

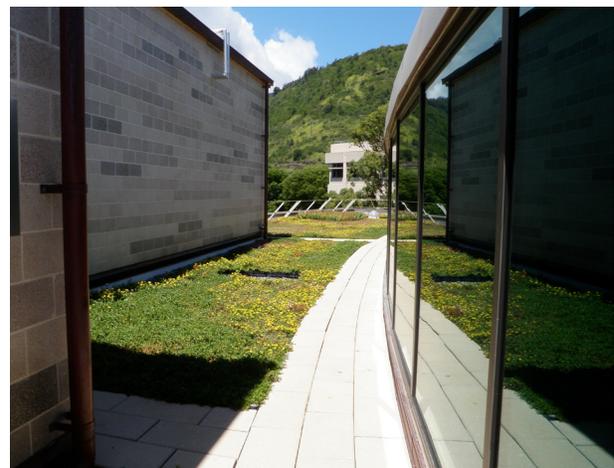
Center for Microbial Oceanography: Research & Education UH Manoa, HI

The Center for Microbial Oceanography: Research & Education (C-MORE Hale) was completed in 2010 by AC Kobayashi Construction and designed by Group 70 International to include an underground stormwater retention system, green roof, native plantings, and energy and water savings with a total project cost of \$22 M.

C-MORE Hale is a two-story, 30,000 square foot complex comprised of research laboratories, laboratory support spaces, offices, a 40-person conference center, meeting rooms, and high-bay shop space. C-MORE Hale will be first Leadership in Energy and Environmental Design (LEED) Gold (or Platinum) certified building at UH Manoa. Furthermore, it will be the first LEED certified research laboratory at UH Manoa. C-MORE Hale exhibits a leadership role in the area of sustainability for the university and sets a new standard for research laboratories in the state.

Underground stormwater retention chambers allow runoff to be retained and percolate back into the ground, recharging the water table. The stormwater retention chambers were designed to handle a volume of 2,231 cubic feet, which exceeds the increase in post-development runoff based on a 2-year, 24-hour design storm and were placed 18 - 28 feet from the building foundation. A water quality control device, located prior to the drain line connecting to the storm chambers, filters the water to reduce solids in the water from entering the ground. This device will remove most of the sediments, so cleaning of the storm chambers is minimized, and this helps meet the LEED SS Credit 6.1 for Stormwater Design, Quality Control, which requires treatment of 90% of the average annual rainfall and removal of 80% of the average annual post-development total suspended solids.

The green roof reduces the heat island effect, reduces stormwater runoff, and lowers heat gain into the building. The design also incorporates native, drought-tolerant plantings and was designed to minimize paved surfaces in the landscape while still providing circulation walkways and informal meeting areas. See attached LEED summary for other green design strategies employed.



Images from site visit on June 24, 2011