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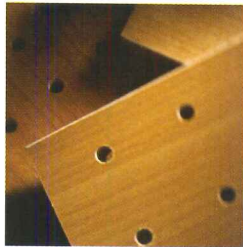
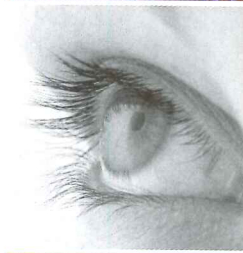
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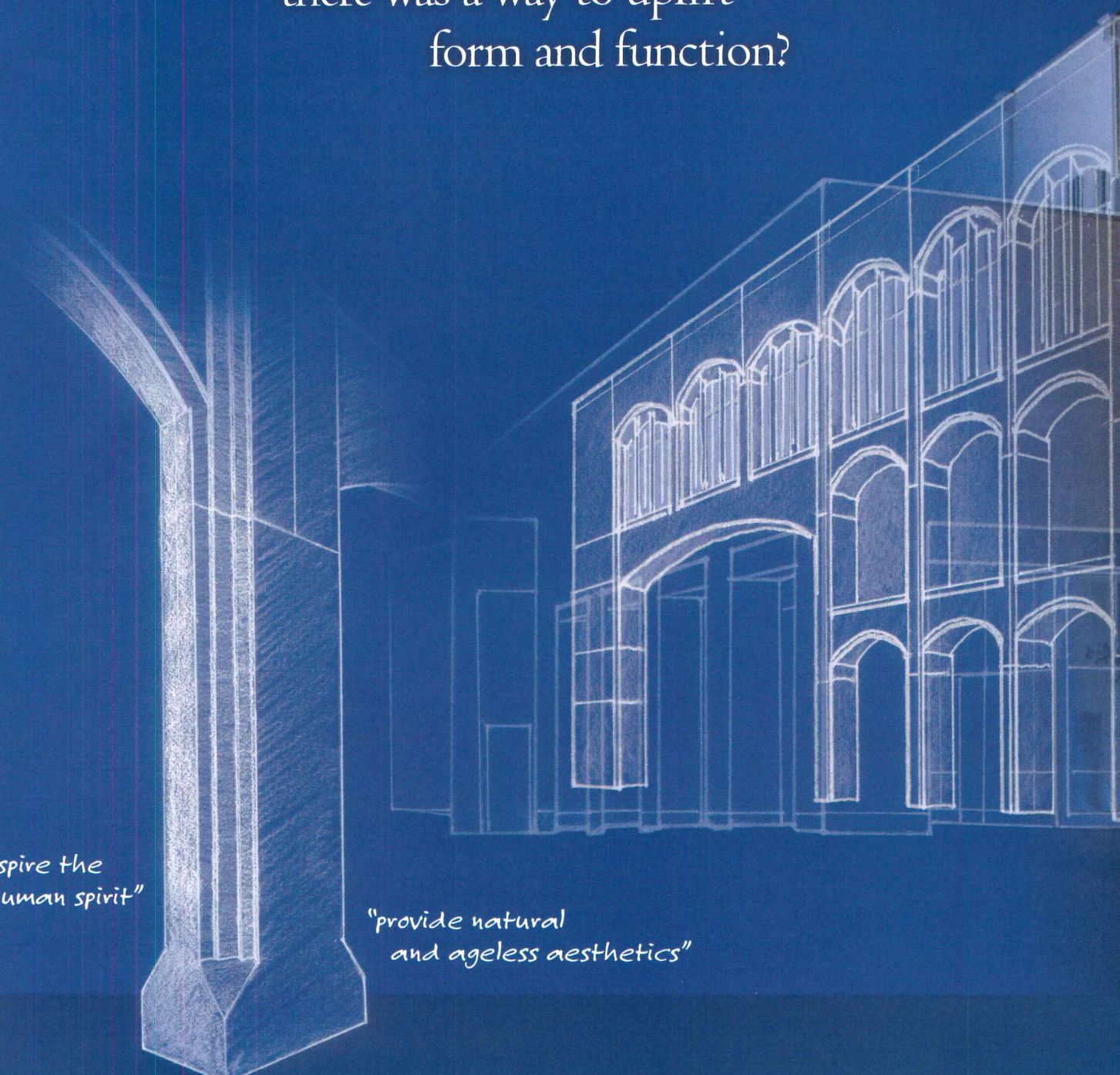
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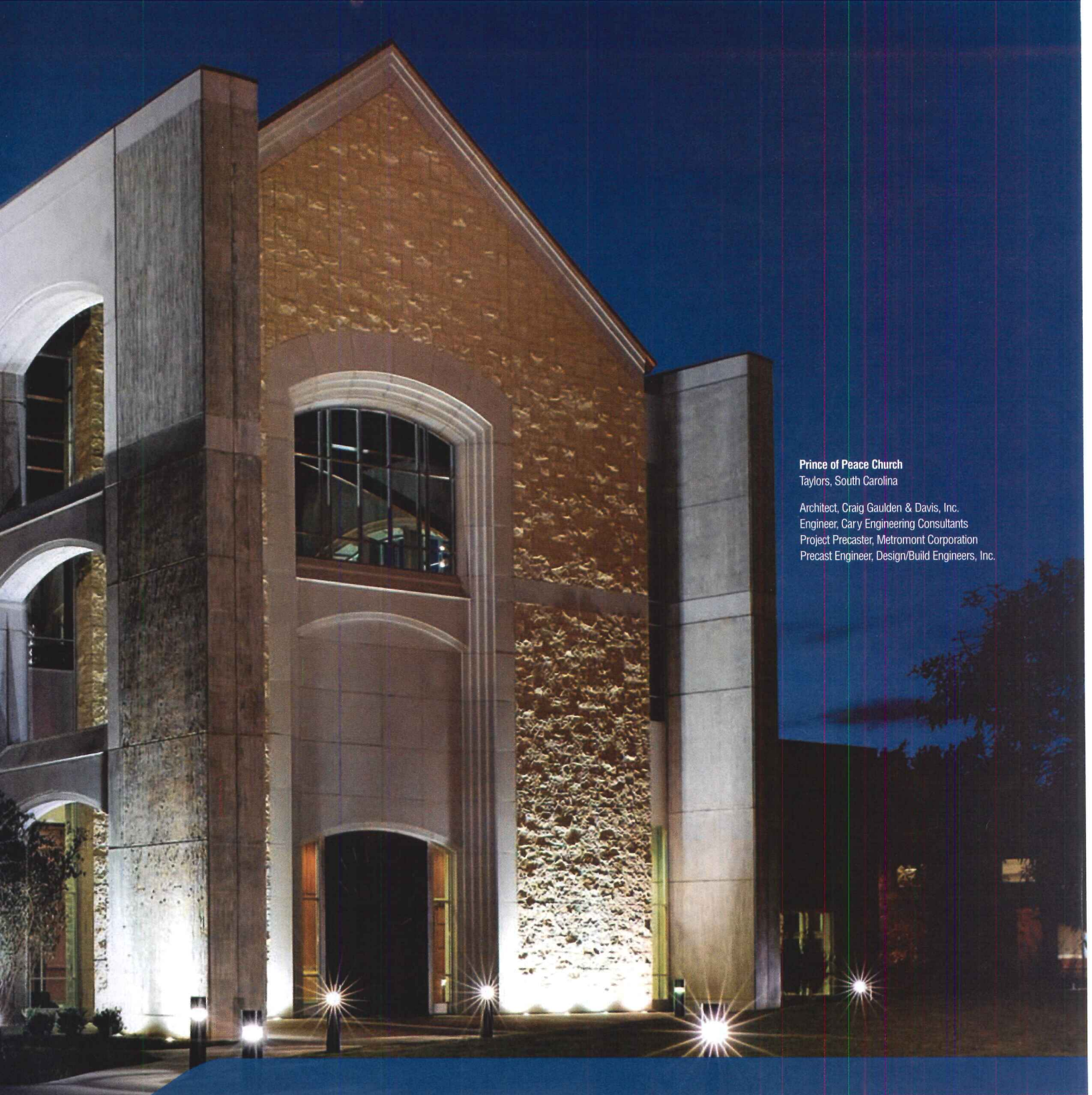
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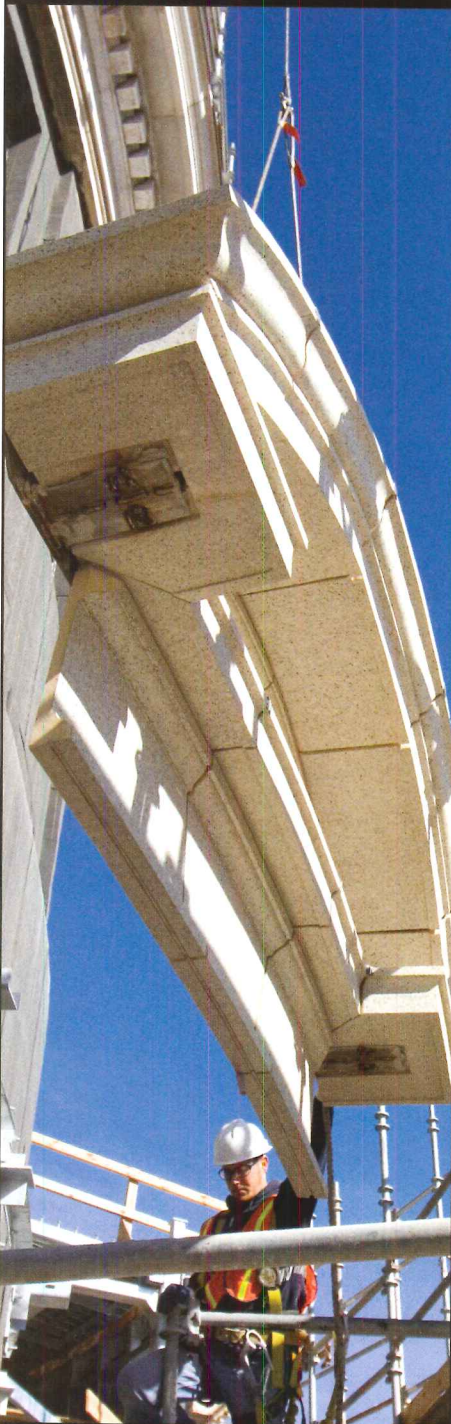
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**COPY EDITOR** I-ni Chen  
**ILLUSTRATOR** Sarah Cox, [Sarah\\_Cox@mcgraw-hill.com](mailto:Sarah_Cox@mcgraw-hill.com)  
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**EDITOR AT LARGE** James S. Russell, AIA, [jamesrussell\\_editor@earthlink.net](mailto:jamesrussell_editor@earthlink.net)

**CONTRIBUTING EDITORS** Raul Barreneche, Robert Campbell, FAIA, Andrea Oppenheimer Dean, David Dillon, Lisa Findley, Blair Kamin, Nancy Levinson, Thomas Mellins, Robert Murray, Sheri Olson, FAIA, Nancy B. Solomon, AIA, Michael Sorkin, Michael Speaks, Ingrid Spencer Naomi R. Pollock, AIA  
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**EDITORIAL OFFICES:** 212/904-2594. Editorial fax: 212/904-4256. E-mail: [rivy@mcgraw-hill.com](mailto:rivy@mcgraw-hill.com). Two Penn Plaza, New York, N.Y. 10121-2298. **WEB SITE:** [www.archrecord.com](http://www.archrecord.com). **SUBSCRIBER SERVICE:** 877/876-8093 (U.S. only). 515/237-3681 (outside the U.S.). Subscriber fax: 712/755-7423. E-mail: [arhcustserv@cdsfulfillment.com](mailto:arhcustserv@cdsfulfillment.com). AIA members must contact the AIA for address changes on their subscriptions. 800/242-3837. E-mail: [memberservices@aia.org](mailto:memberservices@aia.org). **INQUIRIES AND SUBMISSIONS:** Letters, Robert Ivy; Practice, Charles Linn; Books, Clifford Pearson; Record Houses and Interiors, Sarah Amelar; Products, Rita Catinella Orrell; Lighting and Interiors, William Weathersby, Jr.; Residential, Jane F. Kolleeny; Web Editorial, Ingrid Spencer.

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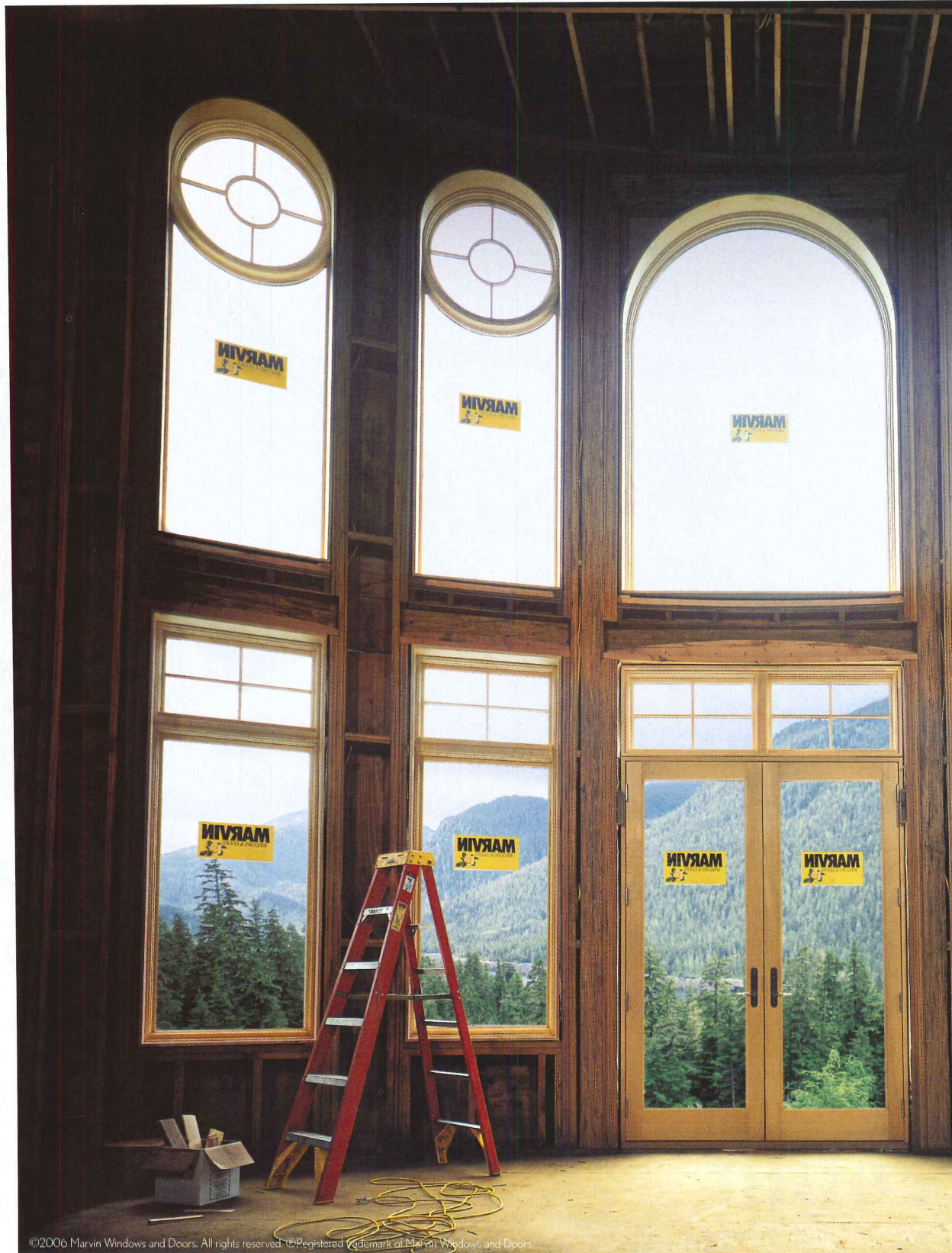
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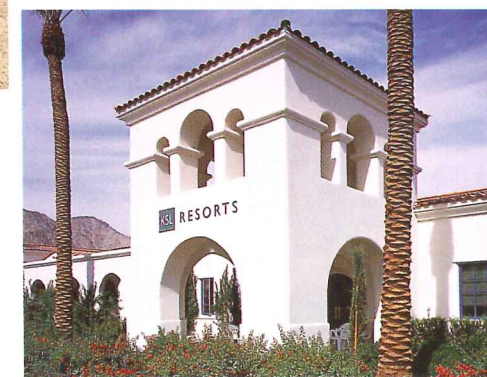
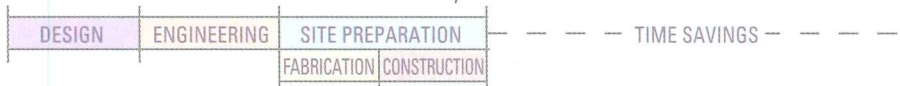
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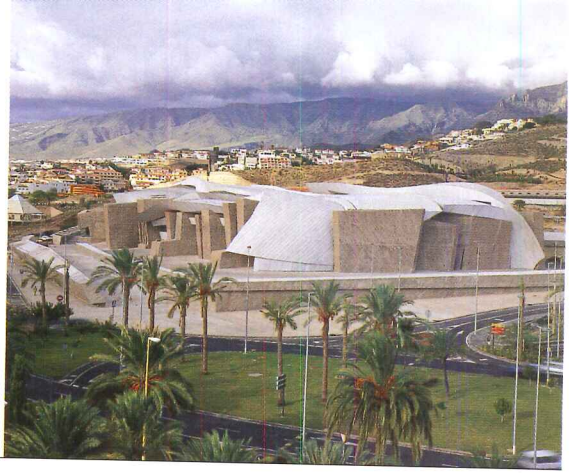


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## 03.2006

On the Cover: Svalbard Research Centre, by Jarmund/Vignæs Architects. Photograph by Nils Petter Dahle  
Right: Magma Arts and Congress Center, by Artengo Menis Pastrana. Photograph by Roland Halbe



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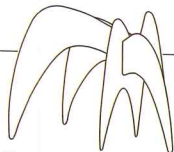
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### Exploring the High Performance Benefits of Laminated Glass

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#### LEARNING OBJECTIVES:

- Understand how laminated glass addresses design and safety challenges.
- Recognize the benefits of laminated glass during hurricanes and earthquakes.
- Explain why laminated glass offers a high degree of security protection.
- Discuss how laminated glass reduces sound transmission.
- Identify the sustainable, energy-efficient performance qualities of laminated glass.

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### The Essential Design Element for Any Office Space

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#### LEARNING OBJECTIVES:

- Examine how office design has transitioned to accommodate changing organizational needs.
- Incorporate lighting control strategies that improve building efficiency and add value to the office space.
- Specify lighting controls that are easy to install, maintain, and reconfigure when floor plans change.

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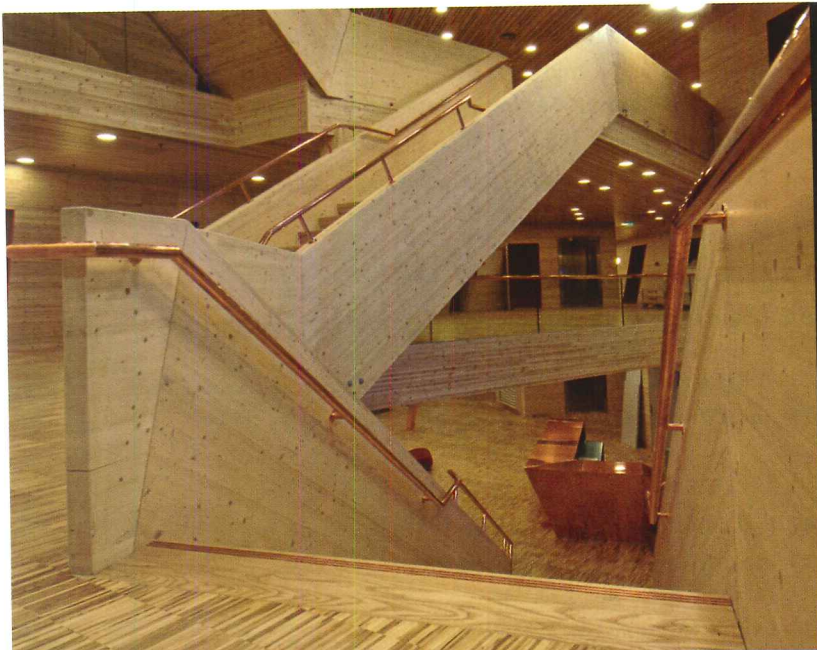


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### Project Portfolio

Beyond the 50 states, beyond London, Shanghai, or Milan, rooted in landscape or topography or local culture, stand architectural projects that could often have occurred in no other place. *Architectural Record* went Way Out There to find such projects, and we suggest that the work in these unexpected places can inspire our own architectural efforts.

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### Building Types Study

American architects tweak old norms to create amenable offices in low-rise buildings and skyscrapers.

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### House of The Month

In the green hills of Rohrdorf, between Munich and Salzburg in Germany's Upper Bavaria, an architect builds himself a home of sinuous wood and glass.



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### Interiors

Big effects in small spaces: Architects transform urban interiors with color and humble materials.

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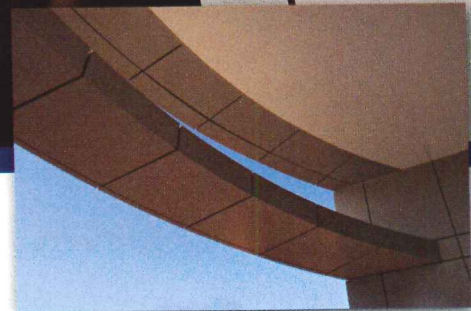
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# Keep the Pressure On

## Editorial

By Robert Ivy, FAIA

**W**e cannot design ourselves out of Katrina. No matter how well intentioned we architects may be, no matter how many plans and volunteer hours we commit, the scale and complexity of this disaster exceeds the grasp of design alone, despite the fact that many of us are trying hard.

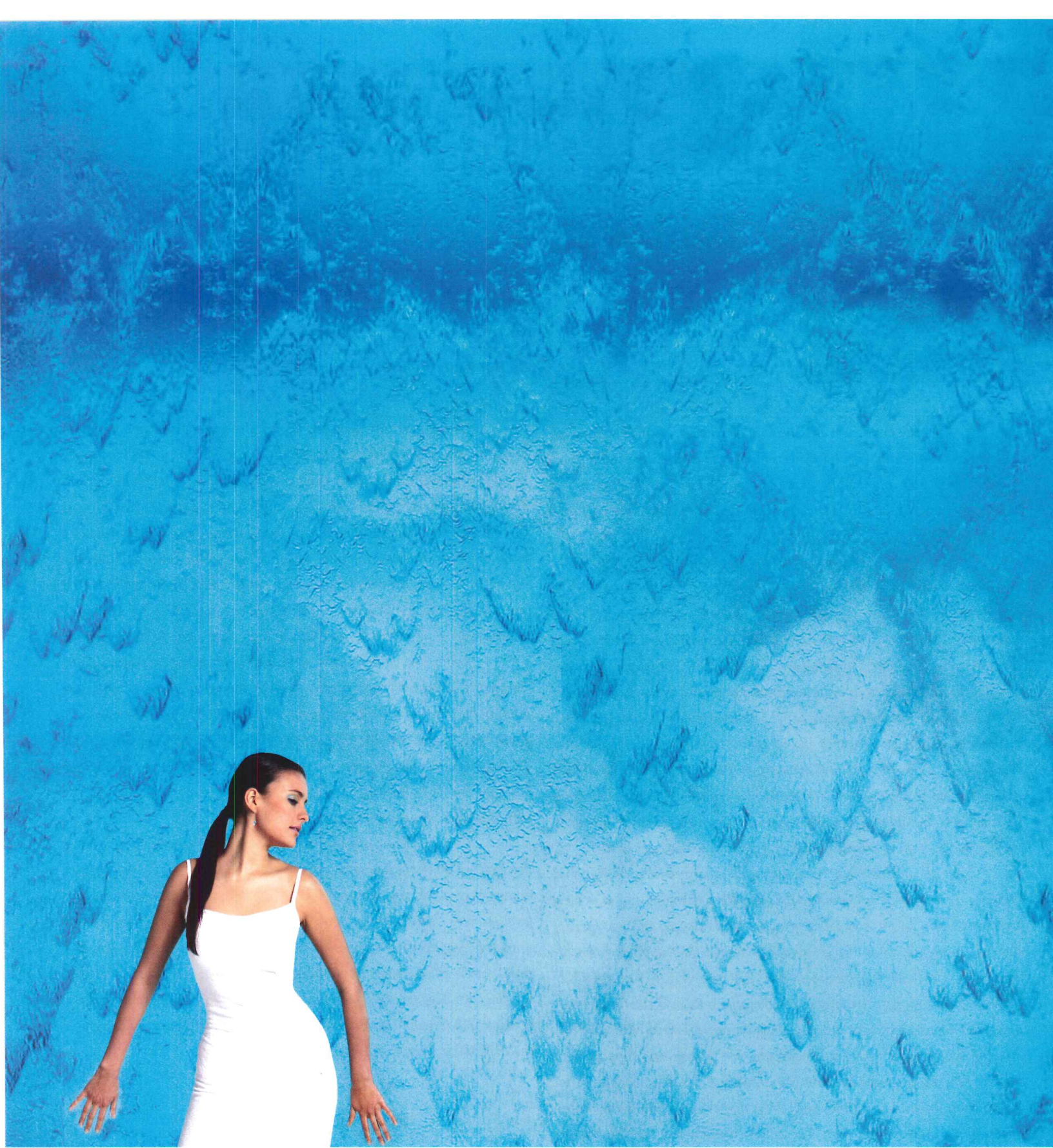
Currently, the front line rests with government action. Think about the immense implications of the storm, the largest natural disaster ever to strike the United States. The Red Cross now estimates that over 275,000 homes were destroyed, as many as 200,000 in Louisiana alone. The storm cut a swath across three states, affecting each differently. In Mississippi, the entire coastline lies wounded, with whole communities ground into powder. Greater New Orleans stews in political, economic, and social gumbo, its people forming a diaspora scattered throughout the 50 states. Nothing alters the fact that FEMA maps due out in April will demonstrate that scores of houses and plots of land remain in harm's way. Until the U.S. Corps of Engineers stabilizes the levee systems that have historically ringed the city, vast tracts are subject to further flooding, and hurricane season is galloping toward us again.

Local citizens have been outraged at our lack of a national response. Put yourself in the residents' place for a moment. If you, a New Orleans citizen, found your house irreparably damaged, and you faced a monthly mortgage, what would you do? Shouldn't the federal government offer relief? The Baker Bill, sponsored by U.S. Representative Richard Baker from Louisiana, proposes establishing the Louisiana Recovery Corporation—an agency to purchase back damaged property from residents. While the bill, an admirable proposal, has found advocates in Congress, and support from the AIA, the Bush administration is withholding its favor; congressional Republicans seem to be pulling back their support as well, relying on the forces of free-market capitalism. The administration has, instead, already earmarked \$19.8 billion in supplemental appropriations for agencies like the Department of Homeland Security, FEMA, and for federal structures (such as VA hospitals), with \$4.2 billion for the Community Development Block Grant program for Louisiana. Money for federal agencies come out of these requests.

The temptation might be to accept the latest federal appropriations as the much-sought relief. It sounds like a lot of money and will help with housing and local infrastructure, but unfortunately, the total pales in comparison to Katrina's toll. According to credible sources, the actual cost soars to \$30 billion when you outline the real needs. Among the requirements are levee and flood protection, coastal wetlands mitigation, the local match for hazard mitigation, the costs to colleges and universities (some of which were decimated), local public services (police and fire protection, for example), electric utilities, and other infrastructure work that is not fully determined.

While the dispensation of federal appropriations seems to be changing with each day's posting on the Web, this much is clear: Our largest natural disaster deserves a heroic response from all our citizens. New Orleans alone, the fulcrum, remains vital to our commerce and to our national soul. That city takes its place among the great cities, not only of this country, but uniquely on the world stage. The Mississippi Gulf Coast, struck with commensurate disaster, deserves equal, full attention.

Our immediate response as architects always seems to be design. In this case, we should be acting to provoke leadership and keeping the pressure on our elected officials. We need vision, direction, and commitment at all levels as never before. While an ever-present war continues to demand our sons and daughters, our national treasury, and our emotional energies, it is time that the allied communities of design professionals rise up, speak out for the cities we have helped to design and build in this country, and find the political will to revitalize an indisputable lodestone of American culture—the Gulf South. Design will come later.



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# Letters

## ULI responds

I worked with the 50-plus members of the Urban Land Institute, who provided a rebuilding framework to the Bring New Orleans Back Commission in November 2005. Michael Sorkin wrote in his February Critique ["Will new plans for the Gulf drown it again, this time in nostalgia?," page 47] that the ULI recommended "abandoning" some parts of the city as too expensive to save and that its recommendations were predicated on a bottom-line mentality. He also implied that there was an implicit motivation to negatively affect the low-income African-American population of New Orleans. I'd like to set the record straight.

ULI's strategy for rebuilding New Orleans was premised on our firm belief that every citizen has the right

to return to neighborhoods that are safe and sustainable. We recommended that the city supplement engineered flood control with natural barriers. This will entail reinforcing the levees, drainage canals, and pumping stations by restoring more natural areas to protect the city's residents, and rebuilding in a way that better respects the topography of the city.

In addition, many of the severely flooded areas will require environmental and engineering evaluation before rebuilding can begin. We recommended that these evaluations begin immediately so that neighborhood rebuilding can start. It is unfortunate that the historical growth patterns led much of the African-American population into low-lying areas of the city. But, safety, not race, was the key to the

ULI recommendations.

What we recommended for those who cannot rebuild in place is fair-market compensation—at pre-Katrina value—for their homes and businesses, to enable them to relocate and rebuild in a safer part of their community. ULI never suggested or implied that entire neighborhoods be abandoned. There are substantial portions of each neighborhood that can be rebuilt in a way that adds to the entire city's revival.

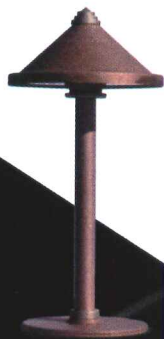
—*Rachelle Levitt*  
Executive Vice President  
Urban Land Institute  
Washington, D.C.

## WaterColor lesson

Michael Sorkin's February Critique on the Congress for the New Urbanism's [CNU] recommendations for the

reconstruction of the Gulf coast came at a great time, for me at least, in that I read it on vacation, shortly after my first visits to the "New Urbanist" Florida communities of WaterColor and its older, more famous neighbor, Seaside. While I haven't read the CNU report, I did understand Mr. Sorkin's criticisms of its overemphasis on architectural formulas aimed at strengthening a more homogeneous and identifiably "regionalist" look in the new construction.

