



US Army Corps  
of Engineers  
Honolulu District

# Public Notice of Application for Permit

Regulatory Branch (1145b)  
Building 230  
Fort Shafter, Hawaii 96858-5440

Public Notice Date: January 22, 2010  
Expiration Date: February 21, 2010  
Permit File Number: POH-2009-0263

Interested parties are hereby notified that an application has been received for a Department of the Army permit for certain work in waters of the United States as described below and shown on the attached drawings.

**APPLICANT:** Mr. William Spencer, Hawaii Oceanic Technology, Inc., 425 South Street, Suite 2902, Honolulu, HI 96813.

**LOCATION:** In the Pacific Ocean off the North Kohala Coast, 2.6 nautical miles due southwest of Malae Point, Island of Hawaii, Hawaii. Latitude: 20°05'40.00N and Longitude: 155°55'40.00"W.

**PROPOSED WORK:** Deploy 12 fish cages called Oceanspheres and associated marker/feeding buoys. Deployment will be incremental and as follows: one cage in year 1, two in year 2, four in year 3, and five in year 4. See attached figures.

The 55-meter diameter cages will be submerged at least 60 feet below the water's surface where ocean depth is 1,320 feet and consists of soft-bottom substrate. Each cage will have a volume of 40,000 to 82,406 cubic meters with a stocking density of less than 1 fish per 4 cubic meters. Each cage could produce up to 1,000 tons of Ahi per year, although no more than 6,000 tons will be produced annually. Most of the harvest will be shipped to the Mainland or Japan. A small percentage will be sold locally but will not be sold in a quantity to impact market prices.

The cages will be composed of an anodized aluminum or High Density Poly-Ethylene frame covered in taut, anti-fouling netting and will not have any sharp surfaces, dangling lines, or tethers. The netting is approximately one-square-inch stitching made from commercially available 0.08-inch offshore netting. Because the cages will be untethered, they will be held in place with a dynamic positioning system monitoring their location 24 hours a day as well as a propulsion system which includes a generator or biofuel engine and thrusters.

Divers will be deployed daily to inspect the cages. Cages will undergo maintenance approximately once a month for four hours, during which the cages will be lifted to the surface. One cage will be harvested approximately once per month.

**PURPOSE:** Commercial aquaculture farm for yellowfin and bigeye tuna (Ahi tuna).

**ADDITIONAL INFORMATION:** The Oceanspheres will be used to grow out yellow fin and bigeye tuna only, from fingerling size to market size. Tuna will be hatched on land, and hatchlings will originate from locally caught tuna. Approximately seven tuna will be caught annually off the waters of Hawaii and used as broodstock.

Yellow fin and bigeye tuna will be grown in separate cages and will likely be fed standard composition dry feed (~85% non-GMO soy or other protein, 1% vitamins, and 15% fish meal or oil). At full operation, they will require 1,000 tons of feed per month which will be stored in and dispensed from the marker/feeder buoys.

The cages will employ shielded low rpm high torque thrusters which provide low frequency noise at less than 100 dB at one meter. The surface buoys and power generators will not generate noise levels over 50 dBA from 07:00 am to 10:00 pm (daytime) and 45 dBA from 10:00 pm to 07:00 am (nighttime) at residential property lines or outside the Lease Site, nor will they result in maximum instantaneous noise levels that exceed 70dBA during daytime hours or 65 dBA during nighttime.

**MITIGATION:** The aquaculture farm is proposed to be located in deep waters away from benthic communities, coral reef communities, and other nearshore biological resources, as well as common fishing and navigational locations. Because of the farm's location and depth in the open ocean, ocean currents will provide fish with clean seawater and will dilute effluents. Impacts are expected to be minor. The applicant has proposed the development of a water quality monitoring plan as well as a monitoring plan for marine mammals, sea turtles, and sharks to ensure impacts to the aquatic environment are negligible.

**WATER QUALITY CERTIFICATION:** Not required since no discharge of dredge or fill material is proposed.

**COASTAL ZONE MANAGEMENT ACT CERTIFICATION:** Section 307(c)(3) of the Coastal Zone Management Act of 1972 (Public Law 92-583), as amended by 16 U.S.C. 1456(c)(3), requires the applicant to certify that the described activity affecting land or water uses in the Coastal Zone complies with the Hawai'i's Coastal Zone Management Program. A permit will not be issued until the Office of State Planning, Department of Business, Economic Development, and Tourism has concurred with the applicant's certification.

**PUBLIC HEARING:** Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, clearly and concisely, the reasons and rationale for holding a public hearing.

**CULTURAL RESOURCES:** The Corps has determined that the proposed work has no potential to cause effect to any historic property listed, or eligible for listing, in the National Register of Historic Places because the Hawai'i and National Register of Historic Places do not list any historic properties within or in the vicinity of the area of potential effect (APE) for the project.

