

Little Rock Fire Station No. 23

Little Rock, Arkansas

Architect

Jackson Brown Palculict Architects, Inc.

The Little Rock Fire Station #23 was not only the first LEED® certified fire station in the State of Arkansas, it was also an environmental project that served to repair a natural water feature that extended well beyond the project site. Before the building was even conceived, the Army Corps of Engineers did extensive investigations on a natural creek bed in West Little Rock where the project was to be located. Through analysis, a report was written to outline what needed to be done to restore the area. The design of the building was then completed to highlight the beauty of the creek, as well as become an icon for the neighborhood.

The building is comprised of sleeping quarters, a communal living area, and an apparatus bay. Located on a major neighborhood thoroughfare, the larger corner element stands out to announce the building as a fire station. A small lobby is open 24 hours, equipped with bathrooms, for the public. The interior of the station is designed to house 3 shifts of firefighters. The apparatus bay is designed to hold two trucks or several smaller vehicles.

In keeping with the neighborhood wishes, the front elements of the fire station have been designed on a residential scale, although the project still retains the architectural language of a civic building. The public face of the building is comprised of materials easily found in a residential neighborhood, such as brick and cementitious siding. There are also large stone elements on the facade, taking advantage of Arkansas' abundant resources of natural stone. The apparatus bay is tucked back behind the public road, and its materials speak more true to the program inside. Metal panels wrap the exterior, while CMU blocks line the inside of the truck bays. The shop and gym are also located on the back half of the building, away from the public view.

The interior of the building is comprised of durable and sustainable materials. The flooring in the main area is a stained and polished concrete, and the kitchen is finished entirely with stainless steel. Two bedrooms and a bathroom comprise a suite, and there are storage compartments inside for all three shifts. The day room gives a comfortable living space to the firefighters, who see this fire station as a second home.

The HVAC and lighting systems were designed to be highly efficient and meet the standards outlined by LEED. The glazing strategy for the building was determined through sun studies, and deep overhangs help to shade areas of harsh sun infiltration. Using



Photos Courtesy of Sittler & Henry Photography

a clerestory, there is even abundant natural light in the truck bay.

Finally, the landscaping and site work completed on the project has repaired the natural creek and helped alleviate flooding in the neighborhood. Large boulders were used to slow water flow, and the banks were repaired to stop erosion. The project has become an asset to the community and a prototype for fire stations around the state.

LEED® Points Achieved	44 Total
Sustainable Sites	13
Water Efficiency	3
Energy & Atmosphere	6
Materials & Resources	5
Indoor Environmental Quality	10
Innovation & Design Process	5
Regional Priority Credits	2

LEED® Certified

Product Information

Metal Building Manufacturer:
Nucor Vulcraft Group

Concealed Purlin Insulation System:
Thermal Design

Metal Building Insulation: CertainTeed

Exterior Siding & Trim: James Hardie

Membrane Roofing:
Duro-Last Roofing, Inc.

Storefronts: Kawneer

Sectional Overhead Doors: Raynor

Sun Shading: Tri-Star

Drywall: Temple-Inland

Ceiling: Armstrong

Tile & Carpet: Mannington

Weight Room Floor: Mondo

Lighting: Nulite, Columbia, Bega, Focal Point, Hubbell, Dual Lite, Spaulding, Wiremold, Square D.

Architect

Jackson Brown Palculict Architects, Inc.
12921 Cantrell Road, #201, Little Rock, AR 72223
www.jbparchitects.com

Project Team

Structural Engineer:

Engineering Consultants, Inc.
401 West Capitol Avenue, #305, Little Rock, AR 72201

General Contractor:

Dayco Construction, Inc.
30 North Road, Damascus, AR 72039

Mechanical & Electrical Engineer:

W.H. Grant & Associates, Inc.
1922 West 2nd Street, Little Rock, AR 72205

Civil Engineer & Landscape Architect:

Crafton Tull
10825 Financial Centre Parkway, #300, Little Rock, AR 72211

Sustainability Consultant:

