



UNIT MAINTENANCE FACILITIES, COF FORT CARSON, COLORADO

33.7% reduction in energy costs
(LEED)

49.4% reduction in water use

77.5% of construction waste
diverted from the landfill

LEED Facts

Unit Maintenance Facilities, COF
Fort Carson, Colorado

LEED for New Construction Version 2.2
Certification awarded January 13, 2011

Silver **36**

Sustainable Sites 5/14

Water Efficiency 3/5

Energy & Atmosphere 7/17

Materials & Resources 7/13

Indoor Environmental Quality 9/15

Innovation & Design 5/5

*Out of a possible 69 points

UNIT MAINTENANCE FACILITIES, COF

Fort Carson Receives LEED Silver Certification

PROJECT BACKGROUND

The architectural theme for the Company Operations Facility (COF) – Unit of Maintenance (UM) at Fort Carson enhances the established campus environment that conveys an appropriate sense of place, pride, community and identity for soldiers in the 21st century to meet the future force structure of units of action. The design of the COF complements the visual image at Fort Carson and offers a visual unification with the design of the existing O’Connell COF. The simplicity of the architectural design, form, materials and colors were selected to express mission and function and to articulate an architectural character that is compatible with the Army installation design standards at Fort Carson. The overall goal is to provide a functional, quality and visually appealing facility that is a source of pride for the installation and delivered within budget and schedule.

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.

STRATEGIES AND RESULTS

The architectural character and materials chosen for the Company Operation Facilities achieves this purpose by incorporating modern materials and construction techniques, sustainable design features, anti-terrorism/force protection, low maintenance, durability and safety.

The primary structure of the COF is a pre-engineered metal building. The life cycle of pre-engineered metal buildings compares exceptionally well with other building materials and meets the Army’s objective that these buildings have a 25-year useful life before needing any major renovation, repair, or replacement. This building system incorporates the best life-cycle cost considerations to ensure maximum use of U. S. Army Corps of Engineers (USACE) standard designs including the flexibility to accommodate unique mission requirements, local site conditions and architectural themes. The pre-engineered building system has undergone the test of time and provides the USACE the highest degree of sustainability, reliability, and efficiency.

The structural steel members are factory electro-coated for positive protection against abrasion and corrosion and superior to the performance of spray-on primers produced by other manufacturers. The pre-engineered structure will be covered by insulated metal panels on the exterior skin of the building. These insulated panels provide increased R-values which led to better efficiency in heating, ventilation and air conditioning. The standing seam metal roof panels offer outstanding weather tightness and wind uplift resistance ratings.

The masonry veneer wall that wraps around the entire facility emulates the visual imagery established at the O’Connell installation and provides a durable and protective wall surface at the base of the wall. Choice of materials was selected for their architectural compatibility, longevity and maintenance characteristics. Pre-finished low maintenance materials and colors were selected to reflect the color palette of the installation. Protective measures are incorporated including blast-resistant window glazing and window frames.

LEED coordination efforts between the general contractors LEED-AP and DOR, Merrick’s LEED AP began in design and followed through LEED Design Review. All aspects of the building design were discussed for possible modification to attain the maximum possible LEED sustainable results. On the general contractors side constant coordination between Project Manager, QC, Superintendent and LEED AP guaranteed a positive result. Project Manager and LEED AP coordinated to procure LEED compliant materials through buyout. The result was Exemplary Performance: MR 4/ Recycled Content with 33.33% attained. It is a TEPA policy to surpass RFP requirements [50% diversion from landfill] for Waste Management, 77.45% waste diverted from landfill for the project. Regional Material MR 5 though difficult to attain in Colorado attained 22.63%.

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: Merrick
Civil Engineer: Merrick
Commissioning Agent: Farnsworth Group
Contractor: TEPA EC, LLC
Electrical Engineer: Merrick
Interior Designer: Merrick
Landscape Architect: Merrick
Lighting Designer: Merrick
Mechanical Engineer: Merrick
Owner: Fort Carson, Colorado
Plumbing Engineer: Merrick
Structural Engineer: Merrick

Project Size: 20,215 square feet
Total Project Cost: \$4,433,414
Cost per square foot: \$219

Photography Courtesy of: TEPA EC, LLC

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.

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