The Corps also requests consultation with Native Hawaiian organizations and individuals to gather information regarding historic properties as well as the ethnographic and historic uses in the proposed permit area.

**ENDANGERED SPECIES:** Section 7 of the Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) on all actions that may affect a species listed (or proposed for listing) under the ESA as threatened or endangered or any designated critical habitat.

The Corps has assessed potential impacts to Federal candidate, proposed, and listed endangered and threatened species in the project area. Below are the species that occur or have potential to occur within the project area and the Corps' determination of effect:

- Green sea turtles (*Chelonia mydas*), threatened, may affect, not likely to adversely affect
- Hawksbill sea turtles (*Eretmochelys imbricate*) endangered, may affect, not likely to adversely affect
- Humpback whales (*Megaptera novaeangliae*) endangered, may affect, not likely to adversely affect
- Hawaiian monk seals (*Monachus schauinslandi*) endangered, may affect, not likely to adversely affect

This project may affect but is not likely to adversely affect species listed or proposed for listing under the Endangered Species Act. Although the structures, maintenance, and harvesting will generate noise (see 'Additional Information' section), noise levels will be similar to other noises from vessel movement and is not expected to adversely affect the behavior and movements of protected species. Noise generated from daily inspections, maintenance, and harvesting will be also be minor in nature and short in duration.

The presence of structures themselves could affect the movements of protected species. However, by ensuring no tether, anchors, or other lines are utilized, this is expected to be minor. The project is also not located in the primary routes of protected species. There is also potential for operations to impact protected species by attracting fish and other food sources of these species to the outside of the nets. Impacts are expected to be minor in nature since the cages do not allow fish escapes and food waste will be avoided and minimized through careful monitoring. A monitoring and contingency plan will be developed to ensure protected species are not adversely impacted by the presence of these structures.

There is also potential for food and waste to pass through the cages and impact the aquatic environment outside the cages, such as water quality and benthic communities. This is likely limited because food dispersion will be closely monitored to minimize unused food from passing through the cages. Due to the ocean depth in the area, other wastes will also be minimized and will not likely reach the soft-bottom substrate or impact organisms found there. Depth and water circulation will likely disperse food and waste so no impact occurs. A water quality monitoring program will be developed to ensure that food and other wastes do not adversely impact the aquatic environment or protected species.

In accordance with informal consultation procedures under Section 7 of the Endangered Species Act (ESA), we request concurrence for the project with NMFS/USFWS for their respective species in which we determined that the project may affect, but is not likely to adversely affect listed species.

**ESSENTIAL FISH HABITAT:** The proposed work is being evaluated for possible effects to Essential Fish Habitat (EFH) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act of 1996 (MSFCMA), 16 U.S.C. § 1801 *et seq.* and associated federal regulations found at 50 CFR 600 Subpart K. The Honolulu District includes areas of EFH as Fishery Management Plans. We have reviewed the January 20, 1999, Western Pacific Fishery Management Council's Environmental Assessment to locate EFH area as identified by the National Marine Fisheries Service (NMFS).

In accordance with the requirements of the MSFCMA, the Corps has determined that the proposal would not adversely affect EFH. We request concurrence from NMFS.

**SPECIAL AREA DESIGNATION:** None – The project site is located a minimum of 0.80 nautical miles outside the Humpback Whale Marine Sanctuary.

**AUTHORITY:** This permit application will be reviewed under the following authorities:

(\*) Perform work in or affecting navigable waters of the United States – Section 10 Rivers and Harbors Act 1899 (33 U.S.C. 403).

( ) Discharge dredged or fill material into waters of the United States – Section 404 Clean Water Act (33 U.S.C. 1344). The Corps' public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

( ) Transport dredged material for the purpose of dumping it into ocean waters - Section 103 Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413). The Corps' public interest review will consider the criteria established under authority of Section 102(a) of the Marine Protection, Research and Sanctuaries Act of 1972, as amended (40 CFR Parts 220 to 229), as appropriate.

**EVALUATION:** The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber


production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

**COMMENT AND REVIEW PERIOD:** Conventional mail or e-mail comments on this public notice will be accepted and made part of the record and will be considered in determining whether it would be in the public interest to authorize this proposal. In order to be accepted, e-mail comments must originate from the author's e-mail account and must include on the subject line of the e-mail message the permit applicant's name and reference number as shown below. All e-mail comments should be sent to **Amy.S.Klein@usace.army.mil**. Conventional mail comments should be sent U.S. Army Corps of Engineers, Regulatory Branch, Building 230, Ft. Shafter, HI 96858-5440. Both conventional mail and e-mail comments must include the permit applicant's name and reference number, as shown below, and the commenter's name, address, and phone number. All comments, whether by conventional mail or e-mail, must reach this office no later than the expiration date of this public notice to ensure consideration. Please include the following name and reference number: **Hawaii Oceanic Technology, POH-2009-0263**.

