



BRIGADE COMBAT TEAM- HEAVY (BCT-H) DINING FACILITY FORT CARSON, COLORADO

32.0% reduction in energy costs
(LEED)

45.2% reduction in water use

51.3% of construction waste
diverted from the landfill

LEED Facts

BCT-H Dining Facility
Fort Carson, Colorado

LEED for New Construction Version 2.2
Certification awarded September 17, 2010

Silver 35

Sustainable Sites 7/14

Water Efficiency 3/5

Energy & Atmosphere 8/17

Materials & Resources 5/13

Indoor Environmental Quality 8/15

Innovation & Design 4/5

*Out of a possible 69 points

Photography Courtesy of: United States Army &
Burgess & Niple, Inc.

BRIGADE COMBAT TEAM- HEAVY (BCT-H) DINING FACILITY

Fort Carson is Committed to Sustainable Development

FORT CARSON'S SUSTAINABILITY GOAL

Sustainable Development ("Create a community that encourages social, civic and physical activity while protecting the environment."), incorporates stormwater, U.S. Green Building Council Leadership in Energy and Environmental Design (LEED), construction, transportation and master planning into a cohesive goal. The goal emphasizes programming, designing and building LEED-certified buildings with a target of all new buildings and major renovations on Fort Carson achieving LEED certification and all new buildings and renovations achieving LEED Gold by 2017.

BCT-H DINING FACILITY

The Fort Carson Dining Facility is single-story, 26,500-sf dining facility that serves 1,300 soldiers. The facility includes site development, parking lots, landscaping and sidewalks. Open space and picnic pavilions are provided for outdoor recreation use.

The primary features of the Dining Facility include a 624-seat dining room with a dramatic skylight located over the servery, and a commercial food preparation kitchen which provides 3,900 meals per day, served in three shifts. The kitchen is full service and equipped for on-site preparation of all meals by a staff of 54, and contains over 300 pieces of equipment. Other functions include a queuing area, smaller carry-out kitchen, high capacity dish wash room, dry storage rooms, public toilet rooms, administrative and staff support areas, service and maintenance rooms, and a two truck receiving dock.

STRATEGIES AND RESULTS

The facility meets LEED® silver criteria by employing numerous energy saving and sustainable design features. Specific features included; Cool roof – White EPDM roofing; recycled content -steel, concrete, tiles; 45.2% reduction in water use with low flow plumbing fixtures; air quality monitoring devices; low VOC building materials; water efficient landscaping; energy savings by using special kitchen hood controls; open area site layout; improved storm water management and quality; and selection of regionally manufactured building materials.

HVAC systems were selected to meet mandatory energy savings requirements in an otherwise energy intensive building type, solving the difficult challenge to achieve a 38.5% energy savings in a building with a large commercial kitchen operating at full capacity year round. The main factor in reaching this goal was the use of variable control of systems including roof top air handlers; hot and chilled water pumping; and kitchen exhaust hood and make-up systems. Monitors and sensors regulate equipment to provide exactly what is required and eliminate energy waste. The system monitors building CO2 levels. Cooking hood make-up air is connected to the HVAC system to maintain proper pressurization.

The exterior design, developed in accordance with installation design guidelines, consists of modern and traditional elements. The exterior wall assembly have an R value of 28.3 and the roof assembly has an R value of 20. The facility was pressure tested achieving .08 cfm/sf. The window system incorporates sun shades in the curtain wall and uses semitransparent glazing above the sun shades to reduce solar heat gain and glare. The window system is coupled with automatic daylighting perimeter controls calculating the amount of daylight and controlling lighting at the perimeter to reduce energy costs.

ABOUT FORT CARSON, COLORADO

Fort Carson, Home to the 4th Infantry Division and several large tenant units including the 43rd Area Support Battalion and the 10th Special Forces Group, is located in beautiful Colorado Springs, Colorado. The Installation was established in 1942 through land donated by the City of Colorado Springs to the War Department after the attack on Pearl Harbor. The Mountain Post Garrison Team provides units mission support and services including quality of life programs for the Fort Carson Soldiers, Families and the community to enable forces to execute expeditionary operations and to minimize stress on Soldiers and Families in a time of persistent conflict. The Fort Carson vision is to be the "Best Hometown in the Army - Home of America's Best."



U.S. Army Engineer District, Omaha

Architect: Burgess & Niple, Inc.
Civil Engineer: Burgess & Niple, Inc.
Commissioning Agent: Precision Test and Balance
Contractor: Alutiq LLC
Electrical Engineer: Burgess & Niple, Inc.
Interior Designer: Burgess & Niple, Inc.
Landscape Architect: Burgess & Niple, Inc.
LEED Consultant: Burgess & Niple, Inc.
Lighting Designer: Burgess & Niple, Inc.
Mechanical Engineer: Burgess & Niple, Inc.
Owner: Fort Carson, Colorado - United States Army
Plumbing Engineer: Burgess & Niple, Inc.
Structural Engineer: WJA Design Collaborative

Project Size: 26,507 square feet
Total Project Cost: \$15,462,345
Cost per square foot: \$522

Photography Courtesy of: United States Army & Burgess & Niple, Inc.

ABOUT LEED

The LEED green building certification program is the national benchmark for the design, construction, and operations of green buildings. Visit the U.S. Green Building Council's Web site at www.usgbc.org to learn more about LEED and green buildings.

Public Affairs Offices
402.995.2417
Omaha District
719.526.1269
Fort Carson

