

RESIDENTIAL PROJECT PROFILE



ELMWOOD GUT-REHAB PORTLAND, OREGON

53%

Energy Savings,
Based on HERS score

98%

.021 lb/sq. ft. of Waste, a Reduction

75%

Reduction in Water Demand
Based on WE Credit

LEED® Facts

Elmwood Gut-Rehab
Portland, OR

LEED for Homes
Certification awarded 05/13/09

Platinum 93*

Sustainable Sites 15.5/22

Water Efficiency 7/15

Energy & Atmosphere 27.5/38

Materials & Resources 13/16

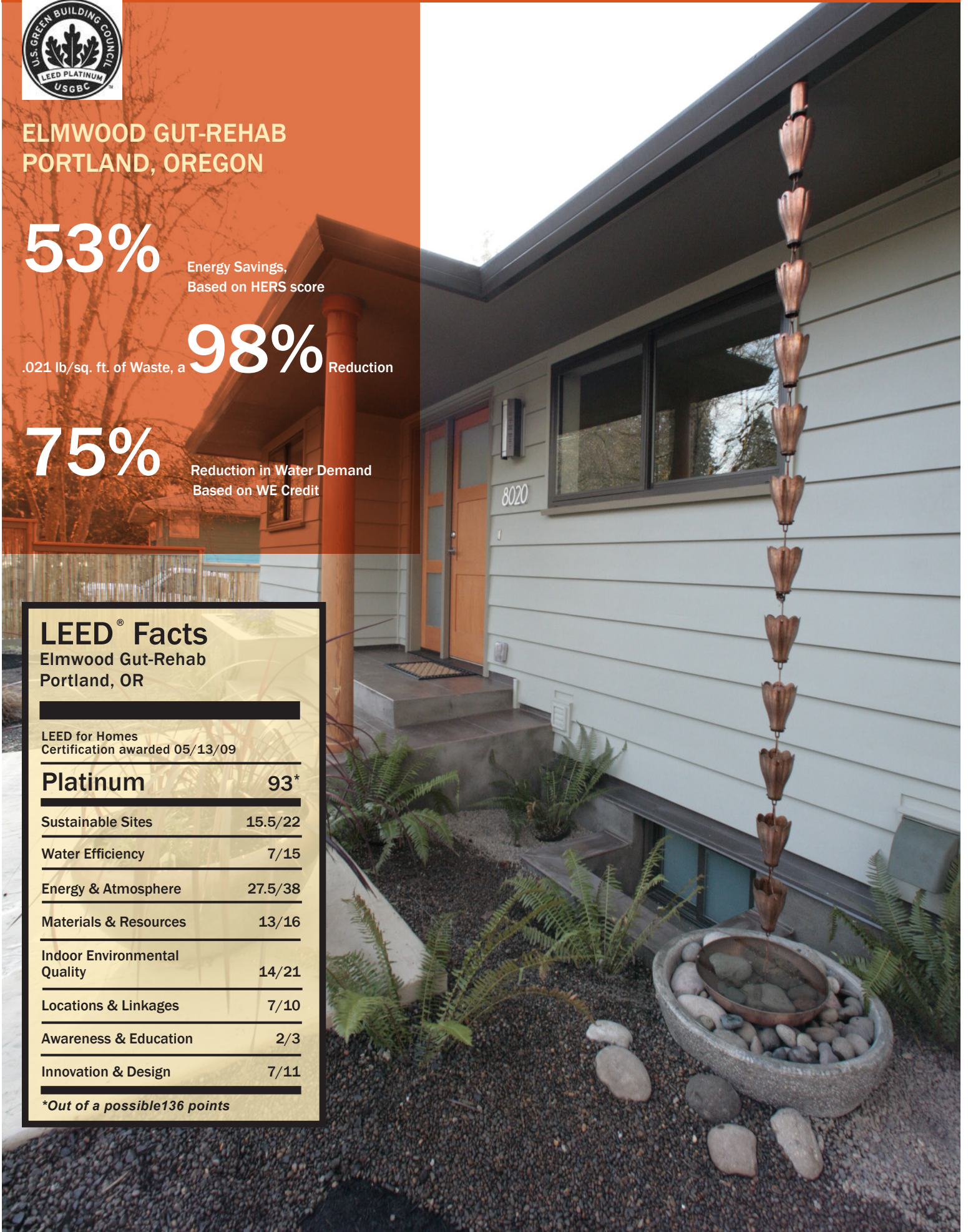
Indoor Environmental
Quality 14/21

Locations & Linkages 7/10

Awareness & Education 2/3

Innovation & Design 7/11

*Out of a possible 136 points



ELMWOOD GUT-REHAB

Material Matters

Smart material and resource choices change this mid-century ranch into a modern award winner

