

BY ROBIN ROGERS

# March of the Sanguines

A FEW YEARS AGO, BRENDA NUNES AND HER HUSBAND, ART, PURCHASED A PLOT OF LAND IN ROSLYN, an up-and-coming resort community in rural, dry, central Washington, a big leap over the Cascade Mountains from rainy Seattle. Where others may have seen a getaway from city life, Nunes saw an opportunity to realize her dream of building a sustainable home and possibly inspiring other homeowners in the resort to pursue a similar idea.

A HOMEOWNER BRINGS GREEN TO THE BROWNER SIDE OF THE EVERGREEN STATE





After two years of developing the project, Nunes has one of the highest green-rated homes in Washington—Five Stars under the Built Green program ([www.builtgreenwashington.org](http://www.builtgreenwashington.org))—and she has inspired the resort to achieve the highest green community rating with a guarantee that 60 percent of its future residential units will become green certified under the program. Nunes also is working with the local home builders association to potentially establish a green-building rating program, which would be a first for central Washington.

#### GREEN WITH STYLE

A large component of Nunes' vision centered on education; she believed that more people would build green if they knew they could do it without sacrificing style or creature comforts, especially if it meant a healthier indoor environment. Working closely with builder Grey Lundberg, president of CMI Homes, Bellevue, Wash., every aspect of the home was studied for its green potential. Nunes and Lundberg also organized a steering committee of local experts that met regularly to help guide the project through the usual maze of considerations and decisions, including adherence to its mission, materials choices and costs, installation, functionality and accessibility, as well as its educational focus. Sponsorships and donations from supportive companies and organizations helped defray some costs with proceeds donated to the nonprofit Built Green program.

Beginning at the site level, trees were removed only in the immediate foundation area. The trees then were milled and used in the home as a fireplace mantel, interior posts and beams, and landscaping and porch timbers. Pavers in the driveway and patio allow rainwater and snowmelt to infiltrate through the soil without creating runoff. The foundation is made of energy-efficient insulating concrete forms. Lundberg says that even with installation costs about 10 percent higher, ICFs provided benefits. They caused less physical strain on the installers; eliminated the need for stripping, cleaning and transporting the forms typically used for conventional-poured concrete foundations; and will help prevent mold growth in the walls.







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As an Energy Star-rated home, this house achieves 60 to 70 percent greater energy efficiency than an average conventional home. Its geothermal heating system relies on abundant renewable energy without fossil fuels. Coupled with a back-up furnace and radiant floor heat, the system is optimized by the spray foam insulation that stops air flow through walls and ceilings, providing the tightness of structural insulated panels but with the advantage of being able to run utilities inside the exterior wall cavity. A heat-recovery ventilator captures waste heated air while a hot-water recirculating system is partnered with an on-demand water heater for maximum efficiency. The appliances and many of the lighting fixtures are Energy Star rated. The exterior site lights are dark-sky rated and help prevent nighttime light pollution.

IAQ is enhanced using an air purifier that kills bacteria and dust mites as it handles all return air. It gets help from a central vacuum system. Cabinetry is formaldehyde free with low-VOC finishes and paints that do not offgas into the house. Nunes specified materials that are easy to maintain with nontoxic cleaners;

flooring includes cork, Forest Stewardship Council-certified woods, slate, ceramic, glass and concrete tile. Area rugs were used in the home instead of fixed carpet that can harbor dust, dirt and mites.

#### REGIONAL PRIDE

Nunes committed to featuring regional products in her home, and many of them use recycled material harvested locally through municipal recycling programs. Additionally, the Seattle area boasts what is probably the oldest and largest supplier of green building materials in the United States. The store carries unique products like a countertop specified for the home that was created locally by a woman who mixes waste paper and fly ash for a material similar to concrete or soapstone. Glass tiles in the home are made with 100 percent recycled glass from the region. Many of the cabinets are from nontoxic materials and sustainably harvested wood.