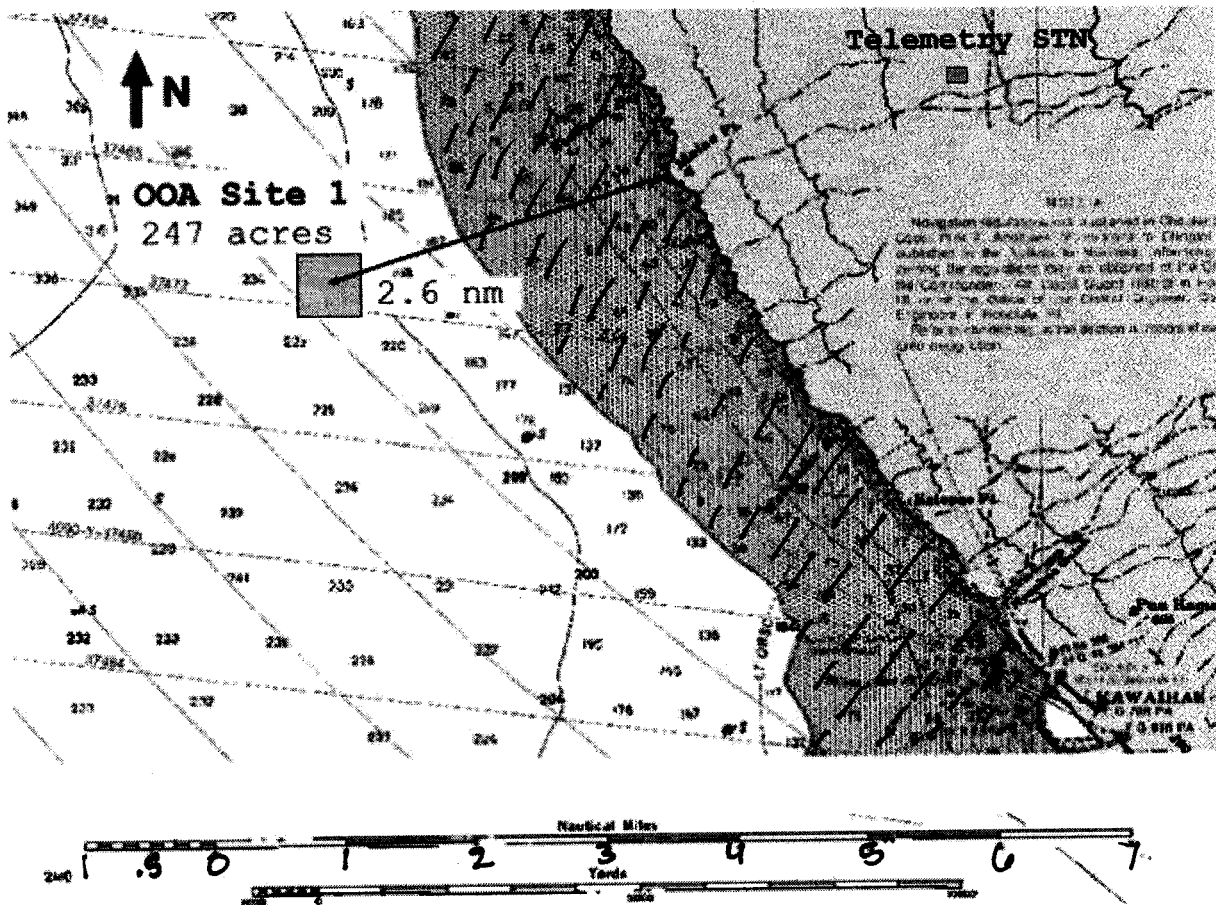
Comments on the described work, with the reference number, should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. Please contact Ms. Amy Klein at (808) 438-7023 if further information is desired concerning this notice.

