1.1 Moss Landing Marine Laboratories

The Moss Landing Marine Laboratories (MLML) Expansion Project contains both sort- and long-term plans for expansion, which are outlined below.

1.1.1. PROJECT LOCATION

Moss Landing

APNs/Addresses:

1) APN 133-241-013-000 (~7539 Sandholdt Road)
2) APN 133-241-014-000 (~7539 Sandholdt Road)
3) APN 133-242-010-000 (7544 Sandholdt Road)
4) APN 133-232-006-000 (7722 Sandholdt Road)
5) APN 133-201-016-000 (~8272 Moss Landing Road)

1.1.2. OVERVIEW

Short-Term MLML Plans

Marine Operations Facility. MLML plans to construct a new 36,000-square foot multi-use facility with a new 15,000-square foot dock/wharf area at 7539 Sandholdt Road. This facility would house a warehouse, offices, retail shops, and off-loading facilities.

Long-Term MLML Plans

Shore Lab – North. MLML plans to construct a new 2,600-square foot multi-use facility at 7544 Sandholdt Road. This facility would house an office and warehouse facility.

Sandholdt Pier/Shore Lab – South. MLML plans to construct a new 7,400-square foot research building, a 8,520-square foot slab for aquaculture, and 500-foot pier at 7722 Sandholdt Road. This facility would provide research space, aquaculture space, and commercial pier space.

Sandholdt Center/Acedemic Village. MLML plans to construct a new 30,000-square foot mixed-use building adjacent to its main campus. This facility would contain residential units, office space, and a conference facility.

1.1.3. MOSS LANDING MARINE LABORATORIES MASTER PLAN

The Moss Landing Marine Laboratories (MLML) are the graduate program and research facilities serving seven California State Universities campuses located in Fresno, Stanislaus, Sacramento, San Francisco, Hayward, San Jose and Monterey Bay. The second oldest marine lab on the Monterey Bay, MLML is the only graduate program in Marine Science in the California State University and serves as the gateway to the Monterey Bay National Marine Sanctuary for Staff,

Faculty and Students of the CSU, affiliated researchers and the public. Since its grass-roots inception in 1966 in a converted cannery building, MLML has built a program in graduate education and research that is internationally renowned for excellence in the disciplines of marine science.

Among the marine institutions around the Bay, MLML distinguishes itself by engaging in a broad spectrum of coastal and marine research topics, often applied to questions of the whole organism or ecosystem and their responses to anthropogenic impacts and mitigation. Utilizing the coastal campuses of the CSU, MLML has recently established a coastal observatory, spanning all of California and dedicated to monitor environmental conditions and change in the coastal zone. In addition, MLML operates the largest fleet of research vessels in central California including the R/V Point Sur, a 500 ton, 135 foot regional class research vessel, owned by the National Science Foundation. Over the last 40 years, MLML has acquired several properties in support of these activities and programs. Several recent developments now compel a comprehensive plan that will incorporate all the needs of the institution and more formally develop the uses and facilities at each one of these properties. In addition, MLML recognizes the opportunity to functionally and programmatically address and demonstrate issues of sustainability in the coastal zone.

MLML conceptual development plans include: 1) a combined Marine Operations, Research Diving and Sustainable Fishery Offloading Facility; 2) modifications to existing facilities at our northern Shore Laboratory Complex, 3) a southern Shore Laboratory complex that combines a research pier/coastal observatory, large animal holding tanks, lab space and an integrated aquaculture research facility; and 4) housing and visitor-serving facilities for the accommodations of students during the academic year and workshops, classes and special programs during the summer. This latter project will also incorporate an additional wing to our main laboratory for the establishment of a center for Sustainable Ocean Sciences (SOS), associated office and meeting facilities.

Marine Operations/Scientific Diving/Sustainable Fisheries Facility

This project seeks to integrate several ongoing MLML marine operational functionalities while increasing public awareness, promoting sustainable fisheries and saving jobs in Moss Landing.

This development will involve a series of adjacent parcels, located on the east (Harbor) side of Sandholdt Road (7539) including both the current MLML Small Boats and Scientific Diving facilities, boat yard, docks (0.5 acres) and the former Del Mar docks and offloading facilities, now being leased back to Del Mar Seafoods.

