan Fish and Game Advisory Committee.

**PLANNING AND CLASSIFICATION:**

**LAND MANAGEMENT PLAN:** Central/Southern Southeast Area Plan, Region 5, Ketchikan, North

**Inset Map, Unit KT-17. Managed Resources/Intent:** The area in this unit that lies to the east of the proposed aquatic farm site is designated Ha and Ru, protect the habitat resources which include Pacific herring spawning areas (spring seasonally). The area designated Ha and Ru is to be managed o be consistent with the recommendation for establishment of a marine state park on the adjacent upland parcel. The tidelands within the area designated Ha and Ru are recommended for inclusion in the state marine park, and are to be managed consistent with the eventual development of this use. Floating facilities, except those intended to support recreation uses, are prohibited. The remainder of the area which includes the area surrounding the proposed aquatic farm site is designated Ru and is to be managed to insure protection of the vista from Revillagigedo Island. Clover Passage is designated as a scenic area in the Ketchikan Gateway Borough Comprehensive Plan. The adjacent upland parcel, K-13, is recommended for inclusion in a state marine park. Betton Island is designated for semi-remote recreation in TLRMP.

**SURFACE CLASSIFICATION:** The Central/Southern Southeast Area Plan designates state owned tidelands in northern portion of Unit KT-17, where the proposed farm would be located, as Ru – Public Recreation and Tourism- Undeveloped.

**Managed Resources/Intent:** The area designated Ru is to be managed to insure protection of the vista from Revillagigedo Island.

**Ru – Public Recreation and Tourism-Undeveloped.** This designation applies to those areas that offer or have a high potential for dispersed recreation or tourism and where desirable recreation conditions are scattered or widespread rather than localized. Developed facilities are generally not necessary other than trails, trail signs, primitive campsites, and other minor improvements. Land in this designation may be conveyed to municipalities depending on the unit's management intent and the relative value of the recreation resources for which the unit was designated. These lands cannot be sold to individuals.

#### **SURFACE MINERAL ORDERS:**

#### **SURVEY AND APPRAISAL:**

**SURVEY:** A survey is not required by law before issuing a 10-year negotiated lease. However, the department has the right to require one in the future, at the applicant's expense, if boundary conflicts or disputes over acreage arise.

**APPRAISAL:** The Division of Mining, Land and Water has approved an administrative lease fee schedule for aquatic farm sites that meet the conditions listed within the schedule. The most current lease fee schedule will be used to establish the fair market rental each lessee must pay. The applicant has the option to have a site-specific appraisal done, at the applicant's expense, before the lease is issued, if he or she does not wish to use the fee schedule. If an applicant opts for a site-specific appraisal, the division-approved appraisal will establish the rental for the lease and the fee schedule will no longer be an option.

**PUBLIC/AGENCY NOTICE AND COMMENTS:** Public notice of the proposal has been sent to various newspapers, post offices, agencies, boroughs/cities, native corporations, Fish and Game Advisory committees, etc. Public and agency comments are welcome during the comment period and will be considered in the final best interest finding. Only those who provide written comments during the comment period or who testify at a public hearing will be sent a copy of the final best interest finding and will be eligible to appeal. The final best

interest finding will include an explanation of the appeal process. **The public comment period begins on August 17, 2011 and will end at 5:00 p.m. on Thursday, September 15, 2011.**

The preliminary best interest finding is subject to public comments received during the comment period. The final best interest finding will consider and address any comments related to the subject proposal and will be available on or about October 10, 2011. If significant changes occur to this decision as a result of public comments received, additional notice will be sent to those who provided comments, either in writing or by testifying at a public hearing.

### **Evaluation by the Alaska Department of Fish and Game**

***I. Physical and Biological Characteristics:*** Based on the information provided by the applicant on the site physical and biological characteristics, the proposed sites appear capable of supporting the farm activities proposed. Details listed for the proposed areas are summarized below.

***Protection from Oceanographic and Atmospheric Extremes:*** The physical exposure notes from Alaska ShoreZone imagery mapped data<sup>1</sup> shows the area as “protected” defined as a maximum effective fetch of < or = to 10 km. The proposed suspended and intertidal culture gear have a sound configuration and anchoring systems and are comparable to existing farm gear used in Southeastern Alaska that can withstand ocean and atmospheric conditions.

***Sufficient Environmental Conditions:*** The proposed aquatic farm operation project is in an area that appears to have sufficient water exchange, water temperatures, currents, salinity, and primary production to support an aquatic farm and maintain healthy environment for other marine organisms.

***Sufficient Water Depth:*** Based on site suitability information provided by the applicant, the suspended culture gear extends down 5 to 15 ft and water depth at Parcel 1 is 50 ft.

Based on the applicant's narrative, Parcel 1 has a depth profile at low low water of approximately 50 ft to 80 ft and the distance from grow-out rafts to the bottom floor is approximately 60 ft. The depth at Parcel 1 is sufficient to prevent gear from grounding and impacting the benthos under floating structures. This criterion does not apply to Parcel 2 that is an intertidal area used for hardening Pacific oysters.

***Eelgrass and Kelp Beds Maintained:*** Based on the information provided by the applicant, there does not appear to be any eelgrass at in the proposed project area. The exact locations and extent of kelp beds is not well documented in the area. If health and the abundance of kelp beds in the area are not properly maintained within the proposed aquatic farm site, project modifications to the aquatic farm operations permit will be made to correct the condition.

***Anadromous Fish Streams:*** The proposed project site is not located within 300 feet of the mouth of an anadromous fish stream catalogued by ADF&G for various salmon species<sup>2</sup>. The proposed farm gear structures will not significantly affect fish rearing habitats for salmonids and other marine fishes in the area and will allow adequate fish passage for salmonid adults (chum, coho, and pinks)

<sup>1</sup> NOAA (National Oceanic and Atmospheric Administration), Fisheries, National Marine Fisheries Service. Alaska ShoreZone: Coastal Mapping and Imagery. <http://akr-mapping.fakr.noaa.gov/szflex/> (Accessed July 2011).

<sup>2</sup>Johnson, J. and K. Klein. 2009. Catalog of waters important for spawning, rearing, or migration of anadromous fishes – Southcentral Region, Effective June 1, 2009. Alaska Department of Fish and Game, Special Publication No. 09-03, Anchorage.

that may be milling or migrating through the area.

**II. Existing Uses not Significantly Altered:** The proposed aquatic farm site will not significantly alter an established use defined in regulations as a commercial fishery, sport fishery, personal use fishery, or subsistence fishery.

**Commercial Fisheries:** The proposed aquatic farm is located in ADF&G Commercial Fisheries Division statistical area sub-district 101-95. The proposed aquatic farm site project is not expected to cause any significant alterations to the existing commercial fishery uses in the area. Details on each commercial fishery is listed below.

**Geoducks:** Vallenar Bay geoduck commercial fishery harvest area bed code 101-29-004 is in subdistrict 101-90. The proposed aquatic farm site is not expected to cause any significant alterations to the existing geoduck commercial dive fishery in the area.

**Sea cucumber:** The site is in the Higgins Point to Nose Point commercial sea cucumber dive fishery harvest area 101-190. On a three (3) year rotation, the last fishery occurred there in 2009. The proposed aquatic farm site is not expected to cause any significant alterations to the existing sea cucumber dive fishery in the area.

**Red Sea Urchins:** No commercial red sea urchin dive fishery takes place at the site.

**Salmon:** No salmon gillnetting fishery or gillnet salmon fishery occurs at the site. Salmon trolling and purse seining fisheries do occur in this statistical subdistrict area. In 2010, there were 91 recorded salmon landings in this statistical subdistrict area. The proposed aquatic farm site is not expected to cause any significant alterations to the existing salmon commercial fishery in the area.