The buildings in WaterColor all seemed to me to be beautiful distillations of how I had envisioned coastal-region architecture. They were consistently well designed, clean, full of wonderful details and color, and set into a path-intensive, varied landscape. The houses were generally modest in scale and de-



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# Letters

emphasized the automobile. The more I thought about it, however, the more I wondered if WaterColor is only an “ideal”—no more than a theme park of sorts? Does it only represent a particular version of one narrow aspect of local design?

It is a valid thing to seek and understand regional themes in design and to keep local flavor alive, and it is equally valid to promote walkable, well-organized communities. It is most important, however, to have an overriding design framework that can accommodate and thrive on diversity. This diversity is what seemed to be lacking in WaterColor, and is what Mr. Sorkin warned against in the future redevelopment of Gulf coast communities. Thank you for the reminder!

—Scott J. Newland, AIA  
Minneapolis

## Antidote for doom

I just read Robert Ivy's January edi-

torial, “Reconstructing Kuwait” [page 19]. With all the doom and rubble we see in Baghdad, it was inspiring to hear about a city nearby that is recreating itself. It must have been quite a sight.

—Hansa Bergwall  
New York City

## Speaking in tongues

Robert Campbell's January Critique [page 57] brilliantly identifies the major fault line in current design—namely, our failure to create memorable architecture possessing common appeal. Similar fault lines exist in much contemporary art and music where self-expression has achieved supremacy over craftsmanship and common sense. Our inability to communicate with the larger public is exemplified by the arcane architectural babble so current in the profession today. If we concerned ourselves more with building well, not

with current fashion or specious theories, we may, finally, discover a universal audience.

—James A. Gresham, FAIA  
Tucson, Ariz.

## Campuses of the future

Robert Campbell [January, page 57] might be accurate about the nature of the arguments on both sides of the UVA campus architecture discussion. However, he may have missed a critical point with respect to the setting and the implication of campus architectural design guidelines. With strict subscription to a uniform architectural style, the campus environment is perpetuating the concept of conformity to the students and faculties, depriving them of the most important privileges of university life: the freedom of thinking and discourse, and the courage of exploration and expression.

For years, conformity was the principle of campus architecture, as it was the principle of learning. With the rapid pace of change in modern society, it is critical that the campus reflect the real world, as the place

where knowledge and experience are transferred not just from an institution to the students. There is a total new way of learning. Our younger generation is continuously teaching us with their actions.

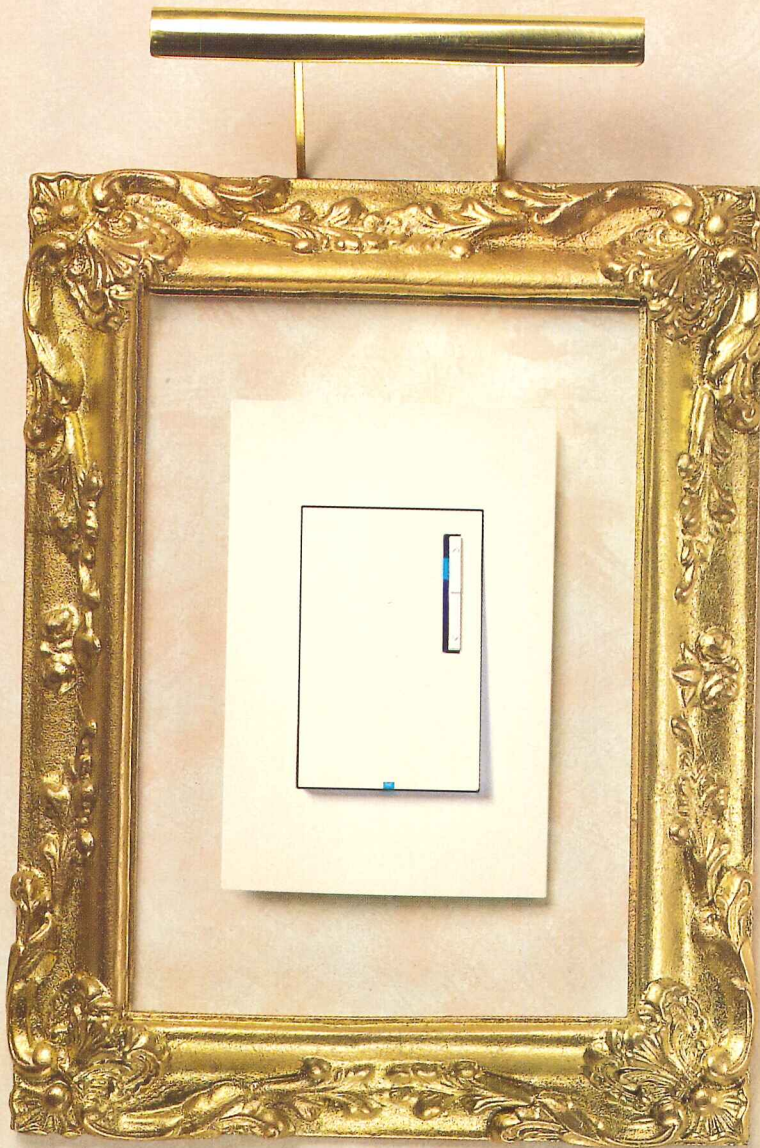
Take a look at the great cities in the world. With diversity and heterogeneous architecture, they are the campuses of the future generations.  
—Henry Chao, AIA  
Columbus, Ohio

## Corrections

In the February issue, the distributor of the Shades and Screens textile collection [page 182] was omitted. The line is now distributed nationwide through Nysan for Hunter Douglas Shading Systems' network. In addition, three of the fabrics included in the image that ran are, in fact, Nysan's Greenscreen products. Two images in February's multifamily housing Building Types Study [page 120] should have been credited to Jim Wasserman.

Send letters to [rivy@mcgraw-hill.com](mailto:rivy@mcgraw-hill.com).

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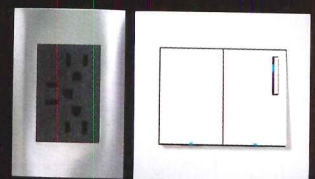
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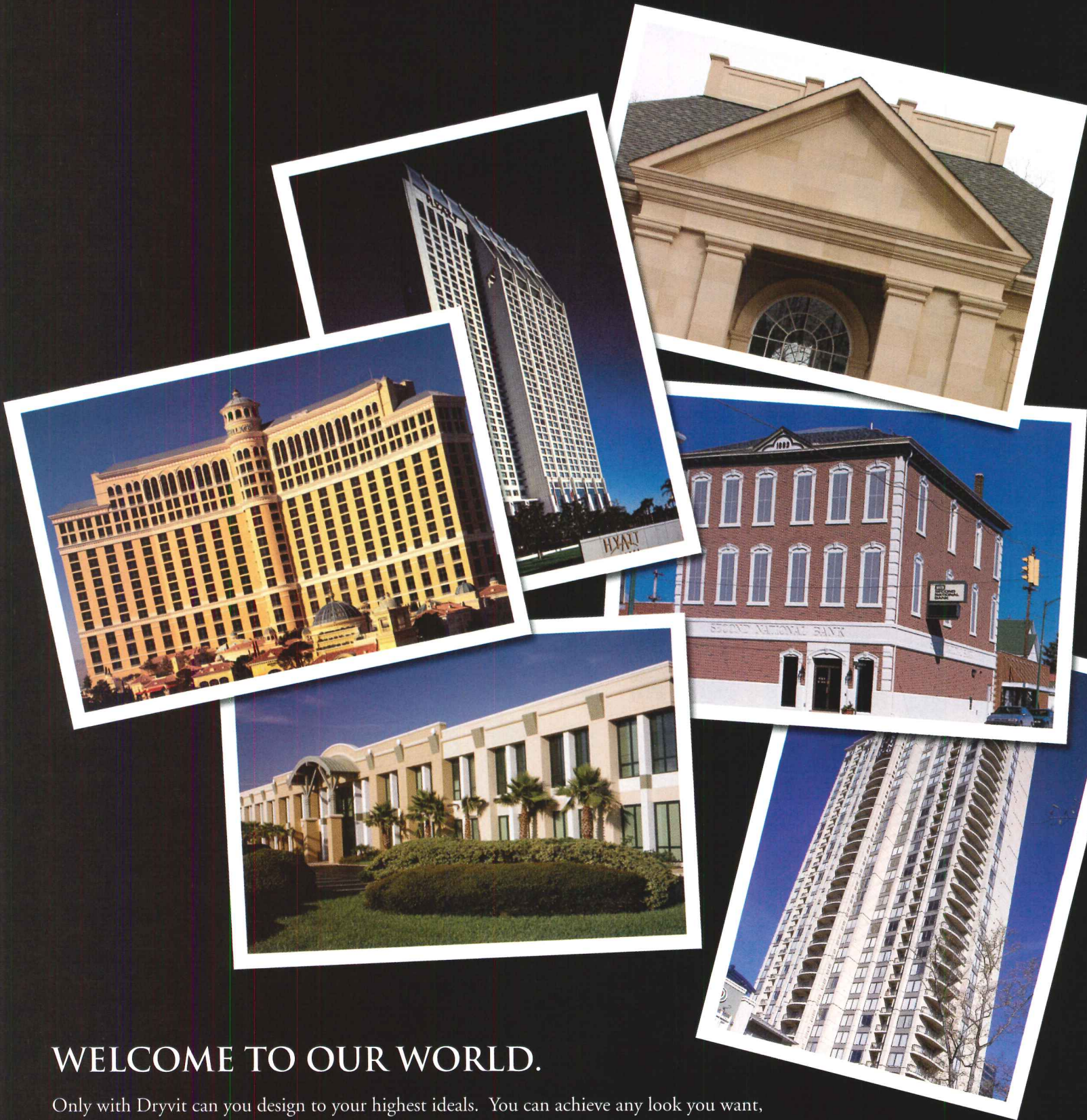
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## Super Bowl spurs demolitions in Detroit

Hosting Super Bowl XL last February spurred Detroit's civic leaders to conduct a three-year makeover of its downtown, long known for empty buildings and deserted streets. New sidewalks and street lights were installed; office towers were converted to loft apartments and condominiums; new shops and restaurants opened in once-empty storefronts. As a result, downtown hasn't looked so good in years.

But the most controversial aspect of this makeover was the city's demolition of several historic structures in the drive to get ready for the Super Bowl. Among the buildings to fall in the weeks and months prior to the game on February 5 were the landmark Statler Hotel, a well-known 1914 high-rise; the Madison-Lenox Hotel, a more modest, eight-story structure that was part of the city's Madison-Harmonie Historic District; and the Donovan Building, a circa-1920 office building by architect Albert Kahn that once housed the Motown Music headquarters. Several smaller structures fell, too, leaving big gaps in the downtown streetscape.

Part of the sting in losing these buildings was that, in some cases, the city seemed to ignore basic landmark protections afforded by state law. Detroit's Historic District Advisory Commission twice refused Mayor Kwame Kilpatrick's request to tear down the Madison-Lenox; the mayor's building department then condemned the building as unsafe and razed it anyway.

The dispute over demolition involves two competing redevelopment philosophies. On one hand, there is Mayor Kilpatrick's "clean, safe, beautiful" mantra for cleaning up downtown, in which the city targets its so-called dinosaur buildings—those

that have been vacant for at least 10 years—for either fast-track redevelopment or demolition.

On the other side is an array of enthusiasts, architects, and investors who see preservation as key to the city's revival. They note that livable and walkable areas such as Detroit's Greektown, Corktown, Midtown, and Harmonie Park consist of historic properties patiently restored by investors. Once threatened with demolition, these districts today rank as some of the city's most appealing and diverse neighborhoods.

George Jackson, president of the Detroit Economic Growth Corporation, led much of Kilpatrick's clean-up effort. He says he turns to demolition only as a last resort.

"Economic reality does play a role," he says. "When you have a structure that is not economically feasible to restore, I think you have to look at demolition. Obviously, you can restore one building if you have the money to do it, but no one is going to restore properties if they cannot make money off their investment." Jackson notes that some buildings, such as the now-lost Statler, had sat vacant for decades. Intensive efforts to structure a financing package for that building failed. Facing the deadline of the Super Bowl, the city opted to tear it down instead of waiting for a savior.

Francis Grunow, executive director of nonprofit group Preservation Wayne, gives Kilpatrick credit for helping developers remake several early-20th-century office buildings downtown into residential lofts. But he worries over the pace of demolition.

"There's definitely been a move



Preservationists hope to save the Michigan Central Depot (top left), but it's too late for the Donovan/Motown building (above), the Madison-Lenox Hotel (left), and many others.

close on a redevelopment deal for the Book-Cadillac, vacant since 1984.

But even if the city goes to great lengths on individual projects, preservationists like

to rehabilitate in a way we haven't seen in decades. At the same time, we've lost a lot of key buildings. It's definitely been an accelerated pace of both," he says.

Everyone agrees that Kilpatrick has worked hard to try to restore Detroit's two most famous vacant eyesores: the Michigan Central Depot, a 1914 structure by Warren & Wetmore and Reed & Stem, who designed New York's Grand Central Station; and the Book-Cadillac Hotel, a 1924 Italian Renaissance-style high-rise by Louis Kamper. The city pursued, in vain, a plan to make over the depot (vacant for more than a decade) as its new police headquarters. Detroit still hopes to

Grunow say there is no overall philosophy that employs historic preservation as an approach to urban redevelopment. This complaint is not new here. City administrations have long been hostile to broad planning schemes, preferring a deal-by-deal approach that often slights preservation.

Preservation groups have been helping to craft state legislation that would make more historic tax credits available for renovation work. Another idea would give legal standing to groups like Preservation Wayne to intervene in lawsuits over historically designated buildings. So far, though, these ideas have not progressed past the talking stage. *John Gallagher*

## SPECIAL HURRICANE REPORT

### Planning to rebuild: An interview with New Orleans's master planner

Last month, John Beckman, principal with Philadelphia firm Wallace Roberts & Todd (WRT), presented a master plan for rebuilding New Orleans [RECORD, February 2006, page 26]. WRT was asked to devise a plan for the urban-planning committee of the Bring New Orleans Back Commission (BNOBC), the team of professionals Mayor C. Ray Nagin formed to address the city's woes in the immediate wake of Hurricane Katrina.

#### ARCHITECTURAL RECORD:

*How did the Bring New Orleans Back Commission end up choosing a Philadelphia-based firm to advise them on urban planning?*

**JOHN BECKMAN:** WRT has been involved in New Orleans off and on for over 30 years. In 1974, we rewrote the zoning ordinance to permit creation of a downtown development district. We also worked on plans for the warehouse district, which used to be skid row. We completed a master plan for City Park just before the hurricane. Joe Canizaro (local developer and BNOBC Urban Planning Commissioner) was on the board of the group that led the original Downtown Development District, and he suggested I come down and meet with the BNOBC.

**AR:** *Who is paying for your services?*

**JB:** Neither the city nor the commission is funding our efforts. Some of the work is paid for by private funds. Some is on an at-cost basis, and we have donated an enormous amount as well. There is no city more wonderful in the U.S. than New Orleans, and if you can't step forward now, when are you going to?

**AR:** *Many people greeted the plan with distrust. Why is that?*

**JB:** There is a lot to be angry about. It is a clear case of negligence by the federal government. When you look at the dollars that were expended after September 11, they were completely out of proportion from what happened with Katrina and Rita. Clearly, planning before the storm could have been better—from lack of funding to restoration of coastal wetlands. This needs to be an equitably, and efficiently, managed resettlement of the city so the people who do come back have the services they need. It's a matter of phasing and timing, because everyone is not going to come back right away. The only piece of our action plan that was rejected was the moratorium [four months long, to assess which areas are most feasible to rebuild] on building permits.

**AR:** *Is the committee working on design guidelines for new construction?*

**JB:** Not yet. Our plan recommends that the interim guidelines be developed quickly. We also recommended updating the city's master plan, giving it the force of law and placing the control of land use, land development, zoning ordinances, and building codes with the city planning commission. We felt it was important that these activities be taken out of the political realm.

**AR:** *What types of zoning—for uses and densities—is WRT planning?*

**JB:** That's going to come out of the neighborhood planning process. The action plan we prepared [at [www.bringneworleansback.org](http://www.bringneworleansback.org)] was a recommendation. There also has to be significant input by the city planning commission.

**AR:** *How is the neighborhood planning process being convened?*

**JB:** We're setting up teams of residents and leaders supported by professionals and experts—planners, urban designers, architects, cost estimators, civil engineers, etc. Many neighborhoods have already started their planning. The professional teams are largely set up at this point.

**AR:** *Are there any more solid facts about how many residents have returned and how many unsalvageable houses there are?*

**JB:** The best estimates that I've seen are that there are now approximately 150,000 New Orleans residents. I do not have an estimate of the number of homes that are unsalvageable. The city and the federal government have given damage reports, but many homeowners are appealing their accuracy. Most people would feel more comfortable with an actual inspection of their properties.

**AR:** *How are you determining future population estimates?*

**JB:** It is estimated that by September 2008, New Orleans will have 250,000 or so people. The biggest constraint is habitable housing. My gut feeling is that there may be more people than that because New Orleans is such a rooted place and has such a powerful pull.

**AR:** *The plan talks about bridge financing and other means to help people to get their houses back. Any prognosis for those, especially since President Bush has repudiated the Baker buyback plan?*

**JB:** The Baker Bill [which calls for the federal government to buy large swaths of land for redevelopment] would have been very helpful, and it was a big disappointment that it was rejected by the White House. Congressman Baker has indicated that he will propose another version. When I presented the plan to the Louisiana Recovery Authority [on January 13], Baker said everyone who opposed the bill said they would support it if it were modified. There are also CDBG (community development block grant) funds, FEMA funds, U.S. Department of Transportation funds, and various housing agency

funds. Another appropriations request must be submitted to the federal government by July 1. The reaction of the mortgage, insurance, and finance industries will be key, because if they don't provide financial backing, people won't be able to rebuild.

**AR:** *Has this planning process been handled the same as any other would, or have the scope and enormity led you to use other methods?*

**JB:** We have done plans for larger cities than New Orleans, but there were many factors that made it unusual. For example, the lack of data. The city's computer system was knocked out, so we didn't know how many houses were destroyed, or how many people there were. There were no schools, very limited government to interact with, and a very small population. When we do a citywide plan, it usually involves hundreds of people and many meetings. We did this in an incredibly compressed time frame, with an enormous sense of urgency.

**AR:** *How will your plans be affected by the release of FEMA's flood elevation maps? [The maps are supposed to be released by the end of March.]*

**JB:** Those maps will specify what elevation the first floor of a building needs to be. Absolutely no one knows what will come out of that process or even when the maps will be released, and it is obviously extraordinarily frustrating for the people of New Orleans.

**AR:** *What effect do you expect the municipal elections, scheduled for April and May, to have on the urban planning committee's progress?*

**JB:** I hope and expect that the citizens and elected officials of New Orleans will continue to focus on preparation of a long-term recovery plan. I believe everyone understands the stakes involved in building a better New Orleans based on the best of its legacy—a place where everyone can return and a place to which new residents will move.

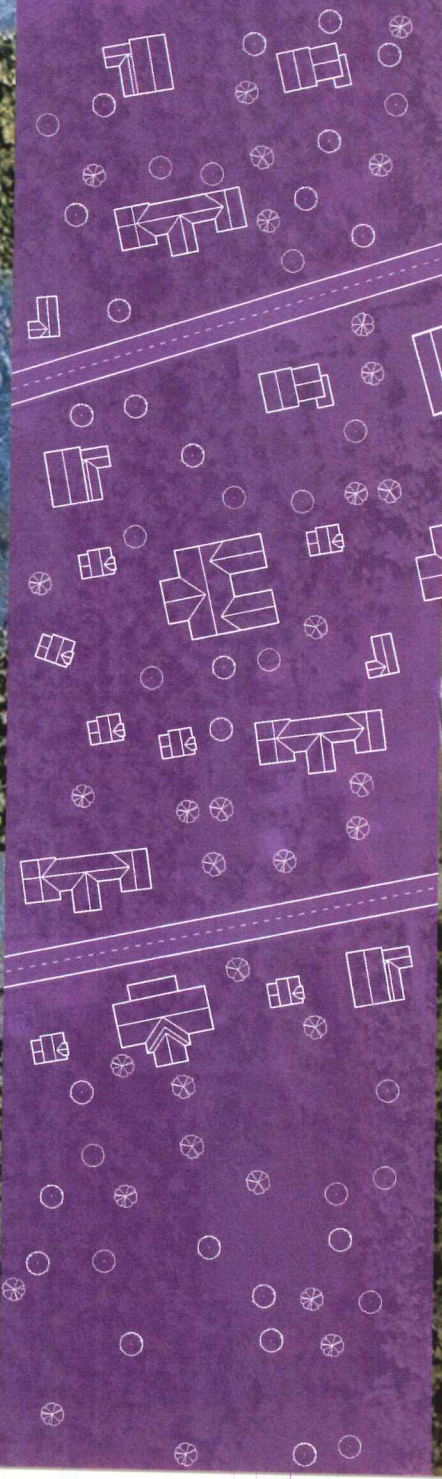
*Interview by Angelle Bergeron*

For more of this interview, go to [www.archrecord.com](http://www.archrecord.com).

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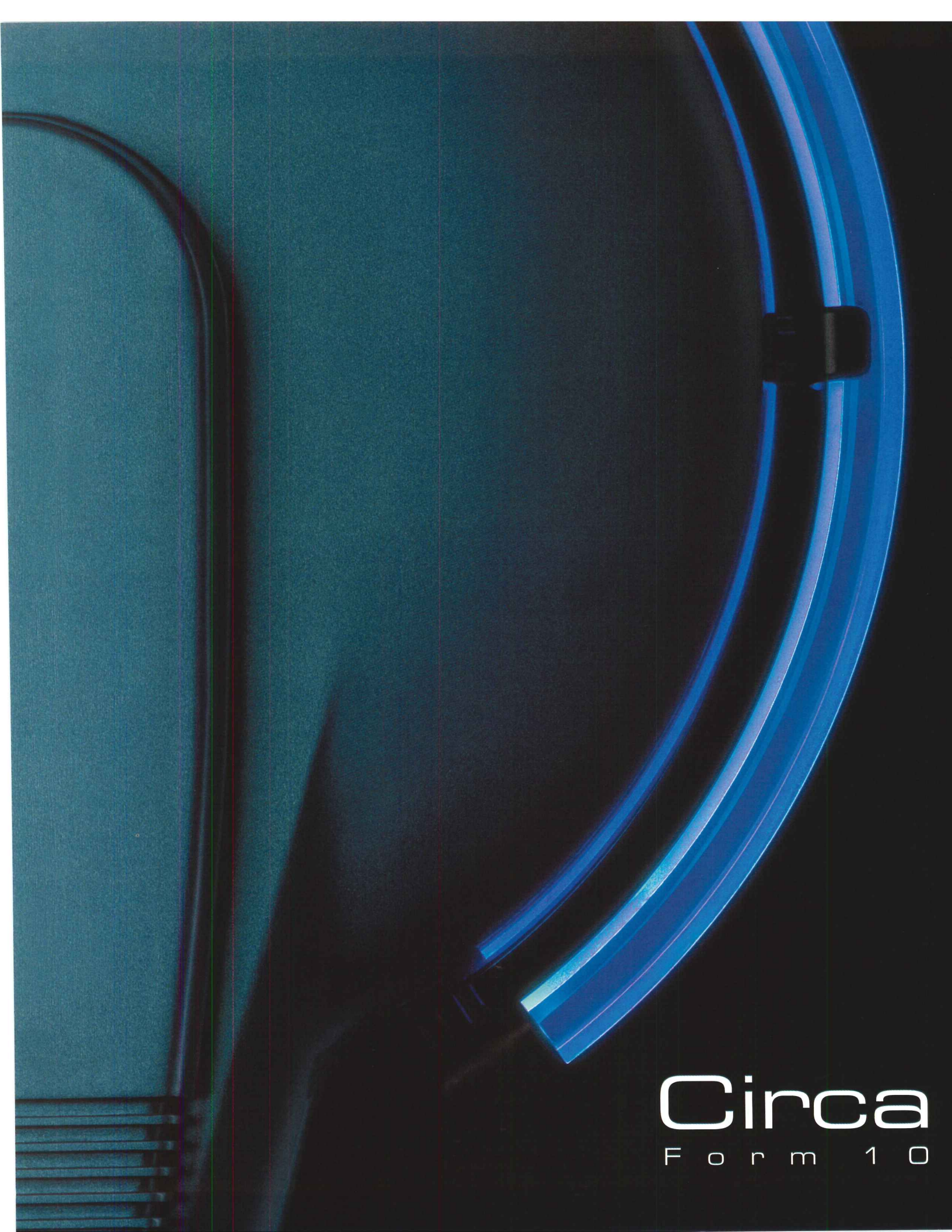
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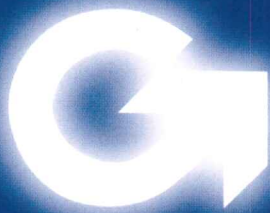


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## SPECIAL HURRICANE REPORT

### Despite obstacles, some Gulf residents have begun to rebuild

Many Katrina-evacuated homeowners who thought they'd lost everything are finding their homes are salvageable.

Last Thanksgiving, for example, volunteers from New Orleans-based Preservation Resource Center (PRC) cleaned out a badly damaged 1884 shotgun house in the Holy Cross neighborhood of New Orleans. The removals revealed streaked orange and blue board-and-batten walls and sturdy wood floors, which had come out unscathed. The work was sponsored by the PRC and supported by the National Trust for Historic Preservation, to show that some of the city's oldest houses are rehabilitation candidates. According to PRC spokeswoman Sue Sperry, the organization, with paid and volunteer labor, should be able to get 82-year-old Mildred Bennett back into her home for \$40,000. Progress now only awaits the restoration of electricity and reliable supplies of water to the neighborhood.

For the many homes that have not suffered significant structural damage, a cottage industry of contractors and volunteers has grown around "gutting out" houses: ripping out water-soaked linoleum, carpet, floors, and cabinets; tearing down Sheetrock; and often throwing out doors and windows to dry out moldy studs. These houses are ready for rebuilding, but homeowners often must battle with insurers about wind damage (generally covered) versus flood damage (either not covered or only partly covered). Others have to fight "red tagging," which denotes that damage is greater than 50 percent, and means they cannot rebuild except above FEMA-mapped flood levels. Those maps are expected by March.

Another cottage industry has built up around getting damage estimates reduced to below the 50 percent threshold. The red-tagging, says PRC's Sperry, was often cursory, done in drive-by visual



**Mildred Bennett's shotgun home in the Holy Cross neighborhood of New Orleans was badly damaged inside, but it is still salvageable.**



inspections by nonprofessionals—barbers, mailmen—pressed into service when few professionals were in town. PRC, in fact, has resurveyed houses in historic districts, which cover most of the city. A bulging wall

follow on, and then volunteers return to redo finishes. Labor, volunteer and otherwise, remains scarce, although those willing to sleep in tents or drive long distances to help are earning undying gratitude. *James S. Russell*

### Hurricane recovery briefing

#### AIA members lobby for Katrina rebuilding plan

The several hundred architects attending the AIA Grassroots Leadership and Legislative Conference in Washington, D.C., in February took their plans for Katrina rebuilding directly to Congress. AIA chapter leaders visited the offices of U.S. senators and representatives, urging them to support H.R. 4100, also known as the Baker Bill, proposed by Louisiana Congressman Richard Baker (R-LA). The bill would establish a private corporation to oversee development in areas of Louisiana devastated by Hurricane Katrina. The Louisiana Recovery Corporation would, among other

things, purchase large swaths of land for planned development, instead of allowing scattered, unplanned development. Among several other pleas to congress, the group lobbied in support of its new sustainable design initiative [RECORD NEWS, February 2006, page 33], which calls for reducing building's fossil fuel consumption by 50 percent in the next five years, and pushed for access to small business health insurance plans for AIA members. *Sam Lubell*

#### Mississippi school design

**institute** From February 12 to 14, the American Architectural Foundation (AAF) hosted the Mississippi Regional School Institute

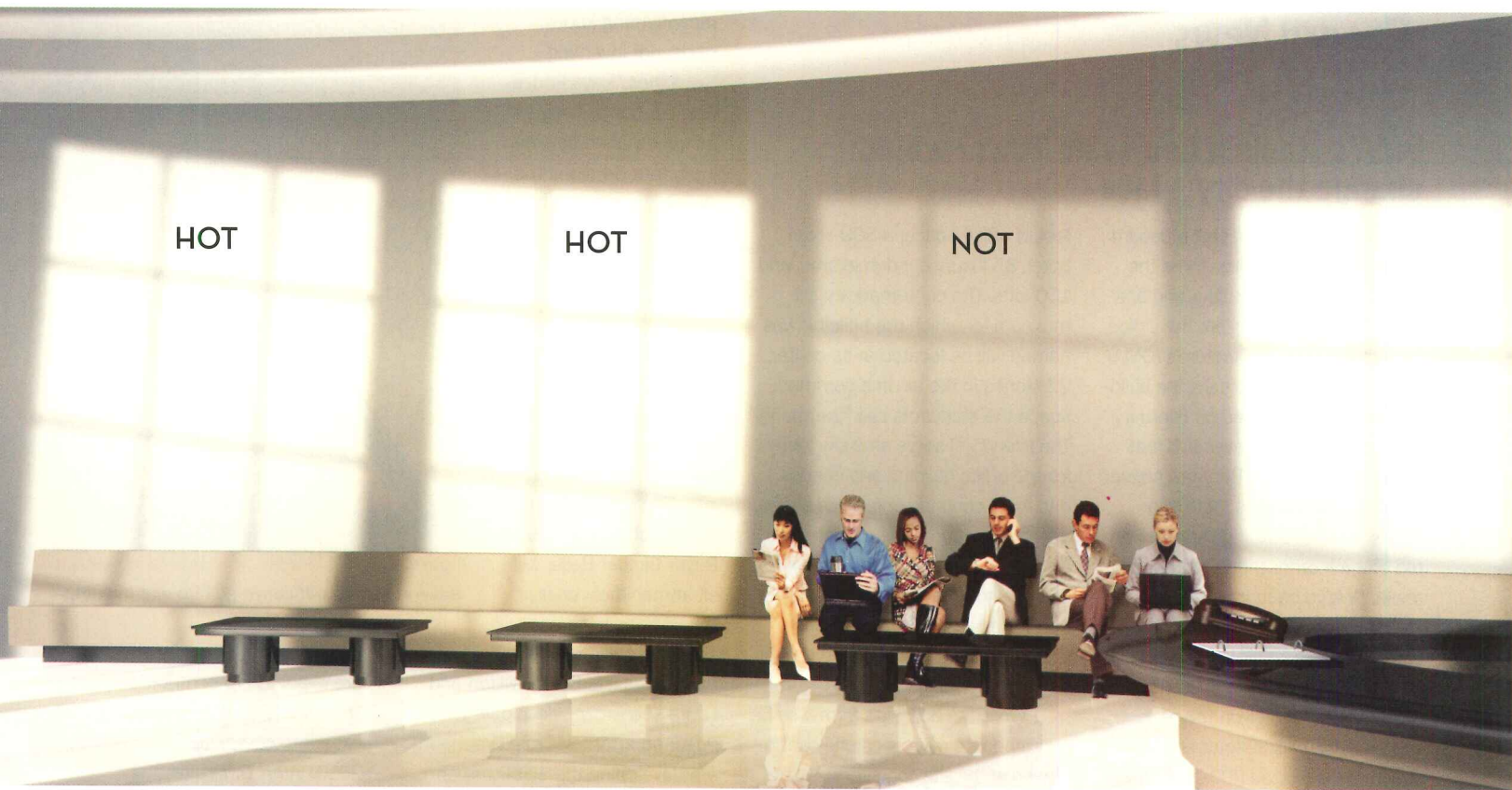
in Biloxi, Mississippi, part of its Great Schools By Design initiative to improve educational architecture. Discussions took place among 20 of the 22 superintendents from the region and architects and design experts from around the country. Topics included new school locations, construction funding, schools as community centers, community participation in rebuilding, and managing new students. The group says it will hold a spring meeting to examine particular case studies from the area, possibly in places like Pass Christian, Long Beach, and Moss Point. *S.L.*

#### Libeskind working in the Gulf

Shortly after developing buildings for a Atawatuna, a town in post-tsunami Sri Lanka, architect Daniel

Libeskind is now working on a community center in Gulfport, Mississippi, which was all but destroyed by Hurricane Katrina. The project, being developed pro bono for the Boys and Girls Club, is being funded by Rockworks, a charity made up largely of music stars.