The proposed development would retain the functionality of both parcels yet add berthing for the NSF Regional Class Research Vessel, now being planned to replace the R/V Point Sur as well as other state or federal vessels. Extensive demolition and remodeling of the existing facilities and reconstruction of the docks/seawall, would be required together with the construction of a new combined Marine Operations building. The resultant integrated facility would have 350 feet

of dock space, a two story 26,000 square foot building that would provide work, warehouse and shop space in support of marine operations, mobilization and demobilization of scientific expeditions, caretaker quarters, office and meeting space for both MLML marine operations staff and MLML Small Boats and Diving staff. It would include compressor, fill station, storage banks, nitrox system, and dive lockers and showers to support approximately 30 to 40 marine lab divers.

The Integrated Sustainable Fisheries building would require about 10,000 square feet (two stories) for vessel offloading, fish pumps, scales, conveyors, forklifts, bins and de-watering equipment, ice machine and a HGT machine with packaging, and a public viewing area. A business plan and feasibility study is now being prepared for this project and the Coastal Pelagic Species (sardines, anchovy, squid), specifically addressing the conversion of the current large volume/low value crop to a lower volume/higher value crop. Large truck access to both facilities is necessary. Port-side vessel support also requires the use of forklifts and cranes. Small boat docks are required for a minimum of four 30 to 60-foot vessels, three 20-foot whalers, and three inflatables. It also includes a launch ramp for small vessels (i.e., less than 35 feet).

Purpose: research support, education, fisheries

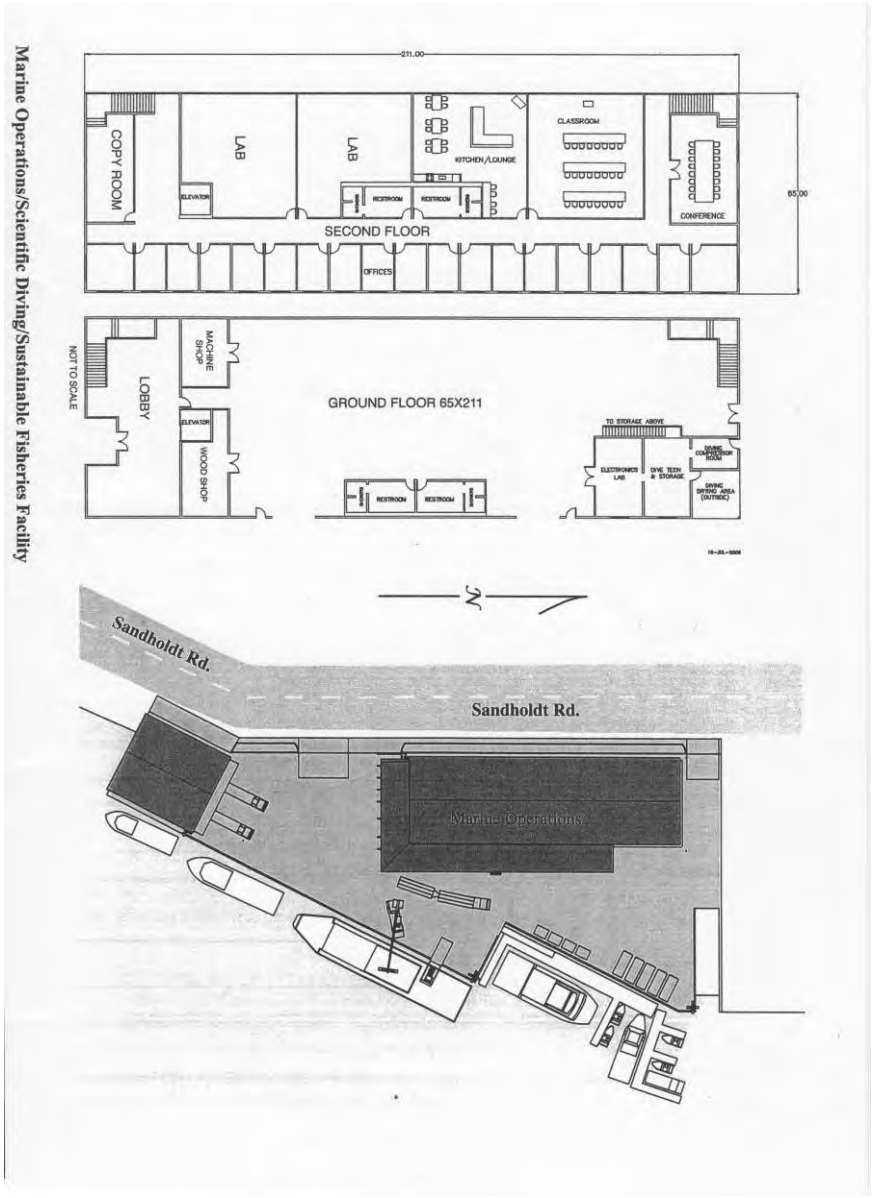
Use: staging oceanographic research cruises, boating and diving research operations, education, sustainable fishery operations.