**Herring:** According to regulations, 5 AAC 27.197, Sections 1-E and 1-F commercial sac roe fishery was passed by the Alaska Board of Fisheries in January 2003 with the first fishery in 2004 that covers the statistical areas, 101-90 and 101-85. The proposed site is located in the statistical area, 101-90. The commercial herring fishery plan states that this fishery will occur "Annually, alternating fishing schedule between set gillnet and purse seine gear in years in which the threshold level is met with the first fishery being the set gillnet. Due to a lack of herring in the West Behm Canal, the fishery has not been opened since these regulations were passed. Herring landings were recorded by ADF&G in 2002 and 2003 for the West Behm Canal totaling 215,100 lbs. and 85,343 lbs, respectively, with all landings in the statistical area 101-85. In those two years, West Behm Canal Section E-1 and F-1 herring landings totaled 37% in 2002 and 17% in 2003 of the total landings recorded for the entire Southeast Ketchikan Management Area. From 2000-2009, no landings were recorded for the specific statistical area 10-190 where the proposed site is located. The proposed aquatic farm site is not expected to cause any significant alterations to the commercial sac roe fishery in West Behm Canal.

Herring populations have core areas where spawning takes place. Since 1992, the West Behm Canal spawning populations have been observed by ADF&G biologists in the direct area of the proposed site during 2009 and 1999, 1997-1993 (Figure 2). Although herring is not observed every year, it is considered by ADF&G to be in the vicinity of a core spawning area. To ensure that the herring populations are not impacted by the proposed project, the

following condition will be added to the operation permit:

**“No in-water aquatic farm activities shall be permitted at the aquatic farm site from March 15 through May 15 of any year for protection of herring during staging and spawning activities and to allow juvenile herring to hatch, group, and move out into feeding areas. Aquatic farm in-water operations can resume earlier than May 15 with approval from ADF&G in the event that spawning does not occur on or near the site or if the 21-day period after the last herring spawning required for protection of eggs occurs before May 15. The aquatic farm site is within core Pacific herring spawning areas that are crucial to the West Behm Canal herring stock. All eggs must be allowed to hatch, even though this may result in loss of aquatic farm products being cultured. The Department of Fish and Game shall be notified, in writing, within five days of any herring spawning event that deposits eggs on any farm gear or equipment. Operators shall do their best to notify ADF&G verbally within 24 hours of a herring spawn event. (5 AAC 41.250 (a)(5) and (6))”**

**Dungeness crab:** Aerial surveys of the Dungeness grounds in central and northern Southeast are conducted every June after the commercial fishery opens. Statistical area 101-90 is not part of the annual aerial survey. The proposed farm site lies within an area that is closed to commercial Dungeness fishing [5 AAC 32.150(12)].

**Sport Recreational Fishery:** The area is not a significant site for Sport Anglers. Since no permit system is in place for the personal use fisheries, the amount of effort and harvest in the area would be difficult to gauge. The Statewide Harvest Survey does tally personal use harvest in Southeast but summarizes these data on a wider scale than district or statistical area. Though a small amount of personal use effort may be displaced by this project, it is likely that this proposed farm site will have a negligible impact on personal use Dungeness fisheries, or on Dungeness habitat in the project area. The project footprint is small. The growing area is subtidal and suspended. The hardening area is very small (.18 acre) and appears, as identified in the application, to be on rocky, steep bottom. Due to their design, oyster farms have not seemed to have significant negative impact on anglers. The proposed aquatic farm site is not expected to cause any significant alterations to the existing sport recreational fishery use.

**Subsistence Use:** The proposed farm site falls within an area described in regulation as an area with a customary and traditional use finding for Dungeness [5 AAC 02.108(a)(3)(D)], however another regulation [5 AAC 99.015(a)(1)] puts it in the Ketchikan non-subsistence area, so no subsistence fishing is allowed in the proposed farm site area. The proposed aquatic farm site is not expected to cause any significant alterations to the existing subsistence use.

**Anchorage:** This area is not known to have any critical vessel anchorages.

**III. Compatible with Fish and Wildlife Resources:** The proposed aquatic farm site is compatible with fish and wildlife resources in the area.

**Predator and Pest Control Methods:** Predator exclusion devices to be used at the proposed site are expected to be utilized in a manner that minimizes impacts on non-targeted fish and wildlife resources in the area.

**Sensitive Wildlife:** The proposed aquatic farm site is not expected to adversely impact seabird colonies, sea lion haulouts and rookeries, seal haulouts and pupping areas, and walrus haulouts.

**Sea Bird Colonies:** There are no sea bird colonies identified within 1 mile of the proposed sites.<sup>3</sup>

**Eagle Nest:** There are no eagle nests within 330 ft of the proposed project site parcels<sup>4</sup>

**Sea Mammal Habitat:** Both site parcels, Parcel 1 and 2, are located within 1 mile of a known harbor seal haulout area based on the linear distance from the northeastern latitude and longitude coordinate of the proposed aquatic farm site and the center point of the nearest known marine mammal haulout<sup>5</sup>. No count was recorded for these haulouts during the 2007 survey year. Relative to the numbers of the population stock for this management area, the haulout is most likely secondary based on the harbor seal counts recorded in other areas. This proposed aquatic farm project is not expected to adversely impact sea mammal habitats.

**Endangered species:** The proposed aquatic farm site will not adversely impact endangered and threatened species recovery and habitat efforts.

#### **IV. Operation and Development Plan:**

**Increase Productivity:** The operation and development plan for this project sufficiently describes how the operation will improve the productivity of the species intended for culture above what would occur in natural conditions using approved methods. Approved methods include predator exclusion, reduction of competing species, destiny manipulation, import of naturally-produced seed, import of hatchery produced seed, programming harvest to optimize growth and shellfish condition, and habitat improvements.

**Maintenance:** The operation and development plan for this project indicates that support facilities and culture gear and anchoring system will be installed with sufficient anchors and be maintained.

**Rotation Schedule:** The projected rotation schedule is consistent with the life history of the species intended for culture.

#### **V. Species to be Cultured and Site Suitability**

The department has not conducted a site suitability study for this site. Based on information provided by the applicant, the proposed site is capable of supporting the activities proposed. The proposed parcels in this aquatic farm operation project are located in an area that is thought to be suitable for suspended oyster culture.

**ENVIRONMENTAL RISK ASSESSMENT:** The applicant has submitted a signed environmental risk

<sup>3</sup> U.S. Fish and Wildlife Service, (current year). Beringian Seabird Colony Catalog -- computer database. U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage, Alaska 99503.

<sup>4</sup> U.S. Fish and Wildlife Service, Migratory Bird Management. Alaska Bald Eagle Nest Atlas-computer database. 2008.

<sup>5</sup> Data provided by NOAA Fisheries Service, Alaska Region, Protected Resources Division with aerial surveys completed by researchers from NOAA Fisheries Service, Alaska Fisheries Science Center, and National Marine Mammal Laboratory.

questionnaire. The questionnaire asks for information on potentially hazardous materials, such as plans for onsite storage of fuel or chemicals. The applicant has indicated that no on-site use, storage, transport, disposal, or otherwise, of any petroleum products will be used during the course of the proposed activities.

#### **BONDING AND INSURANCE:**

**BONDING:** Bonding, or another form of security, is required under AS 38.05.083 and 11 AAC 63.080. The bond must cover the costs of site cleanup and restoration, any associated cleanup costs after termination of the lease, including any unpaid rentals or other obligations accruing until site restoration is complete. The regulations require the minimum security amount of \$2,500 (or \$1,250 with an association bond) for an aquatic farm lease. Factors such as location and amount of improvements at the site are taken into consideration when the bond amount is determined. Please refer to the Recommendation section at the end of this decision for the bond amount that was determined appropriate for this proposal.

**INSURANCE:** At this time the DNR does not require this type of activity to have general liability insurance. General liability insurance may be required in the future depending on the aquatic farming operations and the procedures of the department at the time changes are made to the lease or a renewal lease is issued. The lessee is responsible for acquiring other types of insurance, such as Workman's Compensation Insurance that may be required under other local/state/federal laws.

**POTENTIAL CONFLICTS/PENDING INTERESTS:** There are no known pending interests at the location of the proposal.

**TRADITIONAL USE FINDING:** The proposed aquatic farm would not appear to cause disruption of traditional and/or existing uses of the area, such as commercial and sport fishing, subsistence activities, boat travel, and recreation. Through agency and public input, more traditional and existing use information may surface. If such information becomes available, any potential and/or existing conflicts will be addressed in the final best interest finding.