Project Drawings (8) are attached to this Public Notice.

  
for District Engineer  
U.S. Army, Corps of Engineers

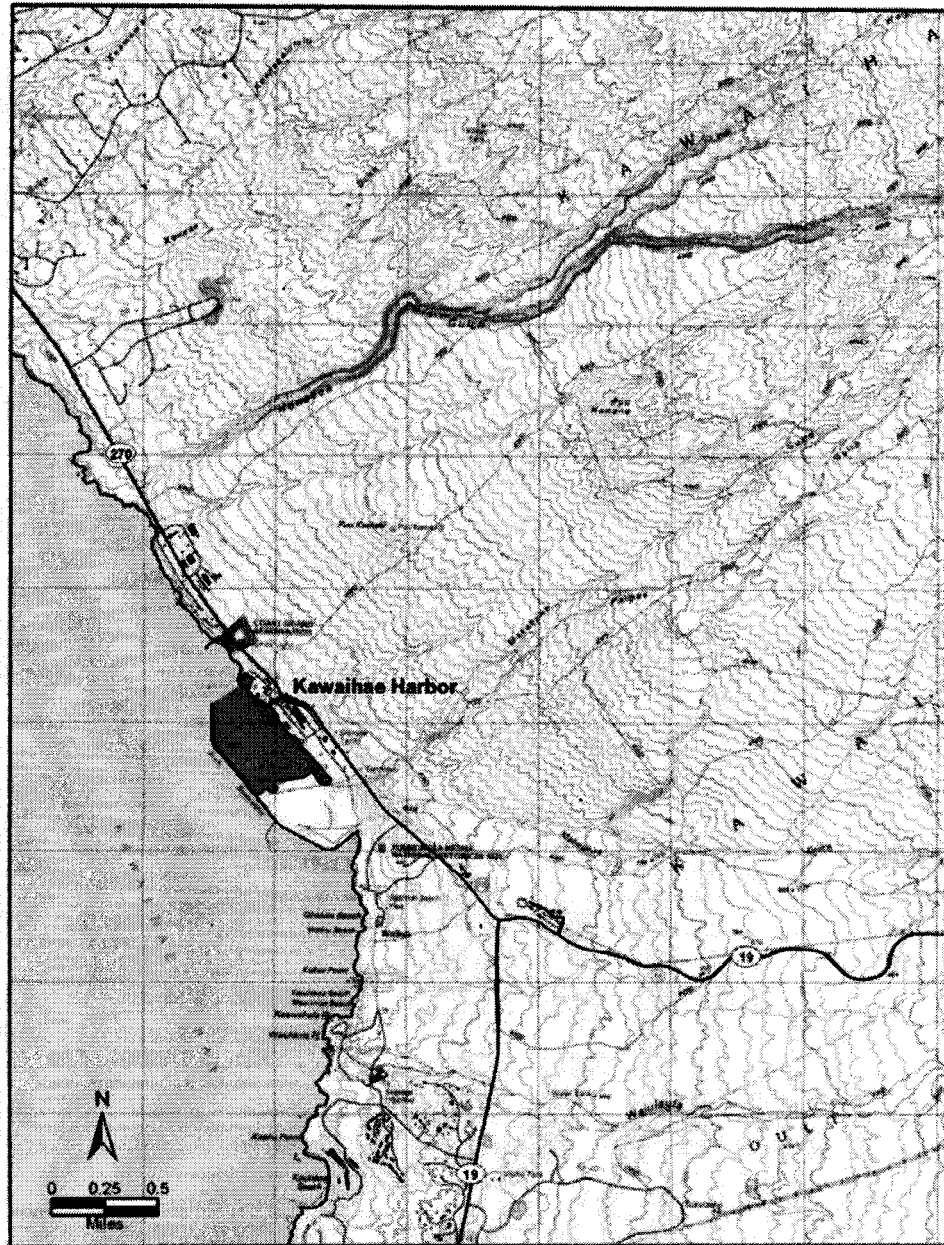
Attachments

Figure 1-1. Proposed Action: Preferred OOA Site 1 Malae Point. Map of proposed Open Ocean Aquaculture Site (blue region) and the Humpback Whale Marine Sanctuary (purple region). The aquaculture site is 2.6 nautical miles due southwest of Malae Point. The center of the Ocean Lease Site is 20°05'40.00" N 155°55'40.00" W and the water depth is 1,320 feet (402.34 meters) (Map taken from NOAA HIHWNMS website).