One way to save money on materials and operating costs is to create a smaller home based on footprint and square footage. Nunes worked with Richard Fisher, AIA, principal architect of Richard A. Fisher Architects, Seattle, to keep the design for



## GREEN MATERIALS AND SOURCES

- STONE VENEER RETAINING WALL AND SIDING AND NATURAL STONE FIREPLACE, **Montana Rockworks**, Kalispell, Mont., [www.montanarockworks.com](http://www.montanarockworks.com)
- DRIVEWAY AND PATIO PAVERS, **Eco-stone** by **Mutual Materials**, Auburn, Wash., [www.mutualmaterials.com](http://www.mutualmaterials.com)
- INSULATING CONCRETE FORMS, **Arxx Building Products**, Cobourg, Ontario, Canada, [www.arxxbuild.com](http://www.arxxbuild.com)
- HOUSE WRAP, **DuPont Tyvek**, Cleveland, [www.tyvek.com](http://www.tyvek.com)
- SPRAY FOAM INSULATION, **Icynene**, Mississauga, Ontario, [www.icynene.com](http://www.icynene.com)
- SITE LIGHTING, **Rejuvenation**, Portland, Ore., [www.rejuvenation.com](http://www.rejuvenation.com)
- FOREST STEWARDSHIP COUNCIL-CERTIFIED DECKING, Tigerwood from **EcoTimber**, San Rafael, Calif., [www.ecotimber.com](http://www.ecotimber.com), distributed by **Environmental Home Center**, Seattle, [www.environmentalhomecenter.com](http://www.environmentalhomecenter.com)
- AIR PURIFIER, **Sun Pure Filters/Ultra Sun Technologies**, Corona, Calif., [www.ultrasun.com](http://www.ultrasun.com)
- HEAT-RECOVERY VENTILATOR, **Fantech**, Sarasota, Fla., [www.fantech.net](http://www.fantech.net)
- TANKLESS WATER HEATER, **Rinnai**, Peachtree City, Ga., [www.foreverhotwater.com](http://www.foreverhotwater.com)
- HOT-WATER RECIRCULATING SWITCH, **Metlund**, Costa Mesa, Calif., [www.gothotwater.com](http://www.gothotwater.com)
- DUAL-FLUSH TOILETS, **Caroma USA Inc.**, Burnaby, British Columbia, Canada, [www.caromausa.com](http://www.caromausa.com), and **TOTO USA Inc.**, Morrow, Ga., [www.totousa.com](http://www.totousa.com)
- GRANITE SINK, **Stone Forest**, Santa Fe, N.M., [www.stoneforest.com](http://www.stoneforest.com)
- COMPACT FLUORESCENT LIGHTING, **Sea Gull Lighting**, Riverside, N.J., [www.seagulllighting.com](http://www.seagulllighting.com)
- DISHWASHER, GAS STOVE, MICROWAVE, REFRIGERATOR AND WASHER-DRYER, **Whirlpool**, Benton Harbor, Mich., [www.whirlpool.com](http://www.whirlpool.com)
- CENTRAL VACUUM SYSTEM, **Beam Industries**, Webster City, Iowa, [www.beamvac.com](http://www.beamvac.com)
- RECYCLED-GLASS COUNTERTOP, **Icestone LLC**, Brooklyn, N.Y., [www.icestone.biz](http://www.icestone.biz)
- COMPOSITE COUNTERTOP, Squak Mountain Stone from **Tiger Mountain Innovations Inc.**, Issaquah, Wash., [www.tmi-online.com](http://www.tmi-online.com)

- EARTH-PLASTER WALLS, **American Clay**, Albuquerque, N.M., [www.americanclay.com](http://www.americanclay.com)
- RECYCLED GLASS TILE, **Oceanside Glasstile**, Carlsbad, Calif., [www.glasstile.com](http://www.glasstile.com); **Terra Green Ceramics Inc.**, Richmond, Ind., [www.terragreenceramics.com](http://www.terragreenceramics.com); and **Sandhill**, Boise, Idaho, [sandhillind.com](http://sandhillind.com)
- CERAMIC TILE, **Dal-Tile Corp.**, Dallas, [www.daltile.com](http://www.daltile.com)
- CORK FLOORING, **Vida Cork**, a product of Portugal, distributed by **Environmental Home Center**
- FSC-CERTIFIED AUSTRALIAN CHESTNUT FLOORING, **EcoTimber**
- Formaldehyde-free cabinets and window seats, **Neil Kelly**, Portland, [www.neilkelly.com](http://www.neilkelly.com)
- GEOTHERMAL HEAT PUMP, **Earthheat**, Duvall, Wash., [www.earthheat.com](http://www.earthheat.com)
- FURNACE, **Hi-Velocity** by **Energy Saving Products Ltd.**, Edmonton, Alberta, Canada, [www.hi-velocity.com](http://www.hi-velocity.com)
- RADIANT-FLOOR HEATING, **Thermal Supply**, Seattle, [www.thermalsupply.com](http://www.thermalsupply.com)

A complete list of green-building materials can be found at [www.thebuiltgreenhome.com/products-materials.php](http://www.thebuiltgreenhome.com/products-materials.php).



