

Animas Hall Green Building Profile

BUILDING INFORMATION

Location	Durango, CO
Square Footage	49,538 ft
Building Population	152
Construction Dates	2008-2009
Owner	Fort Lewis College
Architect	Anderson Mason Dale Architects, P.C.
Local Architect & Landscape Architect	R. Michael Bell & Associates, Inc.
Mechanical, Electrical, & Plumbing Engineers	Smith Seckman Reid, Inc.
Civil Engineer	Smith Engineering Company
Structural Engineer	REI Structural
Construction Manager	Okland Construction Company
Commissioning Agent	ME&E Engineering, Inc. and A. Weitzel LLC
Sustainability Consultant	Earthly Ideas LLC

PROJECT NOTES

Animas Hall is the newest residence hall at Fort Lewis College (FLC) and combines learning and living through its Faculty in Residence Program. It fosters a heightened sense of intellectual curiosity as well as providing a unique dynamic in the residential community by bringing the student-teacher relationship outside the classroom and into the living environment. Both informal interactions between faculty and students and engaging purposeful programs will foster dialogue covering broad topical areas such as education, social responsibility, civic engagement and personal growth.

Durango, located in southwestern Colorado between the San Juan Range of the Rocky Mountains and the high desert, is at 6,513 feet in elevation and has a four-season climate. FLC is located on College Mesa approximately 300 feet above Durango's downtown. Animas Hall is a three story building with 37 student suites as well as a public area on the ground floor containing a multi-use classroom, warming kitchen, reception area, computing room, and lounge. Each suite features 4 single occupancy bedrooms with a common shower and toilet room, living room, and snack area. In addition, 2 faculty/staff apartments are



located on the ground floor with separate entrances to the outdoors. The building occupies a footprint of 17,264 square feet with a gross square footage of 49,538.

It is the first Leadership in Energy and Environmental Design (LEED) certified facility at Fort Lewis College. The LEED® Green Building Rating System™ is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings administered by the U.S. Green Building Council (USGBC). Pursuit of LEED for New Construction v2.2 certification for Animas Hall is an outcome of former President Brad Bartel's signing of the American College and University President's Climate Commitment in April 2007.



Animas Hall incorporates numerous integrated green building strategies including natural ventilation, extensive use of daylight, high performance glazing, and sustainable materials use. Below are some of the specifics of the project's green building strategies and features:

SUSTAINABLE SITES

- **Orientation:** Building layout arranged for optimal daylighting and solar access.
- **Site Selection:** Built on a former parking lot and development did not impact farmland, endangered species habitat, parkland, or wetlands.
- **Community Connectivity:** Within half mile radius of a residential neighborhood and at least 10 community services and amenities.
- **Alternative Transportation:** Proximity to 3 bus routes with stops within .25 miles, 30 bicycle storage spaces, showering facilities for residents, implementation of a campus wide Green Permit program for low-emitting and fuel-efficient vehicles, and no new net parking spaces added.
- **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.
- **Stormwater:** Design included a stormwater management plan that addressed quantity, rate, and quality of runoff facilitated by a bioretention basin and a vegetated buffer strip. The major storm overflow outlet for the basin doubles as a pedestrian bench, made with locally harvested stone. One of many best management practices employed during construction was using an existing dilapidated asphalt parking lot for construction staging.



WATER EFFICIENCY

- **Landscaping:** The project used mostly native and xeric plants and grasses, which are all suited to the Durango area. Thirteen mature trees were relocated from the Student Union Addition site to enhance landscaping.
- **Irrigation:** No potable water was used for irrigation. The City of Durango Water Treatment Plant provides raw, untreated water to FLC for its irrigation needs. The native turfgrass areas are not irrigated.
- **Water Usage in the Building:** Selection of low- and ultra low-flow and flush fixtures (such as the public restroom urinal and faucets, warming kitchen sink, and residential showerheads and faucets) resulted in more than a 34 percent savings over baseline fixture performance requirements of the Energy Policy Act of 1992.



ENERGY AND ATMOSPHERE

- **Energy:** Whole building energy simulation model indicates a 35 percent reduction in energy cost between the design building model and the base building model prescribed in ASHRAE 90.1-2004.