Square footage: 36,000 square feet of mixed use buildings (warehouse, offices, shops, offloading facilities, 15,000 square feet of dock/wharf area, parking for 30

Number of Occupants: 20

Figure MLML-1 shows the Integrated Sustainable Fisheries Building.

Figure MLML-1: Integrated Sustainable Fisheries Building



Shore Laboratories (Northern Complex) 7544 Sandholdt Road

Remodel of existing deck into enclosed office space (600 square feet) and installation of a steel building (2,000 square feet) will provide accommodations for the MLML Marine Operations group.

The "Norte" Complex is home to the Marine Pollution Studies Laboratories, Environmental Biotechnology Laboratories, Sea Lion Research/Training Facilities and the Center for Habitat Studies. This complex provides research space for students, and staff, together with laydown area and storage for boats and trailers used in support of a variety of field sampling programs including the Department of Fish and Game's mussel watch program, the State's Surface Water Ambient Monitoring Program (SWAMP) and the state funded Invasive Species program.

This project seeks to consolidate the functionality of the Marine Operations group through the development of facilities for their accommodation now and throughout the construction of the new facilities. With the compression of the MBARI spaces, the MLML Marine Operations Group was forced to move out of the MBARI building D. We currently rent space in the Harbor District owned Santa Cruz Cannery Building (7532 Sandholdt Road). Consolidation of facilities would save MLML an estimated $45,000 per year.

Proposed is the remodel/enclosure of a second-floor observation/deck area overlying the front of the building, now accommodating first floor offices and meeting spaces, estimated to be about 600 square feet. This would be for Marine Operations staff, overseeing the operations of both the R/V Point Sur and the Small Boats department. In addition, about 2,000 square feet of space, secured from weather and theft, is required for cruise mobilization and demobilization to accommodate researchers using the R/V Point Sur. These users ship equipment, supplies and materials from all over the country and a protected area is required to effectively stage for deployment. This area would also be used to store equipment used on the R/V Point Sur and other research vessels including refrigerated laboratories, sediment coring equipment, nets, inflatable boats, whalers, trailers and mooring equipment.

