

Greenville County schools go green

67-school construction project focuses on conservation, efficiency

BY LEIGH SAVAGE
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Students may not notice the features that make Greenville County's new schools "green," but designers say the attention to detail creates a healthier learning environment, preserves natural resources and will ultimately save the school district hundreds of thousands of dollars.

"Everybody who is doing any building today is looking at green initiatives," says Don Buck, CEO of Institutional Resources, the company heading up the 67-school, \$862 million construction project in Greenville County. "Whether it's an office, a home or a school, it creates a better environment."

The six elementary schools that opened this year — Blythe, Robert E. Cashion, Mountain View, Simpsonville, Slater-Marietta and Westcliffe — are the first examples of the design principles that all 67 schools will feature when the construction project is complete.

The Green Design Initiative implemented by Institutional Resources for the Greenville County school construction program is modeled after the LEED program created by the U.S. Green Building Council. The LEED (Leadership in Energy and Environmental Design) Green Building Rating System is a voluntary national standard for developing high-performance, sustainable buildings.

While some people associate green design with higher construction costs, Buck says that's not always the case.

"Not all green initiatives make a project more expensive," he says. "Some do, some don't. But we looked at all of the green initiatives to see which ones we could use, and which we could incorporate in each project within the budget and schedule constraints that we have."

InRe put together a team of designers and consultants that created checklists of the strategies that should be used in the schools. That team included Innovative Design and Padia Consulting from Raleigh, N.C., as well as Johnston Design Group, Earth Design, Overstreet Studio and H2L out of the Greenville area.

"Our input into the green initiative primarily dealt with assisting with creating green design guidelines," says Scott Johnston of Johnston Design Group, which specializes in green construction. "We also did the materials research."

Architects designing schools are given design guides and checklists to assist them as they draw plans.

The keys to the green design at the schools are preservation, conservation and efficient use, according to a document presented to school board members this week.

Preservation involves positioning a new school on a site in a way that considers the existing vegetation, geological pattern and wildlife habitats. This technique saves landscaping funds by taking advantage of native plants and trees.

The positioning of the school on the lot can also enhance light, assist with climate control and create a more visually appealing environment.

In addition, the construction plan makes use of pre-existing buildings where appropriate. Of the 67 schools in the program, only 21 are currently marked for demolition; the remaining buildings will be renovated or expanded.

Water conservation involves efficient toilets, urinals and showers that reduce total water usage at each



Julie Crawford/Photographer

Mike Magee, assistant program manager for Institutional Resources, points out the individual climate control systems at Blythe Academy.

school. The schools minimize the use of irrigation and sprinkler systems,

confining them to football fields. The remainder of the landscape is made up of local and native plants that don't require special irrigation.

In designing the schools, planners also looked for ways to cut utility costs, which typically add up to \$100,000 per year at an elementary school and \$300,000 per year at high schools.

Building designs that reduce air conditioning and heating costs by 10 percent can save a total of \$1 million per year, according to Institutional Resources.

"There are individual climate control systems within each classroom, so that is a more efficient use of the system," Buck says. "Lighting is another high energy user in schools, so it comes back to what we can do with building orientation to take advantage of daylight."

Studies have shown that increasing the amount of natural light in schools can improve student performance.

The schools also have monitors that cut the lights off when no one is in the room.

The materials used in the buildings are energy-efficient, including roofs with radiant barriers, high-efficiency windows, walls with high thermal mass and the use of light colors and shading where appropriate.

Johnston says a benefit that many people don't think of when considering green schools is the effect it can have on future generations.

"It creates opportunities to teach the next generation to be more sustainable in how they think," he says. "It will be second nature for them to recycle; second nature for them to have day-lit schools; and maybe even to have some solar power. It can have a multiplying effect."

He says while Greenville schools are among the earliest adopting the techniques, green school districts are the wave of the future.

"It's going to become very common, because it just makes great economic sense, even if you don't care about the environment," he says.



Magee points out a window with a coating that blocks radiant light.