



065678, TACTICAL EQUIPMENT SHOP BAND, FY09, FT. CAMPBELL, KY

50.0% reduction in energy costs
(LEED)

40.0% reduction in water use

77.2% of construction waste
diverted from the landfill

LEED Facts

065678, Tactical Equipment Shop
Band, FY09, Ft. Campbell, KY

LEED for New Construction Version 2.2
Certification awarded March 17, 2011

Gold 42

Sustainable Sites	7/14
Water Efficiency	4/5
Energy & Atmosphere	13/17
Materials & Resources	6/13
Indoor Environmental Quality	7/15
Innovation & Design	5/5

*Out of a possible 69 points

065678, TACTICAL EQUIPMENT SHOP BAND, FY09, FT. CAMPBELL, KY

Fort Campbell receives Gold LEED Certification

PROJECT BACKGROUND

This is the first LEED Certified Building at the Ft. Campbell base and the first LEED Gold Certified building in the Louisville District for the U.S. Army Corps of Engineers. This project was a collaboration between the Corps of Engineers and J&S Construction Company's Design/Build team, which was comprised of Orchard, Hiltz & McCliment Architecture, Stansell Electric, CHC Mechanical and TKO Fire Protection. The project included two standalone tactical equipment and maintenance facilities of 12,433sf each.

This project was a great example of how a partnership between the U.S. Army Corps of Engineers - Louisville District / Ft. Campbell and the J&S Construction Design/Build team led to the design and construction of a very attractive, highly energy-efficient facility. The team members integrated sustainable features from all LEED categories including sustainable sites, water efficiency, energy and atmosphere, materials and resources and indoor environmental quality. An energy model was utilized in designing the building to reduce the energy usage by 50 percent through the building envelope, heating and cooling, lighting and domestic water heating. This efficiency was achieved without any additional expense to the owner.

STRATEGIES AND RESULTS

The Tactical Equipment Maintenance Facility (TEMF) features several sustainability technologies. Stormwater management plans incorporate structural controls including pervious concrete, bio-retention ponds, and detention ponds to capture 100% of the average annual rainfall. The design reduces potable water use by 40% through the installation of low-flow water saving water closets, low-flow urinals, low-flow shower heads and all hand washing lavatories include automatic faucets with reduced run timers. Through energy modeling simulation, the building shows a performance improvement of 50% using the ASHRAE 90.1-2004 Appendix G methodology. Energy efficiency measures include an improved thermal envelope, high efficiency glazing, reduced interior and exterior lighting power density, occupancy sensors, and high efficiency HVAC. Other sustainable features include water efficient landscaping, enhanced commissioning, use of recycled materials and materials manufactured and/or harvested 500 miles within the project site, and implementation of construction management plans during construction and before occupancy.

FEATURED INNOVATION

This project was awarded with an Innovation and Design Process credit for demonstrating exemplary performance in reducing heat island effect to minimize impacts on microclimates and human and wildlife habitats. The guideline for exemplary performance is to incorporate a combination of site hardscape for 100% of nonroof impervious surfaces through reflective paving, shading, and/or open grid pavement or covered parking. This project provides 100% of non roof area paving material, approximately 230,815 square feet (97.4%) have been paved with non-colored concrete with a solar reflective index (SRI) of 35 and 6,200 square feet (2.6%) have been paved with open grid pavement, achieving exemplary performance. The minimum reflective requirement for this credit is SRI of 29.

NOTABLE LEED FEATURES

- 40% reduction of potable water use
- 50% energy cost savings based on ASHRAE 90.1-2004 through energy efficient measures
- 104.2% of the predicted annual electrical consumption over a two-year period was purchased in terms of Green e-accredited Renewable Credits (RECs)
- 20.03% of the total building materials content, by value, have been manufactured using recycled materials
- 59.87% of total building materials value is comprised of building materials and/or products that have been extracted, harvested, or recovered as well as manufactured within 500 miles of project site



U.S. Army Engineer District, Louisville District

Civil Engineer: Orchard, Hiltz, & McCliment
Electrical: Oliver Rhoads & Associates
LEED: Orchard, Hiltz, & McCliment
Architect: Orchard, Hiltz, & McCliment
Interiors: Daniels & Zermack
Fire Protection: TKO Fire Protection, Inc.
Plumbing: John B. Regen Consulting Engineer
HVAC: John B. Regen Consulting Engineer
Construction: J&S Construction
Owner: U.S. Army Corps of Engineers, Louisville District

Project Size: 24,866 square feet
Total Project Cost: \$ 4,400,000
Cost Per Square Foot: \$177

Photographs Courtesy of: Orchard, Hiltz, & McCliment (OHM)

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 Office
 502.315.6766
 Louisville District
 270.798.3025
 Fort Campbell

