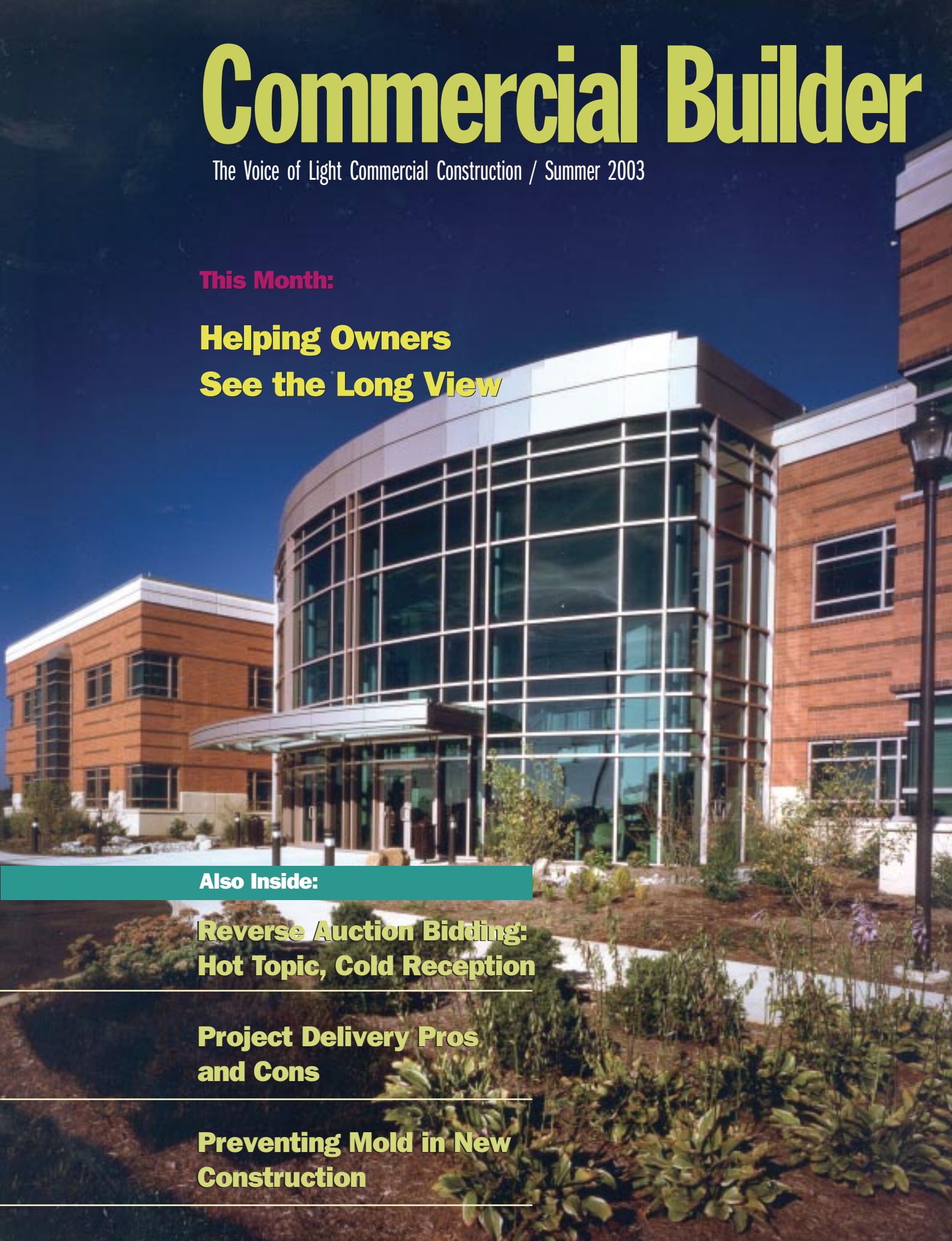
Commercial Builder

The Voice of Light Commercial Construction / Summer 2003



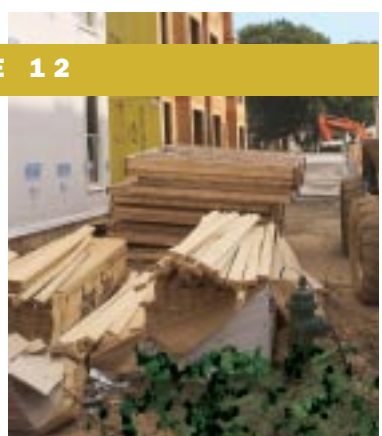
This Month:

Helping Owners See the Long View

Also Inside:

Inside Commercial Builder

Summer 2003 The Voice of Light Commercial Construction



Departments

On the cover:

Bosch's headquarters and manufacturing facility in Lancaster, PA, was designed by Greenfield Architects, Ltd., and built by High Construction Company.