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the main house under 3,000 square feet (279 m<sup>2</sup>), not including an accessory dwelling unit above the detached garage and the wine cellar that add another 800 square feet (74 m<sup>2</sup>). Although many of the homes in the resort are larger, the lodge-style architecture of this home fits comfortably into its surroundings. And energy and water costs are expected to be significantly less than the neighboring homes built so far. Of course, the large footprint of homes should be changing as green home building continues to gain wider acceptance.

As part of the educational mission of this project, there was a goal to help builders unfamiliar with green techniques understand the differences. So it made sense to use the project as an open laboratory for green-building methods, technologies, products and costs. Thousands of visitors have arrived at this tiny town where the television series "Northern Exposure" was filmed, to see, not the moose ambling down the street, but the green resort home. It's not exactly "build it, and they will



come" but more like "they are coming to build anyway, so let's help them make it greener." Organizations, municipalities, developers and many other groups have been hosted by Nunes and Lundberg in industry seminars and tours during construction.

Although the home is closed to the public now, the educational value continues to be conveyed via [www.thebuiltgreenhome.com](http://www.thebuiltgreenhome.com), which chronicles the efforts, components and perhaps some of the excitement of this venture. And Nunes and Lundberg maintain their optimistic outlook as they see the march of green homes cross over to the "dark brown" side of Washington.

*Robin Rogers is the sustainability director for Lake Oswego, Ore.-based Otak, an architecture, engineering and planning firm with nine U.S. offices. She has been on the steering committee for this project since its inception and was a founder of Built Green Washington. She can be reached at [robin.rogers@otak.com](mailto:robin.rogers@otak.com).*

## What Makes Suncadia a Green Resort?

Suncadia, Roslyn, Wash., is a four-season resort community on 6,300 acres (2550 hectares) of forest and grassland in rural eastern Washington. It is the largest Built Green-certified community in Washington and is certified at the highest Three Star level. Eighty percent of the property will remain open space and golf courses with 40 miles (64 km) of trails. A 1,200-acre (486-hectare) conservation easement along the Cle Elem River is protected as riparian habitat. The community maintains stringent guidelines for all development within its boundaries, including measures to protect against erosion and pollution. The main Suncadia village condominiums also are slated to be LEED Certified.





## Web Resources

- NUNES HOME at Suncadia, Roslyn, Wash. / [www.thebuiltgreenhome.com](http://www.thebuiltgreenhome.com)
- SUNCADIA RESORT, Roslyn / [www.suncadia.com](http://www.suncadia.com)
- BUILT GREEN WASHINGTON / [www.builtgreenwashington.org](http://www.builtgreenwashington.org)
- BUILT GREEN SEATTLE AREA, Bellevue, Wash. / [www.builtgreen.net](http://www.builtgreen.net)
- ENERGY STAR HOMES, Washington, D.C. / [www.energystar.gov](http://www.energystar.gov)
- GREEN HOME BUILDING GUIDELINES from the National Association of Home Builders, Washington, D.C. / [www.nahbrc.org/greenguidelines](http://www.nahbrc.org/greenguidelines)

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## Green Team

**ARCHITECT** / Richard Fisher, AIA, Richard A. Fisher Architects, Seattle, [www.methownet.com/richardafisher](http://www.methownet.com/richardafisher)

**BUILDER** / Grey Lundberg, CMI Homes, Bellevue, Wash., [www.cmihomes.com](http://www.cmihomes.com)

**COMMISSIONING AGENTS** / Tom Balderston, Energy Star Homes Northwest, Seattle, [www.northwestenergystar.com](http://www.northwestenergystar.com), and Erin Hamernyik, Washington State University, Pullman, [www.wsu.edu.com](http://www.wsu.edu.com)

A complete list of participants can be found at [www.thebuiltgreenhome.com/participants.php](http://www.thebuiltgreenhome.com/participants.php).