

Making the most of your opportunities

■ *Options abound for green design, but be realistic.*

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It's been a long process — the proposal, interviews, the exciting win and finally the kick-off meeting.

The owner now says, "I want to incorporate this 'green design' that I've been hearing so much about."

Taking on this challenge creates opportunities for either success or failure when implementing realistic sustainable design measures.

Low-cost solutions

How do you gauge the owner's comfort level in terms of costs associated with sustainability? If first costs are increased, some owners will not go much further to implement sustainable design measures. If so, be prepared to offer a range of options, from minimal costs to those that could reasonably pay back within 5 to 7.5 years.

For other owners, such as the U.S. Navy, attaining increased levels of sustainability through increased first-cost expenditures is valid, especially with respect to improved life-cycle costs and the opportunity to apply other sustainable design measures.

Applying it right

It is essential to clearly research the pluses and minuses of each sustainable design opportunity. If not applied properly, downsides occur if the proposed measure is not well thought out or misapplied to the particular building or site.

An example would be using a water-based cooling system in an area where water is in short supply. Another would be a low-energy displacement ventilation system in a hospital because supply-air requirements for temperature and infectious controls could not be met.

Getting a jump-start

Notkin's involvement in identifying sustainable design ideas for the Nakamura federal courthouse project in Seattle started at the interview phase. To

Advocating sustainable projects

Some realistic guidelines

- Gauge the owner's interest level in incorporating sustainable design into a project. When faced with negativity or apathy toward incorporating sustainable design opportunities, encourage, at a minimum, those ideas that are less "risky" to the owner.
- Be proactive in establishing a sustainable design measures at the beginning of a project. Know the pluses and minuses of each sustainable design opportunity and tailor the options to the specific building or site.
- Have a working knowledge of the first-cost implications of incorporating your sustainable design recommendations, as well as anticipated payback. Also understand and present opportunities and sources available for funding.
- Add a sustainable expert or offer a LEED-accredited professional to the team. Enlist other resources to help evaluate sustainable design opportunities (flow modeling specialists, research laboratories, etc.).
- Implement sustainable ideas within your own practice. Credibility results from "walking your talk."

win the project, it was important that short-listed firms demonstrate sustainable design solutions — an effective method that determined excellence in creativity and commitment towards sustainability.

For new buildings, initial decisions on siting, as well as early involvement of the mechanical engineer, can make a difference in optimizing green-design measures such as natural ventilation. The shape of the building and its elements directly affects how air enters the building.

Taking advantage of air flow and wind patterns helps to induce air into the space without relying on wind pressure to move air through the building, thereby saving energy and long-term operating costs.

Champions for the cause

Owners with foresight and commitment towards implementing sustainable design measures provide leadership at the very beginning of the project. Seattle Parks and Recreation provided excellent direction for the High Point Community Center addition, which is slated to break ground on May 3.

“Achieving the client’s goal of having the building virtually run by itself without a lot of intervention was no small task,” said Brian Griffith, Notkin’s sustainability coordinator. “But (it was) achievable due to the enthusiasm and leadership of Parks Department staff.”

Notkin used both passive and active strategies featuring operable windows and fans for ventilation and a direct digital control system with sensors on the windows that setback or shutdown when opened. Sophisticated building energy controls allow the building to be run from off-site.

To LEED or not

The entire team should look for green design opportunities in every project, even when there is no specific mandate. Designing a building that is sensitive to our environment is part of the team’s responsibility, be it new or renovation.

Whether or not the project incorporates the U.S. Green Building Council’s LEED rating system, the goals are the same: to save energy and to minimize the building’s impact on the environment by conserving natural resources.

Old is new again

Design approaches once considered unviable are now resurfacing as green design opportunities.

For example, radiant cooling systems that were prevalent as a cooling solution in veterans hospitals in the 1940s fell out of favor because of the potential for condensation. But with the advent of today’s sophisticated temperature controls, these systems can once again be considered.

Notkin is currently investigating the use of radiant cooling systems in selected areas of the Nakamura federal courthouse. This solution is a realistic option for existing buildings with shallow floor-to-floor heights, high ceiling requirements and minimal existing mechanical pathways.

Expanding the box

Organizing a sustainable design brainstorming session or charrette to launch a project is an excellent opportunity to establish green goals. Sometimes challenging existing conditions also inspire creative solutions for energy saving opportunities.

At the Museum of Glass in Tacoma, for example, a system was designed by Notkin to reclaim heat generated by the glass-blowing process, resulting in reduced fossil-fuel consumption and lower utility costs.

“Sharing of project ideas and parameters led to innovative and green-oriented solutions that enhanced the owner’s and architect’s building vision while promoting energy and resource conservation,” said Notkin Principal Sandra Bonderman.

A sustainable future

The U.S. has come far since 1993 when President Bill Clinton established the President’s Council on Sustainable Development. Every small step we take along the way to educate owners and ourselves about realistic sustainable measures will reduce the impact on our planet’s resources.

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