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LEEDing the way in ‘green’ design

Builders go beyond the minimum requirements for environmentally-friendly construction

by Jason Tomassini | Staff Writer

As Silver Spring resident Kara Strong walked through the Eastern Village Co-housing complex, arguably the "greenest" residential building in Montgomery County, the architect couldn't help but point out an unnoticeable deficiency in the building's green design.

"There is just not enough bike parking," Strong said last week from atop Eastern Village's "green" roof, which serves as an outdoor patio, children's playground, community garden and part of efficient storm-water management and heating and cooling systems.

Strong, a green architect with Sustainable Design Consulting in Washington, D.C., is one of the many environmentally-conscious residents who designed Eastern Village and then moved into the South Silver Spring building at 7981 Eastern Ave. in 2004.

Eastern Village is among a handful of other county developments that go beyond the minimum requirement for sustainable design. But planners and architects say buildings like Eastern Village need to become the standard for Montgomery County to truly become green.

"If you take the approach you are going to design a building and plop it on a site, you are never going to have a green development," said Amy Lindsey, a senior environmental planner with the Maryland-National Capital Park and Planning Commission. "… Most [developers] are taking a more piecemeal approach."

Charles E. Shoemaker/The Gazette

Eastern Village Co-Housing, a condominium in South Silver Spring, has the latest in green technology, such as a green roof, energy-efficient appliances and geothermal wells for heating and cooling, but it is also is close to public transportation, has a lack of on-site parking and was built from recycled materials of an old office building.

In November 2006, the County Council passed a mandate requiring any new developments over 10,000 square feet to achieve at least a base certification in the Leadership in Energy and Environmental Design (LEED) rating system devised by the United States Green Buildings Council.

Additionally, County Executive Isiah Leggett (D) established a Green Economy Task Force last week to focus on advancing the county in green building and green jobs.

Some planners have viewed the moves as innovative steps to making the county a leader in sustainability, but others say developers are now simply filling out the LEED checklist without really making an impact.

While Eastern Village sports the latest in green technology, such as a green roof, energy-efficient appliances and geothermal wells for heating and cooling, it's the intangible aspects of the design that make it unique.

Among its greenest features are its proximity to public transportation, its lack of on-site parking and, most importantly, that it was built from recycled materials of an old office building.

"There is nothing more we can do for the environment than recycle an existing building," said Don Tucker, a partner in the Bethesda-based EDG Architects and president of the EcoHousing Corporation, which designed Eastern Village.

Often making a building green is "attainable with no burden at all," said Carl Elefante, a principal with Quinn Evans Architects in D.C. Features like water-efficient plumbing systems and recyclable materials are available at prices comparable to their conventional counterparts and easy to implement, he said Thursday in Silver Spring as part of M-NCPPC's "Growing Smarter Speaker Series."

For example, Lindsey said the greenest design in the county may be the future White Oak Recreation Center simply because it took a very difficult plot of land in Paint Branch Stream Valley Park and seamlessly integrated it into the design of the building.

Conversely, the American Speech Language Hearing Association headquarters in Rockville is LEED Silver certified in its building design but moved two miles farther from the Grosvenor-Strathmore Metro station than its previous location.

A LEED checklist has features or accomplishments with designated point values and levels of certification depending on total points. The Silver-certified Eastern Village scores eight points for its level of energy efficiency but also receives three points for using non-toxic paints, carpets and sealants.

The project was rated in 2002 by the LEED 2.1 system for new construction. The newer system, established in 2005, is similar but has a more complex – and more lenient – system for energy conservation. If Eastern Village were rated on the new system, it would earn 10 points for energy conservation.

Discovery Communications headquarters in downtown Silver Spring is the only county building with Platinum LEED certification.

Eastern Village's 34 LEED points are distributed fairly evenly among the different sections, indicative of the more "holistic" approach to the building, Strong said.

"A lot of developers look at a checklist first and then pick the easiest or least costly credits," she said.

Avoid being ‘greenwashed' by the economy

Lindsey said higher levels of LEED certification result in a 20 percent increase in initial rent for tenants, which can turn off some developers. In the current market, Tucker said Eastern Village would probably be too costly to build.

That dynamic, in addition to tough market conditions and the general lack of green building knowledge by older architectural firms, has resulted in "greenwashing," or using green features as a marketing tool without actually helping the environment.

To truly "go green," high-cost features like solar panels or geothermal wells should complement lower-cost features, Elefante said. At Eastern Village the geothermal wells – which are built about 600 feet underground and use the temperature of the earth to heat and cool a building – cost about $6,000 per unit for 56 units, Tucker said.

But with heating and cooling bills about $100 less than average for the 1,000-square-foot units, the investment on geothermal was paid off in about four years, Tucker said.

Because of their abundant open space, schools make great sites for geothermal wells, said Anja Caldwell, a green consultant and the former manager of the county's green building program. Caldwell helped design Great Seneca Creek Elementary School,Germantown, the first county-developed building with a LEED Gold certification, that has a geothermal system that should pay for itself in 12 years.

Despite the wells, Caldwell said the greenest features of Great Seneca are still its non-toxic building materials, its use of sunlight to light the building and its water conservation system that includes dual flushing mechanisms in the toilets.

"I always say the green at Great Seneca is under the hood," Caldwell said.

At H.D. Cooke Elementary School in Washington, D.C., Elefante's firm installed about 100 solar panels for a cost of $200,000 but the school saves about $3,500 annually in energy costs. The design of that school included adding one new wing and simply renovating two other wings that were constructed in the 1920s and 1960s, Elefante said.

A common mistake of developers is trying to build a green building from scratch while ignoring existing structures that were built in times that required more resourcefulness, Elefante said.

"It is better for the environment to renovate a building than to create a new building that is as green as possible," Elefante said.

A LEED checklist is broken down into six subsets: Sustainable Sites (14 points), Water Efficiency (5 points), Energy & Atmosphere (17), Materials and Resources (13) and Indoor Environmental Quality (15).

The certification levels are:

- LEED certified: 26 to 32 points
- Silver: 33 to 38 points
- Gold: 39 to 51 points
- Platinum: 52 to 69 points

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