Viridian, Inc.
100 Gamble Road, Little Rock, AR 72211

Project General Description

Location: Little Rock, Arkansas

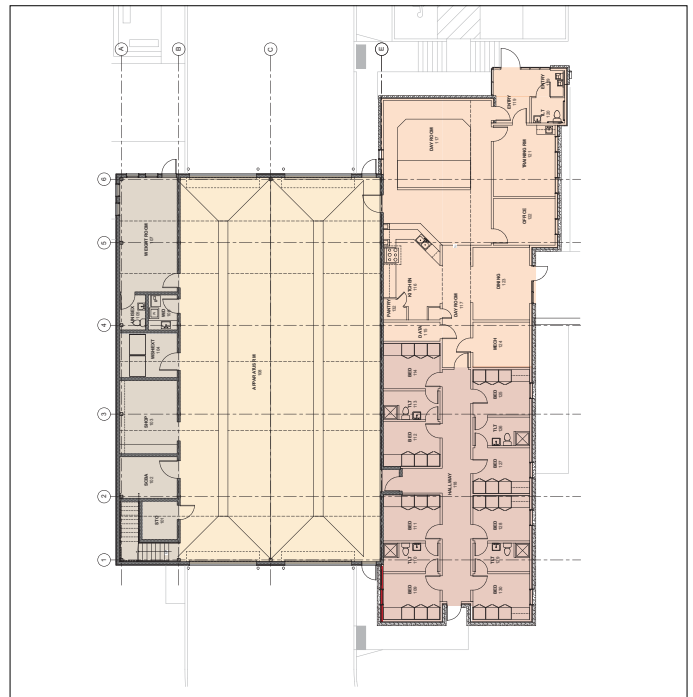
Date Bid: Sep 2011 **Construction Period** Oct 2011 to Nov 2012

Total Square Feet 8,291 **Site** 2.65 acres.

Number of Buildings: One.

Building Sizes: First floor, 8,291; total, 8,291.

Building Height: First floor, 28'8"; total, 28'8".



Basic Construction Type: New/VB Sprinklered/Pre-Engineered Building.

Foundation: Cast-in-place, slab-on-grade. **Exterior Walls:** CMU, brick, siding, storefront. **Roof:** Metal, membrane. **Floors:** Concrete. **Interior Walls:** CMU, wood stud drywall.

DIVISION	COST	% OF COST	SQ.FT. COST	SPECIFICATIONS
PROCUREMENT & CONTRACTING REQ.	45,000	1.98	5.43	—
GENERAL REQUIREMENTS	240,854	10.61	29.05	—
CONCRETE	131,500	5.79	15.86	Forming & accessories, reinforcing, cast-in-place, precast, cast decks & underlayment, grouting.
MASONRY	153,300	6.75	18.49	Unit, stone assemblies.
METALS	89,000	3.92	10.73	Structural metal framing, joists, decking, cold-formed metal framing.
WOOD, PLASTICS & COMPOSITES	108,835	4.79	13.13	Rough carpentry, finish carpentry, architectural woodwork.
THERMAL & MOISTURE PROTECTION	82,280	3.62	9.92	Dampproofing & waterproofing, thermal protection, weather barriers, roofing & siding panels, membrane roofing, flashing & sheet metal, roof & wall specialties & accessories, fire & smoke protection, joint protection.
OPENINGS	102,901	4.53	12.41	Doors & frames, specialty doors & frames, entrances, storefronts, & curtain walls, windows, hardware, glazing.
FINISHES	80,800	3.56	9.75	Plaster & gypsum board, tiling, ceilings, flooring, wall finishes, acoustic treatment, painting & coating.
SPECIALTIES	38,900	1.71	4.69	Storage, other.
EQUIPMENT	45,000	1.98	5.43	Food service.
FURNISHINGS	2,775	0.12	0.33	Blinds.
SPECIAL CONSTRUCTIONS	95,000	4.18	11.46	Pre-engineered building.
FIRE SUPPRESSION	48,197	2.12	5.81	Water-based fire-suppression system.
PLUMBING	247,500	10.90	29.85	Piping & pumps, equipment, fixtures.
HVAC	260,094	11.46	31.37	Air distribution, central heating, central cooling, central HVAC equipment.
ELECTRICAL	498,800	21.98	60.17	Facility power generating & storing equipment, lighting, communications, safety & security.
TOTAL BUILDING COSTS	2,270,736	100%	\$273.88	
EARTHWORK	180,440			Site clearing, earth moving, earthwork methods.
EXTERIOR IMPROVEMENTS	153,678			Bases, bollards, & paving, improvements, wetlands, irrigation, planting.
UTILITIES	5,000			Water, sanitary sewer, storm drainage, electrical.
TOTAL PROJECT COST	2,609,854			(Excluding architectural and engineering fees)

UPDATED ESTIMATE TO DECEMBER 2013: \$289.41 PER SQUARE FOOT

Regional Cost Trends

This project, updated to December 2013 in the selected cities of the United States.

EASTERN U.S.	Sq.Ft. Cost	Total Cost	CENTRAL U.S.	Sq.Ft. Cost	Total Cost	WESTERN U.S.	Sq.Ft. Cost	Total Cost
Atlanta GA	\$324.71	\$2,692,165	Dallas TX	\$314.12	\$2,604,377	Los Angeles CA	\$420.00	\$3,482,257
Pittsburgh PA	\$409.42	\$3,394,469	Kansas City KS	\$423.53	\$3,511,519	Las Vegas NV	\$384.71	\$3,189,630
New York NY	\$522.36	\$4,330,874	Chicago IL	\$441.18	\$3,657,833	Seattle WA	\$420.00	\$3,482,257

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