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REMODEL

Robertson/Moe Residence

SOAKING UP THE SUNSHINE

Enlivening an older home with the sun's light and warmth

When Julia Robertson and Nils Moe approached architect Greg VanMechelen about remodeling their 1912 home, getting more daylight inside was on the top their list. The living room on the south side was particularly dark because a gap of only six or seven feet separated it from a neighboring house. Circulation in the home was also awkward, in part due to a second story that was likely added after the home was originally built.

"We set out to enliven, modernize and bring in more light," said VanMechelen, whose firm specializes in passive and active solar buildings and alternative building materials. "We quickly realized that at the same time we could bring in some passive solar heating because the living room faced south. It was a win-win all around." VanMechelen used a bank of south-facing clerestory windows to bring in both daylight and passive solar heat. For all the south-facing windows, he specified low-e glazing that allows in the winter sun's heat, while overhangs keep the sun off those windows in the summer. Low-e windows with a heat-blocking coating were chosen for the other orientations.

All told, about two-thirds of the house was renovated, and a six-foot-high crawl space was dug out to create a fully finished basement. The kitchen, which had been refurbished a few years earlier, was left as is. Despite all the changes, construction impacts on the site were minimized by building upward instead of outward. The builder also went to great lengths to reuse as much of the existing framing material as possible.

"Building green may seem like a challenge but it is gratifying to know you created a healthy living space for your family and the environment."

—Julia Robertson, homeowner

HOME STATISTICS
ORIGINALLY BUILT: 1912
REMODEL COMPLETED: 2007
ORIGINAL SIZE: 2,527 SF
SIZE AFTER REMODEL: 3,900 SF
ARCHITECT: VanMechelen Architects
BUILDER: Peter Bilbao, Bilbao Construction



GREEN at a GLANCE

ENERGY EFFICIENCY & RENEWABLE ENERGY

- Designed for daylighting and passive solar heating
- Prewired for photovoltaic system
- Recycled-content damp-spray cellulose insulation
- Insulated foundation and hot water pipes
- Hydronic radiant-floor and panel heating (Pipeline Plumbing installer)
- Efficient condensing boiler supplies domestic hot water and space heating (Baxi Luna)
- High-efficiency lighting brought up to code 50% fluorescent in kitchen and bath
- Updated windows to double-pane, low-e windows (Bonelli)

RESOURCE CONSERVATION

- 50% recycling of construction waste
- 50% fly ash concrete (Berkeley Ready Mix)
- Earthquake retrofit
- Foundation drainage system
- Advanced framing: load sized headers
- Engineered Lumber: Parallam and LVL beams (Weyerhaeuser Microlam)
- Framing: 30% reused existing
- Salvaged Douglas fir beams (C&K Salvage)
- 18–24 inch overhangs and gutters
- Fiber-cement siding (James Hardie)
- 40 year warranty composition shingle roof
- Remilled existing Douglas fir framing into flooring and door (Beyond Waste, Built From Salvage)
- Bamboo flooring (Westhollow)
- Natural linoleum flooring (Forbo Marmoleum)
- Exposed concrete as finished floor
- Salvaged Douglas fir stair treads (The Reuse People)
- Bamboo bathroom cabinets (Built From Salvage)
- Salvaged kitchen and bath sinks (Urban Ore)
- Recycled-glass countertops (Vetrazzo)

WATER CONSERVATION

- WaterSense dual-flush toilets (Toto Aquia)
- Water- and energy-efficient washing machine (Maytag)
- Water-efficient faucet aerators

INDOOR AIR QUALITY

- Energy Star® bathroom fan vented to the outside (Panasonic Whisper)
- Removed wood fireplace
- Low-VOC paint (American Pride)