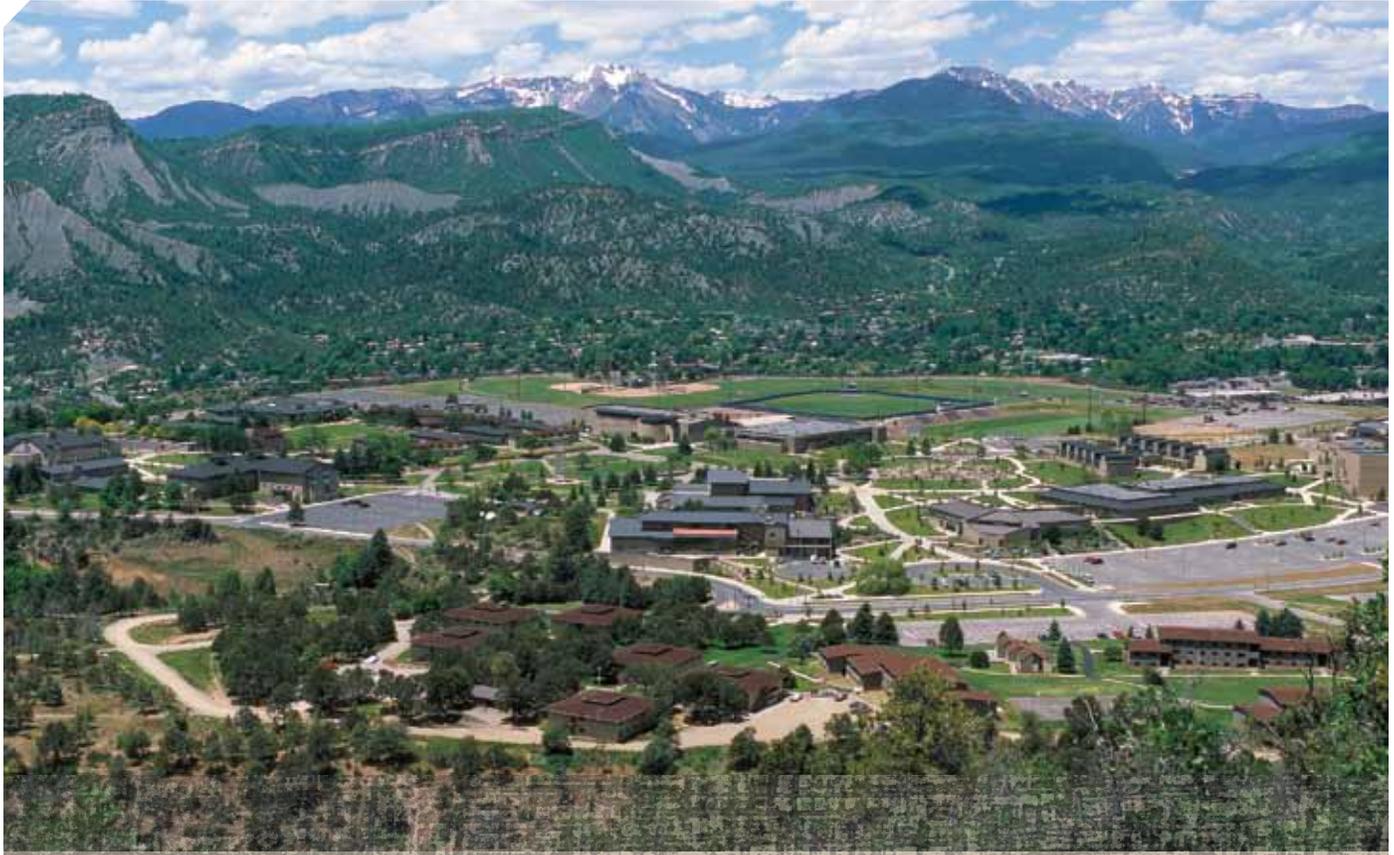
- **Lighting:** Occupancy sensors are employed throughout the building including public and common areas (classroom, lounges, quiet study areas, corridors, laundry rooms, public restrooms) and back of house areas (custodial closets and storage rooms). Light fixtures consume 1.0 watts per square foot in the residential units and 1.1 watts per square foot in public spaces to efficiently meet the lighting needs of the building.
- **Commissioning:** Employed as a quality-control process to ensure the fundamental building systems were planned, installed, and calibrated to operate as intended by the design team for FLC's long term benefit.
- **Building Envelope:** Triple-glazed windows, fixed shading devices, wood framing, and insulation in spaces below the metal roof were used to improve the building's envelope and set a path for long-term energy efficiency.
- **Heating, Ventilation, and Air Conditioning (HVAC):** Conditioned with a high efficiency hydronic boiler, convectors, and cabinet unit heaters. Air handling units provide heating and cooling for the common areas and a make up air unit provides ventilation for the building. Residential units are not air conditioned and have natural ventilation. The building is controlled by a campus wide building automation system.
- **Green Power:** Seventy percent of the building's conventional electricity from fossil fuel sources is offset with renewable sources through the purchase of Green-e certified Renewable Energy Certificates for two years. Doubling the required 35% offset earned an innovation credit for the project.