**Upland Owner/Management Intent:** The U.S. Forest Service (Tongass National Forest) is the upland owner of the lands adjacent to the aquatic farm proposal on both Betton Island and Hump Island.

**CONSIDERATIONS:** The following criteria set out in 11 AAC 63.050(b), has been considered and represents what is known at this time:

**Land Management:** There are no known land management policies or designations, other than those in the Central/Southern Southeast Area Plan, and potentially the Tongass National Forest Land and Resource Management Plan that may impact this proposal. Measures taken to mitigate impacts on the resources identified in the above-mentioned plans are listed below.

#### **Pending/Existing Uses:**

1. There are no known pending use conflicts or potential impacts to nearby communities or residential land due to the placement of this farm at the proposed location.
2. Information available suggests the aquatic farm will not disrupt traditional and existing uses of the site for use as an anchorage, commercial and sport fishing, recreation, and tourism.

3. There are no historic and cultural resources known to exist in the area.
4. There are no commercial or industrial facilities known to exist in the area.

**Public Access:** Public access has been and will be protected in accordance with 11 AAC 63.050(b)(6) and 11 AAC 53 and will be addressed in any resultant lease agreement.

**Public Trust Doctrine:** Any resultant lease agreement is subject to the principles of the Public Trust Doctrine in order to protect the public's right to use navigable waters and the land beneath them for navigation, commerce, fishing, and other purposes.

**Mitigation Measures:** In addition to the mitigation measures identified above under Pending/Existing Uses, paragraph 2, any resultant lease renewal may include additional stipulations necessary to mitigate conflicts identified during the public/agency comment period

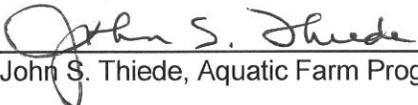
**Social, Economic, and Environmental Concerns:** There are no known significant social, economic, and environmental effects from the existing lease.

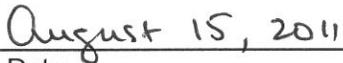
**Surface Area:** The proposal does not encumber more than a third of the surface area of a bay, bight, or cove in accordance with 11 AAC 63.050(c).

Aquatic farm sites have the opportunity to increase income and diversify the state's economy by utilizing state tide and submerged lands for this purpose. The advantage of issuing this lease on state owned tide and submerged lands is the continued employment opportunities as well as any secondary jobs created or increased from businesses involved in marketing, transport or sale of the farmed products.

After researching this proposal there seems to be no obvious disadvantages in issuing this activity on state owned tide and submerged lands. The public should be aware that access through the site, as well as access to any of the common property resources not being cultured at the site are public uses that remain intact. Therefore, and as mentioned above, any resultant lease would stipulate the requirement that signs be posted informing the public of their rights at the aquatic farm site.

**RECOMMENDATION:** Considering the information known at this time and described within this decision, it appears to be in the state's best interest to issue a 10-year aquatic farm lease for approximately 10.51 acres more or less to the applicant for intertidal culture. Any resultant lease will include stipulations that may be identified as a result of public comments. Approval of the application is recommended with a security bond set at \$2,500 or \$1250 with an association bond.

  
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John S. Thiede, Aquatic Farm Program Manager

  
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Date



**VICINITY MAP**  
(T73S, R90E, SEC 20,29)

APPLICANT NAME: MARBLE SEAFOODS  
 WATERBODY: CLOVER PASSAGE  
 REGION: KETCHIKAN, SOUTHEAST ALASKA

PROJECT NO. 112320	SCALE: 1" = 1 MILE	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 1 OF 15
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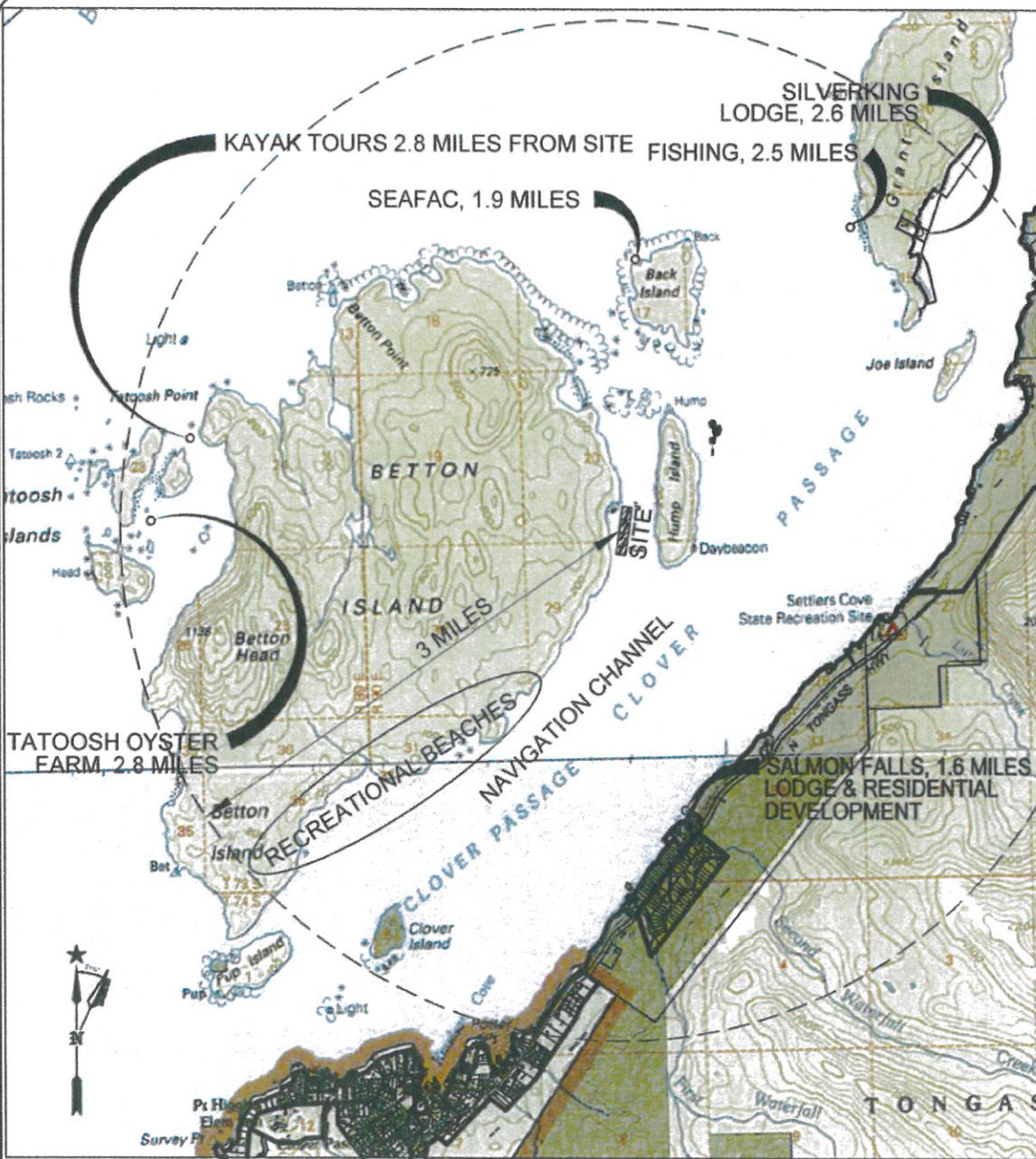


