

SUMMARY:**Elk River (MN) Area School District**

The Elk River Area School District (ERASD) serves over 50,000 residents from several cities and towns in a fast growing part of Minnesota located about 25 miles northwest of Minneapolis. With over 10,000 students in 17 school buildings, Elk River is the 13th largest district in the state. *See* ERASD, Who We Are, at: <http://www.elkriver.k12.mn.us/district/who.html>. Over the past several years, the Elk River Area School District has changed its approach to building schools. Recognizing the need to improve the quality of facilities in order to enhance learning and maintain financial integrity, the district has developed high performance principles that emphasize an integrated approach to design, enhanced resource efficiency, improved indoor environmental quality, and lower life cycle costs.

BACKGROUND**Building Program**

In November 2000, Elk River Area School District voters approved a \$108.85 million bond issue to construct a new high school and elementary school and to renovate several schools. In 2004, voters approved a \$57.5 million bond referendum, which includes construction of two new elementary schools, renovation of a high school, and an addition to another high school. *See* <http://www.elkriver.k12.mn.us/district/projects.html>.

School District Support for High Performance Schools

According to district officials, Elk River's high performance school building initiative has been motivated by both the need for new classrooms and the recognition by district officials that existing facilities were in poor condition. During the past several years the district has been dealing with a variety of facilities problems – including mold and other indoor air quality issues – due to inadequate construction and maintenance. *See* <http://elkriver.k12.mn.us/district/bond00.html>. District officials were aware that the former approach to building schools needed to be fundamentally reconsidered.

In particular, the interest and persistence of Elk River's business manager was central to the development of the district's initiative. In 2000, the manager began discussing opportunities for promoting high performance facilities with area design firms that had considerable sustainable design expertise. One of the firms, which had offices in Europe, arranged a trip overseas so that district and school board officials could observe successful models and approaches to sustainable building. These early discussions and site visits set in motion a number of activities to institutionalize a high performance approach to the district's school building program.

Outside Support for High Performance Schools

School Board Support. Two Elk River Board of Education members were particularly interested in high performance design at the outset of the new building program, and the Board as a whole has been supportive of the district's initiative. According to district officials, the Board facilitated a high performance approach through its general expectation that there would be continual improvement in the quality of new facilities. Additionally, the board adopted Resolution 00-194, recognizing the district's leadership role in achieving sustainable schools. *See* Resolution of the Elk River Area School Board Supporting the Implementation of Sustainable Design Strategies (on file with ELI). The resolution specifically directed the district, "within the limits of the project budget, district personnel time limitations and project schedule," to establish a building committee for the new high school project and to work with the committee and with the district's sustainability consultants to develop and adopt a set of performance goals for the project. The resolution also affirms the district's efforts to solicit additional funding to achieve high performance goals.

Private Sector Support. A key to the development of a sustainable design approach in Elk River was the existence of sustainable design experts in the surrounding area. In 2000, the district began working with area sustainable design firms in the development of a high performance building manual for local decision makers in the school construction process. One of the firms had applied for and received a grant from the state Office of Environmental Affairs for the

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project. The manual, titled *High Performance Schools for Higher Performing Students*, was published in 2001 as a collaborative effort among three private firms, with participation from the Elk River Area School District.

PROGRAM COMPONENTS

Technical Assistance

Vital to the success of the district's efforts has been the use of an outside sustainability consultant to be the "district's advocate" – helping the district to establish high performance goals and to communicate those goals throughout the design process. District officials note that they found it was best to engage the consultant during the initial planning stage and to retain the consultant through construction if possible.

Framework for High Performance Design

Establishment of High Performance Goals. The main strategy used by ERASD in its 2000 building program was to identify general high performance goals – community involvement, simple building maintenance, healthy indoor and outdoor environments, and low construction and operating costs – to guide the implementation of a whole building design approach that includes specific design strategies to meet the general goals. The school district did not use an existing design guide, scoring system or checklist to integrate high performance features into the two new projects. Rather, the district and its sustainability consultant drew upon their experience and a variety of technical resources to develop a project-specific "duty book" that included specific and measurable performance goals for the new building in areas such as energy efficiency, daylighting, and selection of materials.

Identification and Application of High Performance Design Strategies. Both schools built under the 2000 bond referendum emphasize a variety of high performance strategies, particularly with respect to daylighting and thermal protection of the building envelope. The district also addressed other areas such as HVAC, materials, and commissioning. For example, the district used terrazzo flooring and an HVAC system that provides displacement ventilation and desiccant dehumidification. Commissioning of mechanical and electrical systems was ongoing throughout design and construction in the new projects, and the district included in its commissioning contract a requirement that the contractors return one year after the school opens to verify that the systems are working properly.

According to district officials, the new high school was completed within the original budget of about \$40 million. The district received a rebate from the local utility company after the company performed an analysis of the building's high performance features. District officials estimate that the district will save over \$150,000 per year in heating and electricity costs resulting from the high performance design. The new elementary school, which received LEED™ certification, was also completed within budget and is expected to save about \$50,000 per year in energy costs. See <http://www.elkriver.k12.mn.us/district/news5.html>.

According to district officials, the district is incorporating into its current building projects the key design strategies and features developed over the past several years, and is also exploring new options in areas such as high performance flooring materials.