Purpose: research support

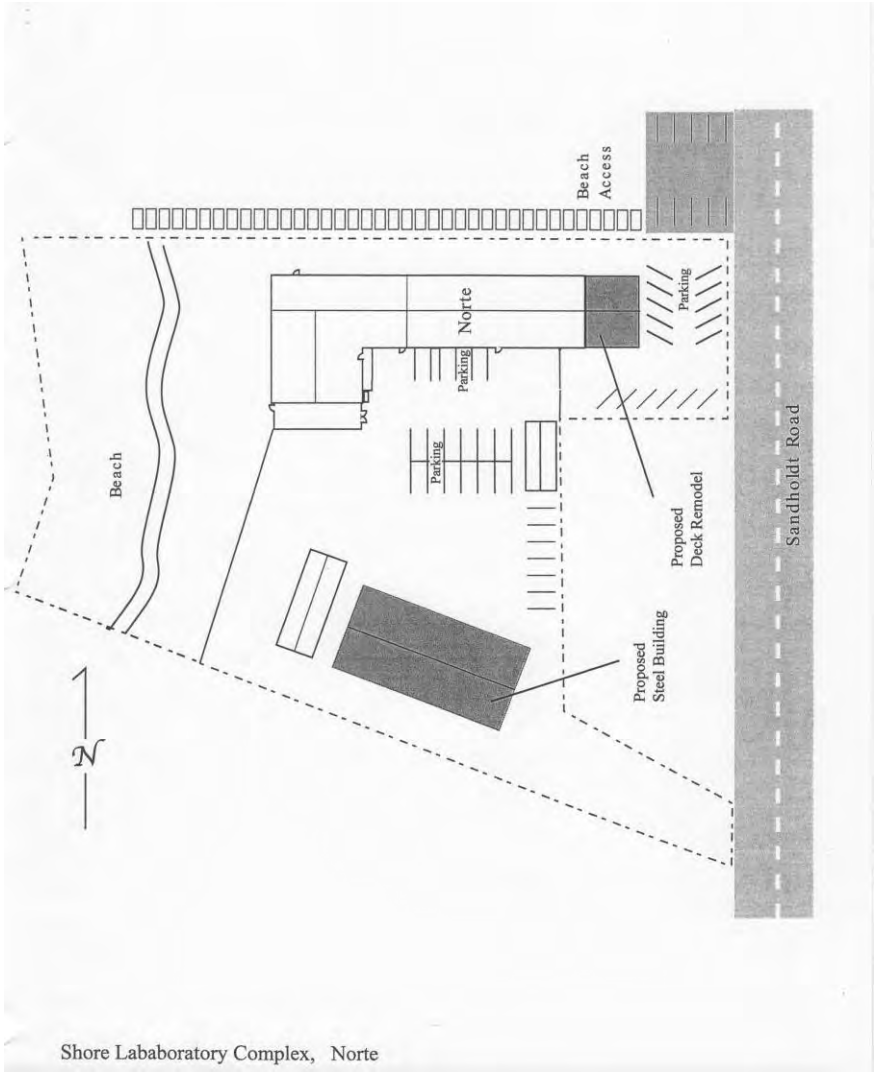
Use: staging oceanographic research cruises, boating and diving research operations.

Square footage: 600 and 2,000 square feet of mixed use offices and warehouse facilities

Number of Occupants: 6 additional

Figure MLML-2 shows the Shore Labs North Complex.

Figure MLML-2: Shore Labs North Complex



Shore Laboratory/Research Pier Facility (Southern Complex) 7722 Sandholdt Road

This project seeks to regain much of the shoreside/pier research and culturing functionality lost to the labs following the 1989 Lorna Prieta Earthquake. The activities at this facility are intimately coastal-dependent and cannot be reproduced elsewhere.

The parcel located on the west (Bay) side of Sandholdt Road (7722) is the site of a portion of the original MLML facility and pier that presently has a pump house, aquaculture building, and an office trailer. The proposed development would reconstruct six facilities/functionalities at this site: an integrated aquaculture facility, an outdoor aquaculture/aquarium facility, a large animal husbandry/research facility, an indoor seawater research lab, caretaker quarters, and a pier. The integrated aquaculture facility would be composed of a one-story 1,079 square feet building that would provide laboratory space for processing specimens from the outdoor tanks. The laboratory building, caretaker quarters included, would have an office space, an analytical chemistry laboratory, and a culture and microscope room.

Outside of this building would be a concrete slab that would have nine 10,500-gallon tanks that would allow the culture of seaweeds and invertebrates in an integrated system to initially test hypotheses regarding husbandry, integration, quality, and growth rates of algae and abalone grown in combination. The other outdoor aquaculture facility is a 2,160 square feet concrete slab with 8 to 10 500- to 3,000-gallon round tanks that will allow the culturing/holding of algae, invertebrates, and small fishes. This facility would have the capability of being covered but would not have walls. The large animal facility would be a series of five to six large 2,000- to 10,000-gallon concrete or fiberglass tanks (perhaps 6 to 20 feet in diameter) with a connected trex-planking walkway joining the tops of the tanks and a centrally-located food preparation room (200 square feet). This facility would be used to hold large vertebrates such as sharks, birds, and mammals. The indoor seawater research lab would be a 2-story building (4,000 square feet) with a large open room (3,500 square feet) that is open from the floor to ceiling taking up the bulk of the space with one side of the building a laboratory, a small meeting area on the bottom floor (500 square feet) and an office space and caretakers lodging on the top floor (500 square feet).

