



LEON SPRINGS RESIDENCE
LEON SPRINGS, TX

88% less energy consumed than an average new home

75% of construction waste diverted from landfill

100% of potable water is harvested

LEED® Facts

LEON SPRINGS RESIDENCE

LEED for Homes
Certification awarded November 23, 2010

Platinum 100*

Innovation & Design 5/11

Location & Linkages 5/10

Sustainable Sites 16/22

Water Efficiency 14/15

Energy & Atmosphere 35/38

Materials & Resources 13/16

Indoor Environmental Quality 10/21

Awareness and Education 2/3

*Out of a possible 136 points

The information provided is based on that stated in the LEED® project certification submittals. USGBC and Chapters do not warrant or represent the accuracy of this information. Each building's actual performance is based on its unique design, construction, operation, and maintenance. Energy efficiency and sustainable results will vary.

LEON SPRINGS RESIDENCE

A Platinum Setting

PROJECT BACKGROUND

The 3,600 square-foot Leon Springs Residence is a home for a professional couple en route to retirement. The clients wanted a sustainable home that celebrated the outdoors, was energy efficient, harvested rainwater, and provided room for their guests, both young and old.

There are 3 main forms that combine to create several outdoor spaces where the clients enjoy morning coffee, outdoor meals, and relaxation. The home sits lightly on a sloped site, taking advantage of great views and solar orientation. The roofs slope with the site, creating a low profile and allowing rainwater to naturally feed the home's 17,000 gallon collection system.

STRATEGIES AND RESULTS

The Leon Springs Residence was designed to maximize passive systems utilization in an effort to minimize its impact on the natural environment. All interior spaces incorporate daylighting and cross ventilation strategies. By reducing the reliance on artificial lighting, cooling loads are reduced and overall occupant comfort is increased. Through a carefully planned shading strategy and the implementation of high performance windows, the home is designed to avoid solar thermal gain during the summer and capture passive solar heating during the winter. These features, along with the use of expanding foam insulation, minimize the need for mechanical heating and cooling.

The home's carbon footprint is further reduced with the use of a 12 kilowatt photovoltaic array, producing electricity that reduces the home's need to draw power from carbon producing sources. Leon Springs Residence's power consumption is further diminished with the addition of a ground-source heat pump which provides efficient heating and cooling as well as the majority of the home's domestic hot water.

The Leon Springs Residence design relies on a variety of regional and low embodied energy materials such as locally sourced Leuders limestone veneers and mesquite flooring. The home's finger-jointed stud wall construction is composed of locally harvested Southern Yellow Pine; concrete elements are composed of 30% fly ash. All millwork uses No Added Urea Formaldehyde (NAUF) plywood certified by the Forestry Stewardship Council, and interiors employ low volatile organic compound (VOC) paints and sealants. An on-site recycling strategy reduces construction waste by grinding scrap materials into mulch which is ultimately distributed throughout the Leon Springs Residence's landscaping.

Rainwater is collected from the building's roofs and is stored in 2 - 8,500 gallon tanks. This harvested rainwater passes through a series of filtration stages and provide the home's inhabitants with all of their potable water needs. Initial irrigation needs are being provided by city water but once the drought tolerant landscape has been established, the clients' goal is to have net zero water use.

Reducing occupancy energy consumption of the project by employing both passive and active strategies was a primary goal of both client and architects within the design of the Leon Springs Residence. To verify that these goals were being met, Lake|Flato chose to seek LEED for Homes Platinum Certification, the highest level of certification provided by the U.S. Green Building Council.

"I feel like I am on vacation every day!"

Client, Leon Springs Residence



Architect: Lake | Flato Architects
 Contractor: Duecker Construction
 Landscape Architect: Sarah Lake
 LEED Consultant: Contexts LLC
 Interior Designer: Baxter Design
 MEP Engineer: Southwest Mechanical
 Windows: Allen & Allen
 Gross Area: 3,655 square feet
 Total Project Cost: \$2.02 million (including solar, rainwater and landscape design)
 Cost Per Square Foot: \$401

Photographs Courtesy of: Lake | Flato Architects

ABOUT THE CENTRAL TEXAS-BALCONES CHAPTER

The Central Texas - Balcones Chapter of the U.S. Green Building Council (USGBC CT-B), founded in 2003, is a 501c3 non-profit comprising industry leaders from Austin, San Antonio and the surrounding communities of Central Texas. Members include building industry professionals, facility managers, property owners and others committed to accelerating growth in sustainable building and land development practices through innovation, advocacy and partnerships. The Chapter hosts Leadership in Energy & Environmental Design (LEED) Green Building Rating System™ workshops, holds educational sessions on sustainable technologies and applications, and offers networking events for green-building professionals in the region.



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 512-470-9923