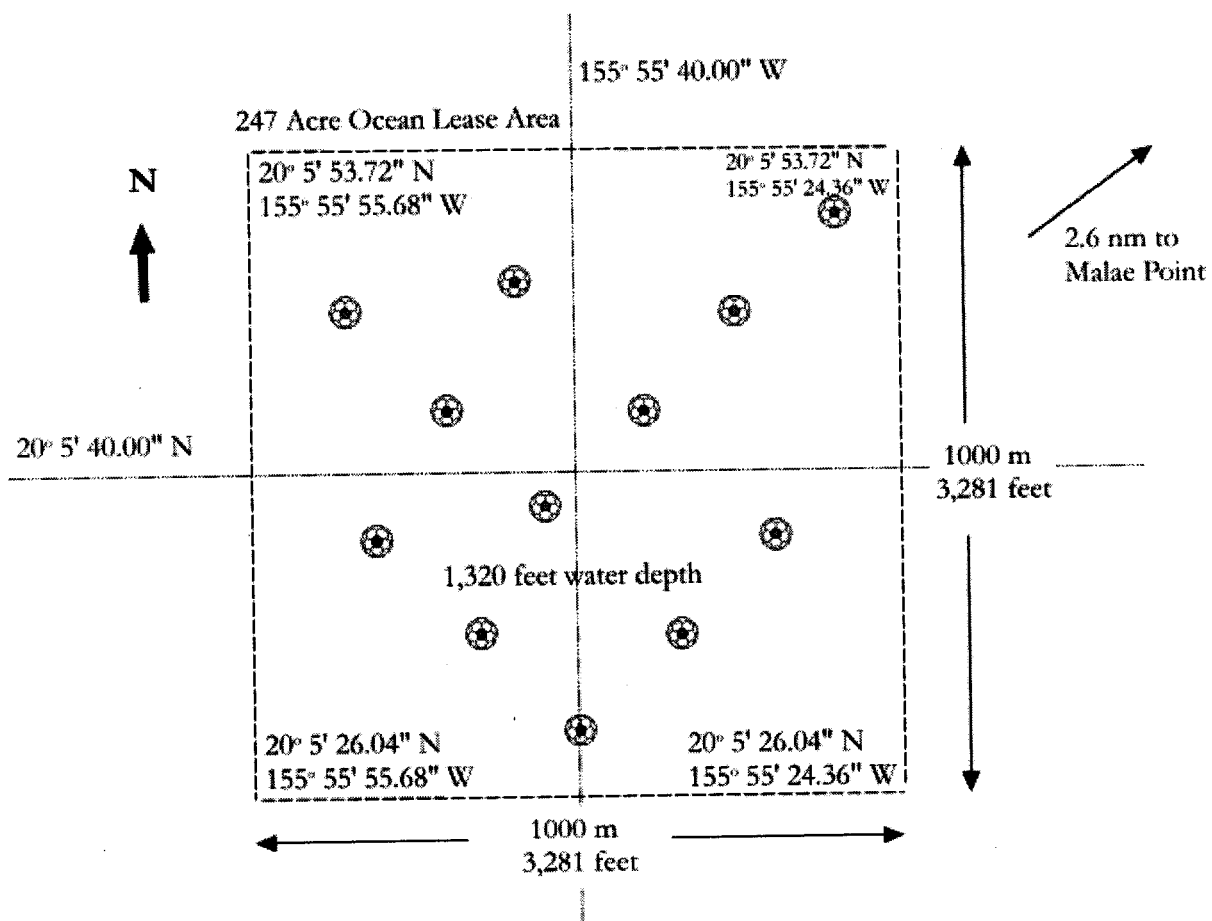
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Figure 1-2. Kawaihae Commercial Harbor.



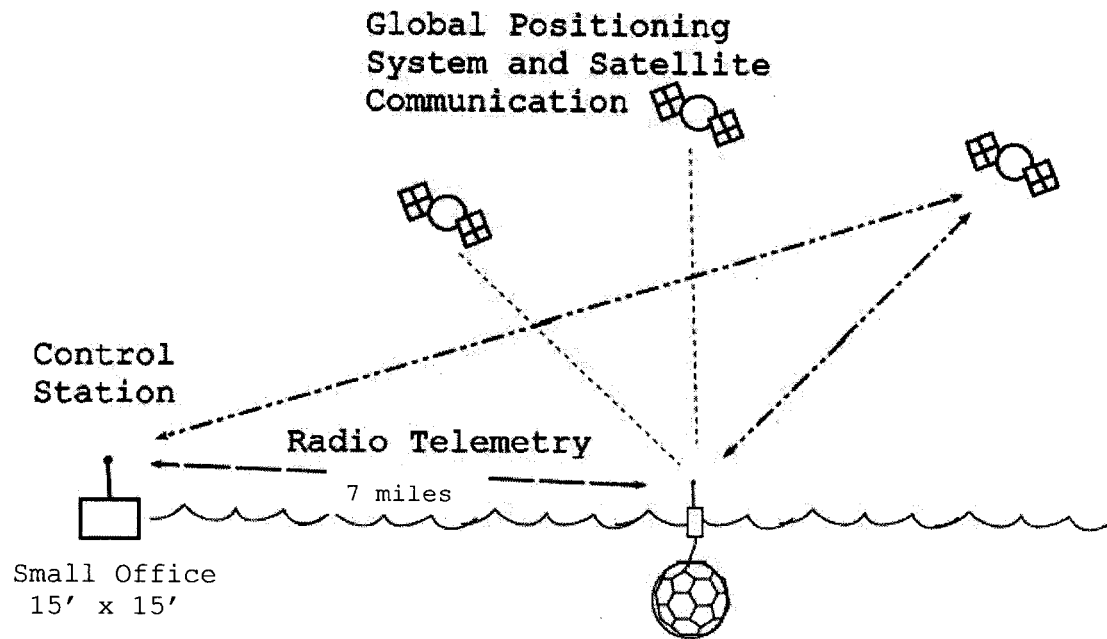
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Figure 1-3. Map of the Proposed Action at Preferred OOA Site 1.