**VICINITY MAP**  
(T73S, R90E, SEC 20,29)



APPLICANT NAME: MARBLE SEAFOODS  
 WATERBODY: CLOVER PASSAGE  
 REGION: KETCHIKAN, SOUTHEAST ALASKA

PROJECT NO. 112320	SCALE: 1" = 1 MILE	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 2 OF 15
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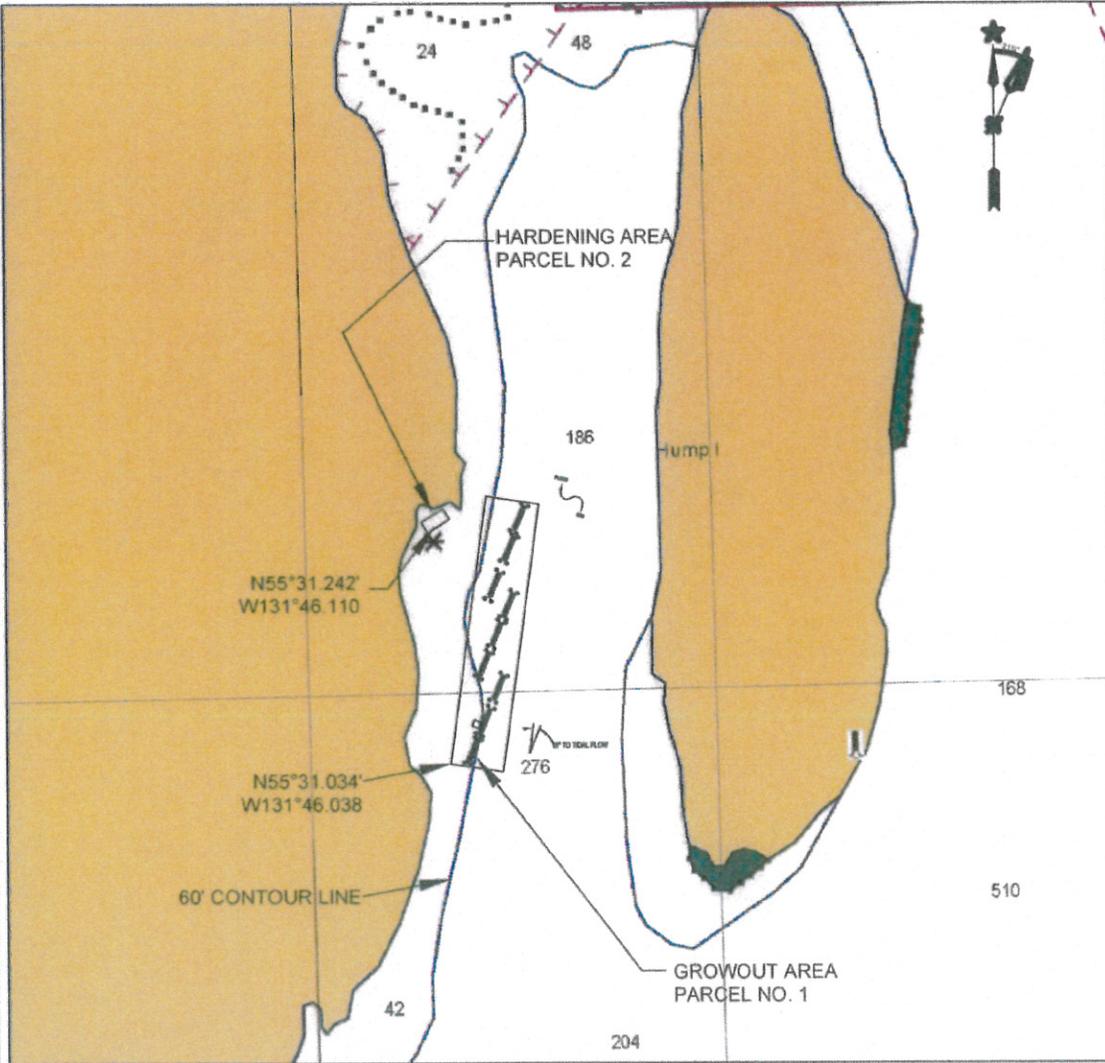
0 .5 1 MILE

**VICINITY MAP**  
USES WITHIN 3 MILES

APPLICANT NAME: MARBLE SEAFOODS  
WATERBODY: CLOVER PASSAGE  
REGION: KETCHIKAN, SOUTHEAST ALASKA

PROJECT NO. 112320	SCALE: 1" = 1 MILE	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 3 OF 15
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0 500 1000 FEET

**LOCATION MAP**  
NOAA CHART 17422

GROWOUT PARCEL NO. 1 COORDINATES		
CORNER	LATITUDE	LONGITUDE
SW	N55°31.034'	W131°46.038
SE	N55°31.028'	W131°45.948
NW	NE N55°31.278'	W131°45.978
NE	NW N55°31.272'	W131°45.894

HARDENING BEACH PARCEL 2 COORDINATES		
CORNER	LATITUDE	LONGITUDE
SW	N55°31.242'	W131°46.105'
SE	N55°31.268'	W131°46.045'
NE	N55°31.272'	W131°46.048'
NW	N55°31.246'	W131°46.110'

PROJECT NO. 112320 SCALE: 1" = 1000' DRAWN BY: T.S.S. CHECKED BY: BH DATE: 4-28-11 SHEET NO. 4 OF 15

**APPLICANT NAME:**  
**MARBLE SEAFOODS**  
**WATERBODY: CLOVER PASSAGE**  
**REGION: KETCHIKAN, SE ALASKA**

R&M

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HARDENING AREA  
PARCEL NO. 2  
0.115 ACRES  
DEPTH RANGE -2' TO +15'

50'  
100'

FLOOD  
EBB

300'

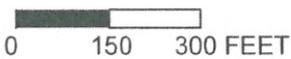
1500'

GROWOUT AREA  
PARCEL NO. 1  
10.33 ACRES  
DEPTH RANGE -50' TO -80'

WORK RAFT  
30'x30'