The 30,000-square-foot center, in the Forest Heights section of Gulfport, will house after-school programs, summer programs, and financial-planning programs for those left jobless after the storm. The design details will be unveiled in the next month or so, says Nina Libeskind, the architect's wife and business manager. She says the firm is now considering further projects in the Gulf area, but has not made any decisions yet. *S.L.*



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## Record News

### OMA's stacked Louisville Tower would change the city's face

At 61 stories, the multipart Museum Plaza tower in Louisville will be the tallest building in Kentucky, and one of the tallest in the region. The Office for Metropolitan Architecture's (OMA) New York office is designing the building, which was unveiled on February 9. Though it reaches over 100 feet higher than Johnson/Burgee's Aegion Tower, the structure is more of a series of small buildings stacked on top of each other than a monolithic tower. "We've been interested in the question, 'Can something be both a credible whole and a series of parts?'" says Joshua Prince-Ramus, OMA's lead designer on the project.

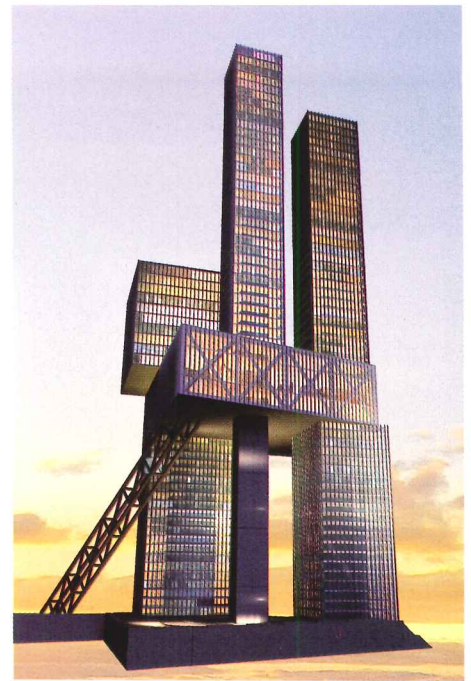
The 1.2-million-square-foot structure will include 300,000 square

feet of office space, a 300-room hotel, 85 luxury condominiums, and 150 lofts. The contemporary art museum for which the building was named will be located at its center, 22 stories in the air, in a common space the architects call "the Island." The Island will serve as a sky lobby for the office building and condos, and it will contain conference space, a gym, a bar, and other amenities. An angled glass-tube elevator will carry visitors from West Main Street up to the Island. Curators will program both the museum and the communal spaces.

While the building's form may be unorthodox, it reflects careful consideration of the site conditions. "We're

reconfiguring known parts, not inventing typologies," says Prince-Ramus. The building will be sandwiched between Interstate 64 along the Ohio River and the historic district of West Main Street. Downtown Louisville lacks density, so the architects sought to maximize the program on the small site. The project's diverse commercial components will pay for the cultural components.

The new Muhammad Ali Center, designed by Beyer Blinder Belle, will sit immediately east of the OMA building and will share an elevated plaza. Philanthropists Steve Wilson and Laura Lee Brown, developer Steve Poe, and attorney Craig Greenburg are developing the \$380 million



Several towers will converge into one building.

project, though the city and state are expected to contribute \$75 million for site work. The developers expect to complete the project by 2010. Alan G. Brake

### Plans unveiled for larger, more active Javits Center in New York

On January 23, the Empire State Development Corporation (ESDC), which encourages business development in New York State, released designs and a master plan for the renovation and expansion of the Jacob K. Javits Convention Center on the west side of Manhattan. The new scheme (below) will double the center's size, increasing exhibition and meeting-room space by more than 1.3 million square feet.

British architect Richard Rogers is designing the project, located on 11th Avenue between 34th and 38th Streets, with New York-based FXFOWLE Architects and A. Epstein & Sons. The design is still being worked out, but so far it calls for a building with an airy, new 100-foot-tall, glass-enclosed entry and concourse and a wide, tree-lined pedestrian corridor along 11th Avenue. The new facility, says Bruce Fowle, FAIA, principal at FXFOWLE, will not only feel more spacious but will contain a much more active facade than the present one, which appears quite dark on most days. The concourse, whose glass will be as clear as possible, will contain glass elevators and exposed stairways, and probably retail, all of which will be visible from 11th Avenue. Large, colorful banners and LED displays about current exhibitions will also be visible from the street. The new concourse will contain protruding, boxlike spaces for preshow meetings, a large brise-soleil along 11th Avenue to minimize glare, and plantings throughout. The plan also creates a new park and retail space at 11th Avenue between 39th and 40th Streets, and leaves 40th Street open to allow (limited) pedestrian access to the waterfront. The architects are master planning residential and commercial development south of the center. That property is being made



available by moving the center's marshaling yard to the north side of the building, into a new six-story structure between 39th and 40th Streets.

The current Javits Center has only 790,000 square feet of exhibition space, making it quite small for a city of New York's size. The expansion will also add two more floors above most of the existing facility, and will include a comprehensive renovation of it. Fowle says it is unclear what elements of the existing structure, designed by Pei Cobb Freed between 1979 and 1986, will remain at the end of this renovation. The project has been in the works for some time. In June 2004, St. Louis-based HOK was selected to design a sketch for the extension, although a convention center spokesperson called that plan a "starting point."

Critics hold that the renovated center will still leave too much of the Hudson River waterfront to the west of the Javits inaccessible. They also wonder if the land to the building's south will be appealing to local developers. "Given the current market for office space, it is not clear that developers will line up to build office buildings between the Javits Center and the open rail yard to the south," said the Regional Plan Association in an e-mail sent out just after the unveiling.

The first phase of building will cost about \$1.7 billion, according to the ESDC. The city and state will contribute about \$350 million each, and another \$645 million is being raised through bonds backed by a \$1.50-per-key surcharge paid by the local hotel industry. Construction of the first phase is expected to be finished in 2010. Other phases will include construction of a new convention-center hotel across 11th Avenue from the center. S.L.

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## Despite Freedom Tower setback, Libeskind is building skyscrapers around the world

Daniel Libeskind has never built a skyscraper. His most famous high-rise is one that will never be built: the original concept for the Freedom Tower in Lower Manhattan. That crystalline, tapering structure has now become an obelisk on a concrete base designed by Skidmore, Owings & Merrill.

But don't feel too bad for him. Thanks partly to fame developed from the World Trade Center competition and partly to Studio Libeskind's impressive list of contacts, developers all over the world have asked the architect to design high-rise condominiums. His firm has secured commissions for more than 10 skyscraper projects in the past two years. These include towers in Singapore; Sacramento, California; Milan; Toronto; Warsaw; Covington, Kentucky; Brescia, Italy; and three more undisclosed locations in the U.S., Korea, and Europe. The firm is so much in demand that its employees now number 55—up from 26 when it moved to New York in 2003.

While diverse in form, most of the high-rises display some degree of the original Freedom Tower's sleek, tapering profile

and angular geometry. Many are formally and programmatically advanced, like the 31-story Green Emerald Tower in Milan, which is in the city's new 64-acre fashion and business district. The tower curves as it rises like an elongated bandshell, which helps it to limit harsh sunlight while making a dramatic statement next to towers by Arata Isozaki and Zaha Hadid. The Emerald Bay towers in Singapore (the tallest is 43 stories high) employ similar curves—in this case to maximize views of the nearby waterfront—and utilize “gardens in the sky,” vegetation-filled bridges connecting buildings at upper floors.



An angular tower in Warsaw, Libeskind's hometown, appears almost as if it were two towers intersecting at sharp angles. Other projects, like those in Sacramento and Covington, have been criticized for their fairly conventional shapes, tapering near the top like Libeskind's visions at Ground Zero, and embellished largely by balconies that form exterior designs.

Libeskind's success in this field is not just a result of fame or ability; it's also a product of developers' increasing desire to use design architects to woo tenants and investors. The architect is also willing to work on a building type that some in the top echelons of the field look down on as a sellout. He notes that such projects are often vital to jump-starting neighborhoods, and even cities' fortunes, and they have a much greater impact than the smaller niche projects that many of his contemporaries explore. Associate Yama Karim admits that many of these projects stray from the exploding shards and folding planes that the firm is known for at lower elevations. But he doesn't see any of them as compromises. “We don't

compromise. It's about making things that work. We work hard to make the economic realities of these types of projects work, but we want to avoid building typical developer buildings.”

As for whether he's cut out to do design high-rises, Libeskind responds, “Architecture is architecture. If you've mastered building on a smaller scale, then you can build something bigger.”

In addition to skyscrapers, Libeskind will have a number of other new projects completed by 2008, including a German military museum in Dresden—which is ironic, he admits, since he also built the Jewish Museum in Berlin. Other works include the New Center for Arts and Culture in Boston, the Denver Art Museum, and a retail complex and hotel in Las Vegas. And how does he feel about the situation at Ground Zero, the project that helped make him, but also came close to breaking him?

“I'm the only one who's not disillusioned,” he says. “The process is inherently difficult, and I knew that. But the core of the project is still there.” S.L.



**Tower projects include (clockwise from top left) Green Emerald Tower in Milan, Emerald Bay in Singapore, Warsaw Tower in Poland, Hummingbird Centre in Toronto, and Union City condo in New Jersey. Other skyscrapers are being built in California, Kentucky, Germany, and Korea.**



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### Destiny USA, one of largest building projects in U.S. history, in serious jeopardy

Despite a January lawsuit in New York Supreme Court that it hoped would resolve matters, Syracuse, New York-based Pyramid Companies remains locked in a dispute with the city of Syracuse over financing for Destiny USA (rendering above), a massive, \$20 billion retail, resort, and research complex proposed on former industrial land on the north side of the city.

The argument, revolving around the city's refusal to accept Pyramid's financing proposal, has scuttled Destiny's ground breaking and, Pyramid claims, created financial pressures that forced it to lay off 90 percent of Destiny's more than 200-person design and construction team in January.

When Pyramid first proposed Destiny in 2000, the developer planned a modest 848,000-square-foot expansion of Carousel Center, a 1.5-million-square-foot shopping mall. But the program quickly grew to encompass more than 100 million square feet, including 1,000 shops, 80,000 hotel rooms, a 40,000-seat arena, a water park, golf courses, and a technology park that the developers claim will one day overtake Silicon Valley.

Syracuse officials, eager to stimulate tourism, initially welcomed Destiny. In 2000, the city extended a 1988 agreement with Pyramid, keeping the center off property-tax rolls through a payment-in-lieu-of-tax (PILOT) arrangement, and developed a similar PILOT plan, worth up to \$200 million, for Destiny. PILOT deals allow private developers to build on public land without holding the title. The city now claims that Pyramid broke its PILOT agreement for Destiny last summer by switching from private financing for the project's first phase to a county bond-sponsored loan package worth over \$300 million. Other financing is planned to come from private sources as well as county, state, and federal bonds. After the city said its PILOT agreement expired at the end of last December, Pyramid sued.

All arguments aside, if plans for the visionary project are fulfilled, its main elements would be located under the world's largest glass canopy roof, in nine themed zones with names such as the "Marquis District" and "Tuscany." To date, these names are the only hints at an architectural aesthetic. Destiny's design team, headed by Pyramid architect Mike Wetzer, has finalized only the designs for its first phase, the expansion of Carousel Center.

Pyramid's C.E.O. Robert Congel claims that Destiny will "free humanity" from its dependence on fossil fuels, setting an example by powering itself through photovoltaics, windmills, and hydrogen fuel cells. Mike Lorenz, C.E.O. of the subsidiary developing Destiny, claims it will revolutionize the construction industry, with design and construction occurring in real time using modeling software linked to factories. Building modules will then be erected on-site by the same employees who will become the sales associates in Destiny's stores.

If this approach to construction sounds novel, that's the point. Destiny is located within a day's drive of 130 million people, and Lorenz predicts visitors would come not just to shop, but to marvel at the complex's innovations. But visionary projects often depend on deftly timed financing, which is now in limbo. And besides the scoffing of incredulous critics, Pyramid has other troubles. Existing Carousel Center tenants filed suit last fall to stop the developer from breaking their leases to build Destiny. In early February that case went before Judge John Centra, who is hearing Pyramid's suit against the city. At press time, it was not known when Centra would rule on either case.

Pyramid has a reputation for overcoming setbacks, but local residents are suffering from what one observer calls "promise fatigue." If Destiny ever gets built, skeptics say, it will be far smaller than the developer's vision. *James Murdock*



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## Record News

### Ground Zero update

As it has been for quite some time, the World Trade Center remains under a cloud of uncertainty. New York City Mayor Michael Bloomberg has assaulted developer Larry Silverstein's plans for the site more vehemently in recent weeks. Bloomberg and some city agencies have charged that Silverstein underinsured his buildings at Ground Zero, that he won't be able to attract enough office rent to make a profit, and that he is holding up development of towers numbers three and four on the site. Silverstein has refuted all three charges. Meanwhile, the Port Authority of New York and New Jersey, which owns the land on the site, has offered to take over some of Silverstein's leases, contending that it will be able to expedite the building process. Silverstein does not seem receptive to this idea. And despite all the discussion, there are still few signs of building.

### Snøhetta building will shrink dramatically

Nowegian firm Snøhetta is significantly changing its design for what was once the cultural complex at Ground Zero. The new scheme is now being described by officials as a visitors center. The project's design has not yet been unveiled, but it will be about a fifth as large as the original building, according to the World Trade Center Memorial Foundation (WTCMF), which is heading the project's development. Snøhetta was chosen to design the building, once set to hold the International Freedom Center and the Drawing Center, in fall 2004. That plan was scrapped last fall amid controversy over the content of both museums, as well as the building's interference with the World Trade Center Memorial.

The visitors' center will include ticketing, visitor services, and 9/11-related exhibition space, which will complement the material in the museum under the WTC Memorial,

according to the WTCMF. The building will now take up about a fifth of its original's space, shrinking from 250,000 square feet to about 60,000. Its location will shift south, freeing up circulation around the Memorial plaza. Frank Gehry's performing arts center, which is to be located across Fulton Street from the visitors center, is still being planned, but no designs have been released since Gehry was chosen in the fall of 2004.

### 7 WTC finds tenants

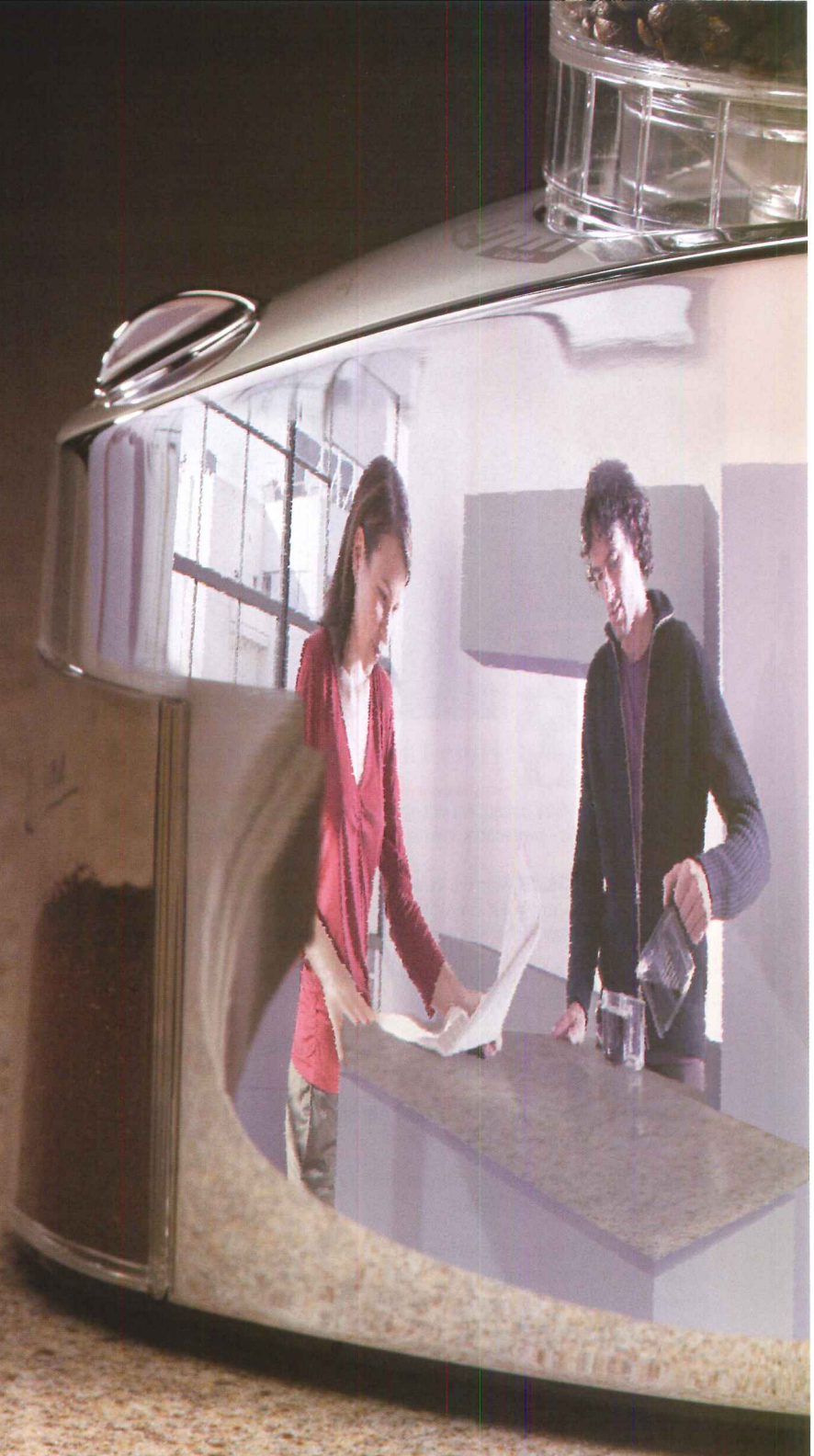
After waiting for some time to attract tenants to 7 World Trade Center, just north of Ground Zero, Silverstein has now leased space to three tenants. The 52-story building, which should be complete in April, was designed by Skidmore, Owings & Merrill, the firm designing the World Trade Center Freedom Tower.

In early January, Silverstein announced that Ameriprise Financial, an asset-planning and insurance company, signed a 10-year lease for 20,000 square feet of space in the building. The company's New York office is to occupy about half of the building's 39th floor. On January 25, officials from Beijing-based Vantone Real Estate signed a term sheet for 200,000 square feet of space—the top five floors—in the 1.7-million-square-foot building. The company has said that it will seek Chinese business firms to rent the space. Back in December, the New York Academy of Sciences agreed to lease 40,000 square feet in the building.

Critics have been complaining for some time about the 52-story building's long-standing vacancy—which many said was a harbinger of the entire site's overdependence on office space in a market that still seems to favor residential. Many hold that the small amount of leased space does little to make the building financially feasible. S.L.



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## Record News

### Building bust? Slow sales and high costs doom major Las Vegas projects

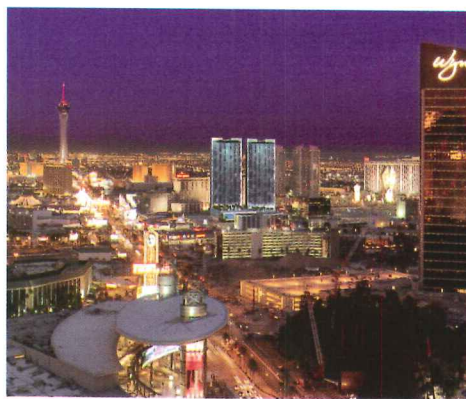
Las Vegas is known as a place where buildings are imploded before their time. Right now, projects are getting imploded before they even get out of the ground. After experiencing a heated building boom in recent years, developers are canceling plans for high-rise residential towers near the Strip because of rising construction costs and low sales.

Southern Nevada leads the country in population growth, adding 7,000 new residents per month, and recent construction growth stems

Related Las Vegas, a venture between The Related Companies, New York, and The Related Group of Florida, called off its Icon Las Vegas project on January 6, due to "drastically" escalating construction costs. The \$325 million, 514-unit development along Convention Center Drive, just east of the Strip, consisted of two 48-story glass-and-concrete towers. Designed by Arquitectonica, with interiors from The Rockwell Group, the 4.5-acre project was nearly sold out when Related pulled the plug. The

company experienced a six-month delay in construction due to a lawsuit filed by an adjacent rival project that complained of obstructed views. By starting time, the costs had risen too steeply.

Diversified Real Estate Concepts, Chicago, canceled its \$600 million, 825-unit Aqua Blue condo-hotel off-Strip project in July because of high building



Icon Las Vegas is one of several scrapped projects.

from a 99 percent increase in land prices in the past twelve months. John Restrepo, principal of Restrepo Consulting Group, a Las Vegas research firm, says there are 60,000 condominium and 19,000 condo-hotel units currently proposed, planned, or under construction in the Las Vegas Valley.

But Restrepo adds that the proposals are too ambitious for any market: "We anticipate that less than 25 percent of those units will actually be built in the next five years."

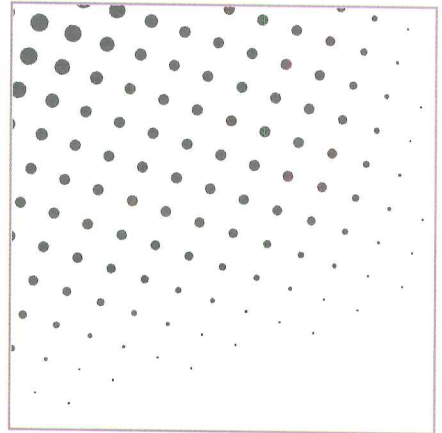
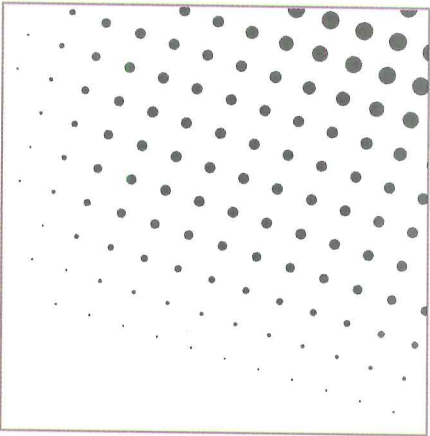
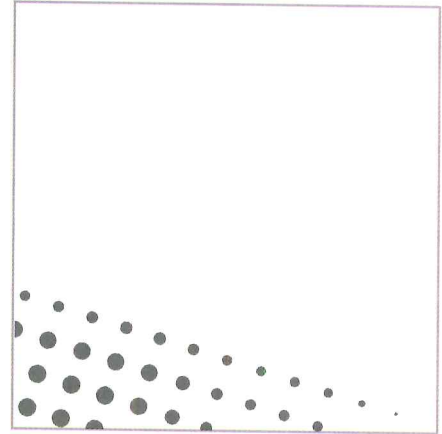
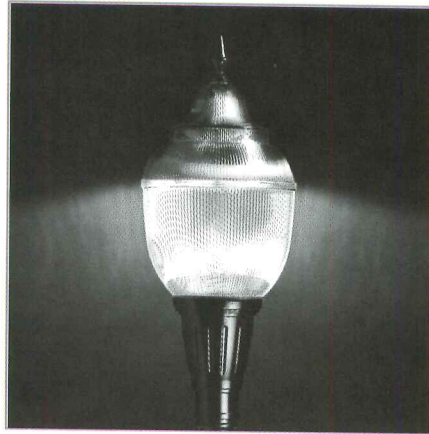
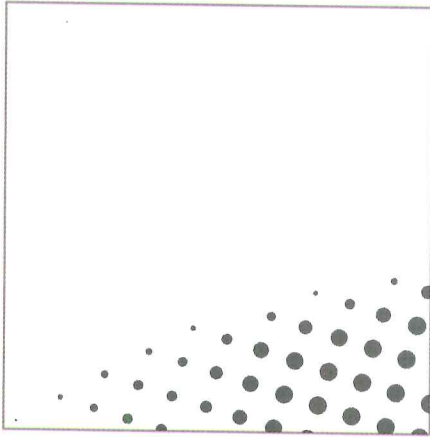
Busy contractors in the area are quoting prices week-to-week due to rapid material and labor cost increases, which have climbed 10 percent to 30 percent over the past year, say local firms. As a result, slow-selling projects must budget enough money into the development for construction inflation.

costs. The Jeffrey Beers-designed development had basketball star Michael Jordan as an investor, with plans for a Jordan-branded steakhouse, café, and athletic center.

Other projects are being sold off to capitalize on the region's escalating land values. Australian Developer Victor Altomare sold the 0.68-acre parcel for his planned 21-story, 236-unit Liberty Tower condo project along the Strip in early January for \$5.5 million. The land's original price tag had been \$900,000.

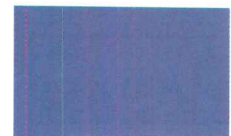
"Only 13 of the valley's 107 planned projects have broken ground thus far, and just 10 have gone vertical," Restrepo reports. "Experience, financing, location, and branding remain the key ingredients for a project's successful transformation from a Web site into a vertical reality." *Tony Illia*

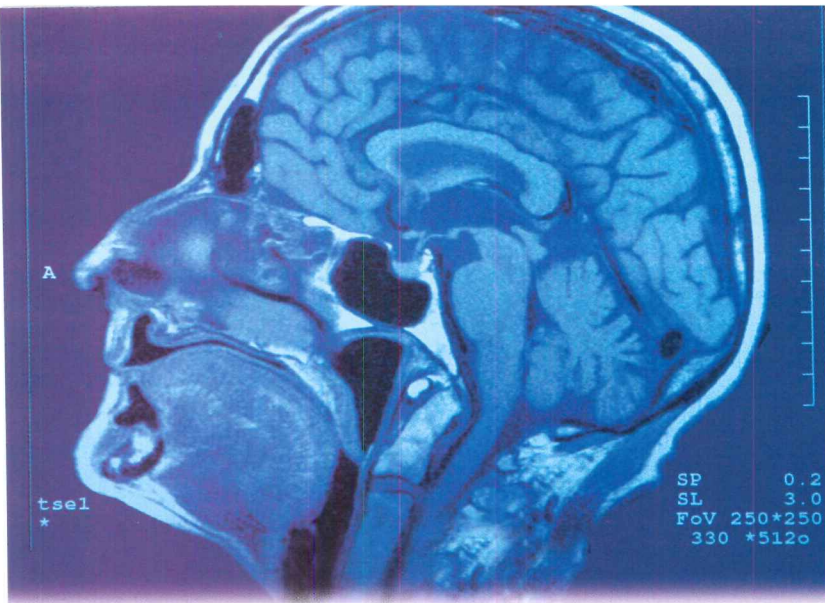
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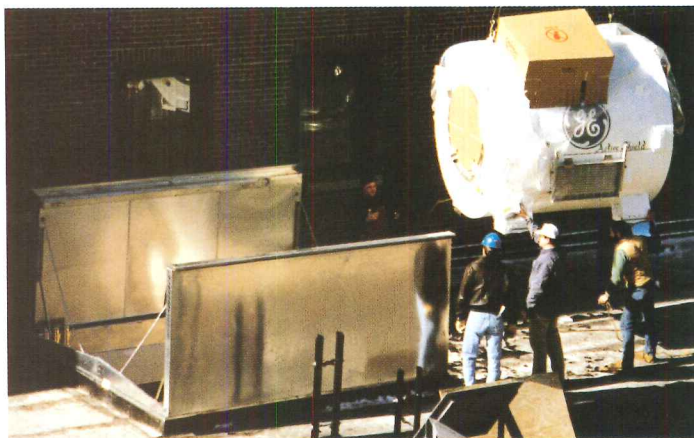




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MRI machines have changed the face of medicine. They allow physicians to quickly make a thorough diagnosis without the need for costly and even painful exploratory surgery. Installation of these machines, however, can be a challenge for design professionals. They're too large to fit through most doorways and have even more trouble with elevators.

