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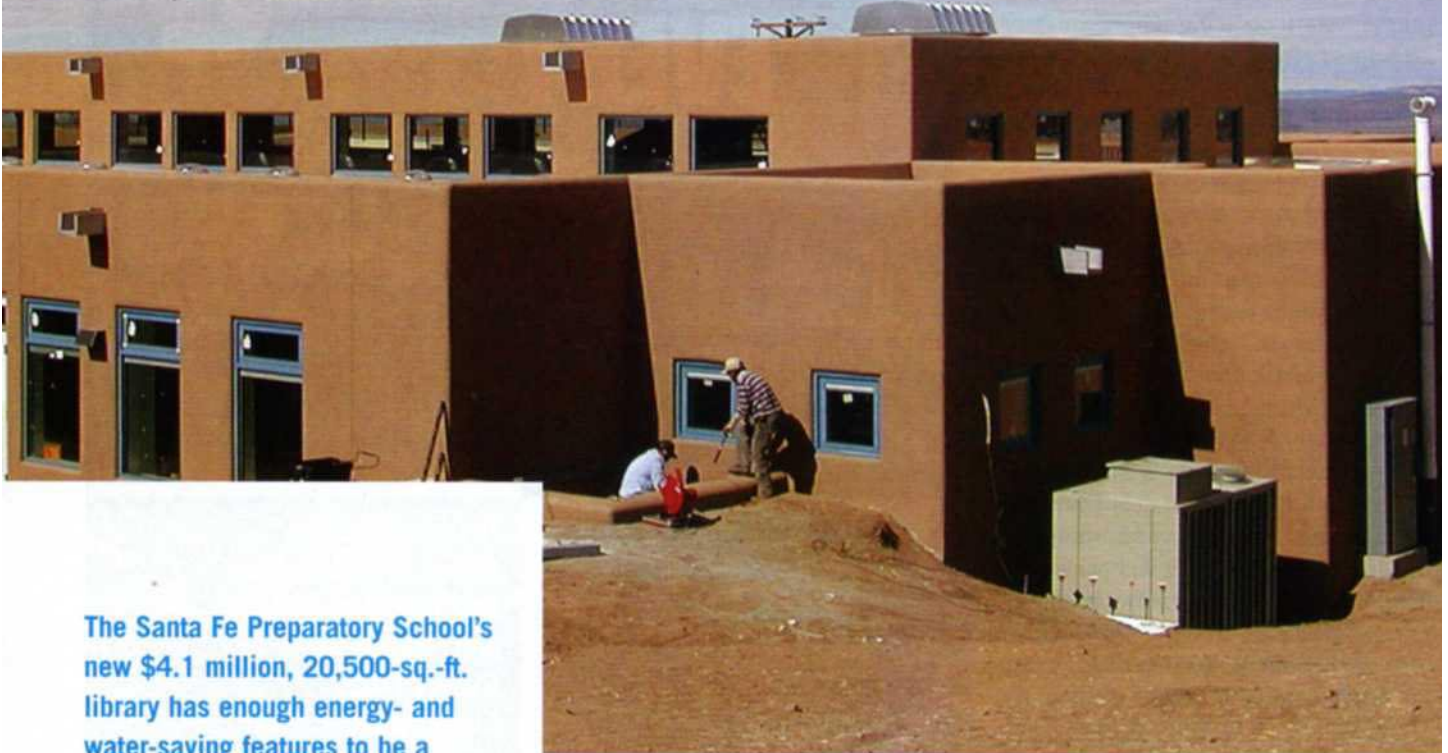
Green Building

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CONSTRUCTION

# Santa Fe Prep's Novel Library

## Builders Aim for LEED Silver

by Neal Singer



The Santa Fe Preparatory School's new \$4.1 million, 20,500-sq.-ft. library has enough energy- and water-saving features to be a candidate for silver LEED certification

<http://southwest.construction.com>

Above:

The environmentally sensitive building will collect rainwater in two cisterns on the roof and provide up to 81,000-gal. annually for landscaping.  
Photo by Johnny Rehders.

