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Turning Green

Healthcare works to catch up with other industries in environmentally sensitive design and construction

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The Children's Medical Center of Central Texas is a case study in environmentally friendly hospital construction-from the ground up.

In fact, one of the most prominent environmentally sensitive design elements of the new 169-bed pediatric facility is its physical location: It will be built on the site of a former regional airport in down- town Austin where large sections of land were polluted by years of jet exhaust, fuel seepage and other contaminants.

Next, there's the natural gas-fired turbine power system, built and underwritten by city-owned Austin Energy, that is expected to provide 65% more efficient utilities-the total energy input from primary fuels-to the \$110 million, 454,000-square-foot hospital set to debut in January 2007.

Other ecological touches include the use of recycled asphalt from the old airport runways, a reflecting pool that doubles as a rainwater- collection system and a jogging path encircl- ing the once-contaminated, 32-acre urban "brownfield" site that has remained largely unoccupied since the closure of Robert Muller Municipal Airport about four years ago.

Together, officials declare, these elements add up to one of the most environmentally friendly and efficient hospitals in America. Indeed, it is one of only a relative handful of healthcare facilities that have embraced the so-called "green" philosophy with such complete commitment.

"We're finding that all this stuff is the smart way to go," says Robert Moroz, vice president of network facilities for Seton Healthcare Network, the hospital's parent. "It costs a little more, but it does make sense from an economic perspective to do what we're doing. It's going to pay off. We're not building a 10-year building. We're building for 50 to 100 years."

For an industry that focuses on health, healthcare hasn't quite kept pace with other commercial sectors in developing clear strategies for environmentally friendly facilities, says Gail Vittori, co-director of the Center for Maximum Potential Building Systems in Austin, a not-for-profit group that promotes environmentally friendly construction. Vittori conducted a research study on green buildings in healthcare four years ago, concluding that the industry was well behind the curve.

An ecological laggard

"Healthcare, you would think, is the one industry that would immediately gravitate toward green buildings," Vittori says. "But I discovered that there is really no focused efforts on the greening of healthcare facilities."

Though only a few hospitals are now being designed and built under the strictest green guidelines, she says, healthcare has made significant improvements over the past two or three years in addressing an issue that commands so much attention in other industries.

In December 2003, Boulder (Colo.) Community Foothills Hospital became the first healthcare facility in the nation to earn a U.S. Green Building Council certification, which is known as Leadership in Energy and Environmental Design, or LEED; the rating system serves as a national standard for high-performance, sustainable buildings. Vittori, chairwoman of a committee that is developing standards that eventually will be applied exclusively to healthcare facilities, says less than a dozen hospitals have even applied for the LEED certification now in force for all types of facilities.

"As people become more aware of the enormous benefits-not only to the bottom line but to the health benefits of employees and their productivity-more and more hospitals will embrace this," she predicts.

Austin-based Seton, part of Ascension Health, is one of the systems Vittori cited as being on the leading edge of this emerging emphasis on environmentally friendly buildings. Children's Medical Center is being built as part of a major mixed-use redevelopment project at the shuttered airport on land that was purchased at fair-market value by Seton. Terms were not disclosed. The contaminated sections have been cleaned up by the city through a relatively inexpensive remediation that primarily involved the removal of soil. State environmental officials recently provided their final seal of approval.

"The site wasn't picked because it was (con-taminated)," Moroz says. "But, in terms of having a green building, this is one of the things you're looking for." Moroz says Seton officials are hoping to achieve a "platinum" rating from LEED, the highest level in a sequence that includes gold and silver statuses and is based on a rating system that allows a maximum of 69 points for a broad range of environmentally friendly elements.

In addition to the energy-efficient power plant being built by Austin Energy, a wide range of environmental touches-including large courtyards and a huge expanse of windows to provide lots of energy-saving natural lighting-will help Seton's pediatric facility attract staff and physicians, Moroz says. "In the future," he says, "you're going to need something special to recruit these people. We think one of the special recruitment tools will be green buildings."

