



# GREEN BUILDING TOURS

April 19, 2013



PARTNERSHIP



## Houston Permitting Center Houston, Texas

### LEED for New Construction

**28%** Energy use Reduction

**30%** Water Use Reduction

**75%** Construction Waste Diverted

**95%** Building Reuse

## LEED® Facts

Houston Permitting Center  
Houston, TX

LEED for New Construction v2009  
Certification Awarded December, 2012

**Gold 65\***

Sustainable Sites 18/26

Water Efficiency 4/10

Energy & Atmosphere 18/35

Materials & Resources 8/14

Indoor Environmental Quality 11/15

Innovation & Design 3/6

Regional 3/4

\*Out of a possible 110 points





## Houston Permitting Center Remarkable and Innovative Reuse

### PROJECT DESCRIPTION

With the mission to help customers achieve their goals while complying with the City's regulations, the Houston Permitting Center has been designed to offer customers access to over 500 different permits, licenses, and registrations at one convenient and welcoming environment. A five-story 1920's rice warehouse was acquired to house numerous departments as well as the City's Green Building Resource Center focused on educating the public about green building, made easier located within a green building. The reuse of the building provided the opportunity to expose construction techniques, and embrace the city's Civic Art Program. The city requires all buildings be LEED Certified, and anything with a ten year or less payback was reviewed. The result is a building with exposed brick walls, hot riveted steel, a vegetated roof irrigated with condensate, frictionless air handlers and raised floor, among other qualities equally stimulating to the senses.

### SUSTAINABLE SITES (18/26)

The project is located within a ¼ mile of 5 bus lines and a ½ mile of 2 rail lines. ■ Located in the Downtown area, it is within ½ mile of a minimum of ten community services and an existing residential district with a minimum density of ten units per acre. ■ 25 preferred parking spaces are provided for low emitting and fuel efficient vehicles. ■ 90% of average rainfall is captured or treated.

### WATER EFFICIENCY (4/10)

Landscape and irrigation systems are designed to reduce municipal water consumption by 50%. ■ Baseline annual water usage was reduced by 30%. ■ The building features 1.28 gallons per flush water closets, low flow urinals, and three showers for employees that ride their bikes to work or participate in the HPC Bicycle Pool Program. Showerheads feature pressure compensating auto flow devices which limit flow to 1.5 gpm.

### ENERGY & ATMOSPHERE (18/35)

A commissioning agent was engaged during design through construction to complete fundamental building systems design. ■ The project follows ASHRAE 90.1 requirements. ■ There is zero use of CFC-based refrigerants in the mechanical systems that were installed. ■ The building has a 28.22% improvement in the energy cost performance. ■ The building entered into a 2 years contract in which 70% of building electricity use is from a renewable energy source.

### MATERIALS & RESOURCES (8/14)

95% of existing building structure elements have been reused. ■ The project diverted 87.6% of the on-site generated construction waste from landfill. ■ 21.44% of the total building materials content, by value, have been manufactured using recycled materials. ■ A recycling area is provided on site. ■ 18.72% of total building material value includes building material and products that have been manufactured and extracted within 500 miles of the project site. ■ 82.56% of the total wood-based building materials are harvested from FSC certified forests.

### INDOOR ENVIRONMENTAL QUALITY (11/15)

The project complies with the minimum requirement of ASHRAE Standards 62.1-2007, Ventilation for Acceptable Indoor Air Quality. ■ Smoking is prohibited in the building. ■ A construction air quality management plan was developed and used throughout construction. ■ Low-emitting materials wood & agrifiber products, adhesives, and sealants were installed to meet requirements. ■ Low emitting carpets were installed. ■ Indoor pollutant source control measures include an entry mat and MERV 14 air filters. ■ Individual task lighting is provided for 92.42% of occupants.

### INNOVATION IN DESIGN (3/6)

Green Building Resource Center features interactive product displays as well as examples of sustainable construction methods. Steve Stelzer, the program director, gives tours of the building and the center. He also hosts educational seminars and provides free reviews of plans for sustainable projects. ■ Exemplary performance for Green Power ■ Kristine M Byers, LEED AP, has been a participant on project development team.

### REGIONAL PRIORITY (3/4)

3 Regional priority point earned from Brownfield Development, Stormwater Design; Quality Control, and Construction Waste Management.

"The Houston Permitting Center captures the true essence of green building: reusing an historic building and adapting it to meet modern needs with cutting edge technology. Not only is it one of the few centralized permitting facilities in the country, it is a landmark that teaches thousands of weekly public visitors and hundreds of municipal employees about sustainability. It showcases a green roof, rainwater harvesting, an urban vegetable garden, wind turbines on the roof, as well as the largest City photovoltaic system to date. The City is truly proud of this LEED Gold center, as it has successfully and elegantly paired historic preservation and green building to become a premiere educational tool for the community.."

Laura Spanjian  
Sustainability Director,  
City of Houston



**Owner:** City of Houston  
**Architect:** Studio Red Architects  
**Structural Engineer:** Haynes Whaley  
**MEP Engineer:** E&C Engineers  
**Civil Engineer:** Walter P Moore  
**Commissioning Authority:** Apollo BBC  
**Landscape Architect:** SWA Group  
**Green Roof Design:** C. Tapley & S. Barnes  
**Contractor:** Manhattan Construction  
**Project Size:** 185,214 SF  
**Project Cost:** \$28,507,720  
**Completion:** July 2011  
**Photography:** Hester+Hardaway



### ABOUT LEED

The LEED Green Building Rating System is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S. Green Building Council's Web site at [www.usgbc.org](http://www.usgbc.org) to learn more about how you can make LEED work for you.