

SUMMARY:

Greenville (SC) County Schools

Greenville County Schools (GCS), located in northwestern South Carolina, serves over 63,000 students in urban, suburban and rural areas of the 800 square-mile county. The district manages about 95 facilities, including 79 K-12 school buildings. *See* <http://www.greenville.k12.sc.us/district/admin/stats/measures.asp#System>. Greenville's Green Schools Initiative incorporates a broad range of environmental and health goals into the district's ambitious building program. The initiative has drawn on sustainable design experts to help craft high performance design guidance and to apply the guidance to a large number of capital projects.

BACKGROUND

Building Program

The current phase of the Greenville County Schools building program began in 2002, and it is projected to be completed in 2006. The district set up a non-profit foundation to fund the program, and \$800 million in bonds have been sold to provide funding and reserves. The program includes renovation or construction of 70 schools and related facilities. *See* Greenville County Schools, GCS Facilities Plan, at: <http://www.greenville.k12.sc.us/district/admin/const/index.asp>. In April 2002, GCS entered into a Project Management Agreement with a local firm to oversee the building program and to act as the school system's "representative to ensure schools are built to specifications." *Id.*

School District Support for High Performance Schools

According to district officials, the district's project management firm included a green schools component in its original proposal to manage the program. GCS and the firm jointly committed to a green schools initiative as part of the building program, within the funding provided for the program. District officials note that the need for daylighting and greater energy efficiency were important factors in the development of the initiative.

Outside Support for High Performance Schools

One of the driving forces behind the green schools initiative has been the advocacy of a local community-based organization, which presented a formal report to the Greenville Schools Board during a public comment meeting in 2001. *See* Upstate Forever, Green Schools for Greenville (2001) (on file with ELI). The report called on the School Board to require the creation of high performance school facilities throughout the district. According to the district's project management firm, community support for building high performance schools was an important factor in its decision to include a green schools component in the application to manage the GCS construction project.

PROGRAM COMPONENTS

Allocation of Funds

GCS and the project management firm agreed at the outset of the building program that \$2 million of the program budget would be allocated to "green thinking." According to the officials, those funds have been used to further define the Green Schools Initiative; educate and provide technical assistance to local architects and engineers who are working on individual projects; develop the means to measure progress; and pay for certain green building elements that were beyond the base budget for each of the schools. District officials expect that these additional, up-front costs will result in considerable life-cycle savings for the district.

Technical Assistance

After taking over the construction project in April 2002, the project management firm hired an architectural and engineering firm with expertise in sustainable design, to lead the green schools effort. Early in the process the sustainable design consultant conducted a seminar for the project management firm, GCS, and A/E firms involved in the school construction projects. The seminar explained high performance building concepts and identified opportunities for implementing this approach within the Greenville school construction program. The sustainable design consultant continued to provide technical assistance during the development of the Green Schools Initiative, as described below.

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Framework for High Performance Design

Development and Application of High Performance Design

Criteria and Metric. One of the first steps in furthering the Green Schools Initiative was the convening of a “green team” of green architects, designers, engineers and product experts to develop two guidance documents: a green design guide and a design checklist. To guide this process, the green team identified four areas of focus: (1) preservation, (2) conservation, (3) energy efficiency, and (4) healthier indoor environments.

The first document, the Green Components of the Architectural Design Guide, is a set of guidelines that integrates green features into the existing GCS Architectural Design Guide. For individual sections of the Architectural Design Guide (*e.g.*, masonry, doors and windows, mechanical and plumbing) the Green Components document provides guidance on sustainable practices and materials. *See* Greenville County Schools Architectural Design Guide, at: <http://www.institutionalresources.com/ADGpage.htm>. The second document, the Green Design Evaluation Checklist, lists the green analysis and design components to be considered during school design, designating components as “required,” “desired” or “optional.” The checklist is also broken down into three phases: schematic design, design development and intermediate construction documents. Each phase incorporates guidance for a wide range of high performance elements. *See* Greenville County Schools and Institutional Resources, Green Design Evaluation Checklists (on file with ELI).

GCS and the project management firm are overseeing the application of the checklist and design component as part of the regular process of approving facility plans. The documents are given to project architects with instructions to implement as many green features as the project budget and schedule permit.

According to district officials, 34 facilities have been completed or are in their final phase of construction, and a variety of green building strategies have been incorporated into many of the projects. Some of the strategies that have become widely adopted include: water-conserving plumbing fixtures; occupancy sensors to control electric lighting; pre-conditioning of outside air and integration of carbon dioxide sensors in the HVAC systems; wetlands preservation; and commissioning of mechanical and electrical systems. The project management firm estimates that most schools will earn the equivalent of 15 to 20 LEED™ points. The district is currently going through the LEED™ certification process for one high school.

Training and Education

After completing the design component and checklist, the district sponsored a Green Schools Initiative Training Workshop for the local A/E teams working on school building projects. During this session, the project management firm and the sustainable design consultant shared the design documents with project design teams. According to district officials, a GCS facilities employee has become LEED™-certified, and a number of the A/E firms working on individual projects have LEED™-certified staff members.