PROJECT BACKGROUND

The homeowner of this 1957 daylight ranch, located in SW Portland, knew it needed an upgrade, what it wound up getting was a complete transformation. This LEED platinum gut-rehab project is an outstanding example what can be done when thoughtful and innovative ideas are made to work for an existing structure. Paul Scardina, of Paolo Design Group, spent six months designing this residence and investigating how to convert it into a modern, comfortable, environmentally friendly home. Meaningful and measured decisions at each and every step resulted in a project that was the recipient of a 2010 NARI Green Award and an Outstanding Remodel Award from the Oregon Remodelers Association.

STRATEGIES AND RESULTS

Turning this poorly insulated home into a high energy efficient performer, started with taking full advantage of the current site and existing footprint. The south facing side of the home was utilized to its full potential by, enlarging existing windows, opening up spaces to natural light and adding thermal mass for passive solar gain. The existing exterior 2X4 walls were improved by making a staggered-stud double-wall with advanced framing; resulting in thick walls that were then filled with insulation.

Energy efficient windows and doors, insulated ceilings and floors and foam-sealed openings ensured that the home had a tight, high performance envelope. Furthermore, system improvements such as a ground source heat pump (tied to an efficient furnace), a heat recovery ventilator (HRV) and PV panels allowed this home to realize an overall energy savings of 53%.

Strategic and thoughtful material choices were instrumental in making this home a LEED platinum performer. Incorporation of local, environmentally preferred products was crucial to its success. The use of the existing framing, the reuse and reclaiming of onsite products and diligent research and documentation of the newly incorporated resources, were all significant to this sustainable structure. Cork and reclaimed flooring, formaldehyde-free, FSC-certified cabinets, FSC-certified decking and trim and recycled content counters are all attractively integrated into the home. Even the fireplace mantle and surround are reclaimed, the surround coming from a local granite fabricator.

The use, reuse and salvage of waste materials at the project site was also vitally important to the design/build team. Waste was sorted and repurposed for all different uses. This diligent attention and work paid off with an astounding 98% reduction of materials that would otherwise end up in a landfill.

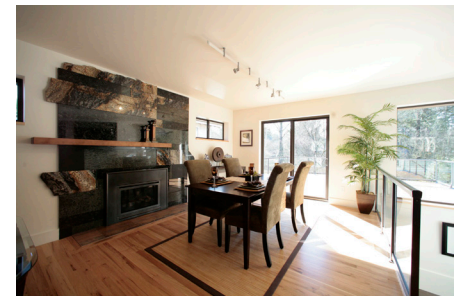
Landscape design for the home provided yet another opportunity to choose sustainable materials; pervious pavers, drought-resistant vegetation and a rain capture system all contributed to a reduction in irrigation water use. Low-flow fittings and fixtures inside the home also added to an overall 75% reduction of water demand.

ABOUT PAOLO DESIGN GROUP

Paolo Design Group of Portland, Oregon has built a reputation for design excellence, focusing on high-performance strategies that will sustain a high quality of life while preserving our natural environment. Cognizant that every design decision has an impact on the amount of money invested, the land occupied, the quality of the air, and the energy and water consumed, has made Paolo Design Group's partnership with the LEED for Homes a natural synergy.

“From start to finish, the entire team worked together on this Gut-rehab project to incorporate sustainable materials in the spaces that you don't see, such as the insulation behind the walls, and the spaces that you do see, such as the reclaimed materials on the fireplace surround in the dining room.”

**Paul (“Paolo”) Scardina
owner/principle, Paolo Design Group**



Whole House Design: Paolo Design Group
Paul Scardina, Ryan Gilson
Builder: Green Hammer Construction,
Stephen Aiguier, Rebecca Novis
Homeowner: Gary DeCarrico
Landscape: DeSantis Landscapes
LEED Rater: Earth Advantage Institute
Glen Waer
Mechanical: Specialty Heating & Cooling

Project Size: 2,744 Total

Photographs Courtesy of: Paolo Design Group

ABOUT EARTH ADVANTAGE INSTITUTE

Earth Advantage Institute provides verification services related to the LEED for Homes program. As a LEED for Homes Provider, they possess experience and expertise to assist project teams in the construction of high performance, sustainable homes. A LEED provider has several roles in the community they serve.



www.earthadvantage.org
503-968-7160