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## Record News On the Boards: Out There



### UN Studio revamping Wellington Harbor

Dutch firm UN Studio has won a competition to design the Te Papa museum extension in Wellington, New Zealand. The firm is planning a free-form structure that recalls the flowing design of its Mercedes Benz Museum in Stuttgart, Germany. The 38,000-square-foot extension will stand beside the existing Museum of New Zealand Te Papa, dedicated to preserving the nation's heritage, which was built in 1998 on the capital's waterfront. Melbourne-based architect John Wardle was also awarded first prize in the competition for his design of a neighboring mixed-use development.

Visitors will see nearby Waitangi Park through curving horizontal slits in UN Studio's building. The aluminum skin wraps around the building's main organizing structures: a foyer, a spiral ramp, and four overlapping exhibition spaces. A tearoom and a raised, outdoor Chinese garden are also included in the design proposal.

The new extension will exhibit contemporary art and traditional Maori art and will be connected to the original museum by an underground passageway. Construction of the entire \$34 million waterfront redevelopment scheme is planned to begin in late 2007. *Robert Such*

### Peace Palace in Kazakhstan near completion

The Palace of Peace, the pyramidal centerpiece of Astana, Kazakhstan's capital since 1997, is scheduled for completion in July.

Designed by Foster and Partners, the palace, meant to be a symbol for all faiths, will host the Congress of Leaders of World and Traditional Religions in September.

Foster was selected via competition in fall 2004. When complete, the project's design-and-build process will have taken under two years. This is especially impressive considering Astana's extreme climate, with temperatures ranging from minus 40 degrees to plus 104 degrees Fahrenheit. To avoid losing time, much of the building, including the skin of diamond-lattice steel clad in pale gray



stone, was manufactured off-site. The project's cost is a state secret.

The palace is intended to represent unity; its form was chosen because it has no negative religious or ethnic connotations. Its dimensions—200 feet by 200 feet by 200 feet—also reflect this theme. The building, organized around a full-height atrium, will house a 1,500-seat opera house, a library, a museum, and a conference hall.

Since 1997, the population of Astana, a former grain station, has risen from 250,000 to more than 600,000. *Adam Mornement*



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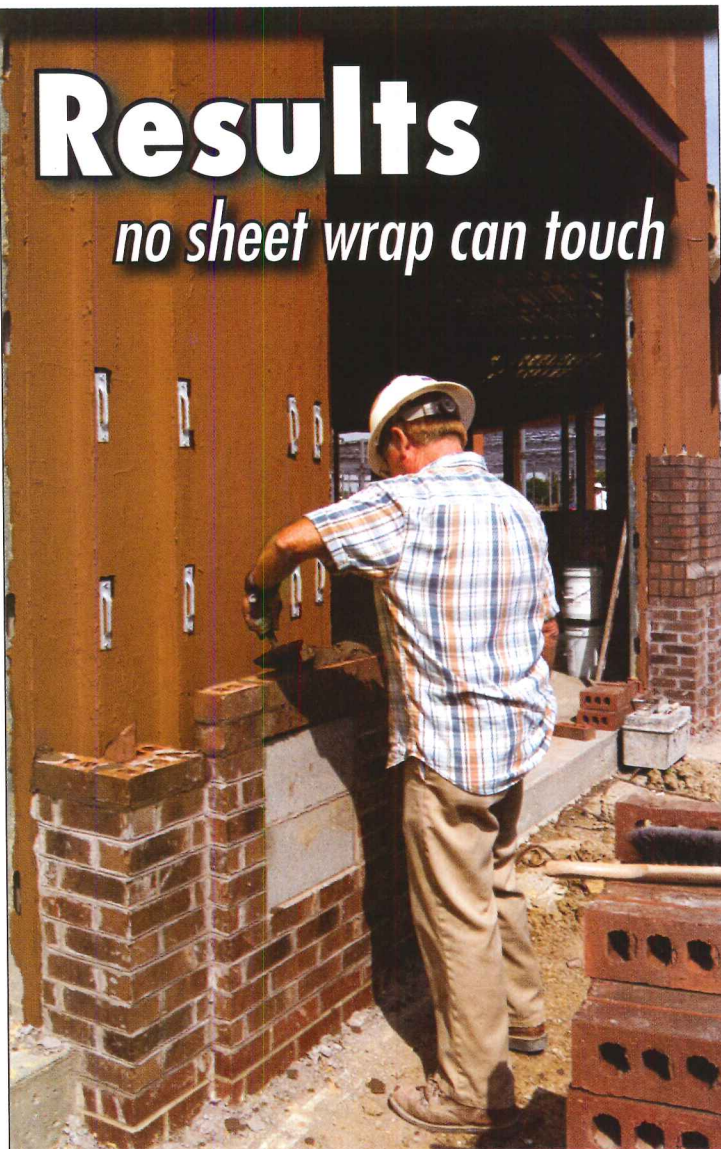
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## Record News On the Boards: Out There

### The future of sustainability: Arup planning green city in China

With its booming economy and often-unchecked development, China has raised serious concerns about the health of its environment. But the country is starting to move in a different direction, as evidenced by a plan being developed by Arup to build what it calls the world's first sustainable city.

The firm recently signed a contract with the Shanghai Industrial Investment Corporation (SIIC) to develop the city, called Dongtan, located near Shanghai, on the third-largest island in China. Three quarters the size of Manhattan (34 square miles), the site is now mostly agricultural land. But by 2010, when the 1,482-acre first stage is expected to be complete, it will be a mixed-use city of mostly 5-to-8-story buildings. Three villages—each with its own housing, shops, and schools—will converge at a city center.

Minimizing the environmental impact of all this development is essential to the project's mission. "If growth in China continues as it has until now, they're going to permanently damage the place," says Arup principal Peter Head, who is leading the project. "They hope that by ignoring the way the west has industrialized, they'll be able to keep growth growing while reducing the impact."

Sustainable development runs through practically every element of Arup's master plan, which is a work in progress. Public transportation will be

plentiful and encouraged. Many streets will be arranged as service roads, not through roads, to promote walking, biking, and public transportation. Cars and trucks will use hydrogen or fuel cells, rather than fossil fuels. Buildings will harness energy from wind turbines, photovoltaic panels, and converted waste. They will also be constructed using organic and biodegradable materials, while refuse can be either converted into energy or turned into compost via a machine called an anaerobic digester.

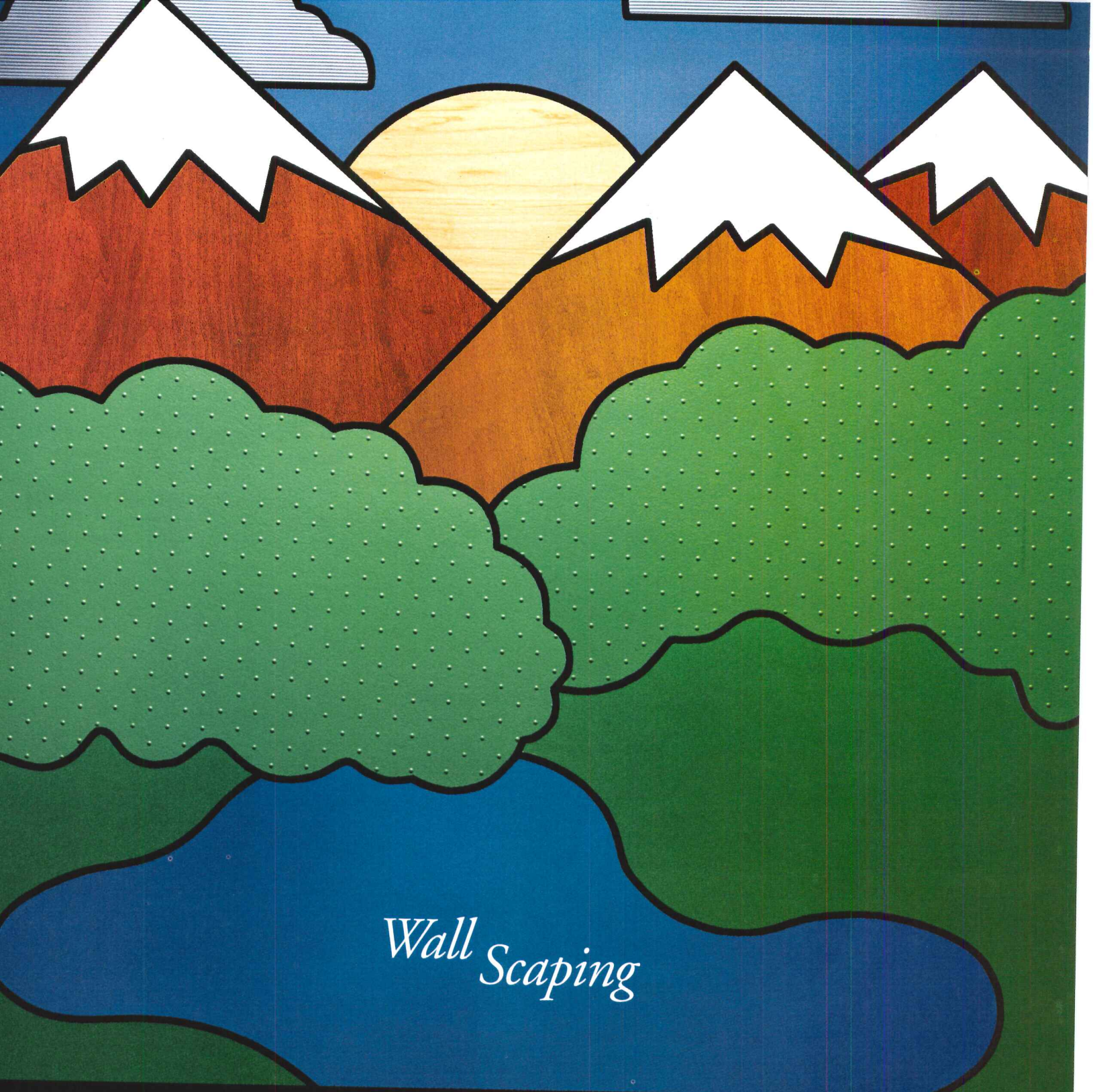
The city will be built using a strict ecological footprint analysis, which measures how many resources each inhabitant consumes. The city will call for a footprint that is about one fifth that of the average U.S. city, and about one fourth of a major Chinese city. The island will remain about 40 percent farmland and thus self-sustaining. Most of the residents, adds Head, will live and work nearby to reduce commuting.

Design guidelines have not been developed yet, says Head. But the SIIC plans to build a major tourist attraction and hold competitions for iconic buildings, targeted to be completed in time for the 2010 Expo in Shanghai. Dongtan should become a model for future development in China, says Head. But it will also, he adds, allow the Chinese to develop environmental expertise and green products that they can then sell to the rest of the world. S.L.

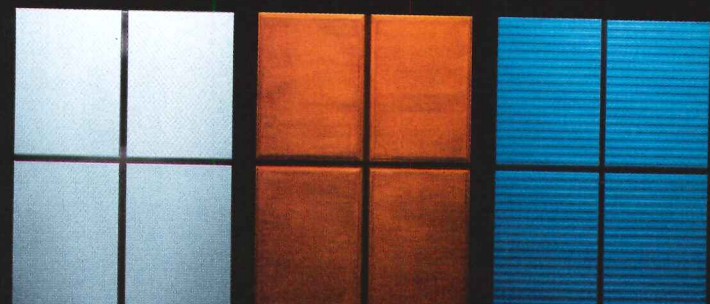


A rendering of the city, which would be sustainable in almost every way.





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## News Briefs

### London finalizes Olympic

**planners** On January 17, London's interim Olympic Delivery Authority announced that the master-planning team responsible for the city's 2012 Olympic bid last year, including Foreign Office Architects, HOK Sport, Buro Happold, Allies & Morrison, WS Atkins, and Arup, will also develop



The team's Olympic proposal.

London's Olympic Park. The design of the park's venues will be tendered separately, and this team will design all the infrastructure elements, including roads, landscape, bridges, and waterways.

The Olympic park will be built in Stratford, a neighborhood in East London. As detailed in London's Olympic bid, it will feature nine new venues, including Zaha Hadid's Aquatic Centre (which is already in development), an 80,000-seat Olympic Stadium, an Olympic village, a velodrome, and a media center. Several stadiums that can be deconstructed and moved after the games will also be built there. Updated plans move the park closer to Stratford City, a new business district and transport hub in Stratford, making the park closer to transport, and avoiding an area of land that, if developed, would require the relocation of residents and businesses.

Lucy Bullivant

### Smith designing Great Park

On January 23, New York-based firm Ken Smith Landscape Architect was chosen as master planner for a 1,347-acre park in Irvine, California. The Great Park, which officials say may take decades to complete, will be one of the largest in the U.S. Parts of the park, including sports fields, are expected to open by 2008, with

the first buildings ready by 2012.

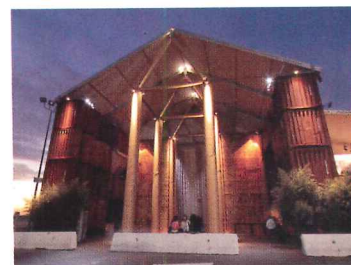
The property is part of a 4,700-acre parcel that served as the El Toro Marine Corps Air Station for nearly 60 years before it closed in 1999. Last year, Miami-based Lennar Corporation purchased the property from the Department of the Navy for \$649.5 million and then transferred a portion to the City of Irvine.

Smith's plan includes a man-made canyon, a lake that will provide the backdrop to a proposed amphitheater, and a linear park that will incorporate a fighter plane museum. The master-plan team includes Enrique Norton/TEN Arquitectos, landscape architects Mia Lehrer + Associates, public artist Mary Miss, ecologist Steven Handel, and environmental engineers Buro Happold. The team will begin work on the design following contract negotiations. Phase I of the project, including the infrastructure, is expected to cost \$401 million. Allison Milionis

### Nomadic Museum migrates to California

After spending last spring in New York, Japanese Architect Shigeru Ban's Nomadic Museum, a temporary art-exhibition space, opened on January 14 next to Santa Monica, California's historic pier. The museum contains a traveling show called *Ashes and Snow*, featuring large-scale photographic works by artist Gregory Colbert.

The museum is composed of 152 steel cargo containers stacked and secured in a checkerboard pattern 34 feet high. The exhibition was packed into 12 of those containers as it traveled from New York. The remaining containers were borrowed in San-



Constructing the Nomadic Museum.

# The LONSEAL Collection

ta Monica, along with recycled paper tubes for the roof, reusable wooden planks, and gravel and sand for the floor. Most of these elements will be recycled after the show. The museum design team includes principal architect Ban; Gensler, the associate architect; RMS Group, the general contractor; and Arup, the structural engineer. The 56,000-square-foot museum will be disassembled and then reconstructed as the show travels to other destinations, including Tokyo, Berlin, and Paris. The Santa Monica exhibition will be on view through May 14. S.L.

## Smithsonian chooses site for African-American museum

Nearly 100 years after the idea was first put forward, the Smithsonian Institution has chosen a site to house a National Museum of African-American History and Culture. On January 30, the Smithsonian's Board of Regents selected a prominent 5-acre location for the future museum on Washington, D.C.'s Mall, directly northeast of the Washington Monument. The central site, selected from four final possibilities, carries great symbolism for the museum's supporters.

"It is quite fitting that the experience of African-Americans takes its place among the museums and monuments that honor the history and the contributions of all who have labored, sacrificed, and dreamed to make this country great," said Lonnie Bunch, the museum's director.

Among the opponents of the location is Judy Feldman, chair of the National Coalition to Save Our Mall, a citizens group that supports a moratorium on all new Mall construction. "We understand why the African-American museum wants to be on the Mall," she stresses, but she says that a better solution would be to extend the Mall's axis to the Potomac

River, creating more public space, and to locate the museum on the Banneker Overlook, a raised site located close to the river.

The museum will likely cover some 350,000 square feet. The cost is estimated at \$300 to \$500 million, half of which will be provided by the federal government. Currently, museum officials have no comment on the design process. For now, the staff is hoping to raise money, acquire collections, and hire a project director. Mr. Bunch aims to open the museum's doors "in under a decade." *Ilan Kayatsky*

## Chicago landmark lost in fire

Chicago's list of lost architectural treasures grew on January 6 when a fire accidentally set by roofers destroyed the Pilgrim Baptist Church



Pilgrim Baptist Church.

on the city's South Side. Designed by Louis Sullivan and Dankmar Adler, the landmark structure was built as the Kehilath Anshe Ma'ariv Synagogue in 1889.

The distinctive design featured two stepped-cubic volumes, topped by a pyramidal roof. The interior, which held 1,000 people, was noted for its superb acoustics, and the building's second life as the Pilgrim Baptist Church (whose congregation acquired the structure in 1922) made it a haven for the performance of gospel music. Only three of the lower exterior limestone walls, with their characteristic Sullivan arches and incised ornament, remain.

The value of the church's property insurance remains undisclosed but is acknowledged to be less than the many millions of dollars necessary to restore the building to its original condition. Early pledges of financial support have come from the Chicago Pritzker Family Foundation and Governor Rod Blagojevich. *Edward Keegan*



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# For and about the emerging architect

## archrecord2

DEPARTMENTS

Once more with feeling, once more with facts. In **Design**, see how Chicago architect Paul Preissner, principal of Qua'virarch, feels his way to project design—atmosphere before arithmetic. In **Work**, we explore how Mississippi State University's landscape-architecture students are using facts, history, and logic for a master-planning exercise to rebuild a 75-mile stretch of the battered Gulf Coast. To see how other universities are engaged in the region's planning process, visit [archrecord.com/archrecord2/](http://archrecord.com/archrecord2/).

### Design

#### Qua'virarch: Psychologies of space



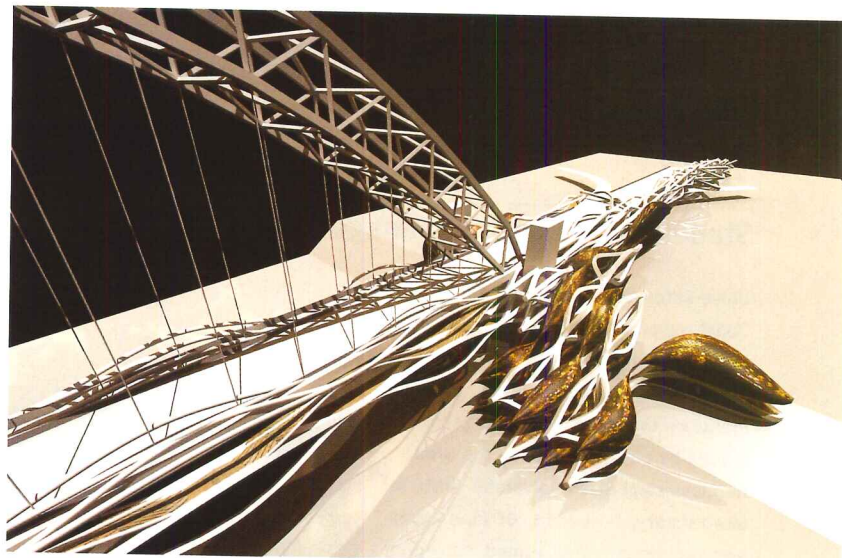
Paul Preissner, AIA, principal of Chicago-based architecture and urban design firm Qua'virarch, certainly has the gene for the mechanics of design: His father and two brothers are all engineers. But his take on the process and practice is much less calculated than theirs—he values atmosphere and intuition above precision and defined environments. In fact, Preissner teaches

a class to advanced visual studies students at the Art Institute of Chicago using horror films as vehicles to understanding the psychology of space—how scary movies use atmosphere to dissolve the boundaries between the viewer and the screen. He then has students explore advanced software techniques to produce new atmospheres that dissolve the boundaries between surface, structure, ornamentation, and effect. “Of course, you don’t view architecture the way you would a painting or a film,” says Preissner, “but horror movies have a certain necessity and risk that gets you to intuitively see spaces in a different way.”

Preissner founded Qua'virarch (“It’s just a made-up word,” he says) in Los Angeles three years ago, after stints working as a design architect for Kyodo Sekkei Architects in Osaka, Japan; as a senior designer at Eisenman Architects and at Philip Johnson’s office, in New York City; and as a junior architect and project architect, respectively, in Skidmore, Owings & Merrill’s and Wood-Zapata’s Chicago offices. He says he learned a lot from the firms he worked for, as well as from the cities he worked in. “Living in Osaka and New York City gave me a love for condensed living and networked systems,” he says.

Preissner’s work also reflects his love for spaces that are more about intuitive feeling than rationalized geometry. His interior project for Chicago’s AguaSal, a flotation center that offers visitors time in sensory-deprivation tanks to experience the benefits of weightlessness, seems right up his alley. Preissner was asked to transform the center’s interior to create the impression of a nonconfining space. The architect produced flowing patterns of blue-tinted, molded-fiberglass panels below the ceiling, adding to the heightened sensory awareness visitors experience after spending time in the tanks.

Another project, a competition entry for the expansion of the West End Bridge in Pittsburgh, has Preissner proposing a steel braid across the river with pedestrian bridge, bicycle path, and periodically spaced observation bubbles. When com-



**Portmanteau, West End Bridge, Pittsburgh, 2006 competition (ongoing)**

*Portmanteau is a proposal for a*

*steel pedestrian bridge with a bicycle path and periodically spaced observation bubbles to allow for city and river-life reflection.*



**AguaSal, Chicago, 2005**

*The ceiling of this flotation center and spa was created with 74 cast, tinted-fiberglass panels, arranged and mounted to add to the heightened sensory awareness that comes from time spent in sensory-deprivation tanks, which AguaSal specializes in. The panels have the appearance of flowing water, without beginning or end.*

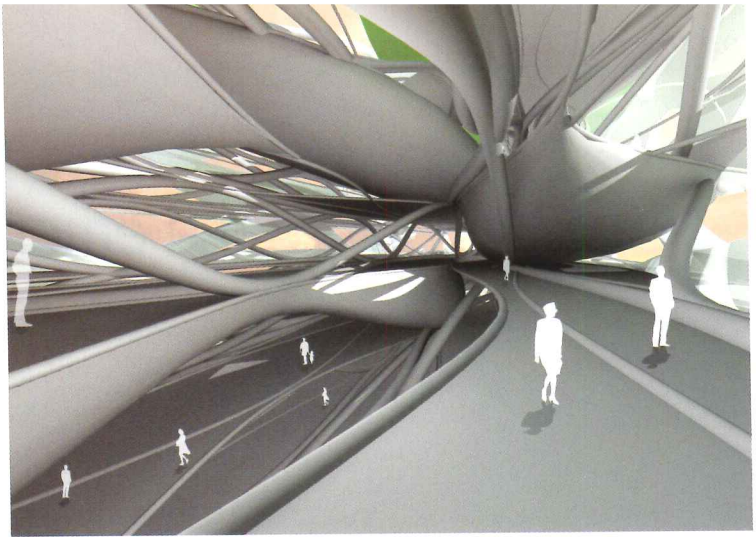
**Asian Culture Center, Gwangju, South Korea, unbuilt**

This proposal calls for the efforts of a group of artists, interior designers, and architectural teams to compose a building system based on its cultural content/program.



**National Library of Mexico, Jalisco, Guadalajara, unbuilt**

The intricate exterior structure of this proposed public library would exemplify the complex activities within. The building would provide a warehouse of learning and a public social center housing an abundance of media.



pleted, the bridge will close the loop in the trails around Pittsburgh's three rivers. Preissner's design "has neither a beginning nor an end," he says, "and it lives in a moment of passion and emotion." For Preissner, inspiration comes from emotion. "I don't think of my work as sculpture," he says, "but I am inspired by the work of immersive artists like Matthew Barney. I understand the realisms architects have to face," he says, "and restraint is okay, because it pushes you, but ideally I appreciate less obvious environments—grittier, less defined. A torn edge is more interesting than a clean-cut edge."

With Qua'virarch projects in the works, Preissner also teaches at the University of Illinois-Chicago and at SCI-Arc, in Los Angeles, as well as Chicago's Art Institute. In addition, he is writing a book about the emotional aspects of space. "It's about the ability of architecture to create new feelings," he says, "and how this is done not through a sculptural process, but through expert directing of material. Architecture is essentially choreography, after all." *Ingrid Spencer*

For more photos and projects by Qua'virarch, visit [archrecord.com/archrecord2/](http://archrecord.com/archrecord2/).

## Work

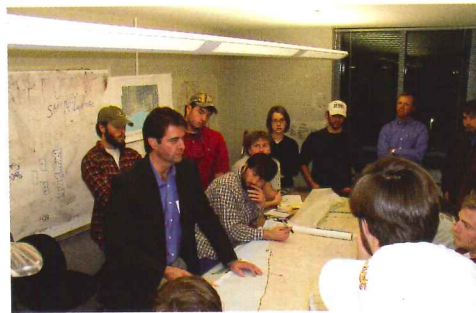
### Students take on the damaged Gulf Coast

Universities near the battered Gulf Coast region and beyond have directed the focus of their architecture, landscape, design, and planning departments on the real-life lessons to be gained by efforts to rebuild the area. At Mississippi State University (MSU) in late January, more than 200 landscape-architecture students, armed with maps and photographs, targeted a 75-mile stretch of the Gulf Coast as part of a master-planning study aimed at reviving coastal communities pummeled by Hurricanes Katrina and Rita.

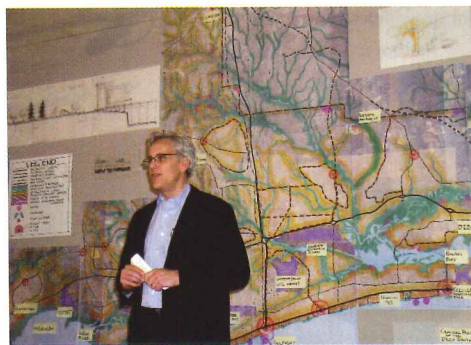
The weeklong project, led by volunteers from international landscape-architecture firm Design Workshop, provided students with a rare glimpse into the professional challenges of rebuilding a natural-disaster zone. "For many students, this is the first time they have engaged in a planning project of this scale," says Jeremiah Dumas, a landscape architect with the firm.

Project leaders selected a site spanning three coastal counties in Mississippi and including an existing rail line located five blocks inland and running parallel to the shore. They then divided students into teams of 10, tasking each with a 6-by-6-mile section of the project.

In preparation for the project, the students spent time sifting through case studies and analyzing the effects of other major storms, such as Hurricane



*Gulfport, Mississippi's Mayor Brent Warr with a student team (above). Design Workshop partner Todd Johnson (right).*



Andrew. Their goal was to devise a sustainable plan that could serve as a model for redevelopment efforts in the region.

"It was a really good opportunity to mingle with design professionals and see where their thoughts were coming from," says Brian Suarez, a landscape-architecture student at MSU.

"The students took a pretty radical stance," says Dumas. According to him, the storm surge leveled large sections of the site—basically everything south of the rail line. But rather than rebuild in the devastated area, the students chose to relocate the coastal communities inland and cluster them around the existing

rail line, so as to protect them from future storms. The relocation would also help revive the shore's natural marshlands—a move that could save the local government millions of dollars in beachfront upkeep, says Dumas.

While the study was originally intended as a planning exercise, some speakers who visited the students' presentation, including Gulfport, Mississippi's Mayor Brent Warr, were "thoroughly

impressed," Dumas said. "People want to move back, and developers are there wanting to buy land," he says. "Decisions have to be made quickly, and the region is in need of these types of planning efforts." *Christina Rogers*

For more information on Mississippi State University's Gulf Coast rebuilding efforts and others, go to [archrecord.com/archrecord2/](http://archrecord.com/archrecord2/).



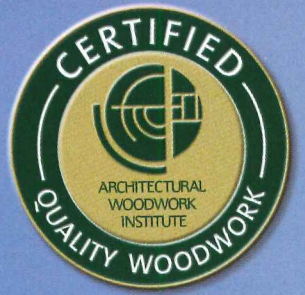


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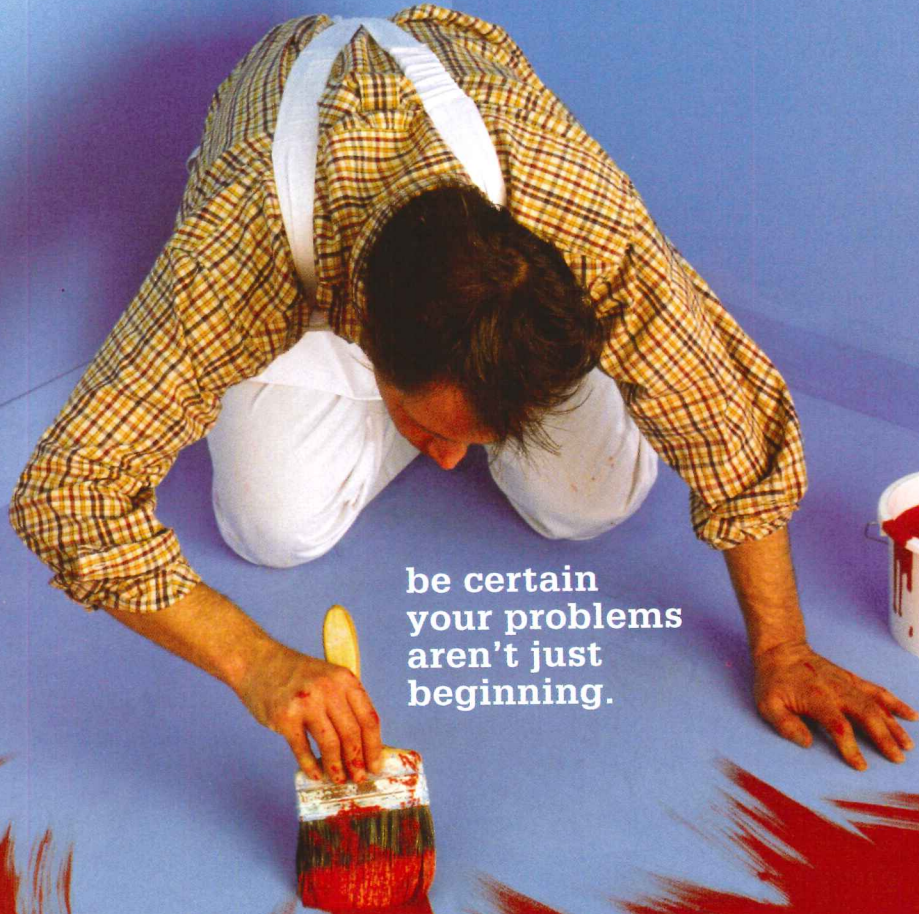
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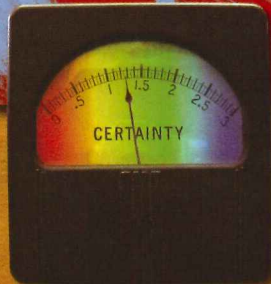
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# Syria weighs national and international influences in a post-Socialist age

## Correspondent's File

By Seif El Rashidi

Until the 1990s, visiting Syria was like flipping through a 1960s design magazine. Oversize cars trundled by stark, aging Modernist buildings. Like a Middle Eastern Cuba, decades of Socialist political isolation kept the '70s and '80s away, making Syria a treasure trove of now-antiquated Modernist design. It also preserved traditional architecture and quality of life: Respectable middle-class families continued to live in well-kept 18th-century houses in the historic quarters of the city (which continue to be well-preserved).