At the seaward side of the property would be a 22-foot wide, 500-foot long pier with a 175 square feet sieve house, and a 35-foot by 35-foot turnaround at the end of the pier. This pier would be used to convey our seaward system through the intertidal, provide locations for automatic environmental monitoring and sampling, allow vessel tie-up for personnel and equipment transfers, allow docking for autonomous underwater vehicles (AUVs) used by MBARI, provide access to nearshore waters for scientific and class sampling, and provide limited public access. The pier is already permitted, but we are looking at the feasibility of including wave power generation as part of this structure.

Purpose: Aquaculture, husbandry, holding, research, and education

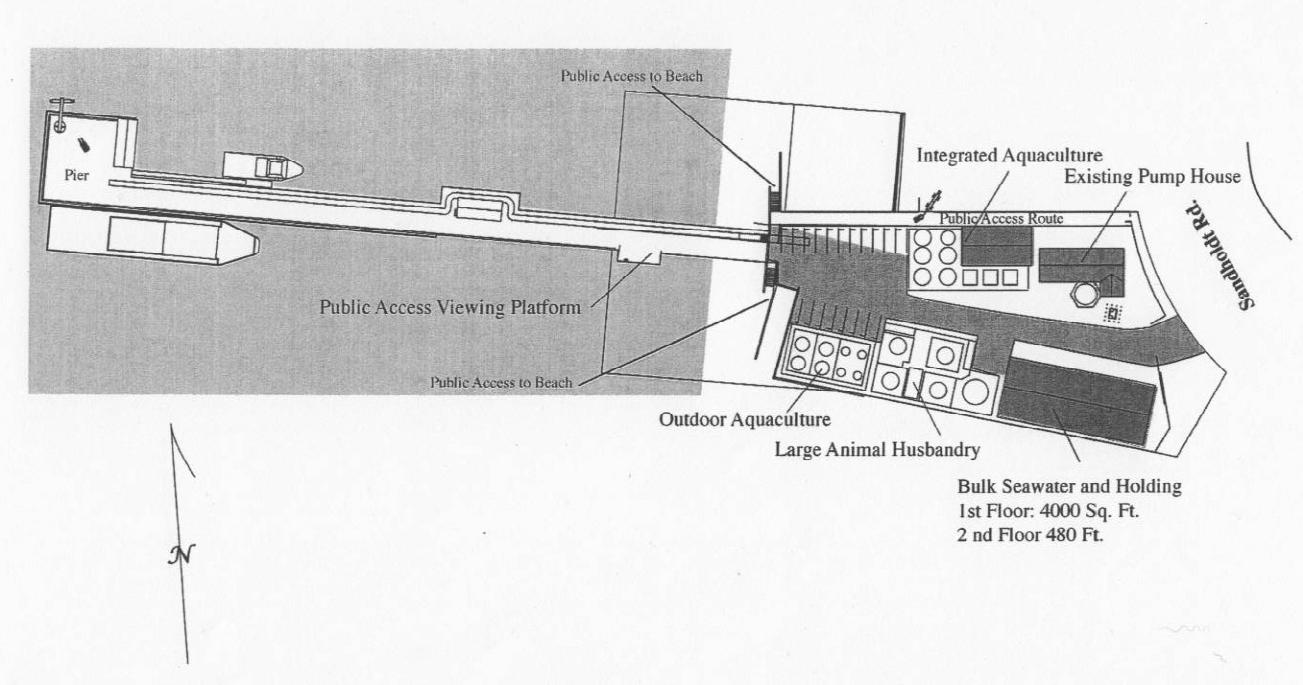
Use: Aquaculture and holding for algae, invertebrates, fishes, birds, and mammals, and provide public and scientist access to the nearshore environment via the pier.

Square footage: 7,400 square feet of buildings, 8,520 square feet of concrete slabs, 20-foot wide roadway, and 500-foot pier.

Number of Occupants: 8 to 10, Parking Places: 18

Figure MLML-3 shows the Shore Labs South Complex.

