HALE ALOHA

Hawaii Community College, Hilo, HI
LEED NC v2009 Gold Certified
Green Building Features Case Study

Architect: Urban Works, Inc.
Contractor: Honolulu Builders
Client: Hawaii Community College

Total GSF: 18,815 SF
Primary Use: Nursing School Classrooms, Labs, and Faculty Offices

Project Location: Hawaii Community College Manono, Hilo, HI
Max Users (Peak Moment): 211

HALE ALOHA GREEN BUILDING STATISTICS:

82%
INDOOR WATER SAVINGS - or 26,326 gallons/year

34.5%
ENERGY COST SAVINGS - or $30,369/year

100%
RAINWATER USED FOR FLUSHING - or 144,000 gallons collected/year

84%
CONSTRUCTION WASTE DIVERTED from landfill - or 99.83 tons

FACADE UPDATE: This 1969 building has been renovated to include a new entry, roof top green space, and exterior corridors for HawCC.


1 main entry before


2 main entry rendering


3 main entry after


4 southwest perspective before


5 southwest perspective rendering

THE GREENEST BUILDING IS AN EXISTING ONE: The design for the renovation of Hale Aloha kept as many interior walls as possible and over 67% of the structural CMU walls and concrete floor slabs were left untouched. This reduces landfill waste associated with demolition.

HALE ALOHA STRATEGIES FOR A LEED-NC V2009 GOLD LEVEL CERTIFICATION:

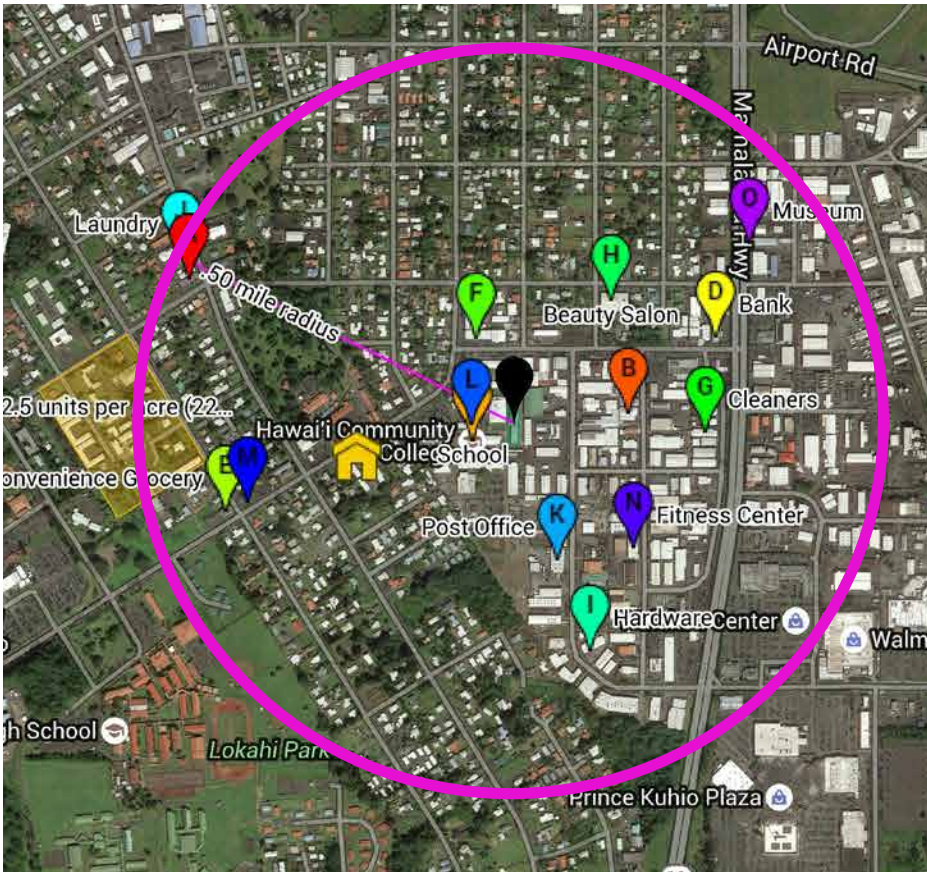
ALTERNATIVE TRANSPORTATION ACCESS: Hale Aloha has eight bus routes that pass in front of campus within ¼ mile. Use of mass transit helps reduce energy demands for transportation and based on passenger miles traveled is twice as fuel efficient as private vehicles. Hale Aloha also provides secure bike racks and showers for bike commuters. Preferred parking spaces have been designated for low-emitting and fuel-efficient vehicles, to further encourage users to reduce their transportation carbon footprint when arriving on campus.

