

FORT LEWIS COLLEGE STUDENT LIFE CENTER



Date of Occupancy: August 2001
Architect: Sink Combs Dethlefs
Associate Architect: R. Michael Bell & Associates
Sustainable Design Consultant: Kelly Karmel, Design Balance
Programming/Operations: The Sports Management Group
Total Construction Cost \$6,525,000 (Excluding Land and Fees)
Approximate Cost Per Square Foot: \$130
Total Gross Square Feet: 50,500
Activity Areas: 38,150
Circulation: 8,500

SINK COMBS DETHLEFS

A Professional Corporation for Architecture

475 Lincoln Street, suite 100
Denver, CO 80203
Tel 303.308.0200
Fax 303.308.0222
www.sinkcombs.com

REGIONAL DESIGN: EMBEDDED IN PLACE

The design of the Student Life Center reflects the indigenous architecture of the desert Southwest. The curved and stepped forms, massive walls, punched openings, local stone and masonry materials all reflect the Durango, Colorado location. The color and material palettes are consistent with the Fort Lewis campus standards. The floor levels of the building are tailored to the topography, reducing excavation costs and environmental disturbance.

Influences on the orientation and form of the building include bringing natural light into the building, controlling direct sun and heat, resolving the unusual existing topography, incorporating existing pedestrian paths, relating to other campus buildings and allowing views to the surrounding mountains and mesas. The site design includes native and water wise plants, small shaded courts and an entry plaza facing the campus center. The site design was influenced by the concept of "Permaculture" and the need to reduce water use for landscaping in this arid climate.

LOW ENERGY / HIGH PERFORMANCE

Fort Lewis College shared the students' interest in a highly energy-efficient design. Energy modelling early in the schematic design phase helped identify energy saving measures that met the life cycle cost goals. The orientation of the building with the long axis in the East-West direction maximizes natural daylighting potential and helps avoid uncontrolled heat gain. Daylit spaces include the central spine, climbing wall, entry, central stair, aerobics and weights area, meeting rooms and offices. The gymnasium has windows at the level of the elevated running track, allowing runners views to the outside and views to the sky from the court. Though active solar hot water and photovoltaic systems did not meet the life cycle cost goals, provisions were made in the design to accommodate them in the future. Other energy-efficient features include:

- High performance building envelope
- Energy-efficient lighting
- Full direct digital controls system
- Separate switching for gyms
- Automatic dimmers for daylight spaces
- Building Commissioning
- Separate metering for building (gas and electric) to track energy performance separately from other campus buildings
- Occupancy sensors on offices, meeting rooms, aerobics, storage and other spaces not used constantly

HEALTH AND WELLNESS

The Student Life Center is designed to promote physical and social wellness among the community of Fort Lewis College. The building contains places to exercise, play, meet, learn and relax. Students felt so strongly about the need for this facility that they voted to pay for the design and construction themselves through fee assessments. Student representatives were an integral part of the planning, goal setting and design process.

To promote health and wellness in the building, materials and ventilation systems were designed to maintain good indoor air quality. Special concern was given to reducing or eliminating toxins in coatings, sealants, paints and adhesives. The Student Life Center was continually flushed with outside air during the last months of construction. The ventilation system uses 100% outside air whenever possible, improving the indoor air quality and saving energy at the same time.

RESOURCE EFFICIENCY

The Student Life Center is designed to be resource efficient and use materials with lower embodied energy. In addition to using local materials, the design reflects resource conservation principles by using structural materials such as concrete, masonry, steel and other metals as finish materials. Concrete floors are stained in patterns along primary circulation and entry areas. Most of the wood sports flooring in the gymnasium comes from certified sustainably-managed forests. Rubber flooring, tile and carpet materials in the building all have significant recycled content. Casework was made out of wheat waste products and sealed with a clear finish, allowing the natural grain and texture to show. Countertops are made out of a bio-composite of agricultural by-products.

Durable, low-maintenance materials are used in all high abuse areas to reduce repair and replacement costs. An active reduce, reuse and recycle program was used during construction to minimize waste products going to the landfill. Recycling centers are built into the design to make it easy for students to use. Materials made with ozone-depleting compounds were avoided and petrochemical-based products replaced wherever possible with products made from renewable resources.

Paint

In order to promote good indoor air quality, all interior paints have been specified to have very low volatile organic compound (VOC) content. VOC's are petrochemical-based solvents added to paint and other coatings. VOC's can irritate the eyes and respiratory system. Latex paints have been specified for zero VOC content and non-latex paints have a low VOC content requirement of 120 grams/liter or less.

Running Track Floor

The track floor is made of rubber, some from virgin sources and some from recycled sources. The red and black flecks come from recycled sources and the track can be recycled when it is replaced.

Weight Room Flooring

The weight room flooring is almost entirely made of recycled rubber. The backing is 100% recycled and the face color has recycled content in red and black. The red flecks come from recycled plumbing plungers, hot water bottles and other red rubber products. The flooring can be recycled at the end of its useful life.

Locker Room Floors

The slip-resistant rubber sheet flooring used in the locker rooms contains a mixture of recycled and virgin rubber particle. The adhesive specified is a water based, low V.O.C. product.

Wall Tile

This highly durable wall tile is a 100% recycled porcelain ceramic tile made by a company that is committed to high recycled content tile products. Some products also include recycled glass from windshields and light fixtures.

Counter Tops

This innovative material combines recycled newspaper and soybean "waste" to make a surfacing material for countertops. It is a 100% recycled content material that can be used in lieu of non-recycled materials such as stone and plastic laminate.

Millwork

The millwork is highly resource-efficient: The particle board is used as the finished surface instead of adding other materials such as plastic laminate, the wearing surface is water-based polyurethane with low VOC

content, and the particle board is made from agricultural "waste" products that might otherwise have been burned or landfilled, and the board uses a binder without the formaldehyde (another type of VOC that harms indoor air quality) used in most particle board products.

Locker Paint

The lockers require a really durable paint, more durable than latex enamel painted on site. So the finish is a highly durable fluoropolymer that is applied in the factory, in part to avoid indoor air quality problems from on-site application.

Maple Athletic Flooring

The manufacturer of the maple flooring specified for the project is committed to purchasing wood from companies with certified well-managed forests. These companies harvest using sustainable-yield concepts, promote bio-diversity in the forest, re-plant after logging and protect riparian areas from logging activities. The finish on the maple floor is water based polyurethane instead of the high VOC solvent-based finishes often used on athletic flooring.

Carpet

The backing of the carpet is made of 100% recycled material recovered from carpet by the same manufacturer. The carpet itself can be recycled back into carpet at the end of its useful life instead of being landfilled. The backing has a zero VOC water-based adhesive already applied (the manufacturer calls it a "tackifier"), so installation involves peeling a thin film from the back and applying the carpet. This is the only commercial-grade carpet that has a 100% recycled backing. The wall base adjacent to the carpet is also carpet by the same manufacturer. So the base also has a 100% recycled and recyclable backing with zero VOC adhesive.

Stained Concrete

The stained concrete floors are highly resource-efficient. The concrete slab is poured anyway as the structural walking surface, but instead of adding another finish material on top these floors will have integrally colored structural concrete floors. The integral color is water-based pigments with low VOC's and the wearing surface is a water-based concrete sealer.