Figure MLML-3:Shore Labs South Complex



Sandholdt Center, Academic Village

This project involves the construction of a housing, office and conference complex at the Sandholdt Center, a 9-acre parcel immediately adjacent to the main Laboratory facilities at 8272 Moss Landing Road. By housing students and workshop participants on site, it is estimated to reduce traffic on State Route 1 by about 60 trips per day and be a model for green development.

There is a need for scientists, resource managers and business groups to work together to define problems of mutual interest and societal importance. MLML has recently established (and trademarked) the Center for Sustainable Ocean Science (SOS). Using a series of workshops and summer programs, the Center will bring these stakeholder groups together in order to frame the issues, define the problems and seek scientific direction towards their solution. These include

topics such as invasive species, harmful algal blooms, integrated aquaculture, sustainable fisheries, etc., for which there is a lack of scientific data to recommend a proactive course of action. The SOS Center will be modeled after the National Center for Ecological Analysis and Synthesis (NCEASS) at DC Santa Barbara. The outcomes will take the form of papers, joint proposals and research directions that will translate to demonstration projects. In phase one of the development plan, this will consist of the development of visitor-serving facilities in the location of the Sandholdt Center and integrated into the academic village to be developed there. Center staff will help to develop workshops (NCEAS-style) for determining which issues to address and determine likely avenues for research. The Center's workshop functions will initially be conducted during the summer months and include academic, industrial, governmental participants who will be accommodated in housing and conference facilities, planned to be part of the SOS Center.

Academic Village: Located at the Sandholdt Center, adjacent to the Main Laboratory, a 60 bed complex with apartments for the housing of graduate students during the academic year and the SOS Center participants during the summer, will be constructed to serve several needs: 1) rental income to help support program, 2) needed housing for visiting scientists, students and visitors attending SOS workshops, 3) test/training pool to accommodate the scientific diving program and the need to test equipment under controlled conditions and provide recreation for tenants of the SOS Center when not being used for teaching or research.

The facilities of the Center will be constructed to a LEED Gold or Platinum Standard and the grounds will be landscaped to blend with the habitat restoration on the adjacent MLML parcel. Wetland enhancement will be coordinated with North Monterey County Public Works in order to take advantage of storm runoff and divert surface waters from Moro Cojo Slough.

Purpose: Residential Housing, Offices, Conference and Multiple Use Facilities

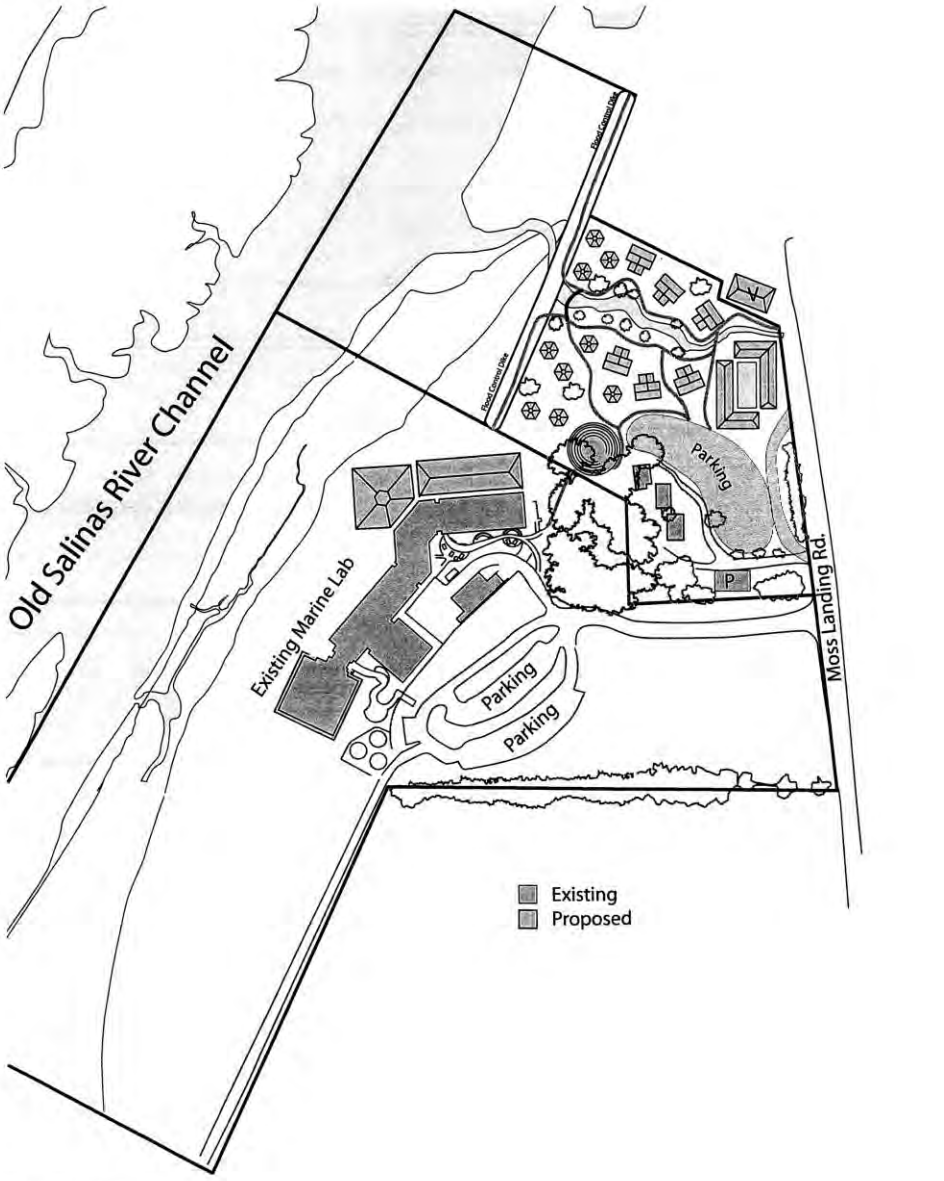
Use: Provide housing for graduate students during the academic year, accommodation of programs and workshops during the summer.