Helping Owners See the

Even when budgets are tight, it pays to look at the long-term—or lifecycle—costs when choosing materials for a commercial project.

Forward-thinking contractors understand the value of educating customers—it plays an important role in building long-term relationships. Likewise, customers that understand their options are able to make informed decisions and will feel they are well-served by their builder long after construction is completed.

One key area that requires customer education deals with lifecycle costs, or the total cost of ownership—a way of looking at a construction project that emphasizes the long view. It's a perspective that measures the true cost of a building, not just by how much it costs up front to construct it, but also by how much it costs to operate, maintain, and repair over its projected life span. By considering lifecycle cost, owners begin to look at things differently.

According to some estimates, the construction cost of a building can represent as little as 11 percent of the total cost of a building that's used for 40 years. While the costs that are incurred over the life of a building differ according to its type and how it's used, the key point is that the owner should understand the long-term effects of decisions that they will make today. The owner's outlay for initial expenses (construction materials, systems, equipment) will strongly impact their outlay for future expenses (operation, maintenance, repairs).

Clearly, the type and quality of the materials used in construction will influence how much it will cost to maintain the building once it's finished. Generally, if you use higher quality materials, less maintenance will be required and more years will go by until the building owner has to confront the need for renovation, rehabilitation, or repairs.

For instance, when comparing masonry and metal exteriors, the initial cost of masonry is higher. However, metal structures require more frequent maintenance, such as painting, and are more susceptible to damage and corrosion, which could cost the owner more money in the long run.

The same thing goes for mechanical systems. Choosing the least expensive mechanical equipment will certainly save on the front end, but these savings are offset by higher operating and maintenance costs. And these differences apply at all levels of complexity—from the homeowner evaluating the relative benefits of electric baseboard heat versus an oil-fired furnace, to the university facility director considering packaged rooftop units versus a central chilled water plant.

As one construction expert put it, the issue to be considered at the outset of a project is not necessarily, "What's the cheapest I can build for...but how long will it last?"

John Gallagher would certainly agree with that. He's a certified building manager, a senior vice president at Polinger Shannon & Luchs Company, a major commercial real estate development and management company in Chevy Chase, MD, and a past president of the Institute of Real Estate Management.

The Lifecycle Approach

Gallagher says the application of the lifecycle approach makes sense. "On new construction, it happens right up front as we're working with the architect and designing the building," he says. And Gallagher has had plenty of experience.

To illustrate, Gallagher uses a choice between roofing systems. Typically, he says, a builder in his market area might face a choice between a four-ply built-up roof with a 20-year warranty and, as the cheapest alternative, a ballasted single-ply

Long View

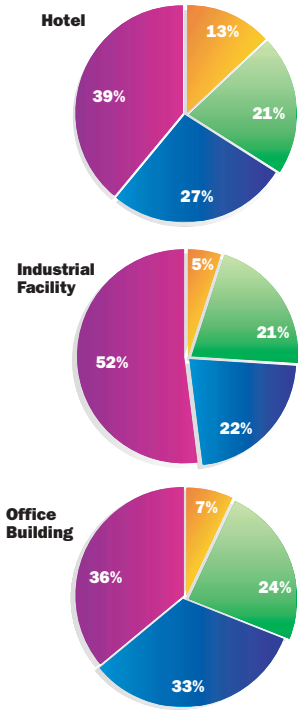
Photos and graphic below courtesy High Construction Company

membrane roof with a warranty of no more than 10 years. Over a 40,000-square-foot surface, the respective upfront costs would be about $180,000 vs. $120,000. But, he adds, based on experience, the long-term maintenance cost of the single-ply roof would be 30 percent to 40 percent higher than the membrane roof "because it's thinner, and you can go through it a lot quicker." And depreciation will still leave a value of about $108,000 on the four-ply roof after eight years, compared to $24,000 on the single-ply roof.

