



VEHICLE MAINTENANCE FACILITY (FTW336C), FORT WAINWRIGHT, AK

31.0% reduction in energy costs
(LEED)

46.6% reduction in water use

66.8% of construction waste
diverted from the landfill

LEED Facts

Vehicle Maintenance Facility
(FTW336C), Fort Wainwright, AK

LEED for New Construction Version 2.2
Certification awarded February 3, 2012

Silver 35

| | |
|------------------------------|------|
| Sustainable Sites | 7/14 |
| Water Efficiency | 4/5 |
| Energy & Atmosphere | 6/17 |
| Materials & Resources | 5/13 |
| Indoor Environmental Quality | 8/15 |
| Innovation & Design | 5/5 |

*Out of a possible 69 points

VEHICLE MAINTENANCE FACILITY (FTW336C), FORT WAINWRIGHT, AK

Vehicle Maintenance Facility earns LEED Silver

PROJECT BACKGROUND

Design and construction of a composite tactical vehicle maintenance facility (TEMF) for vehicle maintenance and repair, complete with equipment and parts storage and administrative offices. The building is a two story, 37,290SF facility with a pre-engineered metal structure and insulated metal panel wall envelope above eight feet and a CMU veneer exterior face up to eight feet. The building is insulated to resist the near-arctic conditions at Ft. Wainwright. LEED Silver certification was required and achieved having earned 35 points.

STRATEGIES AND RESULTS

- **Variable Speed Glycol System Pumps:** The glycol hydronic distribution system utilizes variable speed pumping to decrease pumping energy during low building heat demand.
- **Heat Recovery Air Handling Units:** The majority of the primary air handling systems utilize air to air heat recovery type air handling units to capture and transfer energy from the building central exhaust system to the outside air serving occupant ventilation.
- **Demand Controlled Ventilation:** The primary air handling system serving the Repair / Maintenance areas includes variable air volume capability by the use of variable speed drives. The air volume is modulated based on input from carbon monoxide /NOX sensors as applicable to vehicle and similar hazardous operations within the space.
- **Solar Wall:** Exterior solar wall assembly with openings into the Repair Areas. Each opening includes propeller type supply fan with isolation controls damper and DDC control interface to operate fans as applicable to the solar wall operation.
- **Direct Digital Controls:** The control systems are direct digital (DDC) type which offer a high level of sophisticated programming logic and user functionality for increased energy conservation where it may be applicable to the given facility and applicable facility operation.

NOTABLE LEED FEATURES

- Exemplary Performance in Water use reduction, exceeds 40%
- Exemplary Performance by doubling the amount of open space required for credit achievement
- Exemplary performance: 35.8% recycled content
- Uses Low Mercury Lamps (low toxicity material for lamps)
- Over 24% regionally extracted materials
- 66.8% waste diverted from landfill
- 33.2% energy efficiency
- 100% of roofing is SRI compliant



U.S. Army Engineer District, Alaska

Owner: U.S. Army Engineer District, Alaska
Architects: RIM Architects
Structural Engineers: BBFM Engineers, Inc.
HVAC Engineer: Hay Zietlow & Associates
Energy Modeling: WHPacific
Civil Engineer: DOWL HKM
Landscape Architect: Land Design North
Interior Designer: RIM Design
Contractor: Watterson Construction
Commissioning Agent: Support Services of Alaska
Electrical Engineer: Hay Zietlow & Associates
Plumbing Engineer: Hay Zietlow & Associates
Geotechnical: Shannon & Wilson, Inc.
Sustainable Design Consultant: WHPacific
Fire Protection Engineer: Sprinkler Technology Design

Project Size: 36,157 square feet

Total Project Cost: \$15,709,000

Cost Per Square Foot: \$434

Photographs Courtesy of: Ken Graham Photography

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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U.S. ARMY