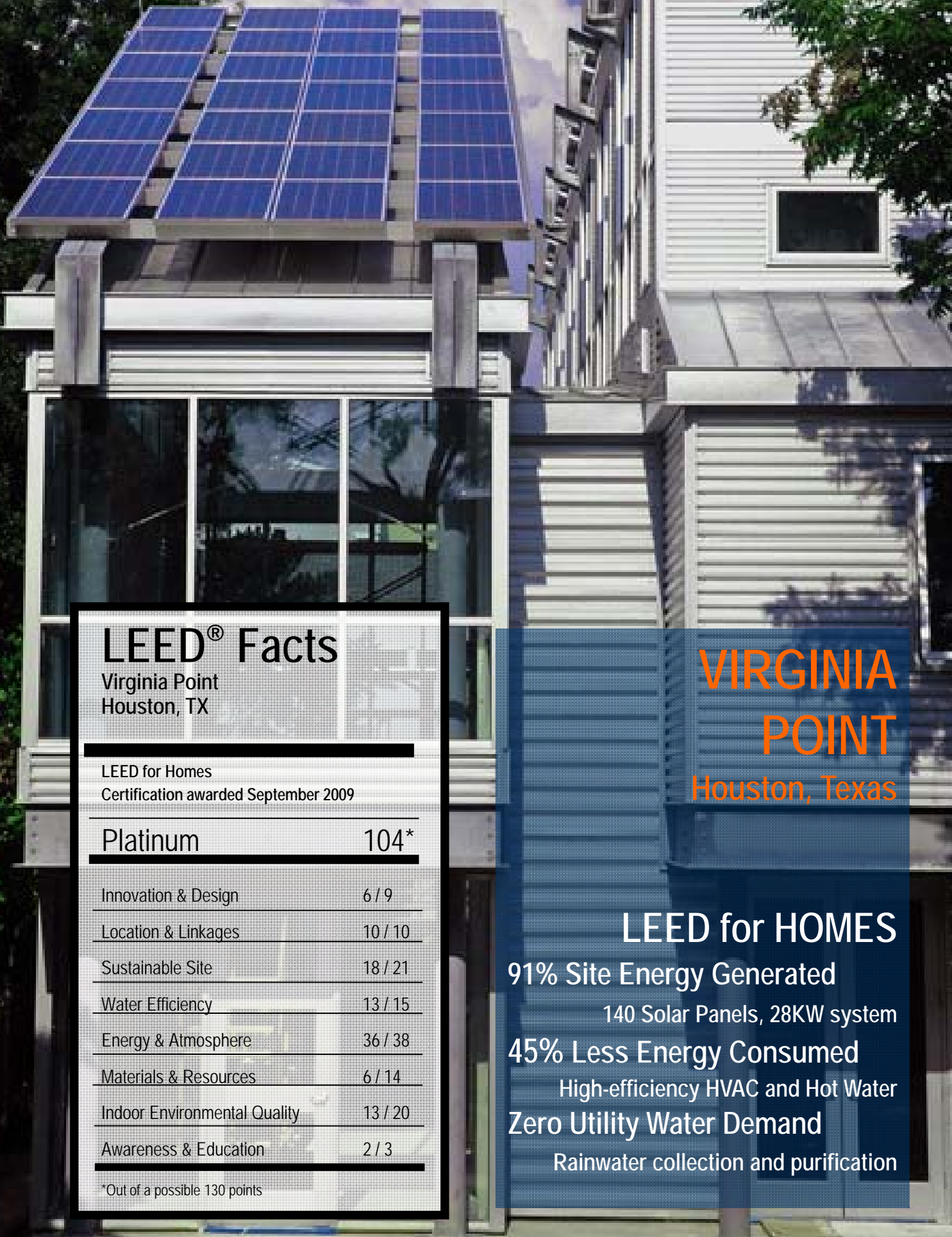




# GREEN BUILDING TOURS

November 12, 2010



## LEED® Facts

Virginia Point  
Houston, TX

LEED for Homes  
Certification awarded September 2009

**Platinum** 104\*

Innovation & Design	6 / 9
Location & Linkages	10 / 10
Sustainable Site	18 / 21
Water Efficiency	13 / 15
Energy & Atmosphere	36 / 38
Materials & Resources	6 / 14
Indoor Environmental Quality	13 / 20
Awareness & Education	2 / 3