Though Seton appears to be on the vanguard, the system is not alone in a new emphasis on the environment. The American Society of Healthcare Engineering, for instance, adopted a "green healthcare construction guidance statement" about two years ago to help chart the course for future building. That statement, something of an environmental manifesto for the healthcare industry, covers site design, water and energy use, indoor environmental quality, materials and products and construction practices.

Several other groups are actively focusing on environmentally friendly construction, including a consortium called Green Guidelines for Healthcare as well Hospitals for a Healthy Environment, or H2E, a coalition that grew out of a 1998 collaboration between the American Hospital Association and the Environmental Protection Agency. H2E now boasts a roster of more than 40 organizations, including the Catholic Health Association and several of the faith-based group's affiliated healthcare systems. Among the overall goals: reducing waste by 33% by 2005 and by 50% by 2010. For its part, the CHA established its own Partnership for Environmental Responsibility to help unite the Catholic health ministry behind key environmental goals, such as eliminating mercury in medical products.

Laura Brannen, executive director of H2E, says hospitals are just now beginning to view environmental efforts as a "way to market themselves, a way to show leadership." In the coming

years, she says, that movement will continue to gain momentum as green facilities demonstrate their inherent advantages.

Other notable examples, along with the 60-bed facility in Boulder that opened last September, include Metropolitan Hospital in Grand Rapids, Mich., which will seek a LEED designation for an \$87 million, 208-bed replacement facility scheduled to open in 2006; and the Children's Hospital of Pittsburgh, a \$420 million pediatric center that will employ a wide range of environmentally friendly technologies and material, and, like Seton, is pursuing a platinum LEED rating. About 21 healthcare projects are now registered with LEED, the first step in the certification process.

Boulder Community Foothills Hospital, a 200,000-square-foot facility in the heart of an area well known for its progressive attitudes, includes motion-activated lights, an energy-saving central utility plant, recycling rooms, waterless urinals and extensive xeriscaping, which is a waste-efficient landscaping technique. Officials expect the hospital to realize annual energy savings of more than 20%. Some 75% of construction waste was recycled. For its design, the hospital won a silver-level LEED certification.

Making it green

In Pittsburgh, planners have focused on green principles since designs were first considered about three years ago for the new 265-bed children's hospital, which is scheduled to open in 2007. From the start, says Roger Oxendale, the hospital's chief operating officer, planners have highlighted environmental issues in everything from construction management and equipment to technologies and open space. In addition to efficient electrical systems and other hardware, the hospital has maintained a focus on people-friendly elements like atriums, wide hallways and lots of light.

For all the positive qualities of environmentally friendly buildings, however, it hasn't exactly taken the executive suite by storm, some observers say. Struggling with reimbursements, modest margins and a tight capital market, most healthcare executives seem unlikely to absorb the extra costs of a green building, even if studies show that the emphasis on energy efficiency alone will yield savings down the road.

"At this point, it's just not a top priority in the minds of hospital executives," says Brad Barker, a senior vice president for RTKL Associates, one of the nation's largest healthcare architectural firms.

Moroz estimates that the emphasis on environmental design and construction will add about 3.5% to the total cost of the hospital. That's relatively low, he adds, noting that the price tag can run 8% or more of the total bill-an intimidating obstacle for many healthcare executives despite the promise of a payback. (Moroz says it will take just five years for Seton to recoup its added investment.)

"The upfront costs are a big hurdle," Moroz says. "Even if it's a worthwhile endeavor, folks don't budget that way (for capital projects). If you've got a big enough bucket to draw from, it's not an problem. If you don't - if the bucket isn't big-you get to the point where the last thing you want to do is add costs to a project."

For his part, Oxendale says, hospitals must shift gears to focus on long-term benefits-not short-term costs. "There will definitely be operating cost savings from an energy-efficiency standpoint," Oxendale says. In addition to future savings from environmentally friendly buildings, the public relations benefit of a green hospital will pay immediate dividends, he says.

"I think marketing will be important," Oxendale says.