Square footage: 30,000

Number of Occupants: 70

Figure MLML-4 shows the Academic Building.

Figure MLML-4: Academic Village



Short Term and Long Term Project Phasing, Integration with MBARI

The above descriptions outline a series of projects, linked together through our research programs and educational needs. They are coherent and integrated. The execution of these projects, and some minor remodels, however, has independent timelines. We also seek input regarding the following phasing of the projects.

A. Short term needs:

1) Remodeling of aquaculture facilities/construction of outdoor tank area at the southern Shore Laboratory Facility, 7722 Sandholdt Road. This is required for ongoing and anticipated research. Additional research to commence in June.
2) 2) Remodeling of upper-level deck area at the northern Shore Laboratory Complex 7544 Sandholdt Road to accommodate Marine Operations offices. No increase of building footprint would be needed to enclose 600 square feet of existing deck area. We are seeking funding for this project, to be started in October, 2008.
3) Placement of steel building at 7544 Sandholdt Road for research cruise mobilization/demobilization. This would allow for cruise support and storage of materials now located on the Del Mar and Small Boats properties.

B. Longer-term projects:

1) Development of the Integrated Marine Operations/Fishery Complex, 7539, 7544 Sandholdt Road.
2) Construction of research pier and remaining support facilities at the southern Shore Laboratory Complex, 7722 Sandholdt Road.
3) Development of the Sandholdt Center and SOS facilities, 8222 Moss Landing Road.

C. Integration with MBARI

Space in Moss Landing is becoming increasingly limited. Any development requires integration with other uses and capacity studies with an eye towards the long term community goals. These goals have been articulated in the general plan and the community plan for Moss Landing. As a 42-year resident of Moss Landing, MLML is undertaking this process to gather feedback from the stakeholders such that an appropriate integration of our institutional resources will result. MLML has had a productive and collaborative relationship with MBARI since MBARI first came to Moss Landing and we have continued this relationship, keeping them informed of our plans. They have reciprocated and together we hope to provide the County with an integrated vision of development in Moss Landing as best we know it. We hope to work together to insure that Moss Landing continues to be an international powerhouse of innovation in marine science research, education and engineering, tackling problems of societal importance and ocean sustainability.

Figure MLML-5 shows the MLML Island Development Plan Overview.

Figure MLML-5: MLML Island Development Plan Overview