



**Hawai'i Green Business
Sixth Annual Recognition Program
April 19th, 2010**

Bishop Square



For the past several years, **Bishop Square Management** and its owners have embarked on a mission to be environmentally conscience through energy reduction, water conservation, recycling and use of “green” products. Our “Greenwave Initiatives” include the following completed projects in 2009, policies put in place and initiatives planned for the future, as indicated.

Energy

- Replaced 4 chillers with higher efficient chillers with VFD’s
- Replaced 4 cooling towers to improve efficiency and installed VFD’s on the motors with automatic set-point control based on the measured wet bulb temperature
- Installed automatic tube cleaning system on 5 chillers to insure condensing tubes stay clean for efficient heat transfer
- Installed VFD’s on all Pauahi Tower AHU’s
- Installed Ultra-violet lights in several AHU’s to keep cooling coils clean without chemical use
- Upgrade building automation system, by having more monitoring and control points we can control energy usage more efficiently. Examples of this would be demand limiting, afternoon and after-hours chilled water setback, more precise time of day scheduling
- Replace old motors with premium efficiency motors
- Retrofitting American Savings Bank Tower from a constant volume pressure plenum ducted return Air conditioning system to a variable air volume System with VFD on the fans. This has been done on several floors and we have been able to setback the discharge temperature from 5 to 7 degrees
- Refurbishing of AHU’s in both buildings
- Recalibrating thermostats and checking set-points on a regular basis
- Installed window tinting to reduce solar heating (125,000 sq. ft.)
- Applied reflective roof coating to reduce solar heating
- In the process of obtaining LEED Certification (EB)
- Energy Star Buildings 2005, 2006, 2007, 2008 & 2009 with ratings of 91%.

- Since 2003, Bishop Square has reduced its average monthly electrical consumption by 13%.

Lighting

- 95% of T12 fixtures have been replaced with T8 fixtures
- Building standards requires occupancy sensors on all lights
- Spotlights and downlights retrofitted to compact fluorescent
- T12 fixtures in garage replaced with Metal Halide fixtures, 4 to 1 replacement lowering wattage from 160 to 100 per MH fixture
- Install photocells on garage lighting
- Occupancy sensors for stairwell lights
- Installation of LED lights in many applications

Water

- Retrofitted toilets and urinals to low flow motion activated units
- Adjusted landscape watering times and days to reduce water usage

Janitorial

- Recycling programs for office paper, newspaper, cardboard, glass, aluminum and plastic
- Using janitorial paper products made of recycled material
- Use of “green” chemicals
- E-Waste recycling dates posted for employee participation

Projects being considered

- Photovoltaic on the roof tops
- Reclaiming condensation water from AHU’s to reuse in cooling tower makeup or landscaping
- Possible participate in district seawater air conditioning
- Continuation of ASB Tower VAV conversion