

Green development wins accolades with simple, inexpensive design

by Lindsey O'Brien

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David Bonn performed the land-use planning, design work, construction management and Leadership in Energy and Environmental Design paperwork for the Juneberry Lane affordable housing development in Oregon City. This North Portland duplex is being built by Habitat for Humanity's Portland chapter, where Bonn serves as the director of housing development. (Photo by Sam Tenney/DJC)

For the Juneberry Lane affordable housing development in Oregon City, simpler was better.

Juneberry Lane last week won national recognition from the U.S. Green Building Council as this year's Outstanding Affordable Housing Project. Its 12 homes all are rated [Leadership in Energy and Environmental Design](#) platinum. But **David Bonn**, who performed the land-use planning, design work, construction management and LEED paperwork for the development, worked with the rest of the project team to keep both construction costs – and future utility bills – low.

"The most outstanding thing about that project was that we proved that you can achieve LEED platinum without having it cost an arm and a leg," Bonn said.

And home buyers with modest means won't have to pay an arm and a leg: Two-bedroom homes at Juneberry Lane start at \$115,000.

Modifications were made to the original development plan to stay within the budget. An early version of Bonn's design included an energy-efficiency feature called a "cooling stack" system, inspired by traditional designs of tepees and yurts. But the ventilation system was left out, in part because the team was committed to meeting its tight budget, which called for spending approximately \$70 per square foot.

Instead, Bonn pursued a more straightforward, simple design.

"The cooling stacks were a great idea, but we didn't need them," he said.

Because the Oregon climate is temperate and the homes are insulated well, windows proved to be the best source of natural ventilation.

"The less moving parts (and) the less complexity, the better," Bonn said.

The final design incorporates high-value insulation and on-demand hot water heaters, and both reduce monthly utility bills. A dedicated easement supports community gardening with a rainwater filtration system, and all adult buyers are required to contribute at least 50 hours of landscaping work or interior painting as part of their contracted "sweat equity."

Juneberry Lane also is the first residential project – and to date, the only one – certified as an [Earth Advantage](#) community. Certification requires a project to meet criteria in four sections: community systems, natural systems, built systems, and connecting and transportation systems. Earth Advantage community program manager **Celeste Flick** contends that these green building standards and others can be achieved without paying premium construction rates.

"There are definitely a lot of intersections between affordable housing and green building, and the end result is that it makes a lot more sense for the demographics that those units are intended for," Flick said. "We, as an industry, are to the point where green building doesn't have to be more expensive."

Bonn is taking the lessons in green building and cost savings he learned from Juneberry Lane and applying them to new affordable housing projects around Portland. As the director of housing development for the Portland chapter of Habitat for Humanity, Bonn is overseeing construction on three project sites, and work is about to start on a subdivision that will include 45 homes.

Juneberry Lane influenced several of Bonn's technical choices for future projects. For instance, he switched to a larger, two-by-eight wall system, which allows for insulation with higher values. Bonn's projects also include conditioned attic spaces for the [HVAC](#) equipment – by placing the ducts within the conditioned envelope, energy costs can decrease dramatically.

Juneberry Lane also marks a shift for the Clackamas Community Land Trust, the nonprofit that developed the project.

"With each development we've done, we've stepped up the green building and energy savings," said Loretta Walker Kelly, the group's executive director. "Our first homes were probably not particularly green at all, but now it just feels like it's the right thing to do and so we've taken it to the ultimate level."

But even a trendsetter like Juneberry Lane has not escaped the economic slowdown unscathed. Since construction finished in December 2010, only four of the homes have sold. Two more are in the process of being purchased; however, even then, half of the houses will remain unoccupied.

"It's definitely been a more difficult market for us, just like every other home seller," said Kelly, who added that she hopes the recent recognition from the USGBC will accelerate the selling process.

"We made houses that are not only affordable to purchase, but also easier to stay in through ease of maintenance and energy reduction over the long term," she said. "Given the state of the market, we have been pretty happy with the rate at which they've gone, but obviously we want to sell them as quickly as possible."

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