Today, with a new, young president, Bashar al-Assad, promising reform, there's hardly an old car in sight. On the highways leading to Damascus, slick and Minimalist hangar-type auto showrooms with expanses of gleaming glass and chrome supply the country with its new wheels. They reflect manufacturers' corporate architectural image, rather than local tastes. Simple, age-old Middle Eastern coffee shops rub shoulders with Pottery Barn-style cafés—picture-perfect Mediterranean bungalows or futuristic boxes. Gleaming new hotels reflect historical or international styles; new government buildings trumpet progress. While the local coffee shops attract old-world Syrians whose interest in understated quality produced centuries of great architecture, the new outlets act as magnets for upstart professionals. The new and old cafés represent the two

*Seif El Rashidi is an architectural historian and urban planner working for the Aga Khan Trust for Culture.*



Three faces of Syrian Architecture: Sinan Hassan's fascinating Chocolate Factory outside Damascus (left); generic, historicist suburban housing stock (below); Wael Samhouri's al-Hasani Religious Center, a hybrid of Brutalist and whimsical (bottom).

extremes of the present design spectrum, both symbolizing a far less austere Syria trapped between the traditional world and the new.

This dichotomy between established and modern points to some worrying trends in architecture: Some Syrian architects wonder whether public whims will sweep old Syria's architectural traditions away, while others question why there isn't much home-grown appreciation for modern architecture.

### Money=superficiality?

It's Syrians with money that are most worrying to architects. In what were once suburban wastelands, grandiose, stucco-embellished, generic villas are springing up. It's easy to see why the country's architects are unhappy. Damascus-based Sinan Hassan sounds a lot more bitter than an accomplished 40-something architect should. He describes a "passionate, persistent effort to educate, convince, or at least neutralize [clients], along with making sacrifices of all kinds—including financial—in order to get an idea built."



Yet clients' insensitivity to good architecture isn't the only problem. Hassan points out that the Syrian establishment doesn't really like contemporary architecture, and that poor architectural education and decades of isolationism have led to

"an abundance of unexploited architectural talent, especially among the new generation, lost between computer graphics, superficial gimmicks, and architectural practices that focus largely on decoration." It's a common short-term reaction to tight-fisted authoritarianism—like college freshmen celebrating newfound freedom by partying to excess. Syria is going through a wave of consumerist exuberance, which in architecture doesn't lend itself to much substance.

The country is taking new directions and rethinking its image. But in the Middle East, searching for an indigenous contemporary identity in architecture is a major problem—and nobody seems to have found a definitive solution. For now, there's a

## Correspondent's File

tendency to sentimentally represent the past or to cling to the future. Finding a happy medium is difficult.

### Struggle for a style

Not far from the stores and coffee shops of central Damascus, the just-completed Four Seasons Hotel, by local firm Dar al-Handassah, is a simple, limestone-clad structure that rises ziggurat-style over the Tekkiya Suleymaniya, a 16th-century mosque built by legendary Ottoman architect Mimar Sinan. It's a contrast to the country's unloved Brutalist hotels of the 1960s. Monochrome, and relatively restrained, it makes overtures to the gleaming classicism so loved by the Four Seasons chain. And while it's a clear message that Syria is opening its arms to tourism, once the novelty has worn off, somebody is going to notice that it doesn't have enough architectural flair to explain why it has made the landmarks of old



Damascus fade into its shadow. And while representing luxury, the rectilinear building still nods to the past's monumentalism and Brutalism.

Among many new public buildings now in the pipeline, a new ministry for foreign affairs by Syrian architect Bassem Barghouti clearly wants to be futuristic. The gargantuan building follows the old notion that symmetry and formality are



The new Four Seasons in Damascus (left), by Dar al-Handassah. The Japanese Embassy in Damascus (above), by Italian architect Sergio Calatroni.

inseparable. Like the country's medieval castles, the lower walls are battered; and its bicolored horizontal stripes and central courtyard recall merchants' khans, trade hubs of goods and ideas. Unfortunately, the incorporation of ancient elements into fairly banal, blocky forms seems forced—an example of revivalist kitsch.

### The roots of originality

Sergio Calatroni, Milanese designer of the Japanese Embassy in

Damascus, expresses both dismay and euphoria about modern architecture in Syria, writing: "Everything is constructed badly, in a rush, cutting corners. Nothing but chaos and kitsch. But now and then the chaos and kitsch combined together result in unexpected vitality—there is something to be learned from ugliness ... A city means life, exchange, energy, stratified culture and old habits. In Damascus, antiquity is everywhere, every wall is an open diary. Here one learns to love the story architecture

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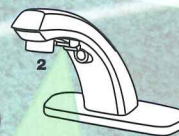
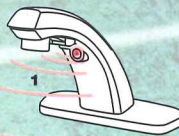
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## Correspondent's File

tells. Here I feel at home.”

His own building, the Japanese Embassy in Damascus, is an example of subtle creativity (perhaps inspired by this chaos), and a careful merging of old and new. Sober and punctured

windows, and geometric patterns), it makes a good case for the possibility of abstracting the past. But whether it will catch on is hardly likely—it is simple, and thus to the layman's eye too similar to old socialist architecture.

Hassan's Chocolate Factory outside Damascus is another atypical building. Its playful deconstructionist form and lush green setting are rare for a commercial structure anywhere—not just in Syria. Meanwhile, local architect Wael Samhouri's al-Hasani Religious Center in Damascus, which incorporates both traditional religious and modern office and educational space, is essentially a sleek tower block. Yet its carefully articulated fenestration gives its religious-cultural function away: It is too well detailed to be a typical urban structure, and too mindful of the past to be an average office building. By treating tradition as more than just an old pattern book, Samhouri's building

shows that cultural awareness in architecture can mean something deeper than decorated monoliths.

Such originality is reminiscent of the creative, often carefree spirit of vernacular architecture here, which is less concerned with issues of style. In craggy hillside villages around Damascus, concrete pilotis jutting out of crevices support overhangs and large terraces, allowing them to hover over the valleys below. Roughly finished, and sometimes cheap looking, they're not likely to find their way into the hearts of the new yuppie class. But they're proof that there will always be creativity in Syria, and that old-style dynamism is still there.

### Endorsing experiment

Nasser Rabbat, Syrian-born professor of architecture at MIT, sums up the struggle here to find a unique, affecting architecture. He blames political, economic, and societal isolation over the past half century for the lack of imagination in built work, and for the

country's cultural stagnation in general. But he notes that “the onset of bland, consumerist, and ahistorical architecture in recent times has not totally eclipsed the age-old impulse to mix and match, although the creativity of earlier experiments has been mostly sapped from contemporary projects.” He sums up, “A restoration of civic society, even a modest one, is, in my opinion, the necessary precondition for any cultural and architectural revival.”

A new architectural publication, *Ebdaat* (Creativity), focuses on regional issues, like the work of prominent Arab architects, and the design principles of the old Damascus house. That's what Syria needs, an awakening that doesn't downplay the depth of its own, multilayered culture, yet one that transcends the restrictive view of identity expressed through superficial nostalgia. Luckily, Syria is coming of age when environment and context are seen as paramount, and with millennial building traditions and spectacular landscapes, it's got a lot to work from. ■



Barghouti's foreign affairs ministry.

by rectangular windows, the building seems to float on facades of Damascus limestone. It recalls the organic nature of the traditional Syrian house. Devoid of the stereotypical design icons of contemporary Arab architecture (arches, screened

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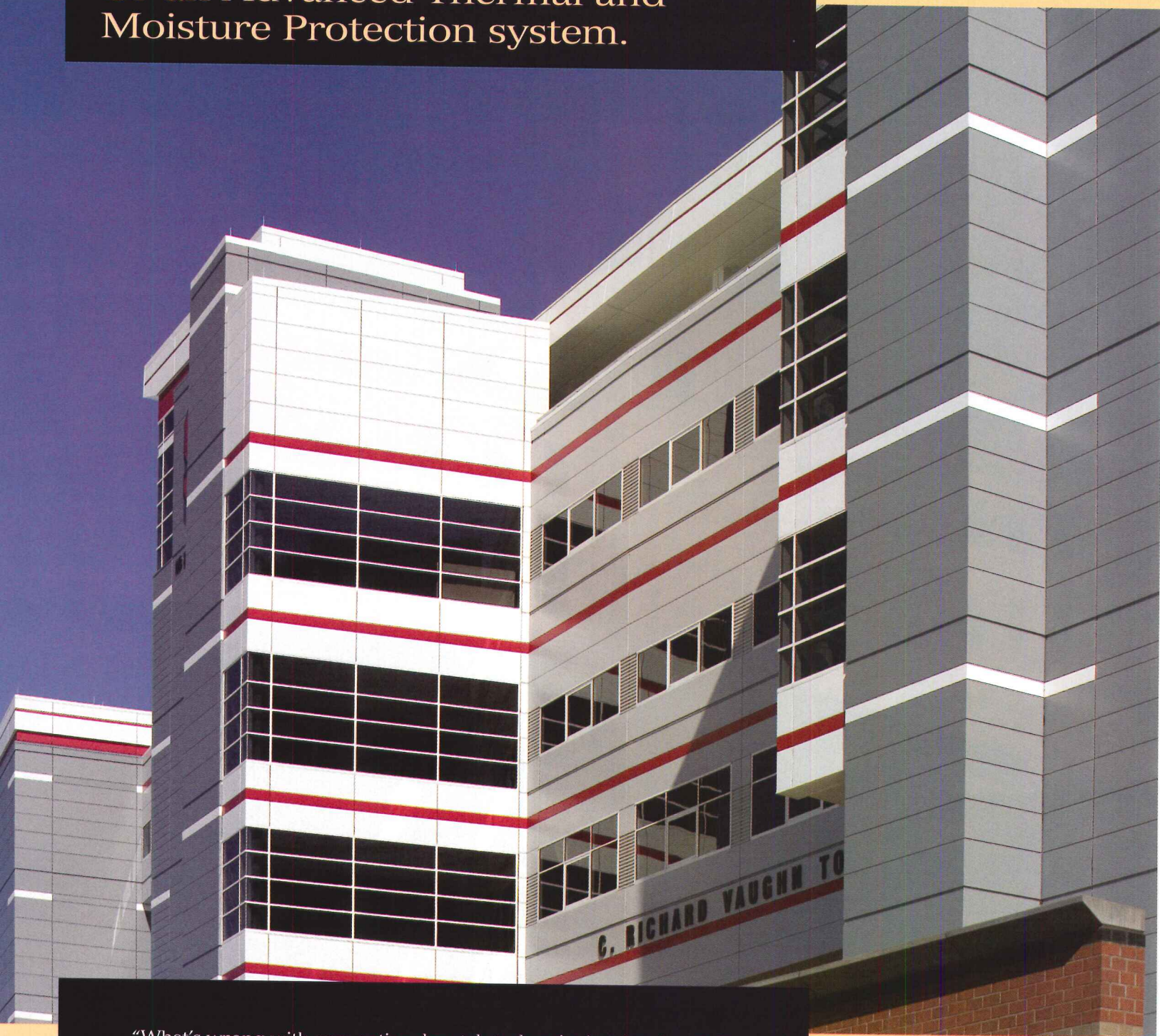
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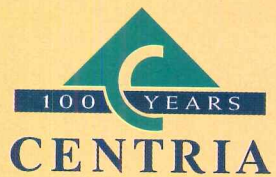
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# Criticism today: chasing celebrities, globalization, and the Web

## Critique

By Nancy Levinson

DEPARTMENTS

"Architecture criticism has devolved over recent years, from being consciousness-raising, progressive, and pleasurable to read—a standard that Ada Louise Huxtable worked hard to define from the moment she became *The New York Times's* and the country's first full-time architecture critic over 40 years ago—to being ad hominem, celebrity-obsessed, object-centric, and obtuse—a trail blazed by Herbert Muschamp, who was the *Times's* architecture critic for 12 years before retiring last year. Is it any wonder that no one—professional or lay reader—wants to read criticism anymore?"

With this rousingly unceremonious take down, the editors of *The Architect's Newspaper*, Cathy Lang Ho and William Menking, framed their recent assessment of the architectural-critical scene (published on November 16, 2005). You might already have seen the eight-page, multivocal feature, which mixed interviews with long-established newspaper critics (this group—presumably exempt from the devolutionary drift—includes Ada Louise Huxtable, Paul Goldberger, Michael Sorkin, Robert Campbell, Deyan Sudjic, and the late Allan Temko) and appraisals by Joan Ockman, Marisa Bartolucci, and Vittorio Gregotti of various contemporary newspaper and mag-

*Contributing editor Nancy Levinson was cofounding editor of Harvard Design Magazine and currently writes the Web log "Pixel Points" for the online Arts Journal.*

azine critics. Skeptical readers might want to puzzle out the politics (gender, geographic, generational) that produced the particular selection of critics to consider. But overall, the section is a telling summary, and it hits a lot of the sensitive spots, including the fascination with fame ("chasing celebrities," in Huxtable's succinct dismissal) and the insidious effects of the brand-market mentality (or, as the irrepressible Sorkin says, "The majority of critics nowadays are simply flacks: There are too many fashionistas and too few street fighters.")

### A digital revolution

Yet nowhere does this ambitious survey hit the most sensitive spot of all. Nowhere does anyone acknowledge the rise of the World Wide Web, the pervasive presence of the Internet, the digital revolution that is transforming journalistic practice and architecture culture. "Alas, there's no Lewis Mumford on the horizon," writes Bartolucci. Who would disagree? But of course, the real issue is not that there is no Lewis Mumford on the horizon; the real issue—is that the socioeconomic and professional-cultural frameworks that supported his career—and those of the generation that followed—have weakened to the point of disintegration. Mumford

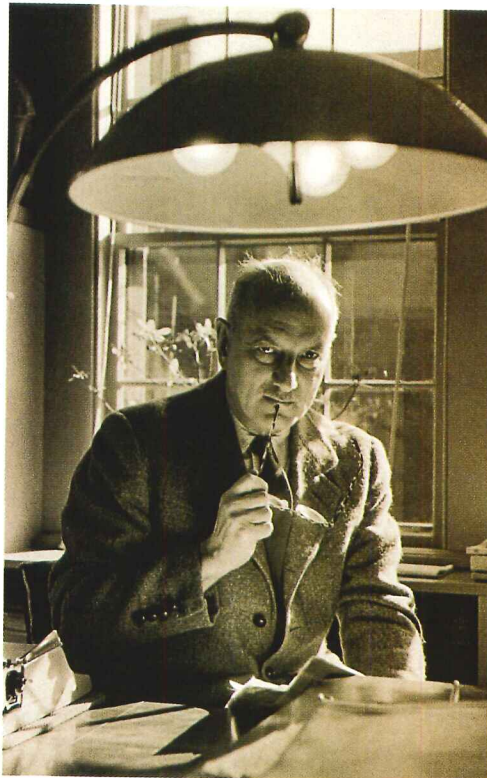
began writing about architecture in the 1920s; Huxtable and Temko in the '50s; Goldberger, Campbell, and Sorkin in the '70s—in retrospect the twilight of a still-analog era when print was the unrivaled medium of intellectual life, when serious-minded dailies and periodicals could aim to guide the culture, to be "general interest," "large circulation," sometimes even "for-profit." For clearly, critical influence depends not only on the ability of the critic, but also on the presence of a large and ready readership. Mumford became hugely influential—Colin Rowe called him "an American Ruskin"—not just because of his

capacious intellect and prodigious output, but also because in mid-20th-century America there existed something like a cohesive culture—a culture with discernible bounds and common touchstones, in which there flourished a lively journalism by public intellectuals, and a certain style of big-picture, ultraconfident criticism: Mumford on architecture, Clement Greenberg on art, Edmund Wilson on books, Susan Sontag on just about everything.

### Retrenchment in the media

Today that cohesion has all but disappeared. For years now, the general-interest consensus has been

fracturing apart, and not much of it has survived the rise of the decentralizing technologies of digital communication. "Architecture criticism has lost its place in public dialogue," worry the editors of *The Architect's Newspaper*, with reason. But where is that dialogue likely to occur? Many mainstream venues are now retrenching: Major newspapers scramble to survive (at *The Boston Globe*, for instance, several veteran arts reporters recently accepted the paper's buyout offer, leaving the culture desk depressingly depopulated), and intellectually weighty periodicals persevere, usually as nonprofits, official or de facto. (*Harper's* has long been underwritten by the MacArthur Foundation, for



Lewis Mumford's big-picture culture no longer exists.

## Critique

example, and for years the red ink of *The Atlantic* has been tolerated by its deep-pocketed businessman-owner David Bradley, and before him, Mort Zuckerman.) Meanwhile, fledgling new media are generating flabbergasting quantities of content, an ever-present online multiverse of

categorical as “the end of print,” but rather to recognize that old and new media together will shape the future of design critique, and that this future won’t look much like the past. As Kurt Andersen—whose polymathic career includes a stint as architecture critic for

### FLEDGLING NEW MEDIA ARE GENERATING FLABBERGASTING QUANTITIES OF CONTENT AND A NEWER, NARROWER DEFINITION OF “PUBLIC” OR “PUBLICS.”

image, information, text, and hyper-text; and in this illimitable process they are also generating a newer, narrower definition of “public,” or rather “publics,” as broadcast slivers into narrowcast, and as the old-style, top-down discourse makes way for the looser, more participatory dynamics of online exchange. None of which is to assert anything as

*Time*—argued recently in *New York* magazine: “Paper media today are ... like sailing ships around 1860—still dominant but enjoying their last hurrah.”

#### Impossibly global

The outlines of a multimedia architecture culture are still faint, but it’s not too soon to discern one of the

big challenges for criticism: The Web has made the culture unprecedentedly—amazingly and impossibly—global. Architecture has been international in outlook for years, but until recently this was mainly a matter of keeping up with the foreign journals and new monographs, attending lectures and exhibitions, and (sometimes even) traveling.

Today, this manageable world-view has exploded into a superabundance of instant-access globalism, at once exhilarating and exhausting. It’s not that more architecture is being made around the world, it’s that we are more aware of the architecture being made around the world. Years ago—back in the 20th century—you might have sprung for a subscription to *The Architectural Review* or *El Croquis* or *A+U* or *Baumeister*, and every few weeks the periodicals would appear and there’d be several dozen new projects to view. Now the pace is nowhere so leisurely; now you can boot up the laptop and click

on *Architect* or *Arch News Now* or *butterpaper australia* or *Design Observer* or *dutcharchitects.com*—to gloss through the first four letters of my alphabetized bookmarks—and navigate the endlessly interlinking and hyperlinking world of omnibus portals, a virtual portfolio of global design, the contents of which are continuously expanding.

You can see the dilemma for architecture criticism—at least as construed as a type of arts review, the weightiness of which hinges inevitably on the degree to which the reviewer’s experience is comprehensive. How can any individual critic gain comprehensive experience of a field whose boundaries have become so vast? The ambitious literary critic can place an order for next-day delivery and stack a season’s reading on the bookshelf; the movie critic can become an encyclopedic authority on the basis of trips to the multiplex and a Netflix subscription. In disadvantageous contrast, the architecture critic is confronted with



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## Critique

a multicontinental production that will defy any effort to achieve extensive knowledge. Just to remain au courant with the far-flung projects of the big-name firms would require tireless travel (not to mention an ample expense account), and it wouldn't leave much time to

cism that seems paradoxically slight, criticism that is noncontextual, episodic, and fragmentary, directed more to remarkable moments than to complex narratives, the kind of criticism that Ho and Menking describe as "celebrity-obsessed, object-centric." But what if these

### THE ARCHITECTURE CRITIC IS CONFRONTED WITH A MULTICONTINENTAL PRODUCTION THAT WILL DEFY ANY EFFORT TO ACHIEVE EXTENSIVE KNOWLEDGE.

track the less-promoted work of young practitioners. How to choose what to review? How to define the critical beat?

Nowadays, the temptation is to pursue the global beat, which usually means the big-name beat—a natural temptation, for the global is glamorous. Yet the global beat tends to produce criti-

characteristics say less about the talents of the critics than the limits of the genre? Herbert Muschamp was notorious for his loyalty to "a small coterie of avant-garde architects," to quote Clay Risen in *The New York Observer*; but this might be understood also as tacit admission that there really is only so much that anyone can experience

and assimilate.

So here we might consider that much of the criticism that now seems so exemplary was largely local, that writers like Mumford and Huxtable hit their critical strides as keen and close observers of the New York scene. Mumford, who wrote the "Skyline" column for *The New Yorker* from the early '30s until the early '60s, was both a champion of progressive architecture and a five-borough populist, covering not just major projects like Rockefeller Center and the '39 World's Fair, but also cheap lunchrooms, shop windows, neighborhood playgrounds, and public housing. In the '60s and '70s, Huxtable eloquently advocated for High Modern design and historic preservation, but she was especially expert at teasing out the intricacies of bureaucratic planning and real estate financing, the politics and money that were transforming the fine-grained prewar metropolis into the world

capital of what she called "death by development."

### Rethinking assumptions

The multiplatformed and micro-marketed media culture now emerging will not offer the sort of widely visible journalistic venues enjoyed by Mumford and Huxtable. But it might encourage—or compel—an imaginative rethinking of the assumptions of design critique. It might encourage, too, a vigorous and broad-based network of critics willing to come creatively to grips with the experiential limits of global architecture—willing, that is, to forego the jetlagged internationalism of celebrity culture for a deeper and more nuanced knowledge of the everyday landscape of the local. ■

**Editor's note:** Robert Campbell and Michael Sorkin will each write *Critique* four times a year, and the other four months it will be written by a rotating group of new voices.

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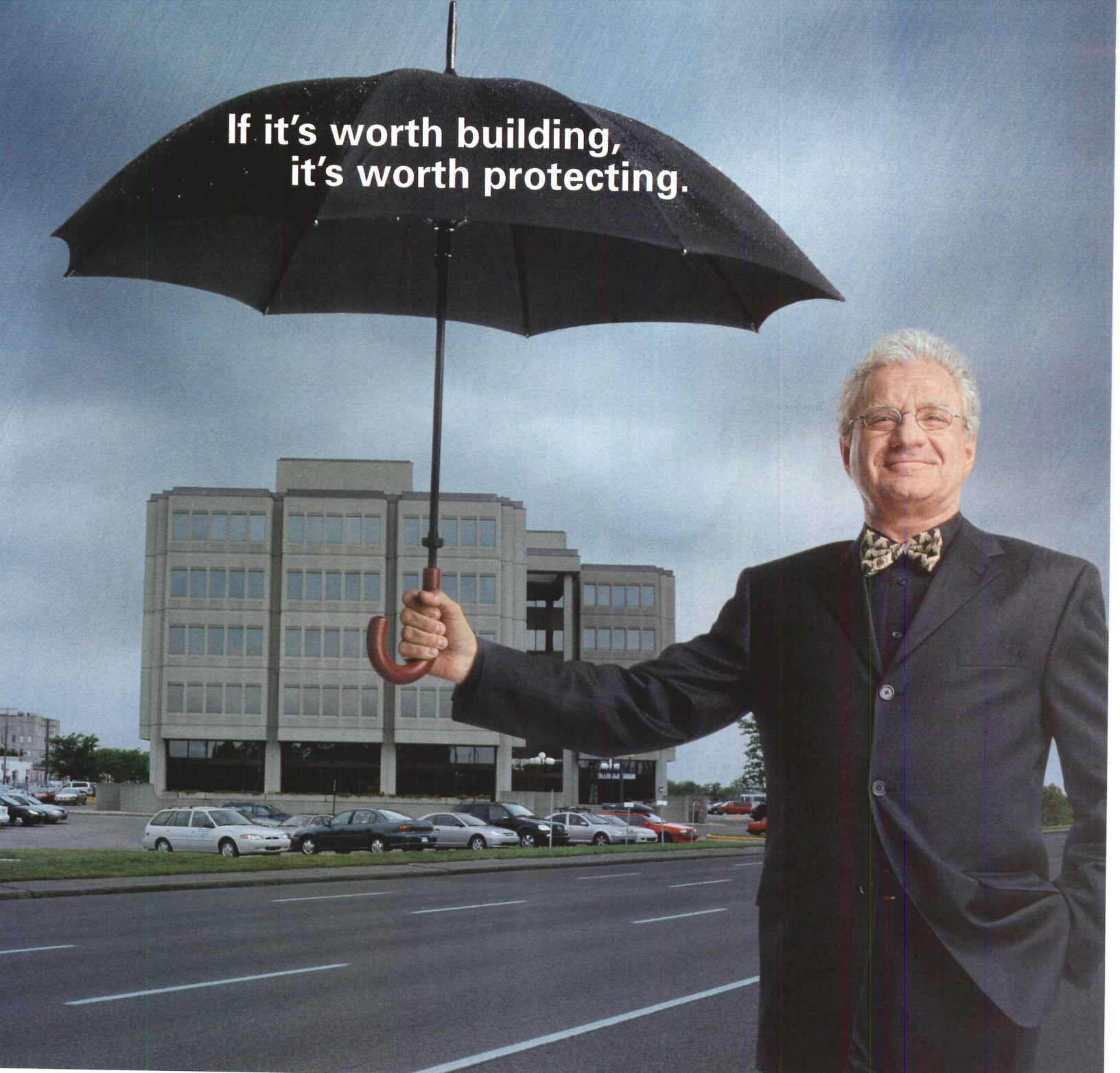
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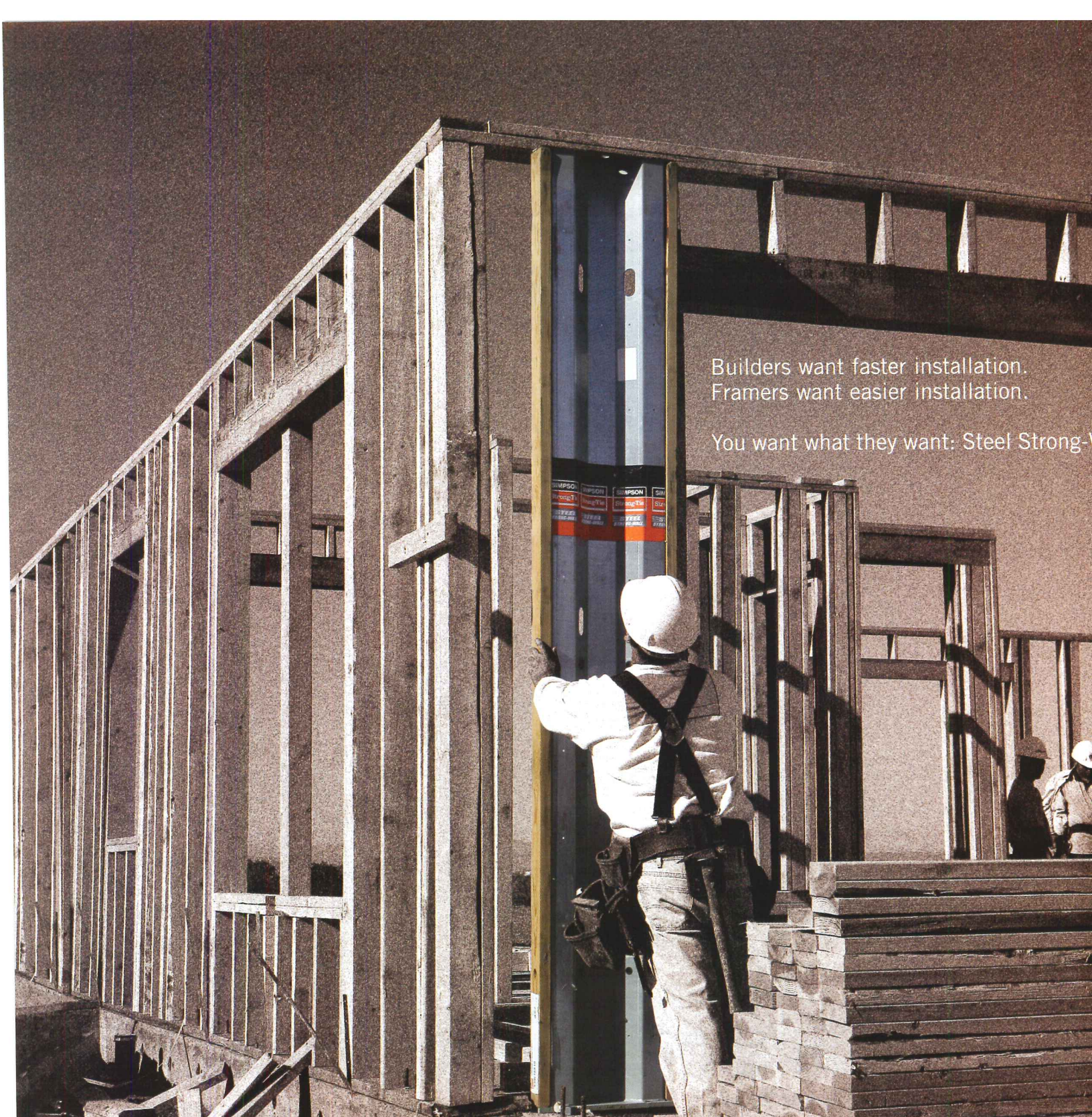
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# Snapshot



## By Beth Broome

Nestled in the Cameron Highlands, three hours outside of Kuala Lumpur, the BOH Tea Centre welcomes tourists and day-trippers to this Malaysian tea purveyor's lush estate. The country's leading grower, BOH pioneered Malaysia's first highland plantation and has made its home in the region since the company was established in 1929.

In an attempt to improve circulation and enlarge and update the facilities to attract more tourism to the plantation, BOH brought in Kuala Lumpur-based architects ZLG Design. The program called for a building that would provide a new home for the existing teahouse and serve as a conduit, guiding visitors through a retail shop and exhibition space to a pick-up area where a tour of the nearby factory begins. Furthermore, the company stipulated, the new building had to be linked to the existing factory and facilities while remaining respectful of the natural landscape.