15° TO TIDAL FLOW

276

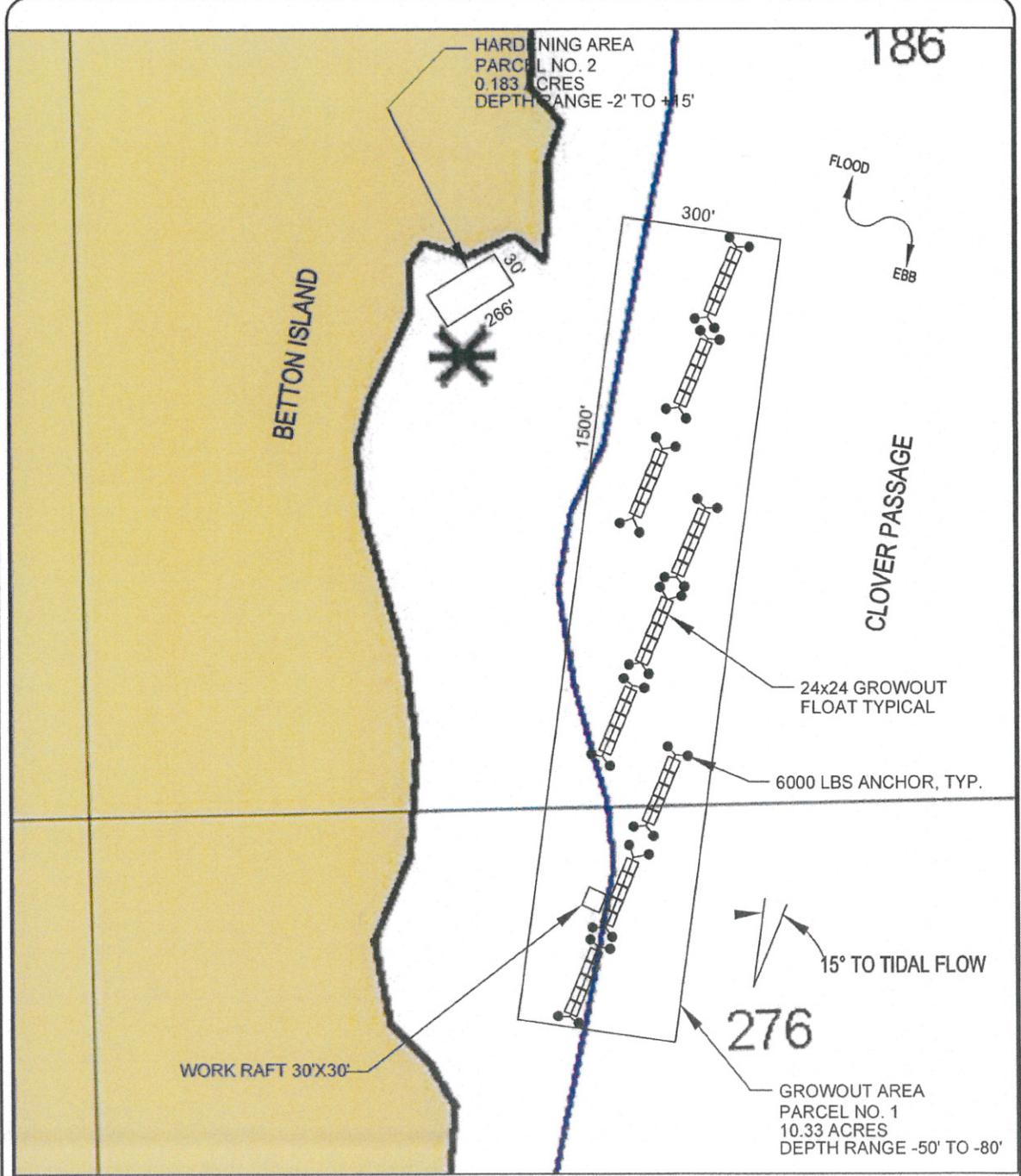


### SITE PLAN

NOAA CHART 17422

PROJECT NO. 112320	SCALE: 1" = 300'	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 5 OF 15
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**APPLICANT NAME:**  
**MARBLE SEAFOODS**  
**WATERBODY: CLOVER PASSAGE**  
**REGION: KETCHIKAN, SE ALASKA**



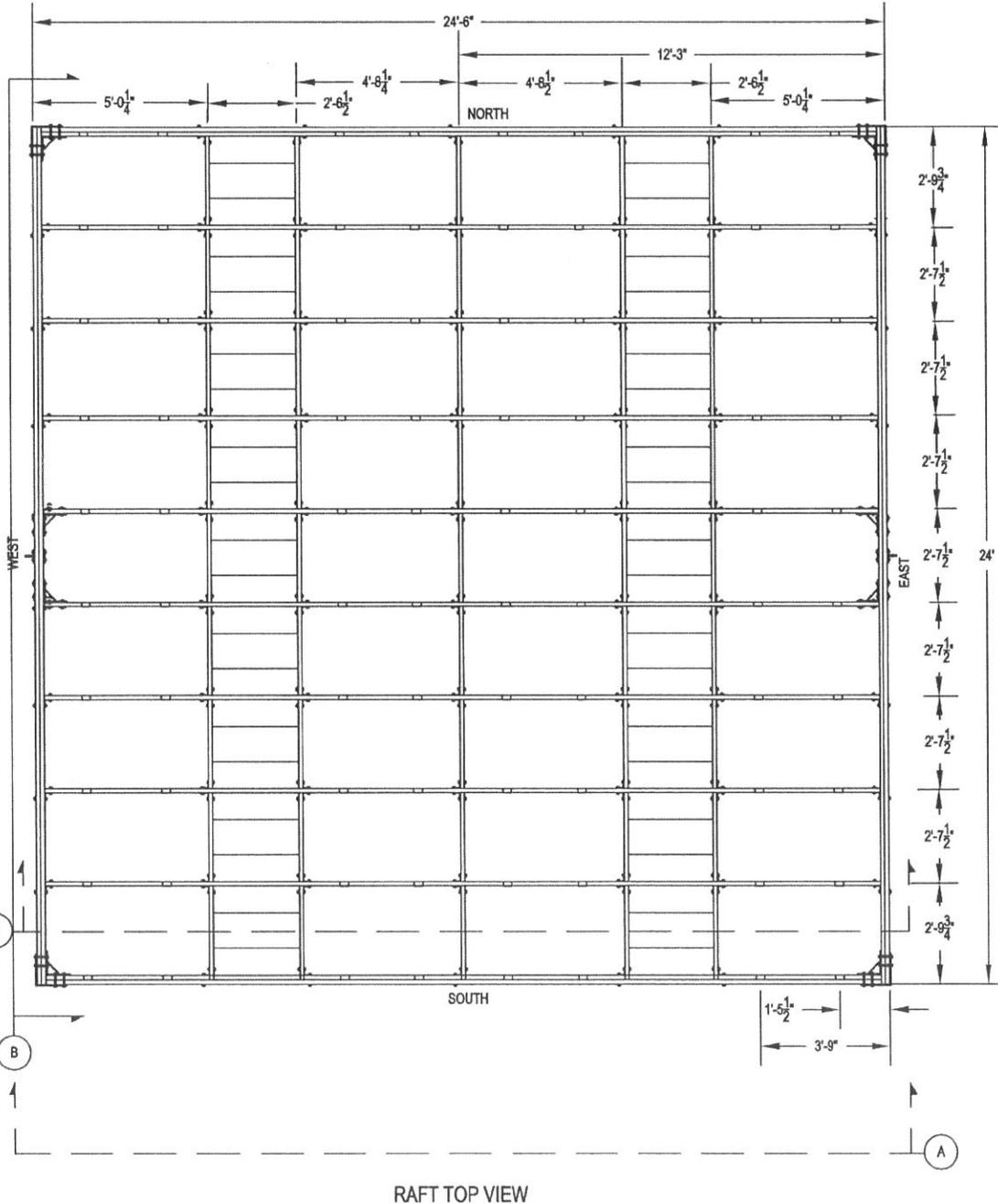
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**SITE PLAN**  
 TOWNSHIP 73S, RANGE 90E  
 SEC 20 SE 1/4, SEC 29 NE 1/4

PROJECT NO. 112320	SCALE: 1" = 300'	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 6 OF 15
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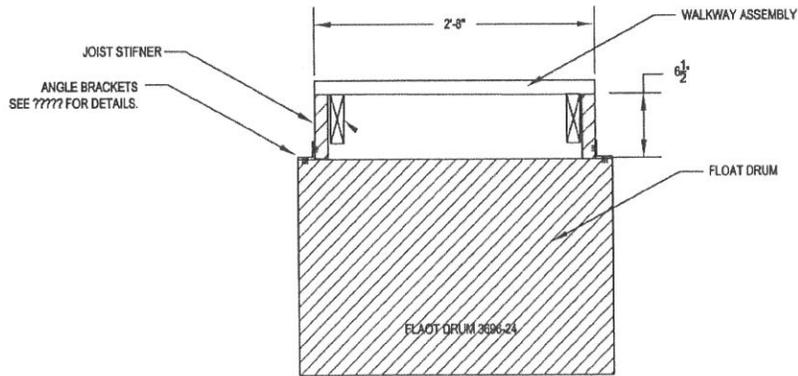
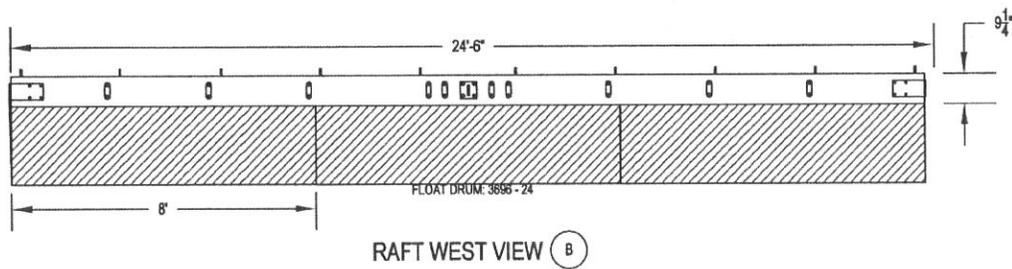
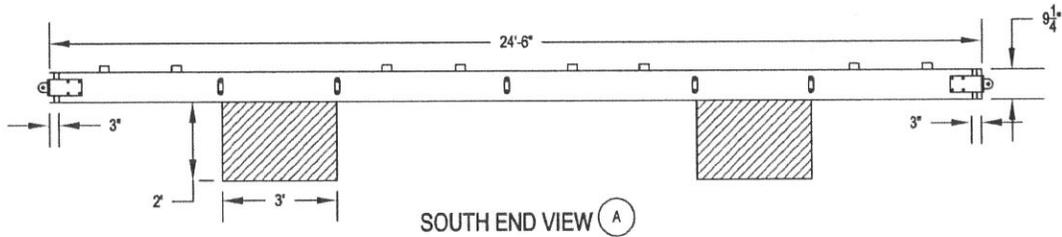
**APPLICANT NAME:**  
 MARBLE SEAFOODS  
**WATERBODY:** CLOVER PASSAGE  
**REGION:** KETCHIKAN, SE ALASKA

