

Perkins Lane Remodel

Once a funky house on a magnificent Puget Sound shoreline site, this was the perfect remodeling candidate. The owner was tempted to expand the house but determined to “do the right thing,” he focused instead on refreshing priorities: improving energy efficiency, protecting the steep slope, and correcting awkward features while minimizing material use.

Green Home Case Study

Healthy homes for a healthy environment



Photo by Jon Alexander

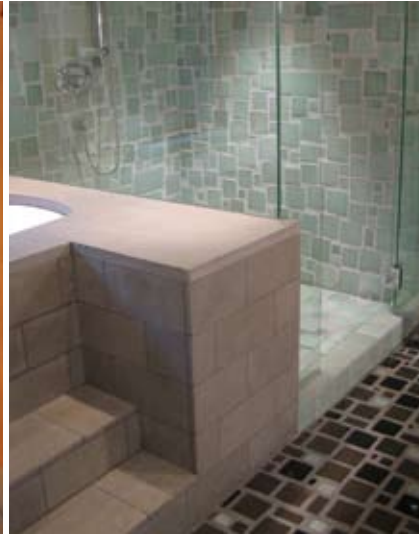


Photo by Grace Huang



Photo by Grace Huang

About the project

Name: Magnolia Remodel
Type: Single-family remodel
Square Feet: 2,310
Location: Seattle's Magnolia neighborhood
Completed: December 2005

This remodel began with a simple goal: create a master bath with a soaking tub and shower big enough for the owner to wash his very large dog. But the 1940's house had undergone various additions and modifications over time that created inconsistent design elements. The project grew to include creating a unified whole from its disparate parts and transforming the basement into a more livable space. With a spectacular view across Puget Sound, the house is nestled into a neighborhood where once humble houses are mushrooming into big show houses. This remodel had the same potential. Rather, the architect was able to convince the owner that instead of building either up or out, he could instead focus resources on improving his existing spaces. With no changes to the building footprint, the steep slope, classified as a Critical Area, was protected and the building

permit process streamlined. The owner sought opportunities to make the house more energy- and water-efficient, even to the extent of adding triple-pane windows, photovoltaic roof panels and a large cistern for roof runoff. When new materials were required, he always asked whether a salvaged or recycled product might do instead. But add a story to get an even better view? He happily passed on this option.

Goals/Challenges

Blending old and new

The owner did not want a house that looked brand new but a comfortable, nuanced blending of old and new. This goal dovetailed with his interest in using recycled and salvaged materials. The flooring in the house was a mix of oak, vinyl sheet flooring, wall-to-wall carpeting and bare plywood. The builders pulled up some of the original oak, purchased salvaged oak flooring and blended the two to create a unified floor throughout. When the stairs were rebuilt, salvaged fir treads were used. Where new trim, plywood or framing lumber was needed, sustainably harvested wood was sought out, certified through the Forest Stewardship Council™.

Ratings & Awards

Built Green™ 5-Star
 Certified Remodel
 (428 points)

The Team

Contractor

Jon Alexander
Sunshine Construction
(206) 782-4619
jonalex315@aol.com

Architect

Grace Huang
ming | architecture and design
(206) 272-9900
grace@mingad.com

Interior Designer

Robin Wille
Wille Design
(206) 281-9330
rwille@willeinc.com

Resources/Products

Photovoltaic Solar Panels

Puget Sound Solar
(206) 706-1931
www.pugetsoundsolar.com

Diamond Piers™ Deck Footings

Pin Foundations Inc.
(253) 858-8809
www.pinfoundations.com

Used Building Materials

The ReStore
(206) 297-9119
www.re-store.org/ballard.htm

Second Use Building Materials
(206) 763-6929
www.seconduse.com

Premier Plastics rainwater cistern & Kohler Sterling dual flush toilets

Keller Supply
(206) 340-0800
www.KellerSupply.com



City of Seattle
Department of Planning & Development
www.seattle.gov/dpd/greenbuilding

Forest Stewardship Council (FSC) Certified Wood

Dunn Lumber
(206) 632-2129
www.dunnlum.com

Recycled Glass Tiles

Bedrock Industries
(206) 283-7625
www.bedrockindustries.com

Squak Mountain Stone

Ecohaus
(206) 315-1974
www.ecohaus.com

For More Info

Built Green™ – a residential green building program/rating system developed by the Master Builders Association of King and Snohomish Counties in partnership with the City of Seattle.
www.builtgreen.net