\*Out of a possible 130 points

**VIRGINIA  
POINT**  
Houston, Texas

## LEED for HOMES

91% Site Energy Generated

140 Solar Panels, 28KW system

45% Less Energy Consumed

High-efficiency HVAC and Hot Water

Zero Utility Water Demand

Rainwater collection and purification

# PROJECT PROFILE

Virginia Point - Houston, Texas

## Houston's First LEED-H Platinum Home!

### PROJECT BACKGROUND

The goal of this project is total self-sufficiency by virtue of 140 photovoltaic electrical panels generating all the electrical power to meet the home's entire energy need, and rainwater harvesting to supply the home's total household water and landscape irrigation needs. Additionally, four geothermal HVAC systems coupled to the earth employing ten subterranean wells beneath the home engage the inherent coolness of the earth to dissipate heat, replacing the noisy, inefficient condensing units typically used in ordinary home air condition systems. Combined with the active systems there are passive strategies and systems working to further reduce energy consumption. These include generous amounts of north-facing glass to capture Houston's naturally abundant ambient northern light, large overhangs to shade the south and west facing glass which further reduces solar heat gain, reflective metal siding, spray foam insulation, a large north-facing screen porch, generous outdoor living area, and operable doors and windows to allow for natural cross ventilation in the spring and fall.

### SUSTAINABLE SITE STRATEGIES (18/21)

The landscape design includes 100% drought tolerant landscaping and no turf grass. ■ Standard residential city lot with reasonable building footprint size allowed for 76% permeable paving. ■ Rainwater gardens and new plantings help control storm water. ■ All existing shade trees maintained.

### WATER EFFICIENCY STRATEGIES (13/15)

Rainwater recovery from 100% of the roof area. ■ Utilize rainwater for all uses, including drinking water. ■ No irrigation system for landscape. ■ Very high efficiency fixtures used throughout.

### ENERGY AND ATMOSPHERE STRATEGIES (36/38)

Solar photovoltaic panels help to keep the roof cool and provide 100% of the home's power needs. ■ Geothermal air conditioning system. ■ HVAC with non-HCFC refrigerant installed. ■ Exceeds ENERGY STAR requirements. ■ Clerestory windows along the North allow for natural light to fill the space. ■ High performance commercial glass. ■ Energy Star windows with smaller windows on the West side to help reduce heat gain. ■ LED and low-voltage lighting.

### MATERIALS AND RESOURCES STRATEGIES (6/14)

Sustainable bamboo cabinets and flooring. ■ Kitchen countertop made from recycled paper. ■ Deck material made from recycled plastic. ■ Low VOC paint. ■ Substantial recycled content in structural steel, steel siding, and steel roofing. ■ Dramatic waste reduction during construction through recycling and reuse.

### INDOOR ENVIRONMENTAL QUALITY STRATEGIES (13/20)

Whole building ventilation system designed to comply with ASHRAE 62.2. ■ Sealed unit, natural gas fireplace. ■ Exhaust fans on timers. ■ Dedicated outdoor air supply system with heat transfer between incoming air and exhaust.

### INNOVATION IN DESIGN STRATEGIES (6/9)

Garden wall spanning between spot foundations to protect existing tree roots. ■ Rainwater purification system for potable water. ■ Generous built-in recycling cabinets in kitchen. ■ Extra efficient appliances conserving energy and water.

### DAN AND ADELE HEDGES: ENVIRONMENTAL EVANGELISTS

As we discussed our ambitions and dreams for our new house we asked our architects to investigate as many sustainable strategies as possible, but at the same time please make the architectural synthesis beautiful. Additionally, our neighborhood flooded in the last hurricane and my office was wiped out as well. So, we wanted a house that was as hurricane and flood resistant as possible. We consider ourselves environmental evangelists and we wanted to make a statement that would encourage others by showing that these strategies are doable, now. We enjoy living in the final product much more than we ever expected to. We've even extended the basic principles of eco-consciousness into our daily routines, recycling, soon to have a hybrid car, and so on. We feel that we owe it to the house.

"The secret: An insightful **Architect**, a courageous and sympathetic **Client**, and a committed, can-do **Contractor** comprise the triple-threat team behind this remarkable, pioneering project."

Dan Hedges: Owner



**Owner:** Dan & Adele Hedges  
**Contractor:** Chris Fry;  
Dovetail Builders, Inc.  
**Architect:** Joe Adams and  
Gail Adams;  
Adams Architects  
**Project Size:** 3,700 sq. ft.  
**LEED for Homes Provider:**  
David Murrah;  
Contexts  
**Photography:** Joe Aker;  
Aker/Zvonkovic  
Photography

### ABOUT LEED-H

The LEED for Homes Green Building Rating System is the national benchmark for the design, construction, and operations of high-performance homes. 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. Visit the Greater Houston Area Chapter of USGBC at [www.usgbc-houston.org](http://www.usgbc-houston.org) to learn more about getting involved locally.