R&M



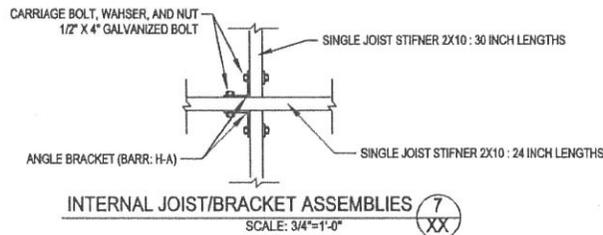
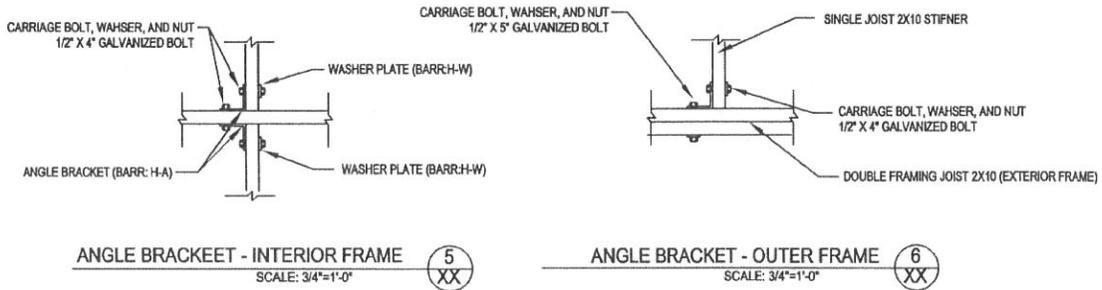
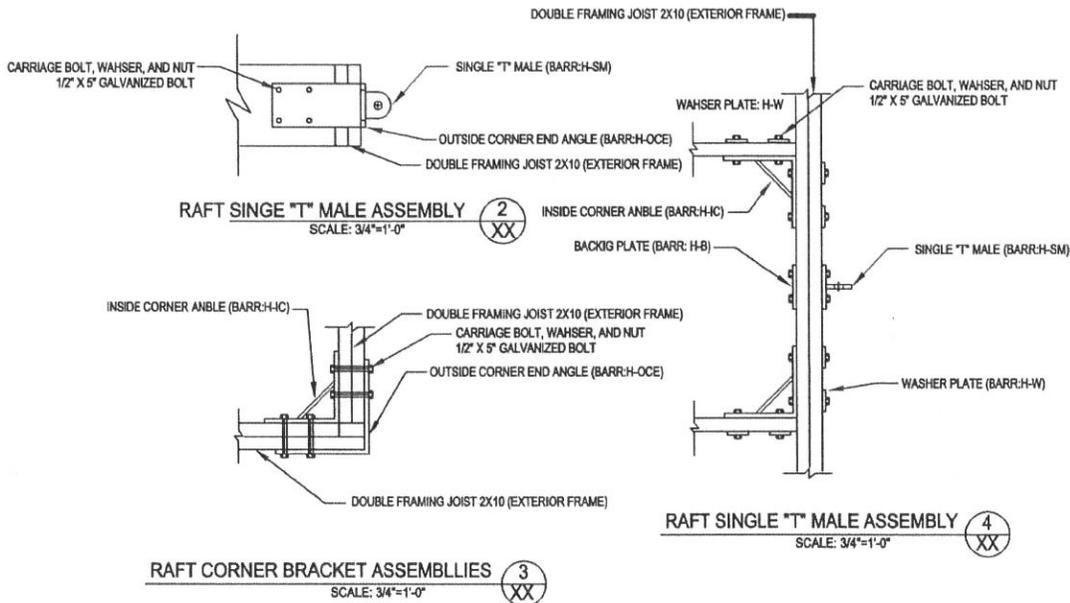
PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 7 OF 15
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**APPLICANT NAME:**  
**MARBLE SEAFOODS**  
**WATERBODY: CLOVER PASSAGE**  
**REGION: KETCHIKAN, SE ALASKA**



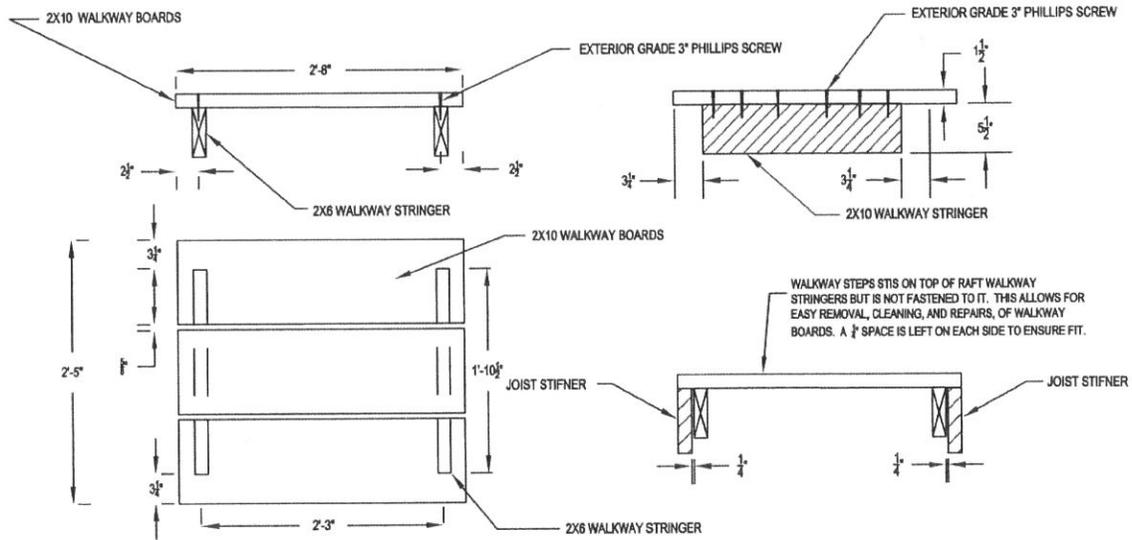
SCALE: 3/4"=1'-0" (1/XX)

PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 8 OF 15
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PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 9 OF 15
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**APPLICANT NAME:**  
**MARBLE SEAFOODS**  
**WATERBODY: CLOVER PASSAGE**  
**REGION: KETCHIKAN, SE ALASKA**

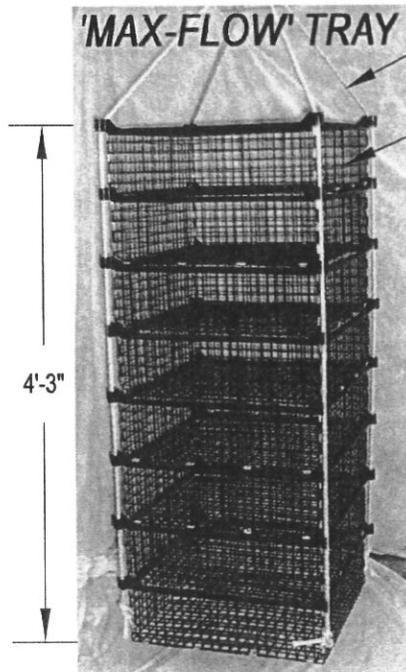


WALKWAY STEP ASSEMBLY 8  
SCALE: 3/4"=1'-0" XX

MATERIAL NOTES: ALL WOOD TO BE USED WILL NOT BE TREATED WITH PRESERVATIVES. PLASTIC FOAM BILLET 4x8 WILL BE USED FOR FLOATATION.