**In addition to its arts and crafts,** Santa Fe is a city known for its environmental activism and a place where water is at a premium.

Building an ecologically sound library for the 350 students of Santa Fe Preparatory School also helps ensure financing.

"[Local] people are willing to give money for construction that is environmentally

conscious," said project architect Joe Snider of Santa Fe-based Spears Architects, LEED coordinator on the project.

So are major corporations, he added.

Snider said General Motors, Toyota and Nike were among those willing to pay for natural lighting and less toxic materials use because the innovations usually result in greater employee productivity.

The \$4.1 million, 20,500-sq.-ft. Prep library has enough energy- and water-saving features to be a candidate for silver LEED certification, said project manager Johnny Rehders of Santa-Fe-based John G. Rehders General Contractor Inc.

LEED, or Leadership in Energy and Environmental Design, maintains national standards established by the U.S. Green Building Council. Certification difficulty climbs from certified to silver, gold and then platinum.

While such standards were initially voluntary, the state of New Mexico and city of Albuquerque, as well as the governments of other cities and states, are mandating that an increasing number of new structures meet at least the silver standard.

At Prep, "An anonymous donor paid for an environmentally conscious design from NREL [the National Renewable Energy Laboratory, headquartered in Golden, Colo.] two years ago, and we went from there," said James W. Leonard, school principal.

The nearly completed library has a ceiling that imitates a huge, open, hard-back book made of wood and opened to approximately its middle page. Its angles and light-colored materials reflect light downward from 34 clerestories that ring the main library space.

Prep science teacher and physicist Jay Shelton said his figures show a substantial increase in light reflectivity because of the overhead structure.

Other attempts at minimizing energy for lighting include 20 solar tubes - 2-ft.-diameter structures roughly 5 ft. high - that capture exterior light with lenses focusing into the main library chamber. Through longer tubes encased in columns and sidewalls, the lenses bring additional light into the building's basement floor of classrooms and offices.

The tubes offer no view of the sky but have neither the bulkiness nor potential heat loss of large skylights. >>



An anonymous donor paid for the environmentally-conscious design of the school's new library. Rendering courtesy Spears Architects

## Green Building

Conventional electrical lights embedded in the ceiling are controlled by sensors that dim or shut them off entirely when registering sufficient illumination.

**“Forty percent of all U.S. landfills are construction waste. We’ve put out 392 tons of waste that’s not going into a landfill.” Johnny Rehders of John G. Rehders General Contractor, Inc.**

Water needs are cut by two cisterns - 6,000 and 8,000 gallons capacity - that use roof runoff for landscaping needs. The system is estimated to collect 81,000 gallons of water yearly, based on an average rainfall yearly of 14 in., Snider said. The water will be distributed through a drip irrigation system.

Waterless urinals, in addition to low-flush toilets, add to projected water savings.

The “environmentally sustainable” building is made of 88 percent recyclable materials, Rehders said. Trees

standing in the way of the project, for example, were not only cut down but turned to mulch for landscaping needs.

Paints are low toxicity. “If you walk

into a building that has been painted, [normally] you can smell it,” Rehders added. “You can’t smell this.”

Carpet backing requires only pressure to stick to the floor, rather than an out-gassing glue, says Snider.

The contractor separates project waste for reuse, with bins for different kinds of waste materials. It costs more to rent more bins, but because the material can be reused, there are fewer hauling and dumping charges.

“Forty percent of all U.S. landfills are

construction waste,” Rehders said. “We’ve put out 392 tons of waste that’s not going into a landfill.” Interior air is night-flushed by a fan system to bring cool air into the building at minimum cost. Extended entrance cleaning grates minimize the strain of footwear dust on air cleaners.

Room dividers stop approximately a foot short of the ceiling to allow for more efficient movement of air. <<

### Key Players

**Owner:** Santa Fe Preparatory School

**General Contractor:** John G. Rehders General Contractor, Inc.

**Architect:** Spears Architects

**Electrical Contractor:** Gilmene Electrical

**Mechanical Contractor:** Hanna Plumbing & Heating

**Steel:** Mesa Steel

**Concrete:** Eker Brothers