Elevated so that it has a minimal impact on the site's contour, the steel structure incorporates cutouts to

## Taking the tea ceremony to dizzying new heights

## Snapshot

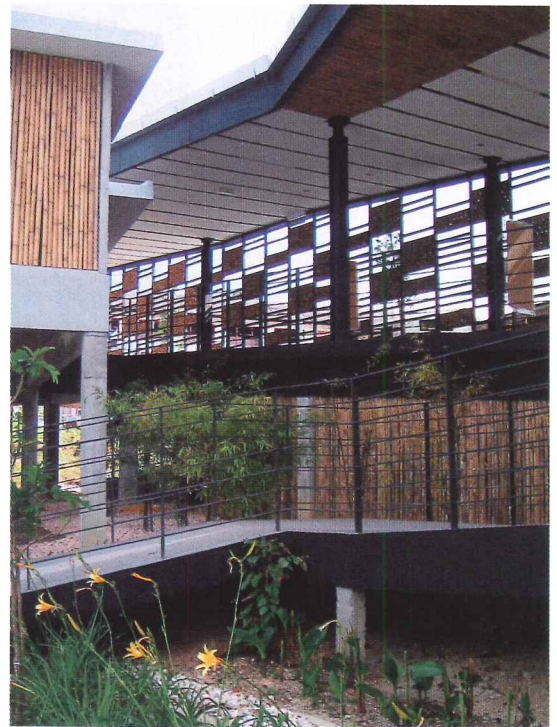


accommodate existing trees. Naturally ventilated, and with ample daylight penetration, the center needs little artificial lighting and cooling. Visitors enter the facility via a ramp that deposits them at the enclosed food and beverage area. The restaurant and its cantilevered balcony, with their breathtaking views of the valley, make for a dramatic arrival. Four-hundred-sixty-five feet long and 30 feet wide, the floor plan functions as a floating pathway that shepherds visitors through the building, offering ample glimpses of the lush plantation below. "For circulation purposes," says project architect Susanne Zeidler, "this was the logical approach." Ancillary facilities, such as the kitchen and toilets, are expressed as cubes that punctuate the long rectangle of the main building.

All building materials were procured locally, with most sourced from the Cameron Highlands region. Randomly arranged steel frames that form the facade feature glass louvers in the enclosed restaurant and shop areas, while the rest of the building functions as a breezeway. Open to the outside, the covered walkway's walls are partially screened by 4-inch-thick cross sections of logs found on the estate. Throughout, bamboo is used for the ceiling and as both a cladding and fencing material. A nod to one of BOH's old Cameron Highland factories, which is sheathed in perforated zinc, ZLG used the same material for the building's roof and sections of its facade.

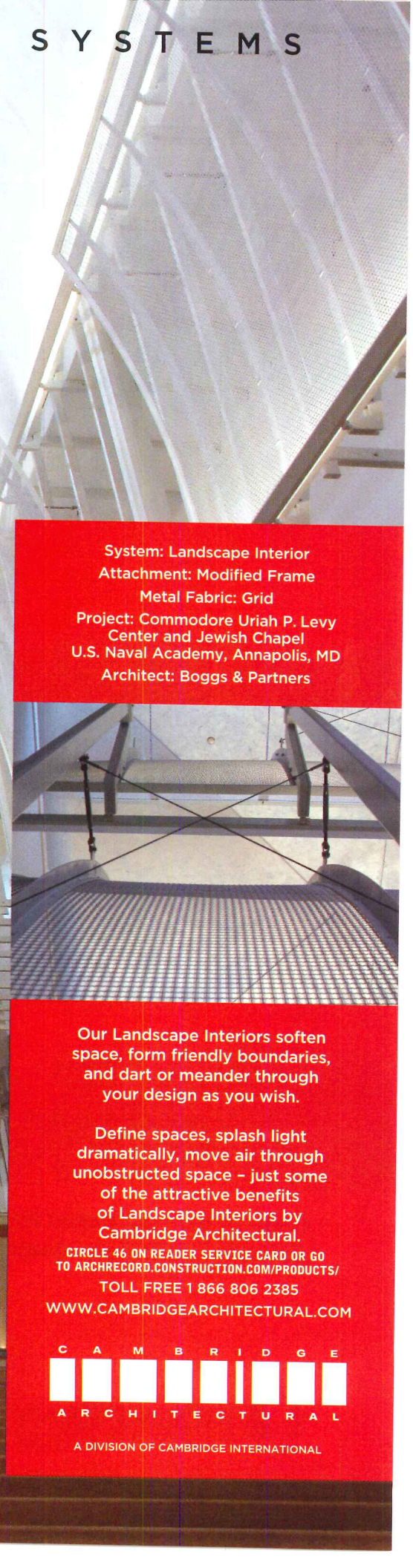
In the BOH Tea Centre, ZLG has created a dynamic building that, hovering over its almost spiritual backdrop, lends a Modern note to this historic region and the ancient drink associated with it. ■

The center's restaurant and terrace are cantilevered over the plantation's sea of tea bushes (left and prior page). Indigenous building materials, such as bamboo (bottom) and thin-cut logs (below) help anchor the building in the landscape.





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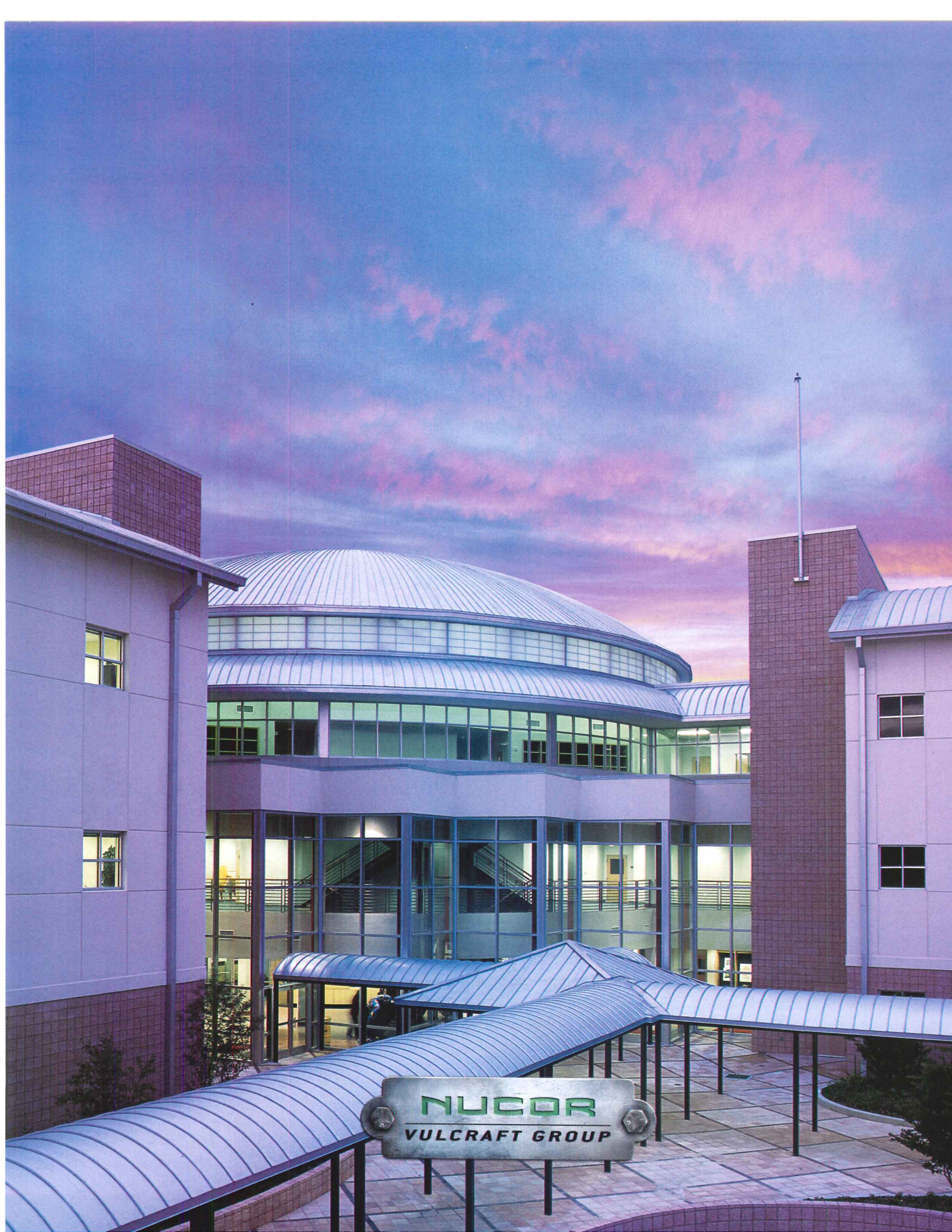


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**Fire station, Newbern, Alabama:** More sophisticated in terms of its material palette and architectural expression than earlier projects by the Rural Studio, this building points to some of the changes being made at the school under Andrew Freear. The station doubles as a city hall and a venue for community events.

Fourteen years ago, Samuel (Sambo) Mockbee, a larger-than-life, sixth-generation Mississippian, set out for dirt-poor Hale County, Alabama, with a handful of Auburn University architecture students, hoping to jump-start the reform of architectural education and architecture's priorities. Instead of theory, he offered his students at the Rural Studio hands-on learning, helping them design and build "warm, dry, and noble" houses—often of recycled, salvaged, and curious materials—for poor, primarily African-American residents. Mockbee lamented that most architects had become "house pets to the rich." He wanted to instill in students what he called "a moral sense of service to the community" and challenge "the status quo into making responsible environmental and social changes." His buildings and classes conveyed his belief that worthwhile architecture has a moral ingredient and "is interwoven with a particular culture—with people and place."

Mockbee died of leukemia at age 57 in late 2001. Three years later, he was awarded the AIA Gold Medal for his

*Contributing editor Andrea Oppenheimer Dean is the author of Proceed and Be Bold: Rural Studio After Samuel Mockbee (Princeton Architectural Press, 2005) with Timothy Hursley.*

work at the Rural Studio. By then, Andrew Freear, whom Mockbee had hired in 2000 to teach fifth-year students, had assumed the studio's helm, with codirector Bruce Lindsey, head of Auburn's architecture department. Freear, a gonzo spirit with a disciplined mind and a sophisticated aesthetic, is a product of Yorkshire, England, and of London's Architectural Association. He quickly shepherded 17 widespread projects to completion.

Once those frenetic days were over, the Rural Studio became "less Heineken, more professionalism," says architect Steve Badanes, a frequent consultant to the studio and cofounder of the design-build firm Jersey Devil. In part, the studio's evolution is a reflection of Freear's intensity and love of teaching. Mockbee, who returned home to Canton, Mississippi, every weekend, was the studio's easygoing spirit. For Freear, the studio is all-consuming, and he has insisted on continuing teaching fifth-year and graduate-level outreach students, many of whom come from other universities. Like Mockbee, he lets students discover solutions for themselves, regarding himself "as their co-conspirator and partner." His main job, he says, is to ensure that students ask the right questions. His involvement with fifth-year projects is one reason the studio's focus has shifted from the individ-

# Keeping the Spirit Alive by Moving Ahead

Four years after  
Mockbee's death,  
the Rural Studio has a  
new group of buildings  
to show off



**Toilets, Perry Lakes Park, Perry County, Alabama:** Part of a multiyear project to fix up the park, each of these three toilets offers a different view—either up or out or toward a lone tree.



**Bridge, Perry Lakes Park, Perry County, Alabama:** This 140-foot-long metal-and-cypress-covered bridge crosses a swampy lake and provides pedestrian access to the east side of the park. Engineered by Robert McGlohn, the bridge has three triangular horizontal trusses and end sections stabilized by cables anchored in concrete.

**FEATURES**

ual house (second-year students together build one a year) to community buildings, the province of thesis students who usually take on three each year.

There have been other changes. “One of the great things about Sambo,” Freear says, “was his ability to move on. I think he’d be proud that the studio hasn’t become stale.”

The newly completed fire station in Newbern, the Rural Studio’s home, showcases some characteristics of the post-Mockbee studio. You notice a shift of aesthetic: Sophistication has replaced quirkiness, and off-the-shelf materials have replaced scrappy ones. Standing on Main Street across from G.B.’s store, the post office, and a rusty hay barn the students use as a studio, the fire station is an elegant, 21st-century iteration of a barn. It is clad in pine and translucent polycarbonate, with south-facing horizontal cedar slats to provide shade in summer and admit low winter light. The interior is dominated by an exposed structure of steel-and-timber wall trusses stretched taut by heavy-gauge steel cables and metal anchors.

Because the fire station is structurally complex, Freear explains, it couldn’t be as experimental as in the early days. “You had to have an engineer involved,” he says. “You had to be grown-up.” Further, because it was to double as a city hall and a venue for community events, the building underwent careful programming, an aspect of the Mockbee era that was

sometimes less than rigorous. “We live in a very poor place,” Freear says, “so it’s our responsibility to stretch our resources and shoot for zero-maintenance structures.” One result is that the studio’s material palette has narrowed.

**Learning from buildings, not books**

There’s a lot of cedar and galvanized aluminum siding, “silver-colored things that don’t need paint,” he quips. “Sambo didn’t have a chance to learn from early projects falling to bits, but we have to fix them, and we learn from them and use them as teaching tools. We don’t have many books, but we have about 60 buildings. How do we do a gutter? A roof? An eave? What’s successful? Is it working well thermally? We have a catalog of buildings to learn from.” He adds that the studio has become serious about its legacy. “We’re landlords now. We want to set an example.”

Freear has tried, above all, to raise the level of craft. For him, that means an increased emphasis on drawing, by computer or by hand. Drawings, he insists, allow design teams to communicate better among themselves, build faster, and convey ideas better to clients. He spends hours listening to students rehearse their client presentations, conveyed in language anyone can understand. Such presentations are “a much-missed part of our educational system,” he says.

Of late, the studio has been criticized for overrun-



ning schedules, which forces students to remain in Newbern months after graduating. A suggested solution is that Auburn work out a master's degree. Meanwhile, leftover students, as they're called, soak up Freear's time and Auburn's resources. That was the case with the fire station. For one thing, the studio had to wait for donated timber to be delivered, on the donor's schedule rather than the builder's. Freear says projects would progress faster if he participated more actively in the design process, but then, he says, the students would learn less and be less invested in their work.

The studio now tackles multiyear, phased projects for the first time. An aluminum-and-cedar pavilion marked the beginning of one such project: the renovation of Perry Lakes Park, in Perry County, Hale County's neighbor to the west, in 2002. The next academic year, students added three unusual toilets, each with a different view. The cantilevered "long toilet," as it's called, is clad in stainless and cedar and focuses on a single tree. The "tall toilet" rises 40 feet and is open to the sky, and the square "mound toilet" has a horizontal slit-opening. In 2005, students completed a 140-foot-long metal-and-cypress-covered bridge that spans a bayoulike lake and makes the park's beautiful east side accessible by foot. The bridge's structure, planned with help from structural engineer Robert McGlohn, is composed of three Toblerone-shaped horizontal trusses. The end sections, sandwiching a central portion whose load is light, are cantilevered, stabilized with heavy cables, and anchored onshore in concrete. A team of students, newly certified in aerial construction, is recreating a 100-foot-high metal bird-watching tower. Another team is

finishing a cedar walkway edging the lake.

The renovation and expansion of the Rural Heritage Center in Thomaston, about 20 miles south of Newbern, marks another Rural Studio watershed, if only because of the building's size (6,000 square feet) and complexity. Many projects originate from queries by Freear to communities about buildings they need and would be willing to invest in. "If their money's in it and they need it and want it, they'll spend time and energy to raise more money," he says. "Then we put our name alongside the community's for grants." But some projects just present themselves, as did the Rural Heritage Center, with a \$190,000 grant from HUD. Freear couldn't resist.

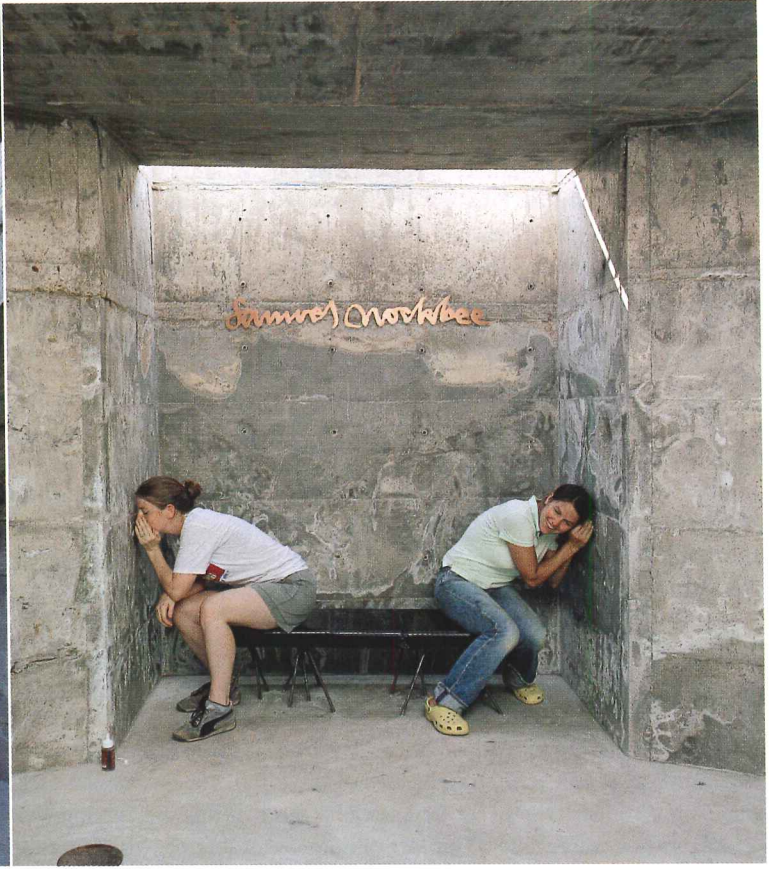
The existing building was a 1950s ugly duckling, originally used for vocational education. The studio spent the better part of the project's first year tearing down walls, sand-

**TODAY THE RURAL STUDIO IS "LESS HEINEKEN AND MORE PROFESSIONALISM," SAYS STEVE BADANES.**

blasting surfaces, and replacing windows. The students inserted a glass box for office and display space, the unconditioned area between the glass insert and the exterior wall serving as a climate buffer. The students also added a new building entrance, a director's office facing the street, a glass-walled café that will spill outdoors in warm weather, exterior cedar cladding, and a 100-foot-high identifying sign of perforated metal on vertical trusses. In front of the sign is an



Rural Heritage Center, Thomaston, Alabama: The Rural Studio took an existing 1950s building, renovated it, and expanded it to create this new facility. A 100-foot-long sign made of perforated metal set on vertical trusses gives the building a civic presence and backdrop for an outdoor performance space.



**Subrosa Pantheon, Newbern, Alabama:** A memorial to Mockbee, designed from his sketches by his daughter Carol, this structure features a meditation space entered from a tunnel and roses growing on rods above it (above left). Carol and her sister Sarah Ann whisper to each other by way of a hidden sound tube (above right).

outdoor performance space, where the local theater group staged *Steel Magnolias* last spring.

Not that the studio has abandoned the individual house. Second-year students recently completed a cedar-clad dwelling resembling a flat-roofed mountain cabin raised on piers, because it's in a flood plain. Frank Flury, the second-year instructor under whom the house was designed and built, likens it to a double-wide trailer with porches. The studio's most recent effort to create an alternative to the trailer,



**Frank's House, Masons Bend, Alabama:** Second-year students still design and build houses; this one recalls a double-wide trailer.

the region's most prevalent housing type, is "the \$20,000 house," designed last year by a group of outreach students. Another such group is at work on a second iteration with a wraparound porch.

Most moving is the recently completed Subrosa Pantheon, a memorial to Mockbee designed from his sketches by his daughter Carol. You descend through a narrow tunnel that Carol calls "a fat-man's squeeze" into a round meditation space, where secrets can be revealed under the roses—subrosa. The little building is replete with Mockbee symbology: Turtles, dear to his heart, paddle in a round pool, from which rise metal rods in the form of beaver sticks, beloved by Mockbee, his daughter explains, as the work of nature's architects. Roses will climb the metal rods, which are topped by orbs framing the constellations on the longest day of year. Carol wants to explain what it all means by writing about it on Subrosa's walls.

As for the Rural Studio's future, Freear rattles off a list of new projects: reconfiguring a 40-acre park for Greensborough, the Hale County seat; building a dog pound in Greensborough; creating a courtyard for the county hospital in the town. "Fourteen years ago, this was a bunch of students with a bushy-bearded professor who the locals all thought was loony," Freear says, "and now we're mainstream, and everyone wants a bit of what we do." ■



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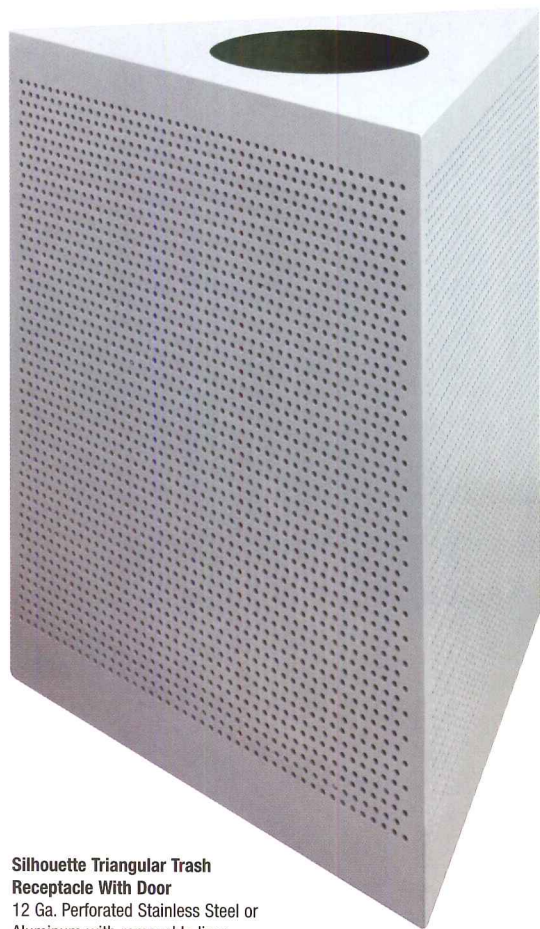
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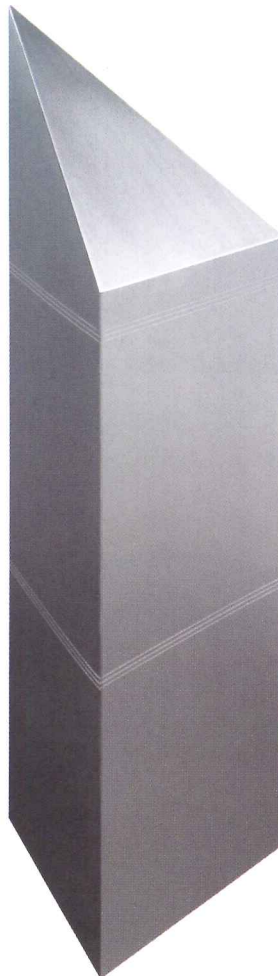
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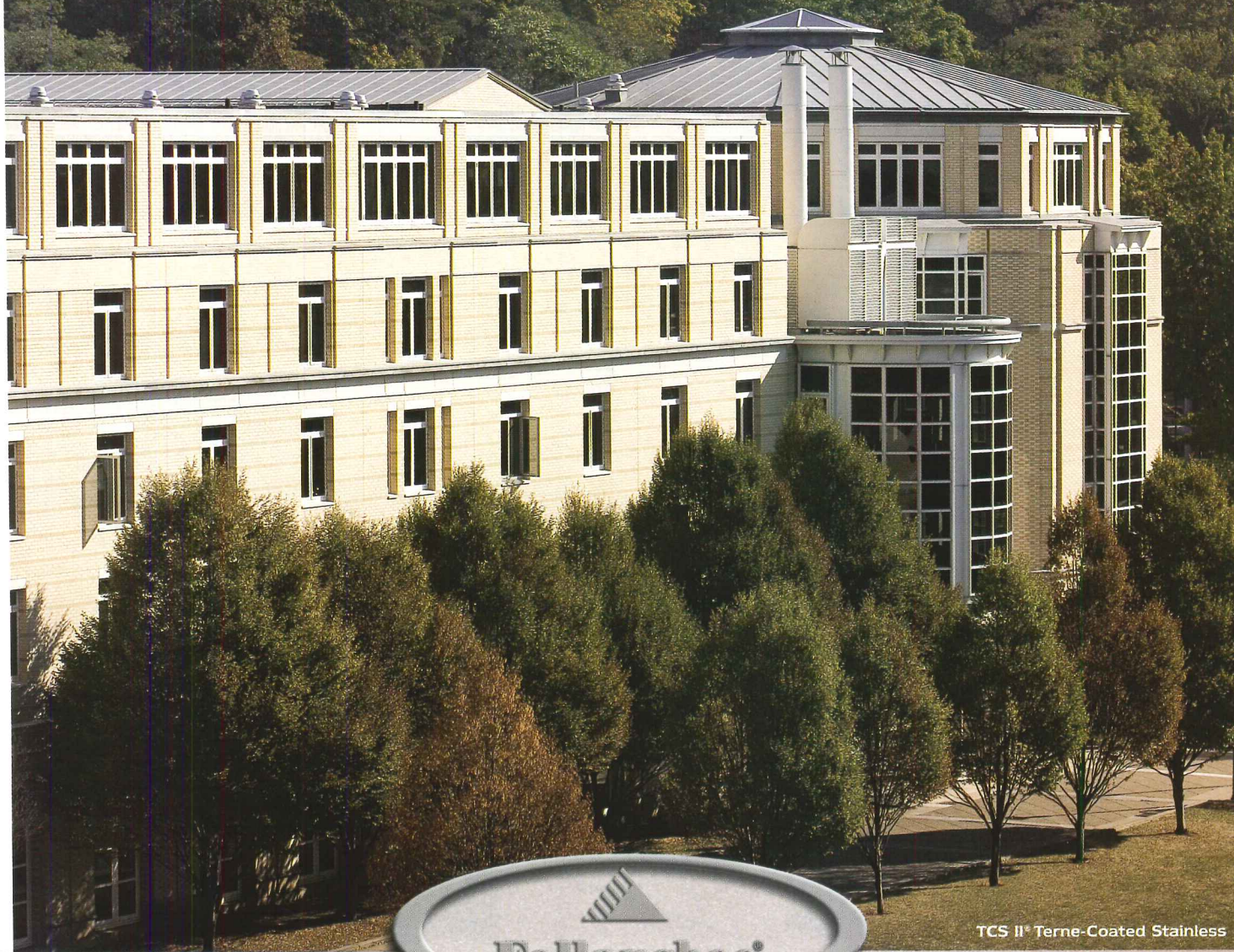
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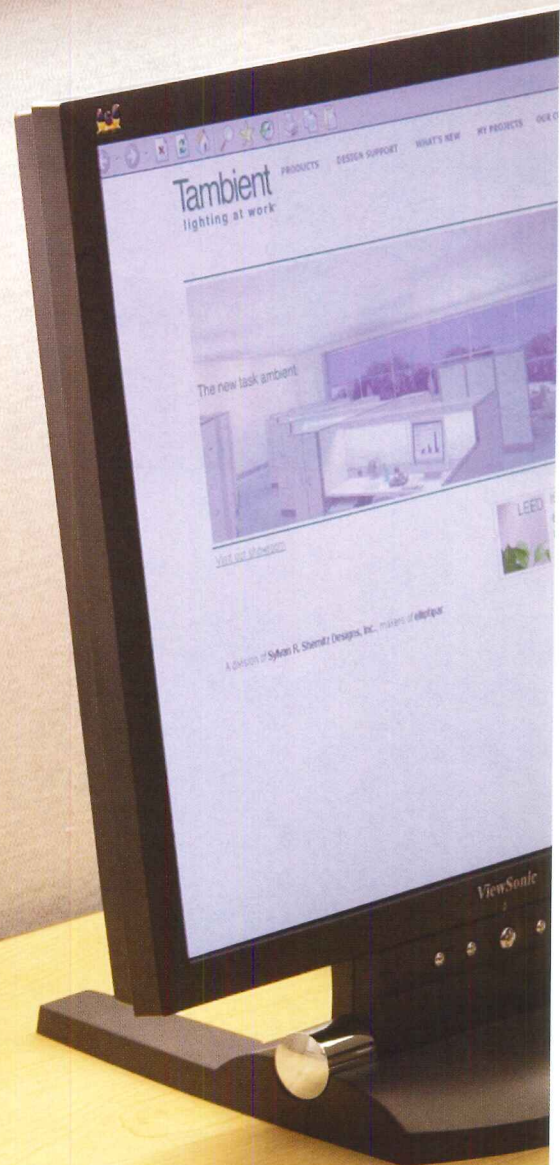
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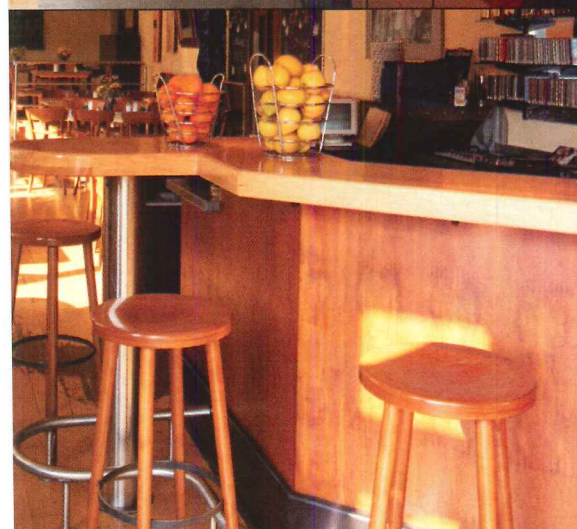
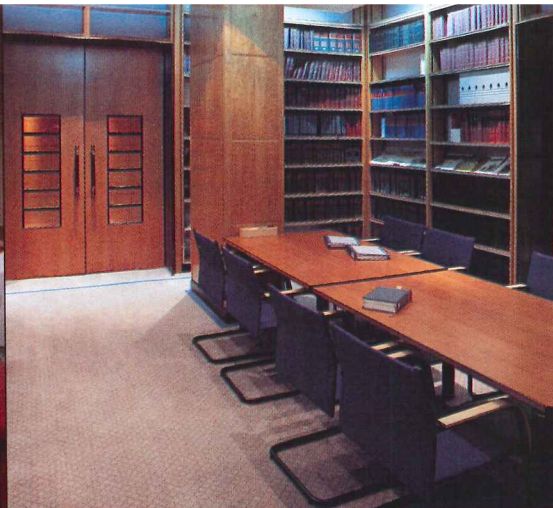
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# Suiting the site: custom fit for Way Out There

By Robert Ivy, FAIA

Few features of ARCHITECTURAL RECORD have struck a nerve as tellingly as the one published in February 2001. Entitled “Out There,” it showcased the work of a diverse group of American architects who chose to exercise their design talents outside the centers of fashion—namely, New York and Los Angeles. Spanning a broad age range and based in both the city and countryside, the featured architects seemed united in a firm determination to fulfill their visions by finding sources of inspiration and willing clients, wherever they might be. Rooted in the local landscape, topography, and culture, in the end the work could have occurred in no other place.