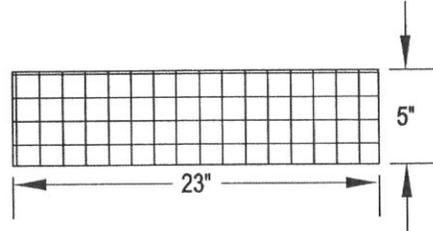
PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 10 OF 15
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APPLICANT NAME:  
MARBLE SEAFOODS  
WATERBODY: CLOVER PASSAGE  
REGION: KETCHIKAN, SE ALASKA



3/8" LINE FOR BRIDLE WITH 2' LIFTING STRAP

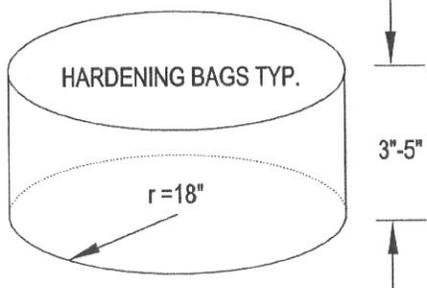
TYPICAL SHELFISH GROW OUT TRAY  
STACK 8 TRAYS HIGH



SECTION VIEW

GROWOUT TRAY

- NOTES: 1) TRAY SHALL BE MAX-FLOW SHELFISH GROWOUT TRAY SYSTEM WITH VEXAR "BOX" INSERT.  
 2) BRIDLE LINE & HANGING STRAP SHALL BE 3/8" POLYLINE.  
 3) EACH HINGED TRAY SHALL BE 23"x23"x5" 16 GA PVC COATED WELDED GALVANIZED MESH.

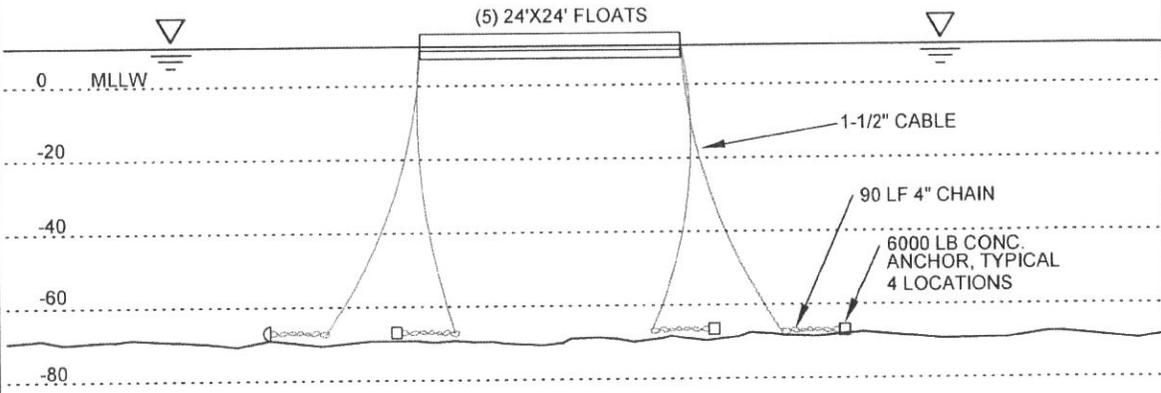


HARDENING BAG

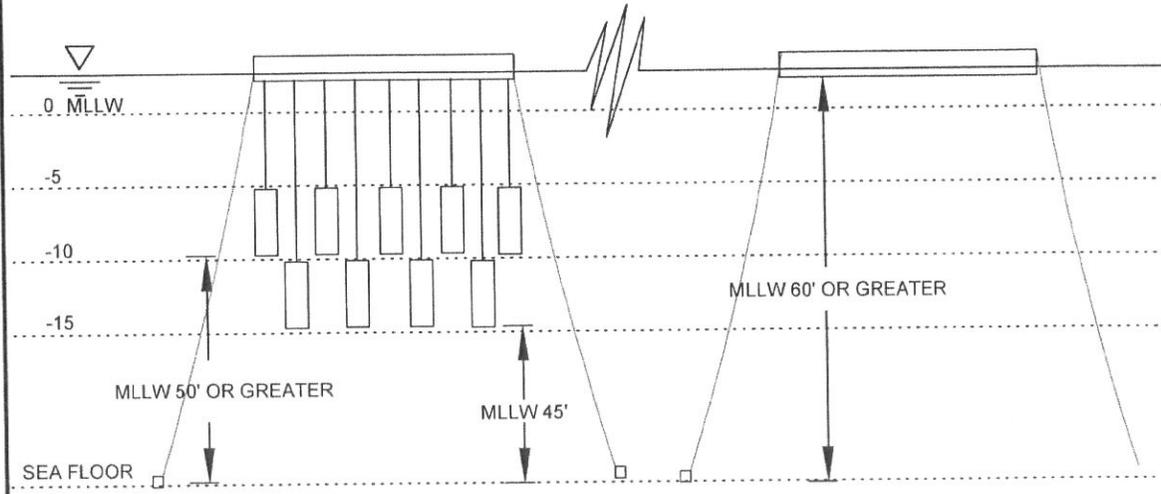
- NOTES: VEXAR PLASTIC HARDENING BAG SET ON HARDENING BEACH WITH 3/8" POLYLINE AND WILL BE ANCHORED IN PLACE USING CONCRETE PIER BLOCKS, OR ONSITE ROCKS, OR ROCK ANCHORS IF SUITABLE MATERIAL ONSITE.

PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 11 OF 15
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**APPLICANT NAME:**  
**MARBLE SEAFOODS**  
**WATERBODY: CLOVER PASSAGE**  
**REGION: KETCHIKAN, SE ALASKA**



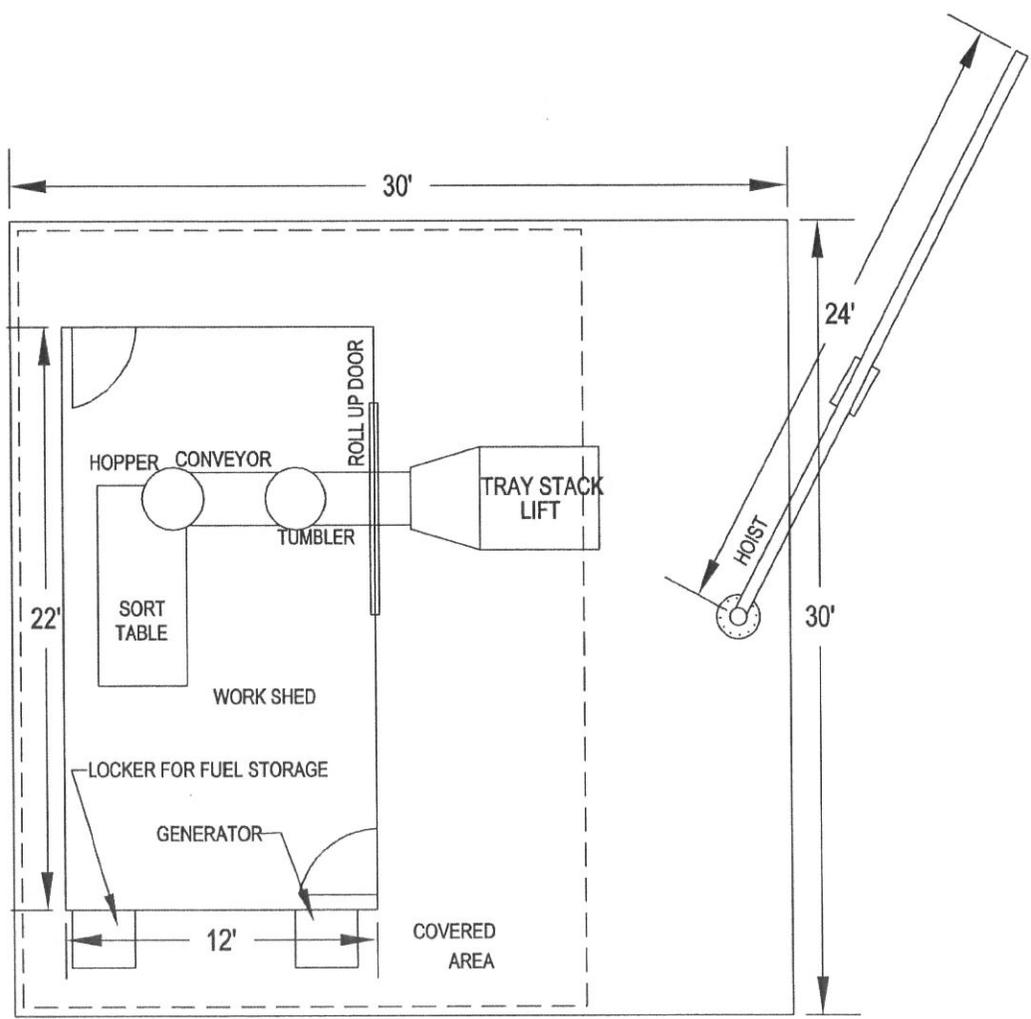
**SECTION VIEW**  
 1" = 50' HORIZ.  
 1" = 20' VERT.



