

RIO HONDO COLLEGE MEASURE "A" CONSTRUCTION PROGRAM GOES GREEN

One of the most important goals of the Rio Hondo's Measure A Bond construction program is that all projects embrace and incorporate "green" principles in their design and construction. Though many people believe that "green" design is focused on energy conservation, in fact designing and constructing green involves a holistic view of the building process from site selection through occupancy with the intent on creating healthy places to teach and learn while minimizing the building's impact on the environment. Five primary areas of human and environmental health are addressed which include sustainable site development, water conservation, energy efficiency, materials selection and indoor environmental quality.

Good Reasons to Go Green

Currently, North Americans spend over 90% of their time in buildings. Buildings are responsible for 60% of total electricity and more than 30% of total energy used annually. Buildings also account for significant portions of fresh water consumption during both construction and occupancy. Material waste during construction accounts for as much as 50% of landfill, depending on location. A well designed, sustainable building works to reduce impact on the environment while garnering occupancy benefits for the students and faculty. "Green" or sustainably designed buildings not only reduce consumption of energy, fresh water and materials but also provide a comfortable, healthy indoor environment for the occupants.



Measurable Performance Benefits

The quality of campus facilities has a direct impact on costs to the College. Costs such as utilities and waste disposal, or treatment, directly increase the College's operating costs which impacts the cost of education. Indirect costs, such as reduced productivity, loss of concentration and general discomfort are incurred by the students and faculty. When improvement in the learning environment yields increased attentiveness and reduced direct cost, the result is an improved teaching/learning environment for both faculty and students.

Numerous studies have shown that people perform at a significantly higher level with improvements to the quality of the indoor environment such as daylight and attention to the technical causes of occupant discomfort such as air quality and temperature control.

Base Building Strategies

A high-performance building is a good neighbor and community partner, even before the building is occupied. With that in mind, Rio Hondo College began with:

- ▶ Participation in the US Green Building Council's LEED (Leadership in Energy and Environmental Design) Core & Shell Development, demonstrating an early commitment to quality, efficiency and responsible management of resources.
- ▶ Erosion Control during construction - to put less stress on local sewers and streams while avoiding air pollution (from dust and particulates).
- ▶ Avoided Sensitive Land Areas - Developed the building, hardscape, roads, and parking areas on portions of the site that did not meet any of the prohibited criteria for prime farmland, flood areas, wetlands, endangered species habitat, near water, or public park land.
- ▶ Public Transportation Access - Located the project within 1/4 mile of one or more stops for two or more public bus lines.
- ▶ Construction Waste Management - to salvage materials and recycle construction debris, significantly reducing landfill load.
- ▶ Use of Regionally Manufactured Materials - to support local business and minimize energy used in transportation to the building site.
- ▶ Specification of Materials with Recycled Content (many of which were manufactured locally) to reduce landfill load.



Performance by Design

Good design strategies result in a High Performance Building. During design and construction, Rio Hondo College's design and program management team conducted analyses and used methodologies to achieve high standards for design quality and safety. Those efforts included:

- ▶ Use of low Volatile Organic Compound emitting materials in construction - for a healthier workplace.
- ▶ Design to optimize energy performance of major systems for significant savings in energy use.
- ▶ Use of High-Reflectance roofing materials to avoid "Heat Island Effect" - which minimizes impact on microclimate human and wildlife habitat while keeping the building cooler.
- ▶ Including landscape irrigation systems that use up to 50% less water than the norm - meaning lower water use and/or sewage charges.
- ▶ Specification of high performance windows and entries to maximize thermal performance by reducing solar gain while minimizing air leaks and uncontrolled water infiltration.
- ▶ Specified HVAC system refrigerants that minimally affect atmospheric ozone depletion or global warming.
- ▶ Commissioning (or verification that the building systems operate at the intended level) - to insure efficiency, long term performance and control.
- ▶ Dedicated collection management for items that can be recycled (paper, cardboard, aluminum, plastic and glass).

Building & Access Excellence

