

Green from the Get-Go

Efficient design enabled this builder to offer sustainable mixed-use units — at an affordable price. *Text and photo by Petra Spiess*

There's a rarity in sustainable development today: affordable green spec housing. Considering many people cannot afford the green housing they most commonly see — custom-built single-family homes — there's certainly a market. So why aren't builders offering more ready-made, affordable green housing options?

"There's a perception [by developers] that it's more expensive," says Alex Platt, cofounder of the green design/build firm, Solar Village LLC. Along with his partners, Platt found a way to develop green spec housing that is profitable for the builder and affordable for the buyer.

"The difference for us is that our whole thought on this was from the get-go — before we even looked at the land — this was going to be a green, sustainable project," explains Platt. "So [we thought] 'how do we start now and look at every single aspect as we go,' and that's what's been able to bring the cost point down."

Solar Village Prospect, Solar Village LLC's strikingly modern mixed-use building in Longmont, Colo., rises from the landscape with geometric form and primary colors. It contains commercial and retail businesses on the first floor, with 16 condo units on the second and third floors. Solar Village Prospect gets 100 percent of its electricity from solar and wind sources; any energy needs not met by the solar components is met by wind credits purchased from the local utility.

Designed To Control Costs

Solar Village Prospect holistically incorporates green building technologies and techniques, getting multiple uses out of most aspects — a practice that controls costs. For example, photovoltaic panels generate electricity for the building, but Platt explains they also serve another purpose: "We looked at how else could we use the panels to help pay for them. We knew we wanted window shading on all our south windows, so we designed the panels to sit on brackets and then designed the brackets with the sun angles to be our sun shades for the summer sun — so they have two uses."

Similarly, concrete flooring serves as a sound barrier between the commercial and residential units, provides thermal mass for passive solar gain, and boosts the effectiveness of the in-floor radiant heating system. Solar thermal panels heat the water supply for the building and preheat the radiant floor-heating system. Strategically placed deciduous trees — on the ground-floor courtyard faced by all units, and on the second-floor deck in structurally incorporated planting beds (which also help support horizon-



All residential units share a second-floor deck made from sustainably harvested wood. Different colors for the units provide a sense of ownership amid the communal area.

tal load) — provide more shade. Even on a macro scale, the building is environmentally friendly in multiple ways: It's mixed-use and multi-family, a rare building type in suburbia that reduces the environmental footprint of the building and its residents. And it's located in the mixed-use, pedestrian-friendly development of Prospect New Town.

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Another way Solar Village LLC kept costs down was through the use of a computer-simulation model to reduce a common problem with green systems: overbuilding.

"The whole building at the early design process was put into an energy-modeling program [DOE-2] that analyzed the building for its thermal capacities," Platt describes. "So we were looking at all the windows, the insulation, where the sun was coming from, how the units were being heated passively by the sun; and we also plugged in different mechanical systems to see which system would run the most efficiently for its cost in the building."

The Start of a Trend?

Solar Village Prospect's condos run between 800–1,373 square feet and range in price from \$198,000 to \$370,000 (in addition, two units in Longmont's affordable-housing program are priced in the mid-\$100,000 range). As of January, nine residential units had been sold, and on the first floor, two businesses had opened: Solar Yoga, a yoga studio and shop; and Sugars, a gourmet organic ice cream store.

Extensive thought and thorough design has resulted in this beautiful, affordable and totally green spec housing — hopefully not a rarity in the real estate market for much longer. ●

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