**SECTION VIEW**  
 1" = 50' HORIZ.  
 VERTICAL NTS.

**ANCHORING DETAILS**

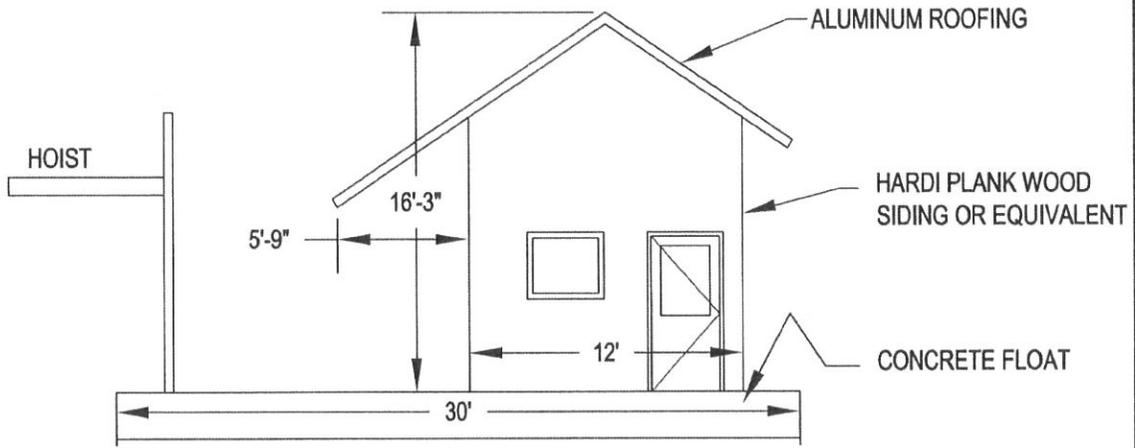
PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 12 OF 15
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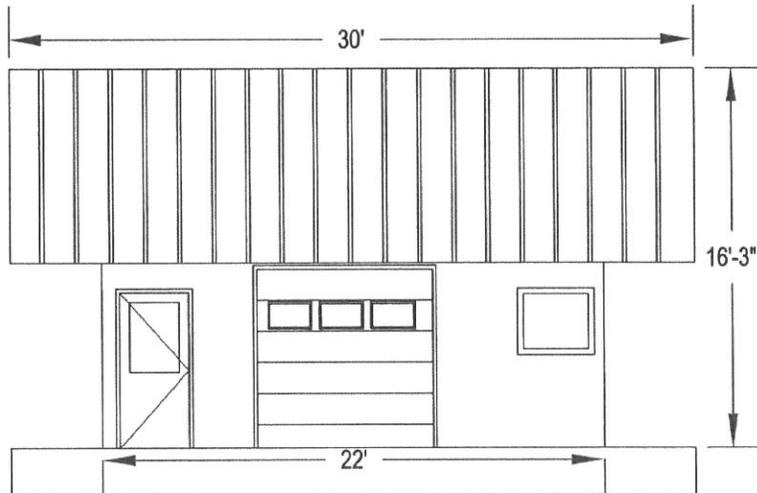
WORK FLOAT PLAN

PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 13 OF 15
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**APPLICANT NAME:**  
**MARBLE SEAFOODS**  
**WATERBODY: CLOVER PASSAGE**  
**REGION: KETCHIKAN, SE ALASKA**



1 EAST ELEVATION



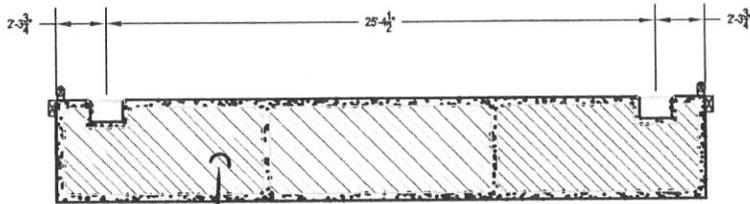
2 SOUTH ELEVATION



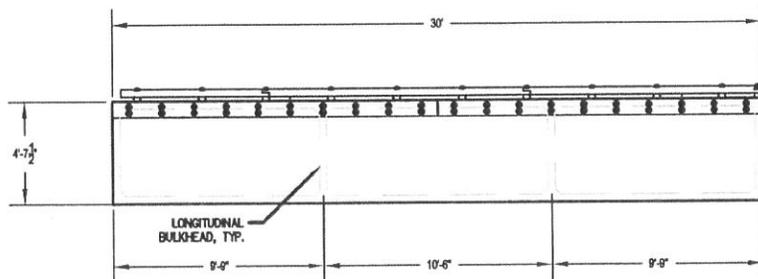
WORK FLOAT ELEVATIONS

PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 14 OF 15
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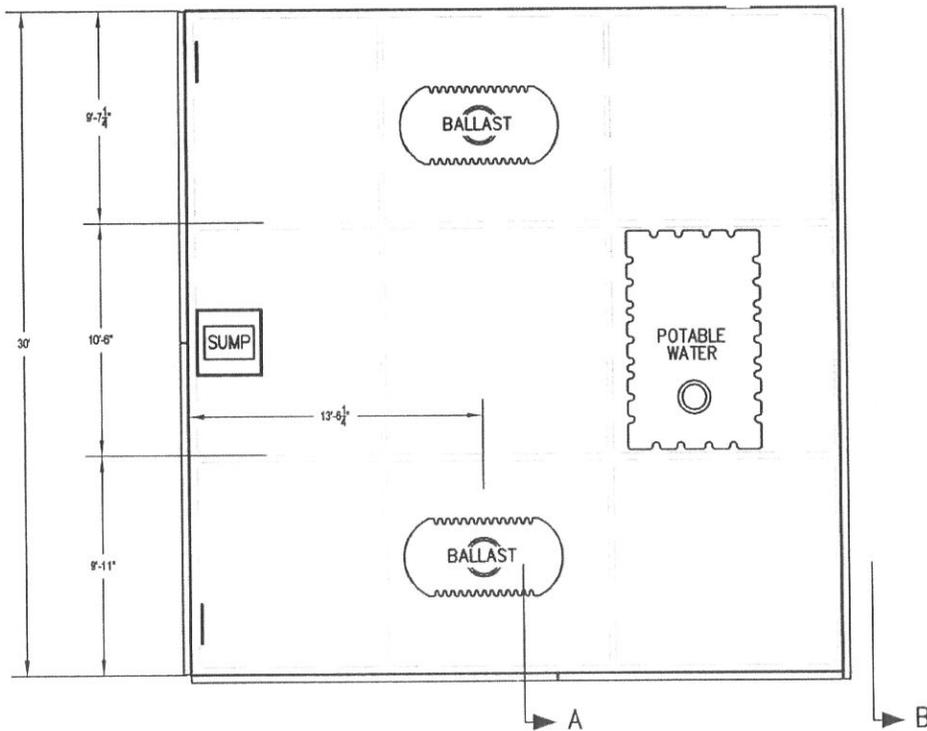
**APPLICANT NAME:**  
**MARBLE SEAFOODS**  
**WATERBODY: CLOVER PASSAGE**  
**REGION: KETCHIKAN, SE ALASKA**



SECTION A  
SOLID, RIGID  
POLYSTYRENE  
FOAM CORE



END VIEW B



WORK FLOAT STRUCTURAL DETAILS

PROJECT NO. 112320	SCALE: AS NOTED	DRAWN BY: T.S.S.	CHECKED BY: BH	DATE: 4-28-11	SHEET NO. 15 OF 15
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**APPLICANT NAME:**  
**MARBLE SEAFOODS**  
**WATERBODY: CLOVER PASSAGE**  
**REGION: KETCHIKAN, SE ALASKA**