King County GreenTools – provides technical assistance, grants and hands-on training to help users create green projects efficiently and effectively.
www.greentools.us

Seattle City Green Building – provides guidelines, incentives, and assistance to increase the environmental performance of buildings in Seattle.
www.seattle.gov/dpd/greenbuilding

Green Home Case Study

Perkins Lane Remodel

Keeping warm

Typically, the attic is an easily accessible place to add insulation. This house had no attic over the living room; instead the space has a cathedral ceiling with exposed trusses. Insulating from the outside didn't make sense because the roofing was in good shape, so the crew installed rigid foam at the interior ceiling. In other rooms, cellulose insulation, made from recycled newspapers, was blown into the attic and wall cavities. These steps, combined with air-sealing measures, made the house far more airtight and energy efficient. Heating system improvements - replacing both the forced air oil furnace and the wood-burning fireplace with gas - further minimize heating energy.

To ensure that they found and plugged all possible air leaks, builder Jon Alexander and his crew at Sunshine Construction commissioned two "blower door" tests, which involved depressurizing the house so that the builders could find and seal air leaks. The final test showed that this old house is now just as airtight as a new house built to Energy Star™ standards.

Upgrading windows

This house is located across the street from Puget Sound, and the living room has an expansive, unobstructed view. Unfortunately, the original windows were small and awkwardly configured as well as energy-inefficient. Aesthetic and sustainability goals converged when the builders replaced the windows with triple-pane fiberglass units with a U-Value of .23. This is almost twice as efficient as Seattle's energy code mandate and the living room windows are larger, maximizing the owner's view. Because the windows are westward facing, they have exterior shades that minimize unwanted summer heat gain from the afternoon sun yet do not block the view.

Replacing the deck

Beyond the living room, a new deck stretches along the west side of the house, replacing one that wasn't structurally sound. The new deck is relatively the same size, but it's shaped like a grand piano. Besides reflecting one of the owner's passions, the new design required fewer supports which is a distinct benefit on a steep slope. Builders attached the posts to Diamond Piers™, a kind of pier block that's pinned to the ground by driving lengths of pipe through angled holes cast into the concrete. The system, developed locally in Gig Harbor, requires almost no soil removal and cuts down on the use of concrete, which is energy intensive to produce.

Rainwater harvesting

On most Seattle lots, it's beneficial to allow water from gutters to slowly percolate into the soil in specially prepared

"rain gardens," a mosaic of soils, rocks and native plants. But on a steep slope where wet soil can readily slide, gutter water is typically directed into storm drains. To make better use of the water, the owner installed a 960-gallon cistern, which will provide irrigation water for new landscaping and supply a small decorative water feature.

Using the sun

The photovoltaic roof panels on the house are tied into the City's main electrical grid. The installation was one of the first to qualify for financial rebates through the Washington Renewable Energy Production Incentive. This program provides rebates of \$0.15 for each kilowatt hour produced, up to \$2,000 a year. Seattle City Light's net metering program also provides a credit on the owner's bill for any electricity generated in excess of that consumed in the house. The photovoltaic panels were one of the first items installed during construction, allowing the construction process itself to be solar powered.

To minimize electric use for lighting, and to brighten a dark hallway and bathroom, the builder also installed tubular skylights. Tubular skylights are smaller than traditional skylights but provide ample light, even on overcast days, through the use of reflectors that direct light down the tubes.

Indoor air quality

Just as the owner did not want the house to look new, neither did he want that new house smell which results from off-gassing of volatile organic compounds (VOCs) in adhesives, caulks, finishes and other building products – and can compromise indoor air quality and create health problems for occupants. In this house, the builder chose materials with no or very low amounts of these VOCs.

Master bath changes

The owner did get the one wish that started it all: a place to wash his large dog. The master bath now has both a large walk-in shower and a soaking tub. Finding a "green" soaking tub was a challenge, since most models have a capacity of 70 gallons or more. The one used in this remodel has a capacity of 52 gallons. 100% recycled-glass tiles, made in Seattle, decorate the bathroom floor and walk-in shower. Squak Mountain Stone, a locally manufactured material comprised of recycled paper, recycled glass, coal fly-ash and Portland cement, covers the tub surround and forms the new vanity top. Paint and new door fronts further transformed the existing vanity. The new toilet is a dual-flush model, which allows users to select a half flush when that's enough.