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Figure 1-4 – GPS/Inertial Navigation System

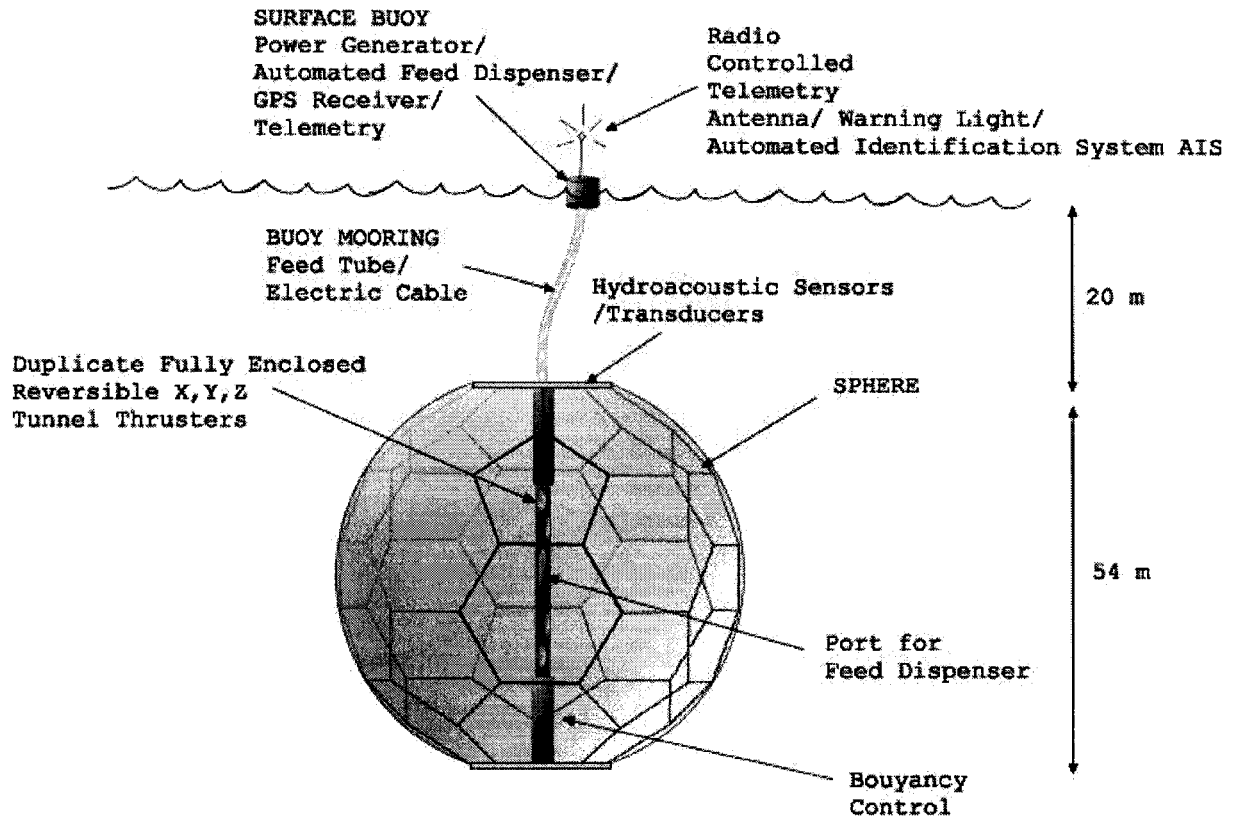


Telemetry  
Station. See Fig. 1-1  
for ~ upland location.