You have asked us for more. In the intervening five years, RECORD has scoured beyond the 50 states, canvassing the globe for work that thrives on specific locale. In this issue, we internationalize the effort, looking far outside London or Milan or Shanghai, hence the title, “Way Out There.” We hesitate to characterize the following projects as a school, since the work varies in levels of abstraction or response to site. Rather, we suggest that the projects presented here point to a world where architectural motives are fully expressed in unexpected places, and that work in South Africa or Norway’s outer reaches can inspire designs in the mega cities.

Travel with us via these buildings chosen from down the road and around the globe. It’s a big world, way out there.



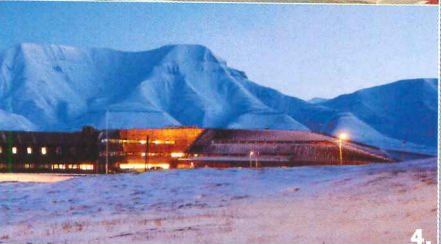
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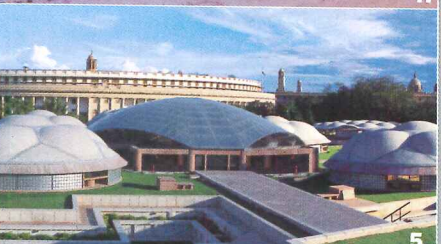
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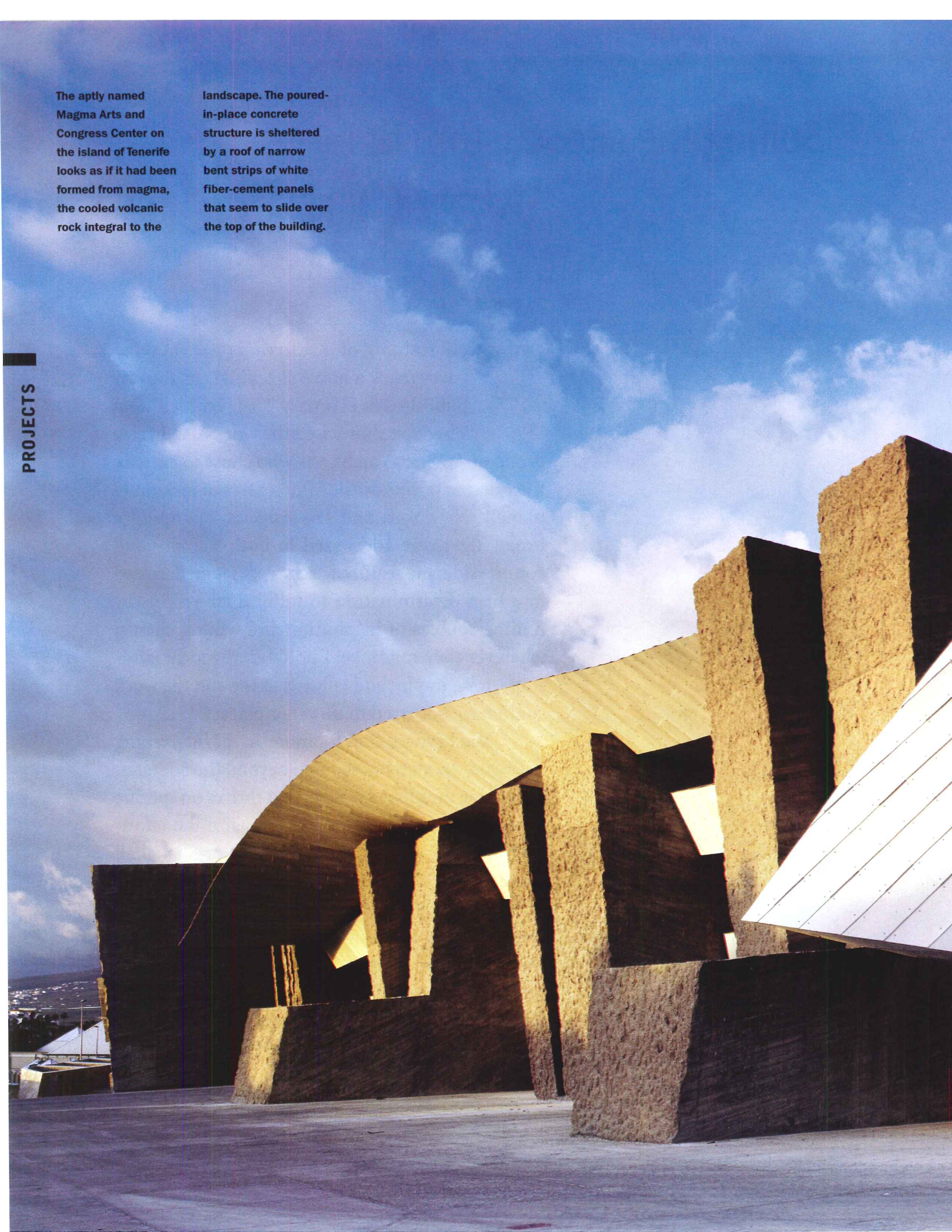
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1. Magma Arts and Congress Center
2. Red Location Museum
3. New Chancellery Building and Business School
4. Svalbard Research Centre
5. Parliament Library

PHOTOGRAPHY: © ROLAND HALBE (1); DAVID SOUTHWOOD (2); JOHN GOLLINGS (3); NILS PETTER DAHLE (4); RAJ REWAL ASSOCIATES (5)

The aptly named Magma Arts and Congress Center on the island of Tenerife looks as if it had been formed from magma, the cooled volcanic rock integral to the

landscape. The poured-in-place concrete structure is sheltered by a roof of narrow bent strips of white fiber-cement panels that seem to slide over the top of the building.



Artengo Menis Pastrana brings  
together primitive, brute forms in  
the **MAGMA ARTS AND CONGRESS CENTER** to  
create a distinctive addition to Tenerife



The Magma Center's facade is striking, with craggy, bush-hammered concrete edges. Along the southeastern corner, the jagged forms merge with the curves of the white fiber-cement roof.



The volcanic crater at the heart of the island of Tenerife is often cited by Fernando Menis, until recently of the firm Artengo Menis Pastrana Arquitectos (AMP), as a “visible force” that informs the boldly expressive design of the Magma Arts and Congress Center in the town of Adeje. Designed nine years ago by AMP and largely overseen by Menis, who has now opened his own practice, the Magma Center shares the forceful character of AMP’S first major project, the Presidency Building in Tenerife’s capital of Santa Cruz [RECORD, March 2001, page 100].

It could be argued that the recently opened center, where irregular, bush-hammered concrete volumes gather in a rough precinct under a billowing white roof, also evokes Le Corbusier’s neoprimitive, sculptural architecture at Chandigarh, or even the monoliths of Stonehenge. While exhibiting compositional sophistication and a thorough study of programmatic requirements, the work finds expressive potential in the rough creative flux and effort of the poured construction process, somewhat analogous to the conversion of molten lava into stone in the surrounding landscape.

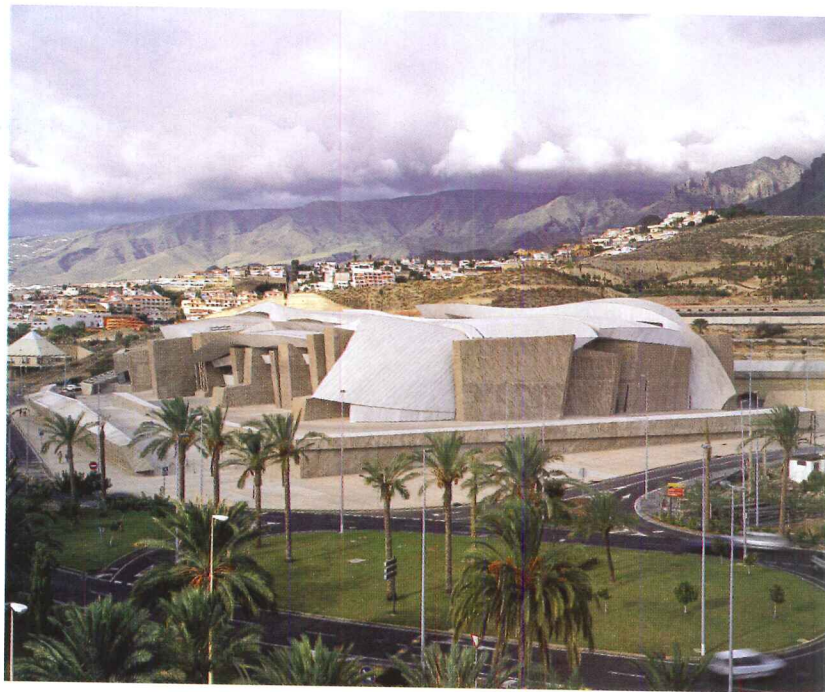
During the grueling building process, Menis worked with a small group of professionals and a tightly knit construction team, using to advantage the island’s relatively low labor costs. Other challenges, such as limited access to imported technologies and a tight budget—the final cost was \$36 million for the 240,000-square-foot facility—led to many ingenious, hands-on solutions, such as the thin strips of fiber-cement panel to clad the elaborate roof structure of steel trusses and beams.

The Magma Center is one of the first important public buildings on the recently developed southern half of the island, 45 miles from Santa Cruz, in an area dedicated almost exclusively to tourism. Although initially planned as a convention center, facilities for theater and concerts were added midway through the design, including a fully equipped fly tower. The facility is publicly financed and operated through a private concession.

To prepare for the commission, the architects adapted the American model of a single, raw, multifunctional space for convention centers rather than breaking the facility into the separate elements of a fixed-seat auditorium, an exhibition hall, and a meeting center, as is common in Spain. Menis comments, “European congress centers are completely corseted, while you can have a bicycle race in an American hall.”

Magma’s column-free, 30,000-square-foot main hall can be divided into up to nine separate rooms of different sizes, and uses movable platforms to assemble raked seating and different stages. The building’s upper floor accommodates up to 26 smaller meeting rooms. But the architects sought to distance their design from the “impersonal, shoe box” spaces of American convention halls, and made a point of including windows and clerestory natural lighting in the interiors.

The building rises on the inland edge of current coastal development, 100 feet above the sea, on a platform excavated from the island’s steep



The massive sculptural forms of concrete are mixed with *chasnera*, a compressed volcanic ash. The complex contrasts dramatically with the town of Adeje, as seen when the center is approached from the southeast (top), and from the main entrance forecourt on the southwest (above).

David Cohn is RECORD’s international correspondent based in Madrid.

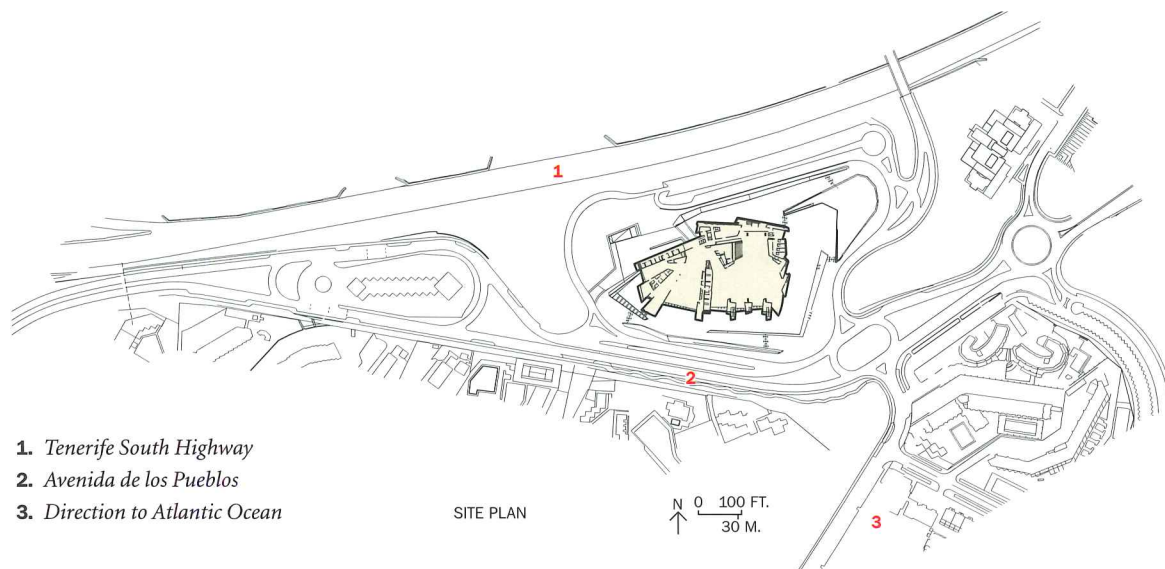
**Project:** Magma Arts and Congress Center, Adeje, Tenerife, Canary Islands, Spain

**Architects:** Artengo Menis Pastrana (AMP) Arquitectos—Fernando Menis, principal in charge of project; Felipe Artengo, Jose Maria Pastrana, principals; Esther Ceballos, Andreas Weighnacht, Ana Salinas, assistant

architects; Fernando Merino, project manager

**Engineers:** Victor Martinez Segovia (structural); Juan José Gallardo (structural, exterior spaces); Antonio Carrion, Pedro Cerda (acoustical); Milian Associates (mechanical)

**Consultants:** Andrés Pedreño, Rafael Hernández (construction)



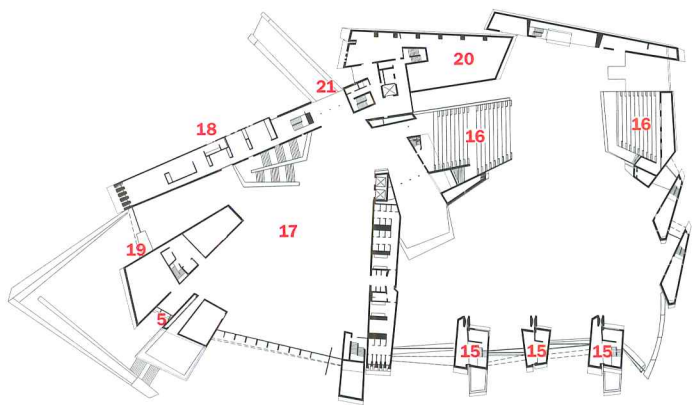
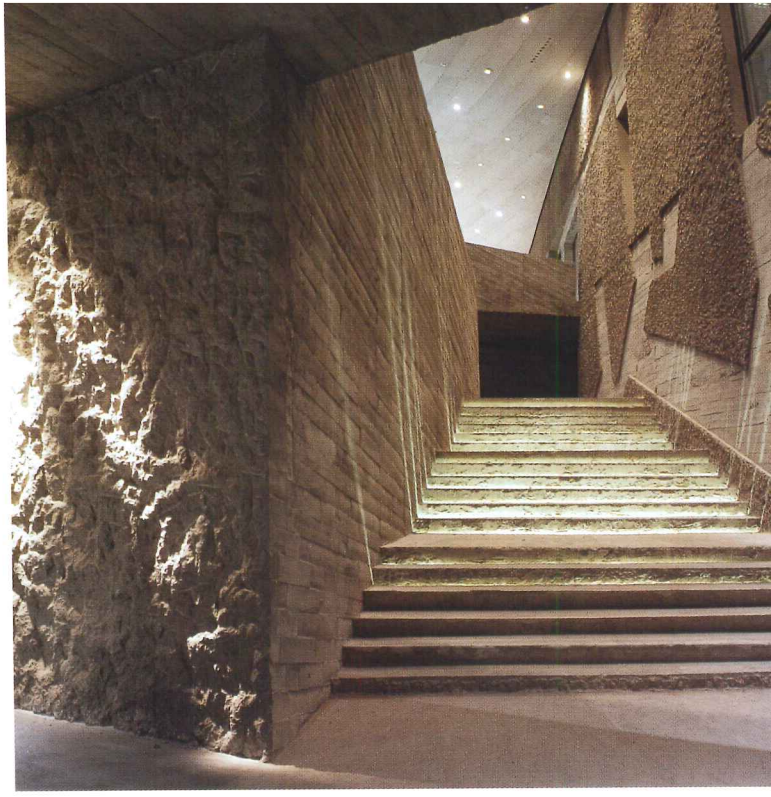
The 240,000-square-foot Magma Center occupies a 7-acre site 45 miles from Santa Cruz. The area, known as Costa Adeje, in southern Tenerife, has been developed for tourism in recent decades. Retaining walls of poured concrete guide visitors to the forecourt of the building (above), where they may enter the hall.



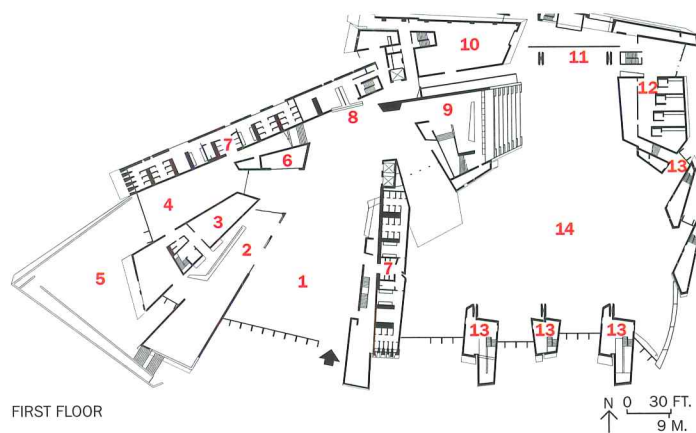
**At the rear (northeast side) of the center, the concrete walls create solid bulwarks jutting out toward the busy Tenerife South Highway (above). Fernando Menis carved angular slots for windows in**

**the thick walls that enclose the back-of-the-house functions. A bridge (below) extending from the upper level acts as a secondary entrance on the sloping site. In the distance is the Atlantic Ocean.**





SECOND FLOOR



FIRST FLOOR

- |               |                   |                        |
|---------------|-------------------|------------------------|
| 1. Lobby      | 8. Reception      | 15. Light control      |
| 2. Café       | 9. Coatroom       | 16. Grandstand seating |
| 3. Kitchen    | 10. Storage       | 17. Top hall           |
| 4. Restaurant | 11. Stage         | 18. Offices            |
| 5. Terraces   | 12. Dressing room | 19. Press office       |
| 6. Shop       | 13. Wardrobe      | 20. Technical          |
| 7. Bathrooms  | 14. Main hall     | 21. Secondary entrance |

slopes. Its principal structural elements are twelve concrete piers (some are small buildings in their own right, such as the administrative block), arranged around the interior spaces in a roughly rectangular configuration, alternating with sections of glass or fiber-cement-panel infill, their angled planes providing vivid chiaroscuro effects under the high subtropical sun.

The concrete was mixed on-site with an aggregate of *chasnera*, a sandy-colored compressed volcanic ash that blends with the exposed volcanic terrain of the surroundings. The piers support the wavy roof, which sags over the narrow ends of the building like a spongy pillow or overflowing custard, and the seemingly semicollapsed lines of the spandrels. With its rough-cut, unflashed edges, the fiber-cement roof offers a softer, weightless variation on the concrete's rich textures.

The project acquires something of the telluric force of a volcanic crater in the interiors, which are finished principally in board-formed concrete. From the street, pedestrian ramps on each side of the entry bring visitors into a protected outdoor forecourt, which can also be used for programmed activities. The spatial compression of the main lobby—wide, deep, and dark, its low ceilings broken into wide beams by theatrically lit gashes—gives way to the expansive space of the main hall, where the high clouds of the fiber-cement ceilings split to admit curving crevices of natural light, and the bare piers and walls, deeply gouged to scatter sound, surround the spectator in a chorus of solemn, primitive presences.

Furnishings and fittings are in keeping with this rough-hewn approach, and show the architects' appreciation for salvage, also seen in their other works and characteristic of an isolated island culture. Interior doors, partitions, and folding walls are finished in sheets of perforated, galvanized steel. Menis used leftover fiber-cement panels and other materials for some furniture. Local artist Juan Gopar created wall sconces from fluorescent tubes wrapped in plastic sheeting and hung on grids of rebar. Elsewhere, the local theater director and teacher Carlos Belda installed budget spotlights clamped to sections of used plumbing pipe, and Menis set a surplus exterior street light behind the main stair to create a "fountain of light."

Intricate calculations were needed to coordinate the interior acoustical shape of the ceilings, the depth needed for beams spanning up to 230 feet, and the final exterior forms. Although the architects had limited means available, they tackled these complexities with resourcefulness. For





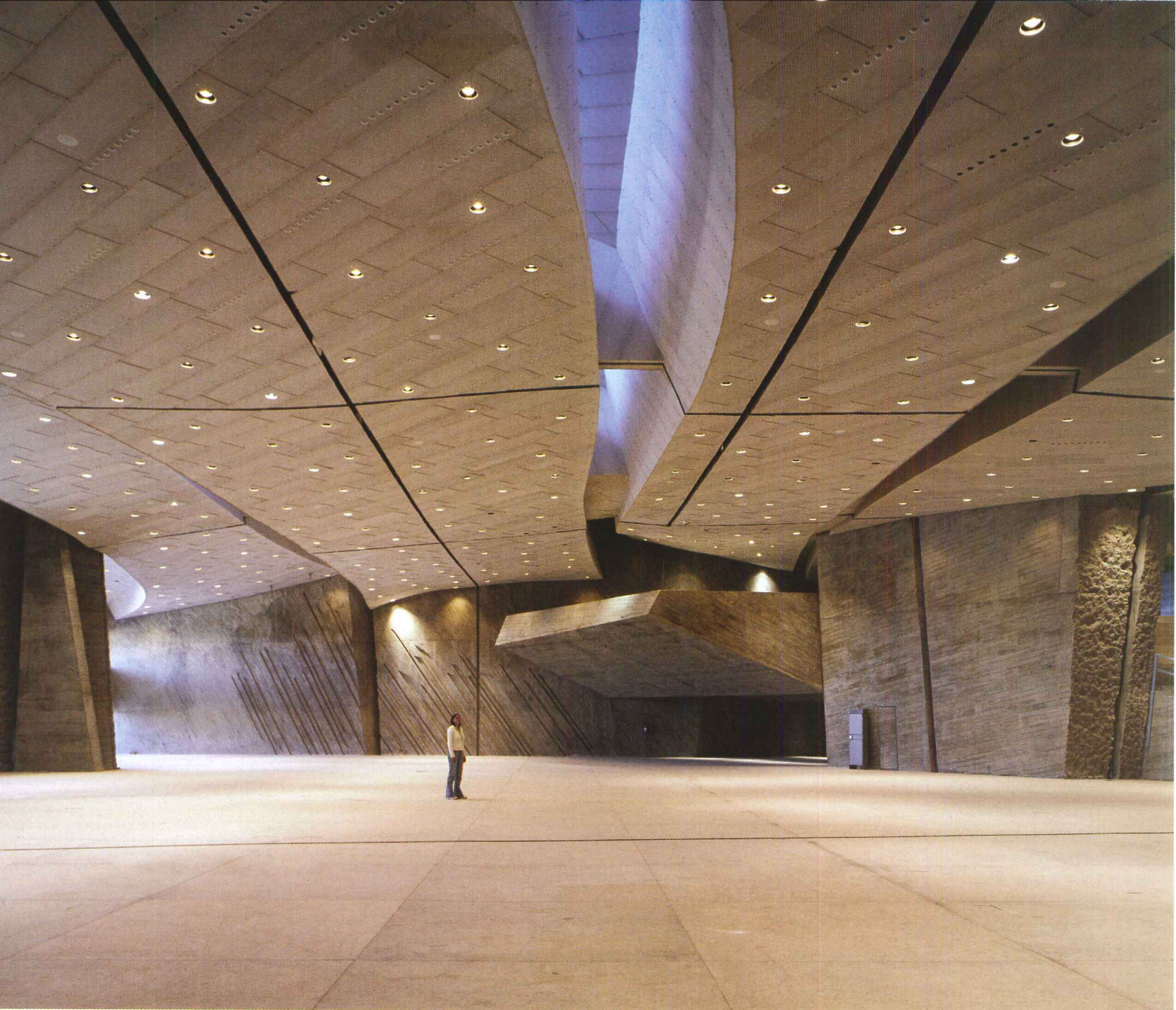
The main stair is a theatrical tour-de-force, owing to the board-formed concrete and dramatic lighting. Visitors ascend the main stair leading from the reception area (opposite, right) on the first floor to the top hall (left and opposite, left). The top hall's ponderous ceiling (below) is created from fiber-cement panels mounted on steel trusses, beams, and framing elements.





The spatial compression of the low-ceilinged, craggy-walled entrance lobby (above) contrasts impressively with the double-height main convention hall (opposite). The steplike seating in the main hall (right) is used for concerts and conferences. Auditorium seats can be bolted into place for an audience of 300.





example, they began with a primitive mechanical “scanning” of a model made of papier-mâché and sand molds, and refined the process over more than a year. They were aided in their endeavors by students from the Madrid School of Architecture, along with AMP’s engineers, and the use of KATIA, the only design program capable of resolving the roof’s irregular curves into smooth planar surfaces.

The fiber-cement panels employed for the roof and other surfaces had never been used in curvature before. It required special sealants for the 75,000 screw holes that penetrate it, and custom fasteners adaptable to its double condition of roof and facade infill; for these, the architects adapted acoustic vibration dampers that also permit movement, an application they have patented. Flashing is hidden below the surface, while trench gutters prevent rainwater from spilling over its edges. Chilled air, acoustic insulation, and the guide rails for the custom acoustic partitions of the halls are incorporated in the roof’s interior spaces.

The fact that the architects had to resort to KATIA, the aerospace design program that Frank Gehry used to design the Guggenheim Museum

in Bilbao, is a reminder that the project is clearly a part of the post-Guggenheim landscape, with its fascinating formal possibilities. But while Gehry’s coiling titanium is light and crystalline in its reflective hardness, here in Tenerife form becomes soft, bland, dense—heavy with the labor of its making and of supporting its own weight. The Magma’s forms are solids in a semiturgid state of flux, like the ice of a moving glacier—a hardening lava flow or a sheet of red-hot steel in the mill, caught in the moment of metamorphosis that reveals the magic, vital force at the heart of making things. ■

#### Sources

**Cement fiber roofing and acoustical ceilings:** *Naturvex*  
**Floor and wall tile:** *Parray*  
**Paints and stains:** *Julio Crespo*  
**Office furniture:** *Unifor; Wilkahn*  
**Fixed seating:** *Alis*  
**Chairs and tables:** *Kusch*

**Upholstery:** *Kvadrat*

**Other furniture:** *Moroso*

**Task lighting:** *Philips-Pacific*

**Exterior lighting:** *Philips-Norka*

For more information on this project, go to Projects at

[www.archrecord.com](http://www.archrecord.com).



**A sawtooth roof (above) recalls industrial buildings in the area and the role of labor in the antiapartheid movement. A large entry trellis (below) serves as a public space for the community.**



# Noero Wolff Architects commemorates the struggle against apartheid at the **RED LOCATION MUSEUM** in South Africa

By Lisa Findley

Rising above the ragtag roofs of nearby shacks and concrete-block houses, the imposing Red Location Museum provides a vivid contrast to the bleak landscape of the former black township of New Brighton, South Africa. Located 400 miles east of Cape Town, just outside Port Elizabeth, New Brighton sits in the shadow of factories and a giant power plant and pushes hard against the multiple tracks of a busy railway line. Since the dismantling of apartheid in 1994, the community has struggled to make the transition from a 100-year-old segregated township for underpaid laborers into a real town with previously unthinkable assets, such as decent housing, modern infrastructure, a wide array of businesses, diversified transportation options, and civic institutions. The museum is a vital part of this transformation.

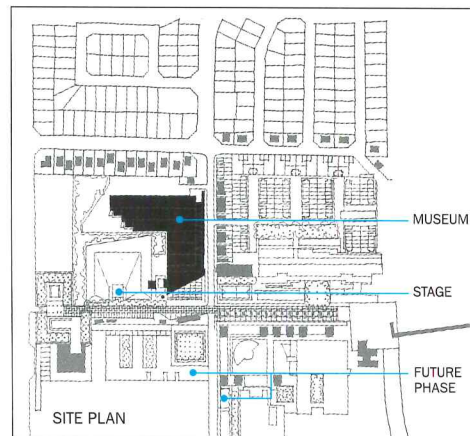
The Red Location Museum emerged from a national competition in 1998 for the design of a civic precinct. Each entrant prepared a master plan that included a museum dedicated to the struggle against apartheid, an arts center and gallery, a market, a library, a community hall, and some housing—in the township's oldest neighborhood, called Red Location for the color of the corrugated-iron siding used on its oldest houses.

Noero Wolff Architects, a small, Cape Town-based firm with a record of inventive projects in the townships, won the competition with a scheme that was both dignified and lively. The 31,500-square-foot museum, with its adjacent outdoor amphitheater, is the first major building from the master plan to be completed, with the others to be done by 2010. The museum serves as the soul of the new precinct. In the drawn-out struggle against racism and apartheid, the citizens of New Brighton were early and dedicated participants in civil disobedience, boycotts, and even antiapartheid violence, and much of this activity took place in Red Location. The museum honors the people involved in this struggle by telling their stories to visitors from the community and around the world.

