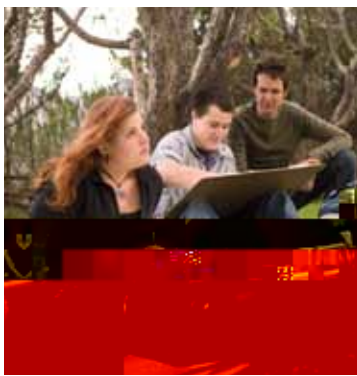




# Student Union Addition Green Building Profile



materials use. Below are some of the specifics of the project's green building strategies and features:

### A B E - E

- **Orientation:** The design team worked with the site to connect the addition with the existing building while providing for daylight and solar access. A simple overhang at the south façade of the upper level effectively shades the glazing to allow solar gain in the winter but mitigates solar trespass in the summer. The building mass extends into the landscape at its southwest corner to shade west-facing glazing that opens from the San Juan Dining area onto the outdoor plaza.
- **Site Selection:** Development did not impact farmland, endangered species habitat, parkland, or wetlands.
- **Community Connectivity:** Within half mile radius of on-campus housing and at least 10 community services and amenities.
- **Alternative Transportation:** Addressed by proximity to 3 bus routes with stops within .25 miles, installing 33 bicycle storage spaces, inclusion of shower/changing room for staff, implementation of a campus wide Green Permit program for low-emitting and fuel-efficient vehicles, and not adding any new parking spaces.
- **Protect or Restore Habitat:** The total site area is 145,133 sf, of which the building footprint occupies 25,700 sf. Of the remaining site area (119,433 sf), 51% is dedicated to native, adaptable plants (55,890 sf at grade, and 4,700 sf on the vegetated roof).
- **Open Space:** Area preserved in the John F. Reed Natural Area equal to twice the building footprint, which earned an innovation credit for the project.
- **Heat Island Effect:** Roofing and paving materials reject solar heat to reduce thermal gradient differences between developed and undeveloped areas minimizing impact on microclimate and habitat. A combination of white roof membrane, white pedestal pavers at Hermosa Terrace, and vegetated roof for the roof and white pavers and concrete paving for the site serve to minimize the heat island effect.
- **Stormwater:** One hundred percent of the site runoff either flows across a vegetated area to reach an area drain or flows in a bioswale before discharging to its receiving waterway. Locating the majority of drain inlets in pervious areas allowed for as much infiltration as possible. See Vegetated or Green Roof below for its contribution to water quality.
- **Vegetated or Green Roof:** The planted area of the roof serves a variety of purposes: stormwater management, heat island mitigation, habitat value, and an aesthetic amenity space for the campus, especially when dining on Hermosa Terrace. It is an intensive green roof consisting of 6 to 14 inch soil depths utilizing engineered soils to minimize the weight of the planting beds. The deeper soil made it possible to include a wider variety of plant species. The team chose xeric and adapted species of ornamental grasses (like feather reed grass, maiden grass, and little bluestem grass) and perennials (like Shasta daisy, Russian sage, black-eyed Susan, and purple coneflower).

### A E E - C E C

- **Landscaping:** In keeping with its Tree Relocation/Replacement policy, the College invested significant financial and human resources to move trees and other vegetation from the building site prior to the start of construction. In April 2009, the College held a plant harvest for the Buzzy Berndt Demonstration Natural Area that was open to the public. Contractors used a crane to relocate three large caliper trees outside Animas Hall. This included the Gypsy Tree, a 180-year-old Rocky Mountain Juniper that the College moved previously in 1996 to make needed Americans with Disability Act improvements between the Student Union and the Library. Forty-one other trees and shrubs found new homes around campus. The project's new landscaping includes trees, shrubs, perennials and ornamental grass such as side oats grama, Indian ricegrass, western wheatgrass, blue grama, Arizona fescue, blue flax, rocky mountain penstemon, and dwarf lupine.
- **Irrigation:** Overall, the project's landscaping uses 99.23% non-potable water. The City of Durango Water Treatment Plant provides raw, untreated water to FLC for majority of its irrigation needs and the Student Union Addition used this water for the at-grade landscaping. Irrigation systems serving this landscaping are managed by the overall campus irrigation water and control system, which is based on real-time evapotranspiration (ET) data collected from a campus weather station. The irrigation system is properly zoned to serve the various landscape hydro-zones and microclimates and employs appropriate, efficient delivery methods and equipment to serve the various plant material types. The vegetated roof uses potable water for its irrigation needs due to the functional necessity of utilizing the building's water source.
- **Water Usage in the Building:** Selection of ultra low-flow and low-flow toilets, ultra-low flow urinals, low-flow faucets with automatic sensor operation, and low-flow showerheads resulted in more than 42.5 percent savings over baseline fixture performance requirements of the Energy Policy Act of 1992. Exceeding 40 percent reduction earned an innovation credit for the project.



construction waste from landfills. Recycled materials included concrete and masonry, cardboard, metal, wood, aluminum cans, copper, and drywall.

- **Furniture:** The team made many furniture selections because of sustainable production and materials incorporation, including recycled metal and FSC-certified wood products. The manufacturer's cradle-to-cradle certification (a multiple-attribute eco-label that assesses a product's safety to humans and the environment and design for future life cycles) was a consideration for the selection of some of the office and meeting room furniture. Our efforts encouraged Colorado Corrections (the supplier of all State-facility furniture) to provide more green options.

#### **D E L I V E R Y E A A**

- **Outdoor Air Delivery Monitoring:** Permanent monitoring and feedback of ventilation system performance help sustain long-term occupant health and well-being.
- **Construction Indoor Air Quality (IAQ) Management Plan:** To help sustain the comfort and well-being of construction workers and building occupants, the construction team implemented a combination of housekeeping, HVAC protection,