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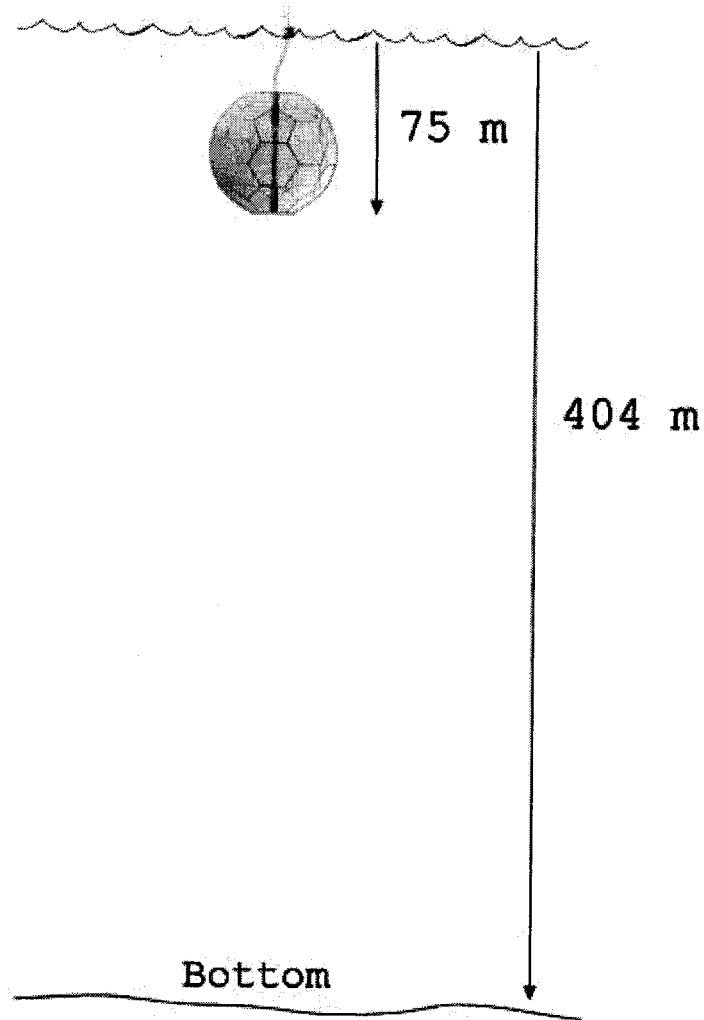


Figure 1-5. Oceansphere Schematic



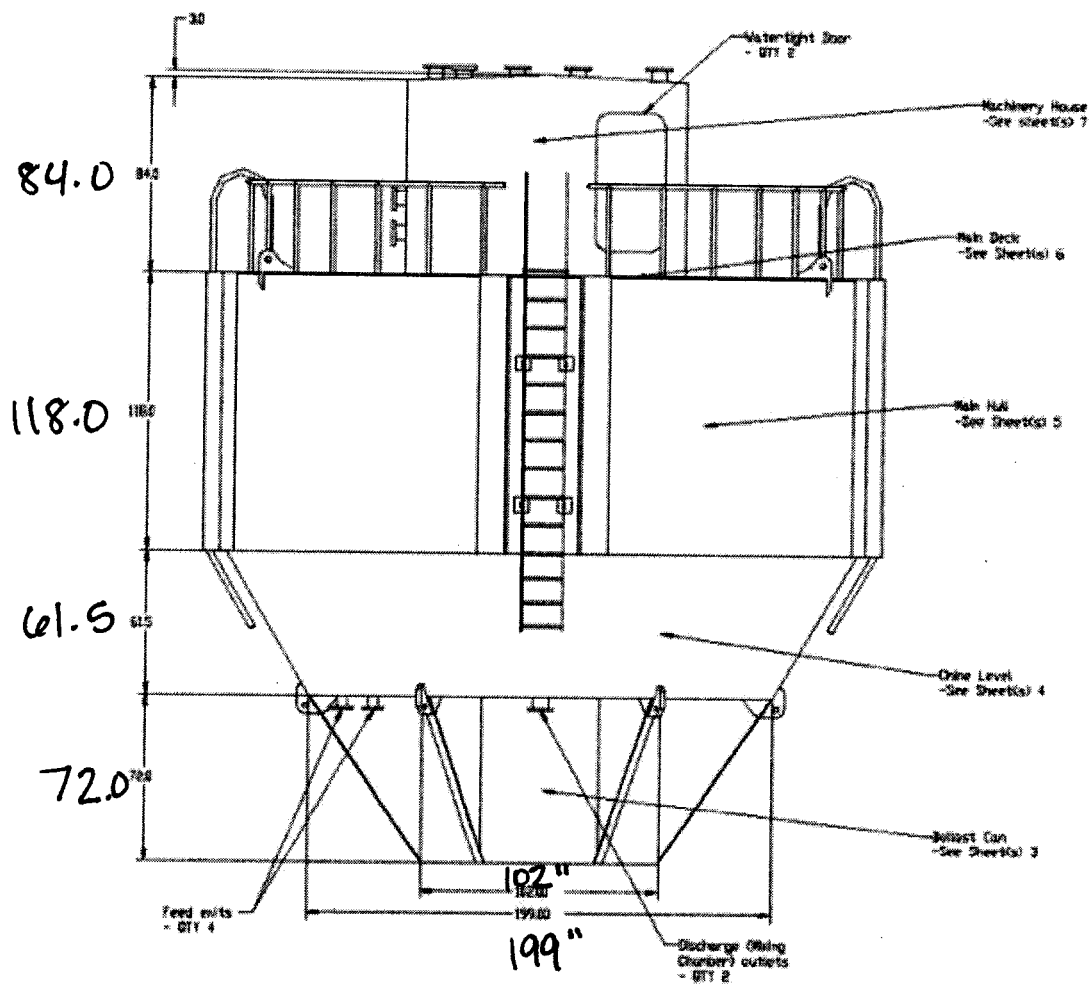
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Figure 1.6 Scaled drawing of Oceansphere in comparison to the water column depth at the North Kohala Ocean Lease Site.