COMMUNITY CONNECTIVITY: Hale Aloha is located on the Manono campus, in a walkable neighborhood, with residential areas offering housing to students at over 10 units/acre, as well as over a dozen basic services within less than a 1/2 mile walking distance of the project site. Some examples include restaurants, bank, day care, gym, places of workship, schools, park space, supermarket, convenience stores, and more. This reduces the number of single car trips to campus.

GREEN ROOF: Hale Aloha's new roof is supported by steel columns. The roof has 5,490 SF of accessible vegetated roof - which activates the space and contributes to stormwater management. The green roof absorbs and retains more water on site than a typical metal roof that creates stormwater runoff. The green roof also provides additional insulation for the building, keeping it cool on warm days and saving energy needed to run the A/C.

RAINWATER HARVESTING: The annual rainfall in Hilo, HI averages 134 inches. To take advantage of this water source, Hale Aloha has a rain cistern that captures on average 144,000 gallons of water from the roof per year. All of the toilets and urinals in the building are flushed using captured rainwater.

WATER USE REDUCTION: Ultra low-flo lavatories, urinals and dual-flush water closets replaced existing fixtures assisting in reducing water consumption by 82%, or 26,320 gallons per year.



HALE ALOHA STRATEGIES FOR A LEED-NC V2009 GOLD LEVEL CERTIFICATION:

ENERGY SAVINGS: Using a zone-controlled system and VRF cooling technology, coupled with highly efficient lighting fixtures, occupancy sensors, and daylight controls, Hale Aloha saves over $30,369/year in energy compared to the existin building - further reducing Hawaii's dependence on petroleum-fueled energy. At $0.28/kWh, Hawaii has the highest energy rates in the nation.

INDOOR ENVIRONMENTAL QUALITY: Air quality of Hale Aloha is improved through the minimization of volatile organic compounds (VOC's) that are odorous, irritating, and/or harmful in all building materials; which improves occupant comfort, wellbeing and productivity.

SUSTAINABLY CERTIFIED WOOD:
Over 59% of the wood products (such as wood slat ceilings, cabinets, and millwork) used at Hale Aloha are Forest Stewardship Council (FSC) Certified. The FSC assures that forestry practices are environmentally socially and economically viable.

Take a look around the building for educational building signage or visit www.usgbc.org for more information on the LEED NC v2009 certification process!

BUILDING REUSE: Hale Aloha reuses over 67% of the existing building shell including existing exterior concrete and CMU walls, structural concrete floors and slabs, thereby reducing construction demolition waste in landfills and the use of new materials.

DAYLIGHT & VIEWS: Hale Aloha interior spaces have direct views to the outdoors from 91% of all regularly occupied areas. Natural lighting helps reduce the use of electricity for lights.

REDUCE HEAT ISLAND EFFECT: Lightly colored materials used on roofs and walkways are very reflective and return the sun's energy to the sky rather than trapping it as heat. Lower roof temperatures reduce A/C loads and energy demand.

CONSTRUCTION WASTE MANAGEMENT: Hale Aloha diverted over 84% of demolition and construction waste typically sent sent to landfills and incinerators. Recycling of construction and demolition debris reduces demand for virgin resources and reduces environmental impacts associated with resource extraction, processing and transportation.