"If you're the buyer, which roof do you want?" he asks. This, he says, is what the lifecycle approach comes down to. "You apply this kind of thinking in all the other decision dynamics."

There's one catch, however, and it depends on the orientation of the owner of the building. Some owners hold and operate the properties they build; these owners are more likely to focus on lifecycle cost. Others build in order to sell quickly and tend to be

A Look at Lifecycle Costs



In most cases, lifecycle costs fall into four general categories: construction cost; capital expenditures for systems, equipment, and furnishings; operating expenses, such as utilities, repairs, insurance, taxes; and financing.

High Construction Company looked at three types of construction — hotel, office buildings, and industrial buildings. The company asked experts familiar with each to estimate and compare average lifecycle costs. Over those three categories, the upfront cost of construction averaged 28 percent of the lifetime cost of a building.

The long-term ownership objectives for the Elizabethtown (PA) public library (far left) and the Homewood Suites in Wilmington, DE, drove the selection of the buildings' materials.

less interested in lifecycle cost.

Going back to the illustration about the roof, Gallagher points out, "If you're buying the building, and you're going to hold it for a lifetime, then the more expensive, longer-term roof is really to your benefit. If you're only buying this thing to sell it in five years, then you might consider a different, less costly approach." If you're building or buying a building, he advises, think about and position yourself for your eventual exit strategy.

Or, "When It Breaks, It Breaks"

In the hotel industry, according to Doug McBrearty, a principal in Gulph Creek Hotels in Wayne, PA., even when developers build and hold, they may not spend a lot of time worrying about the long-term value of the hotel as a building. "Hoteliers are not building guys," he explains. "They focus on a hotel as a business operation and see the inherent value not in the property but in the cash flow the operation is capable of generating over a given period of time. As long as a sufficient portion of cash flow is reserved for ongoing maintenance, the philosophy is: 'When it breaks, it breaks. We'll replace it'."

Despite that, some of the construction decisions McBrearty makes could be construed as a lifecycle cost approach. Echoing Gallagher's choice, McBrearty says he would usually choose a 25-year roof instead of a 15-year roof. "It costs a little more, but not a lot, and you get a lot more life out of it," he explains. For example, McBrearty prefers all-masonry construction over wood framing, even though masonry is about 10 percent more expensive. He says all-masonry offers "much more long-term value."

Gallagher notes that "people use a lifecycle cost approach and may not realize that's what they're doing. Lifecycle is just a term. It's kind of like whether I'm going to go on the freeway, the beltway, the Interstate, or the superhighway. They're all eight lanes wide."

Another term that overlaps is "sustainability," a current buzzword in the design and construction of educational and other facilities and one often used in connection with the environmental friendliness of a building. "Sustainable school facility design offers many benefits, not the least of which is a significant return on investment," says architect Chris DeVolder, writing in American School & University magazine. "Although some of the building systems, fixtures, furnishings, and equipment used in sustainable design may have higher initial costs, many of these pay for themselves in as little as one to three years because of reduced operational and maintenance costs."

Joe Metro, director of facilities management at Elizabethtown College in Elizabethtown, PA, thinks the lifecycle cost perspective is especially appropriate in education, or any other institutional setting, because "we keep the buildings so long."

While build-to-sell is not an issue in academia, cost always is, Metro adds. There is typically "a huge amount of pressure" to keep costs down—and there's a natural tendency to "focus on how many square feet you're getting for the money." So the lifecycle approach may need an advocate. "It's an idea I have to try to market to people," he says. Those involved in the decision making need to understand that "how efficiently the building operates is very, very important."

Shifting the customer's focus requires a shift in perspective and no small measure of education. Take the time to explain the long-term effects of the decisions your customers make today. Start the discussions as early in the planning and budgeting process as possible and remind them that planning a building involves trade-offs. Owners may not be able to afford top-of-the-line choices in every category, but they should have some understanding of the many long-term implications that will tie to decisions they'll make today.

No doubt: Spending less on the front end will impact operational and maintenance costs downstream. Whatever decisions the owners make, you'll have given them the benefit of understanding this more fully, something they'll no doubt appreciate... and that's a valuable part of building long-term customer relationships. CB

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