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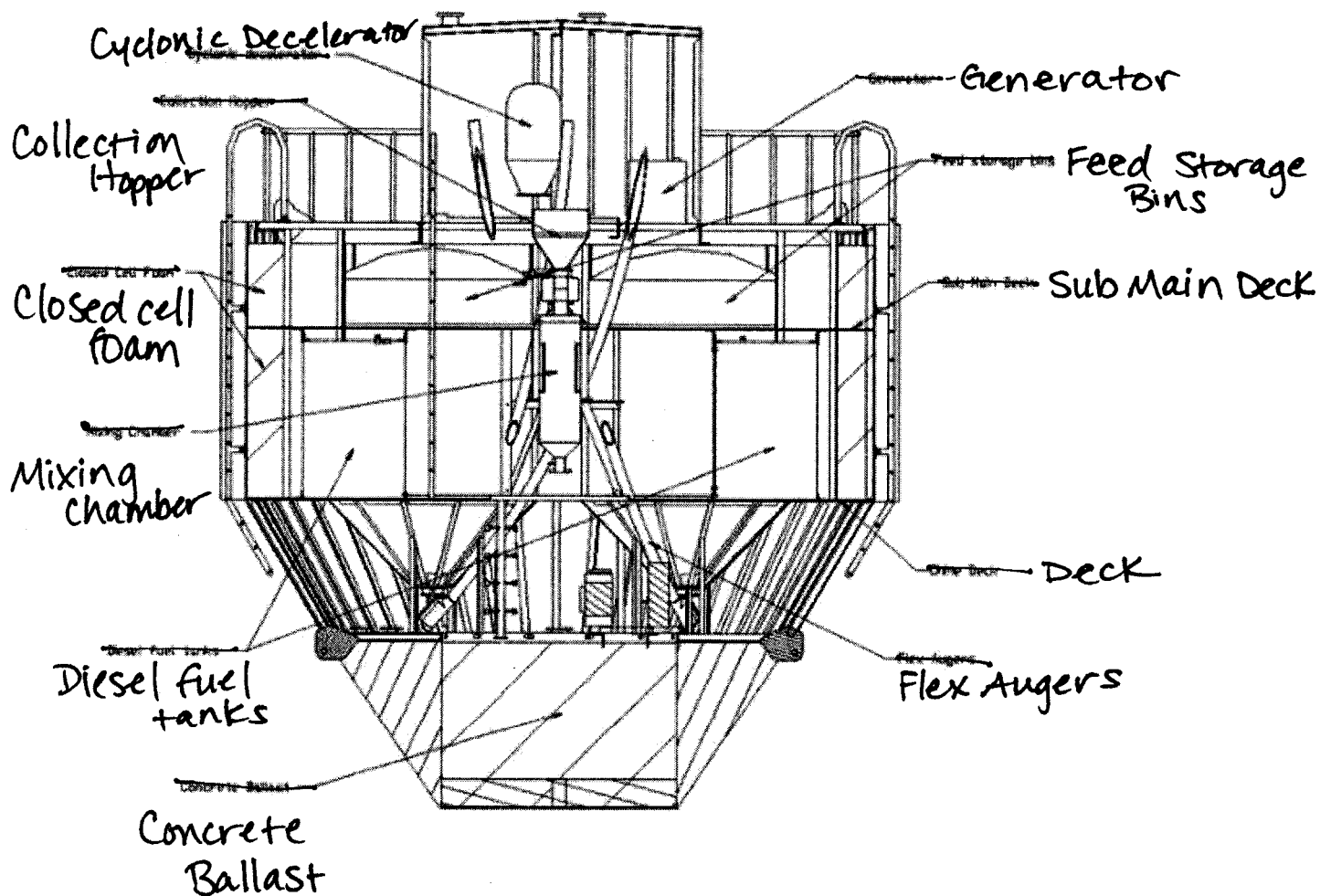
## Surface Buoy Dimensions (inches)



- 20-feet in diameter
- Navigational lights visible from two miles
- Automated Identification System

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Figure 1.9 – Diagram of Surface Buoy showing automated feeding dispenser



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