MATERIALS AND RESOURCES

- **Occupant Recycling:** Easily accessible containers and separate storage areas serve the recycling needs of the entire building, allowing for the recycling of the following materials: paper, corrugated cardboard, glass, plastics, and metals.
- **Reused Materials:** Physical Plant Services maintains an area of campus for stockpiling of topsoil, structural fill material, and boulders removed from other projects. Animas Hall utilized all 3 of these products, which saved the project money and reduced the environmental impact of transporting new materials to the site.
- **Recycled Content Materials:** To reduce the impacts from the extraction and processing of virgin materials and support closing the loop for recycling, recycled content materials included: fly ash in concrete, reinforcing steel, structural steel, sound barrier board, Corian surfaces, insulation, metal wall panels, sheet metal roofing, acoustical ceiling tile, metal doors and frames, aluminum storefront and curtainwall, metal framing, gypsum board, carpet tile, door hardware, and linoleum.
- **Regionally Extracted Materials:** To reduce transportation impacts and support regional businesses, regionally extracted materials (those manufactured and whose raw materials are extracted within a 500-mile radius of the jobsite) included: concrete, stone masonry, reinforcing steel, blue-stain pine, gypsum board, insulation, pipe bedding, and mature trees moved from the Student Union Addition site.
- **Construction Waste Management:** Successful waste management program diverted more than 87.63 percent of the construction waste from landfills. Salvaged or recycled materials included concrete, wood, cardboard, metal, copper wiring, aluminum cans, plastic bottles, gypsum board, and asphalt.

INDOOR ENVIRONMENTAL QUALITY

- **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, source control, moisture control, and scheduling measures.
- **Low-Emitting Materials for IAQ:** Low-toxicity building products such as adhesives and sealants, paints and coatings, carpeting, and composite wood products were used to reduce the quantity of indoor air contaminants.
- **Pollutant Source Control:** Entryway systems installed at each exterior entry point will be maintained on a regular basis. Areas with chemical use (custodial closets) are physically separated from other spaces and have appropriate ventilation.
- **Air Filtering:** Air quality is enhanced by use of permanent air filters with air cleaning efficiencies above normal market installations.
- **Controllability of Systems:** One hundred percent of the individual workstations have individual lighting and thermal controls. All shared multi-occupant spaces have controllable lighting and thermal comfort systems.
- **Views:** Over 99 percent of the regularly occupied space has a direct line of sight to the outdoors.



INNOVATION AND DESIGN PROCESS

- **Green Building Education:** Animas Hall will educate its residents and the public about sustainable design and the impacts of buildings on the environment. In addition to case studies like this one, a guided tour has been completed and a comprehensive signage program is in development.
- **Energy Star Equipment:** All appliances and home electronics provided for the student suites (mini refrigerators and TVs), faculty/staff apartments (refrigerators, clothes washers, dishwashers, and TVs), warming kitchen (refrigerator and dishwasher), and lounges (TVs) are Energy Star rated. A new computer and printer purchased for the Front Desk and a new printer purchased for the Student Resource Room are also Energy Star rated. Reused electronics equipment will eventually be replaced with Energy Star rated products through FLC's campus technology refreshment cycle.
- **LEED Accredited Professionals:** Several principal participants of the project team have successfully completed one of the LEED Accredited Professional exams.

AWARDS AND HONORS

Animas Hall earned LEED Gold (41 points) in April 2010, making it the first building on Fort Lewis College's campus to earn LEED certification.