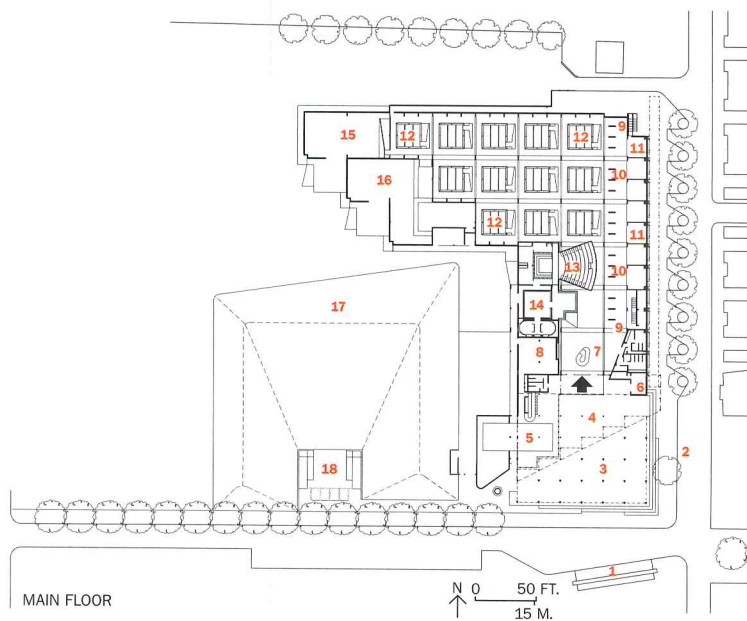
Contributing editor Lisa Findley is the author of *Building Change: Architecture, Politics and Cultural Agency* (2005), which includes the Red Location Museum.

**Project:** The Red Location Museum, New Brighton, South Africa  
**Architect:** Noero Wolff Architects—Jo Noero, Heinrich Wolff, Robert McGiven  
**Associate architect:** John Blair Architects

**Engineers:** de Villiers & Hulme (structural, civil); C.A. duToit (electrical, mechanical)  
**General contractors:** Alfdav Construction, in association with SBT Construction



The museum sits within a poor township struggling to change (above). The cultural complex includes an outdoor stage/movie screen separated from the main building by a grassy amphitheater (top). Future development will include arts facilities and housing.



- 1. Taxi stand
- 2. Bus stop
- 3. Public square
- 4. Covered porch
- 5. Restaurant
- 6. Museum shop
- 7. Reception
- 8. Kitchen
- 9. Column of Heroes
- 10. Time-line walk
- 11. Temporary exhibits
- 12. Memory box
- 13. Auditorium
- 14. Memorial
- 15. Art gallery
- 16. Storage/archives
- 17. Amphitheater
- 18. Movie screen/stage

The architects broke the east facade (above) into segments and gave it a more diminutive roof so it would relate to the housing they had designed across the street.



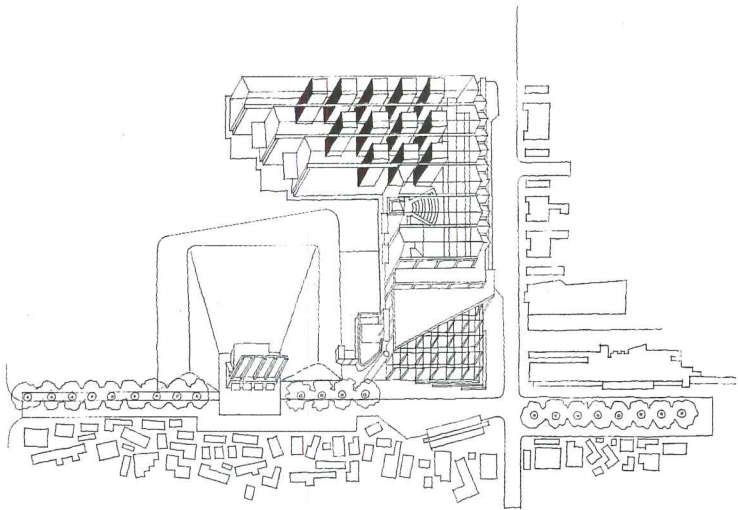


Although much larger and more imposing than the shacks and concrete-block houses nearby, the museum reaches out to its neighbors with a large entry terrace shaded

by a trellis (above). A glassed-in restaurant on the west portion of the terrace and an adjacent beer garden (not seen) welcome the community and make the building more

accessible. Because blacks and “coloreds” were barred from visiting cultural facilities during apartheid, local residents had little or no experience with these institutions.

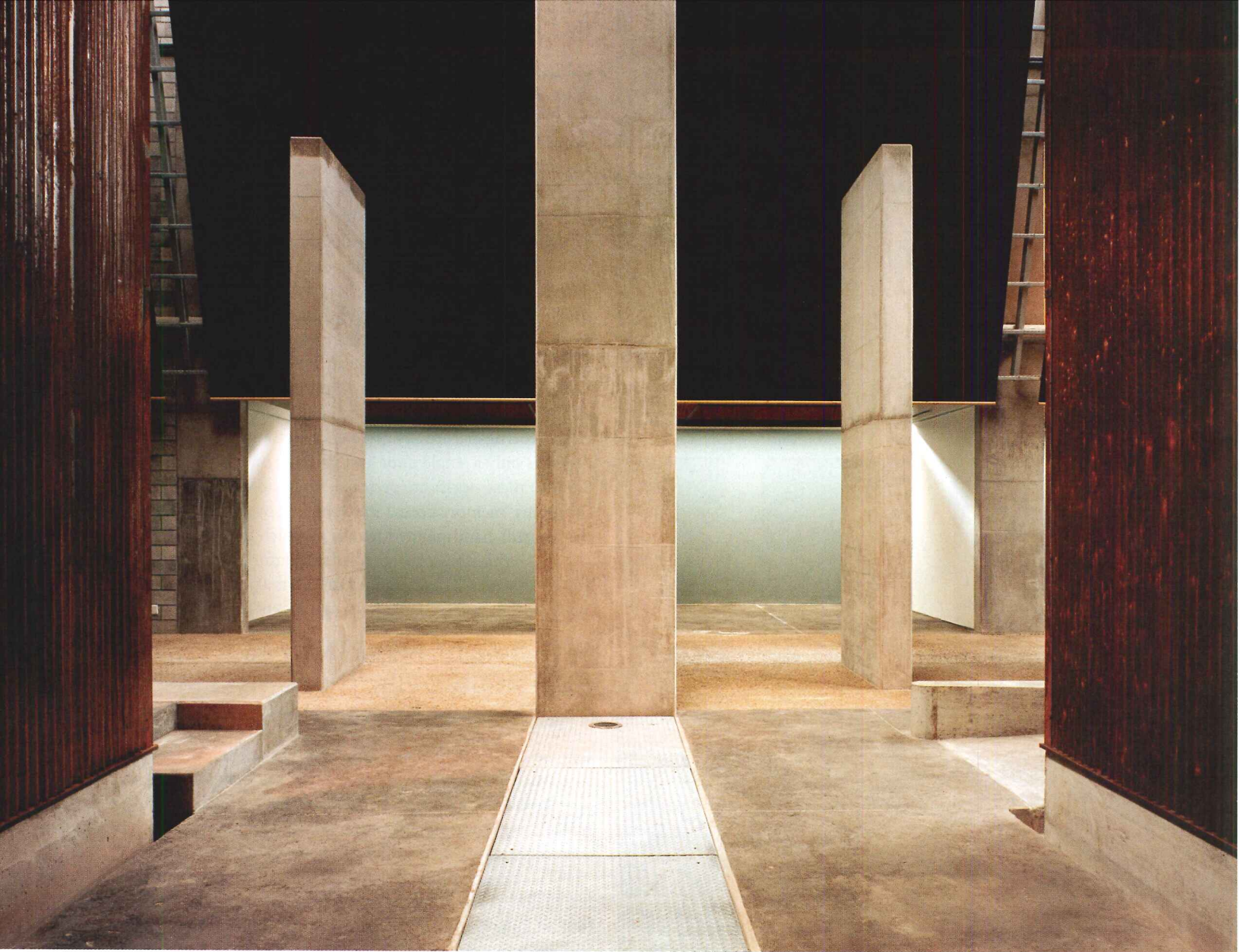




Telephone poles bundled together support the entry trellis (right). An outdoor screen also serves as a stage (top). Materials are tough yet expressive (opposite).







This history and context meant that the architects confronted two exceptional problems in the design of the museum—finding an appropriate architectural language and a way of choreographing multiple stories.

Under apartheid, black and “colored” people were forbidden to visit museums, libraries, and other cultural buildings, except as employees, entering through the back door. As a result, such buildings have little positive resonance with the people of New Brighton. So Jo Noero and Heinrich Wolff had to invent a different kind of architecture, one that would be approachable and meaningful to people with no direct experience of museums. They developed a robust, though refined, industrial aesthetic for the museum, creating a huge, singular volume enclosed by a concrete frame in-filled with concrete block. A sawtooth roof echoes the forms found in the manufacturing zone across the train tracks while also honoring the antiapartheid movement’s history of organizing in factory settings. The resulting architecture is simultaneously familiar and fresh.

To create the Red Location Museum, Noero Wolff reconceived common factory construction, then made sure the structure was elegantly built. The fine detailing of the concrete block, corrugated-iron sheeting, and plaster panels elevates and celebrates the ordinary materials the people of the township have always salvaged for use in their houses. At the community’s insistence, the contractor employed a closely supervised and

carefully trained rotating labor pool drawn from the township.

Designing such a massive building in the midst of the township’s domestic scale was a bold move. While the museum’s size and blank walls could easily have overwhelmed daily life in the neighborhood, Noero Wolff carefully stepped down the scale and humanized the two edges of the building that meet pedestrians and the street.

At the entry, a generous terrace sits a few steps above the sidewalk, welcoming people with a wooden trellis supported on a grid of columns made of telephone poles bundled together with heavy wire. This

## **NOERO AND WOLFF HAD TO INVENT AN ARCHITECTURAL LANGUAGE APPROPRIATE FOR TELLING THE STORIES OF APARTHEID.**

rough detailing brings to mind the resourcefulness of township residents who often piece together found materials to make their homes. Closer to the museum’s front door, the columns become concrete, thinner and taller, and a corrugated-iron roof extends overhead. Emphasizing the public nature of the building, the architects created a glassed-in restaurant on one side of the entry doors and a gift shop. With its columns and shaded space, the terrace is both a formal entry to the museum and a



public square where vendors can display their wares, visitors gather, and celebrations take place.

On the long east side of the building, Noero Wolff attached a two-story bar with administrative offices, a library, and meeting rooms on the second floor and temporary exhibition galleries below. Smaller in scale than the main volume of the museum, it helps the building relate to its residential neighbors, and its smaller saw-tooth roof matches that of the experimental housing Noero Wolff designed in 1999 across the street.

In contrast to the bright, clear South African sunlight, the architects treated the museum interiors as a realm of shadow and mystery. After moving past a spacious entry hall, visitors encounter the entry to the tombs of two of New Brighton's most honored antiapartheid activists and a small, galvanized-steel-clad theater. Beyond these, Noero Wolff designed a vast space dimly lit from sawtooth skylights 36 feet above. A dozen, 15-foot-square rooms stand as sentinels in the space. Encased in rusted corrugated iron—a reference to the old Red Location houses—each has only a single door and presents one perspective on apartheid. Some of these stories are personal, some are thematic. The architects call the rooms “memory boxes,” the term used by migrant African laborers for the colorful, hand-painted trunks in which they keep their possessions.

While the boxes are filled with information—most of it disturbing—the great hall in which they sit asserts a powerful sense of silence. It is a place of contemplation between episodes of harsh, sometimes contradic-

## FREEDOM OF MOVEMENT IS A PROFOUND EXPERIENCE FOR THOSE WHO SUFFERED THE RESTRICTIONS OF APARTHEID.

tory views of apartheid. It is also a place of tension where visitors are not sure what reality they will confront in the next memory box. “During apartheid, there was this weird daily normalcy,” says Noero. “But it was a fragile cover for the underlying tension and sense of impending doom that was everywhere. One never knew what would happen next.”

Noero Wolff's design makes an intriguing contribution to the international debate on the nature of museums that take on humanity's darkest episodes. Most South Africans acknowledge there is no single truth about apartheid, only myriad perspectives. So instead of funneling visitors through a single narrative history, the grid of memory boxes lets the array of discrete stories accumulate, like memory, into a fragmented, imperfect sense of the past. The freedom of movement and choice of engagement offers a profound experience for those who suffered through the decades of pass laws that stipulated where nonwhite South Africans could be and when.

Emerging from the museum's twilight interior, the visitor encounters once again the life of the town: laundry fluttering on improvised drying lines, teenagers hanging out, and children using the new bus shelter as a jungle gym. Their laughter brings home the underlying story of this first piece of civic architecture in New Brighton: These children have been born into a nonracist democracy. Their future was secured by the unrelenting sacrifices of their parents and grandparents. Through its architecture, the Red Location Museum contains and conveys this simultaneously somber and joyful truth. ■

### Sources

**Galvanized structural steel:**

*Mittal Steel*

**Concrete block:** *Deranco Blocks*

**Timber flooring:** *Tsitsikamma Pine*

**Honed slate tiles:** *Mazista*

**Painted timber paneling:** *Supawood*

For more information on this project, go to Projects at

[www.archrecord.com](http://www.archrecord.com).

Along the eastern side of the museum, the architects created an impressive time-line walk bordered on one side by concrete slabs dedicated to heroes of the fight against apartheid (top). Lighting through-

out the museum was designed by Mannie Manim and ranges from somber areas for contemplation to brighter ones, such as the entry lobby, gift shop, main circulation spaces, and the auditorium and stage (above).

A grid of 12 tall rooms stand as somber containers inside the museum. Each of these 15-foot-square "memory boxes" presents a different perspective on apartheid, so together they show that history contains many different views.

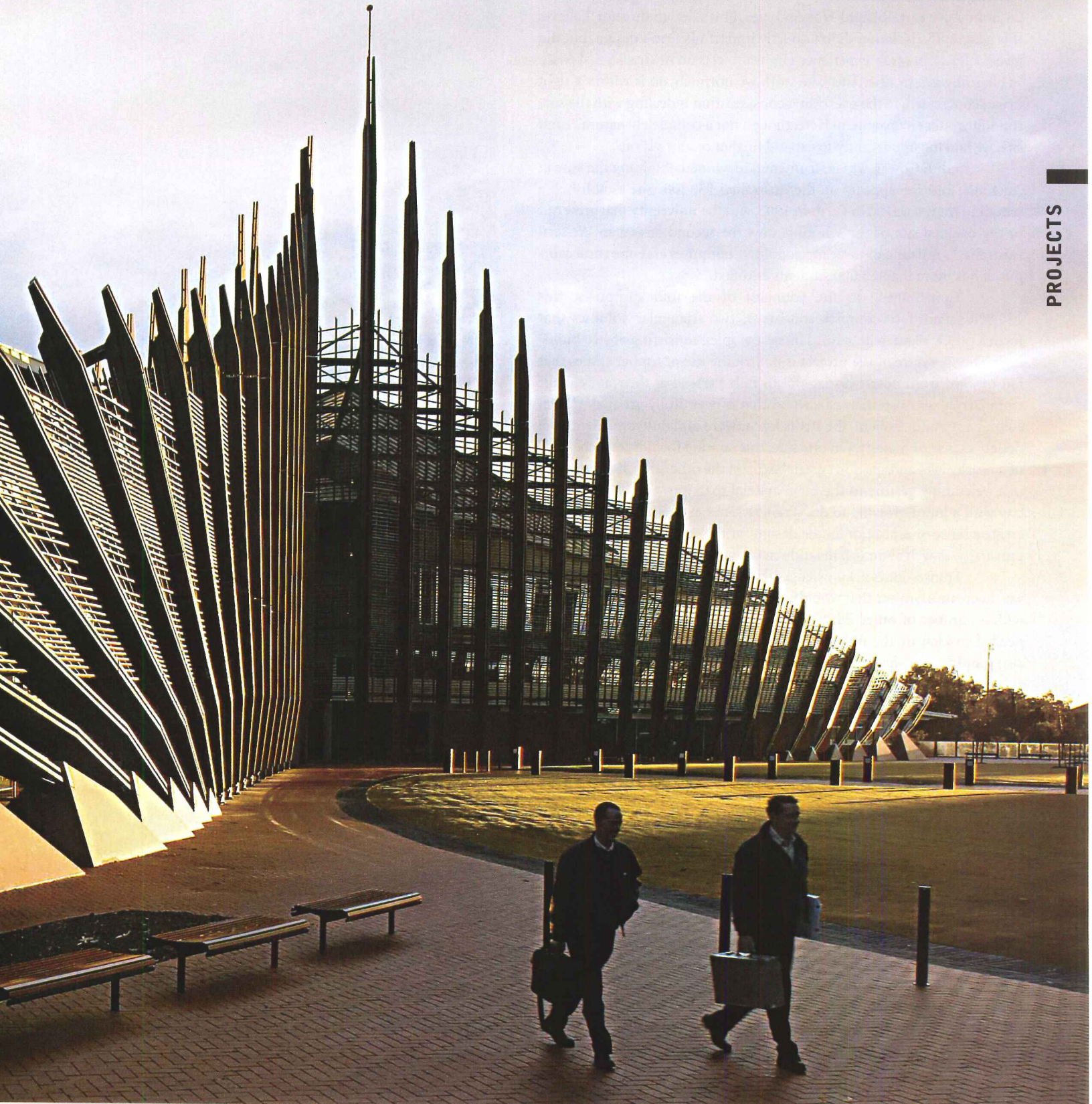


The signature design element of the project is a screen made of timber spines that fan upward from nearly horizontal to fully vertical, which frames the

split form of the chancellery building. Made from indigenous jarrah wood, it creates a striking entry to the campus and an iconic statement for the city altogether.



With its thorny reptilian crown, **fjmt's** new  
**CHANCELLERY BUILDING AND  
BUSINESS SCHOOL** puts the Joondalup campus  
of Edith Cowan University on the map



By Christopher Moore

Sitting atop a prominent hill in the Perth suburb of Joondalup, Australia, this university facility, designed by Francis-Jones Morehen Thorp (fjmt), in collaboration with Hassell as associate architect, peeks above the treetops like a crown. Inspired by the native xanthorrhoea plant, a grass tree common in Perth, these four buildings house the school of business, the vice chancellor's offices, and the administrative center for Edith Cowan University's Joondalup campus.

One of the most remote cities on Earth, Perth sits on the far western coast of Australia. The nearest city of significant population is a 28-hour drive east. Richard Francis-Jones, fjmt's design director, believes this geographic isolation didn't directly impact his firm's design, but did give it a freedom rarely experienced in its projects on Australia's east coast. "This really is a frontier site. The work we normally do is within a tight urban context where the overriding consideration is dealing with the surrounding built environment. Here, though not a completely natural, rural site, we had the opportunity to expand further on our vision."

Edith Cowan was instrumental in women obtaining the vote in Australia, and she appears on the Australian \$50 bill. She established a school to train teachers in Perth in 1902, and the university that grew out of the original site of the school is now the second largest in Western Australia. Consisting of three metropolitan campuses and one rural campus, it has more than 23,000 students enrolled.

Contributing to the youngest of the four campuses, this 150,000-square-foot complex consists of two triangular volumes that form a public plaza, with a third linear complex consisting of two buildings. The signature of the project is its striking use of timber spines that fan upward from nearly horizontal to fully vertical at their apex. Built from jarrah, an Australian hardwood that is beautifully grained, rich in color, hardy, and resilient, the struts fan upward and outward, giving the design a sense of majesty. On one side, this curving form frames the vista of a nearby lake and spacious green lawn; on the other side, it opens wide in a welcoming gesture to the main arterial road into the city. "This is a city with a lot of growing to do," Francis-Jones explains. "We wanted to create a sense of aspiration in the design for the staff and students of the university, as well as an urban landmark for the city."

Francis-Jones acknowledges that part of the program for the site was to create a project that would anchor the university. "As was the case with a number of other Edith Cowan University campuses, Joondalup needed to identify the university within the academic community and also stand for the values and vision of the school. Beyond that, there was a desire for a broader civic role for the city of Joondalup."

Like most of the materials used in the building, the jarrah timber is native to this part of Australia. Using paired laminated spines made of jarrah, the architect crafted a screen with I-beam-looking columns, connected to I-beam-styled outriggers in the floor and roof planes. The batten screen

*Christopher Moore is a Melbourne-based design and architecture writer and a regular contributor to Houses, the Australian contemporary residential magazine.*

**Project:** New Chancellery Building and Business School, Edith Cowan University, Joondalup, Australia  
**Architect:** fjmt—Richard Francis-Jones, David Haseler, Elizabeth Carpenter, Lance White, Justin Wong, Jason Wedesweiler, Olivia Shih, Johnathan Redman, Matthew Todd, design team

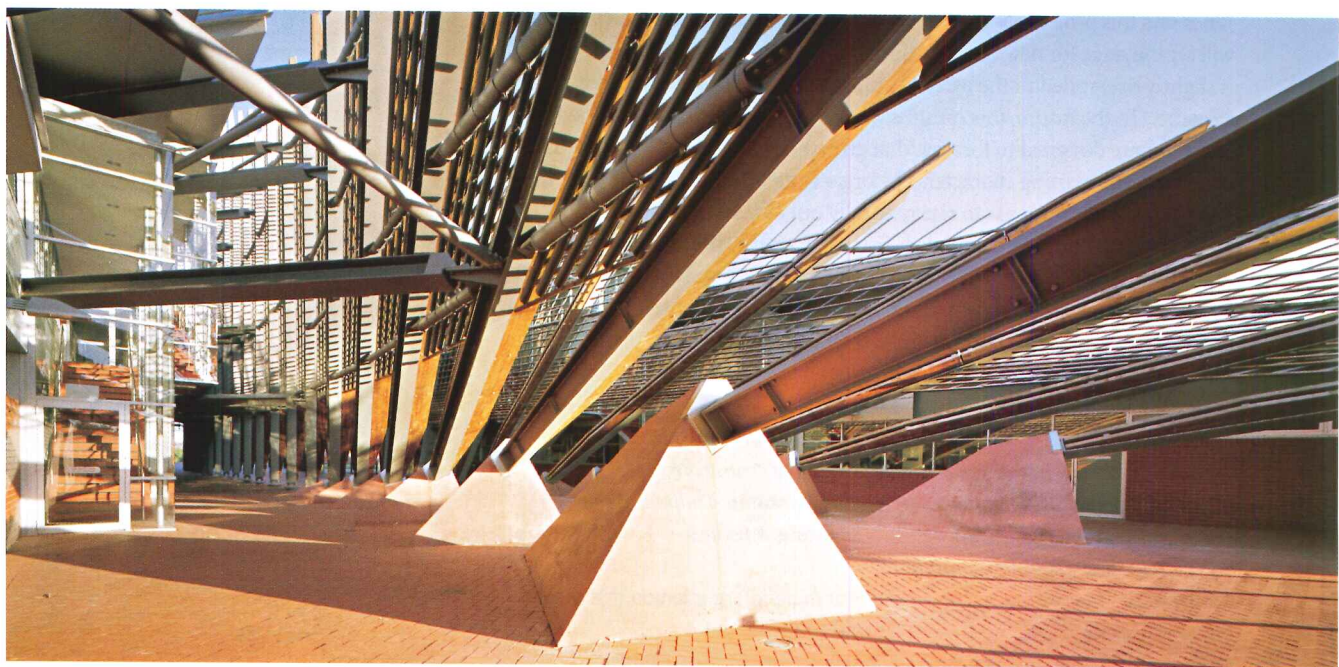
**Associate architect:** Hassell  
**Engineer:** Bruechle Gilchrist & Evans (structural); BCA (mechanical)  
**Consultants:** Engineering Technology Consultants (electrical and lift); MEL Consultants (wind); Arup Fire (fire) RC Oma Design Services (hydraulic)



PHOTOGRAPHY: © JOHN GOLLINGS



A dramatic entry plaza fronts the four-building complex (above). The mesh screen establishes a pedestrian zone for circulation (right). Bleacher seating and a lawn create a gathering area in front of the business school (opposite, bottom).



that meshes these spines together is made from recycled jarrah, cut from railway ties, connected to galvanized and painted Z-sections. The tapered ends of the jarrah members are proportional to their overall length, thus conveying a subtle, secondary arc along the top and bottom of the facade.

The jarrah struts are not simply decorative, but in fact “they form a colonnade at ground level and create shading for the internal spaces, as well as reduce glare from the buildings themselves,” Francis-Jones explains. “They create an interstitial space between them and the two buildings they face: the triangular vice chancellor’s building and the administrative building.” The architects place circulation in the space between the timber screen and the main foyer. Stairways and elevators in this shaded zone open to the view, creating informal meeting places in the atrium and drawing occupants to the outside as they move between the floors and wings of the building. The two buildings behind the struts are joined by a glass bridge.

Internally, the fit-out is simple, with an emphasis on function. Francis-Jones describes the interiors as “materially warm with modest detailing.” The palette of colors and finishes reflects the browns and oranges predominant in the nearby desert.

The four volumes that make up the complex are all three stories high, with the elongated business school buildings rising up from the hill behind them and stepping down toward the lawn of the plaza. This terraced section serves as a gathering place for students having lunch, as well as bleacher seating for outdoor events. “When the completed buildings were opened to the public, the university held an opening and the crowds filled the terraces, which have become extensions of the lawn area,” explains the architect.

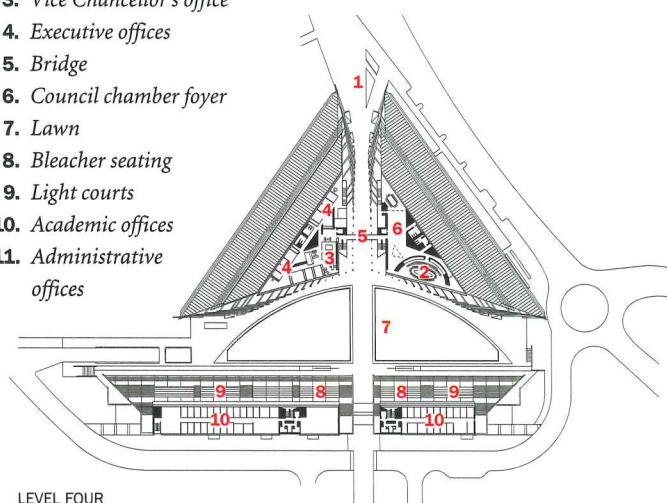
The reinforced concrete frame of the structures primarily utilizes prestressed slabs with steel framing on the first level and steel roof framing throughout the project. The design incorporates an outdoor gathering space, a café, a bookstore, and underground parking for 200 automobiles, as well as the administrative offices for the campus, lecture theaters for the school of business, a gallery, and a space designated for hosting university functions. The architecture integrates building services so the designed form and open spaces are not affected by infrastructural clutter. For example, fumes from car exhaust in the underground car-park are disposed inconspicuously via flues that rise alongside the chancellery building elevator shafts.

The new complex is surrounded by a handful of older university buildings whose vintage stretches back to the early 20th century. Francis-Jones says this project has transformed the master plan for the university and will set the stage for new construction in the coming years. While the project is slightly overscaled to the existing context of buildings, it indicates what is to come. “In the future, this campus will be of a much higher density. These buildings are designed to forecast that growth, while retaining a sense of the landscape and existing character. The organic forms of the architecture have been developed to appear to rise naturally out of the landscape itself.”

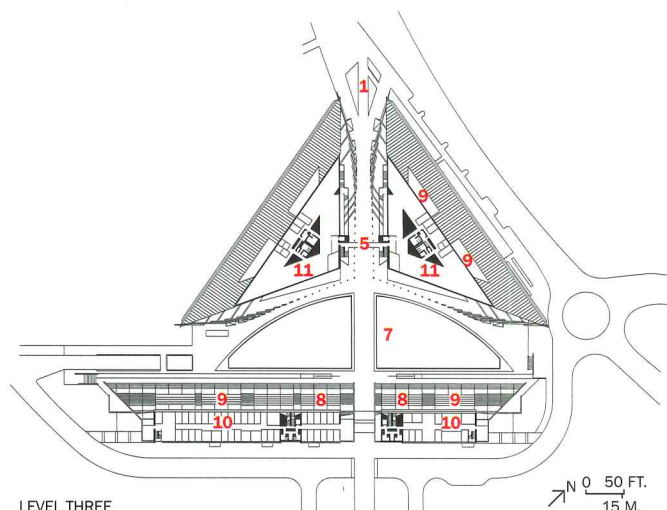
Driving into Joondalup from the south, the striking forms of the jarrah screen offer a bold and confident greeting. It bodes well for a city that Francis-Jones rightly states “has a lot of growing to do.” With this campus as a fulcrum for that growth, the seed has been planted both intellectually and architecturally. ■



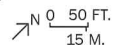
1. Entry plaza
2. Council chamber
3. Vice Chancellor's office
4. Executive offices
5. Bridge
6. Council chamber foyer
7. Lawn
8. Bleacher seating
9. Light courts
10. Academic offices
11. Administrative offices



LEVEL FOUR



LEVEL THREE



#### Sources

**Exterior cladding:** Midland brick  
**Metal curtain wall:** Symonite  
**Metal roofing:** Bluescope Steel  
**Windows/doors:** Capral Aluminum  
**Hardware:** Lockwood  
**Closers:** Dorma  
**Pulls:** Dalco

**Cabinet hardware:** Hafele  
**Ceilings:** Armstrong  
**Paints/stains:** Dulux Ferreko  
**Lighting:** Austube

For more information on this project, go to Projects at [www.archrecord.com](http://www.archrecord.com).



An aerial view, overlooking the chancellery, academic building, and campus illustrates the dramatic scale created by the complex (opposite). The jarrah struts form a screen that reduces glare from the buildings themselves and creates an inviting colonnade at ground level (right).



Built to withstand hardship, the exterior skin of the building appears as an "anorak"—a continuous skin in which the walls and roof are undifferentiated and drape the faceted surfaces of the form (inset, right).





**Jarmund/Vigsnæs Architects** designed the **SVALBARD RESEARCH CENTRE** so it glows like a faceted ship in the arctic night

By Peter MacKeith

**I**n old Norse, *svalbard* means “the land of the cold coasts.” Standing on the meteorologists’ observation deck atop the copper-sheathed research center of the University of Svalbard in arctic Norway, those coastlines, the vastness of the northern polar sky, and the sheer dark and cold of the December polar night, are immediately apparent to the visitor to this arctic archipelago at 78 degrees north latitude. The Aurora Borealis, source of myth and subject of research, is close at hand.

Svalbard’s remote location and extreme environmental condi-

*Peter MacKeith, a permanent resident of Finland, is associate dean of architecture at the Sam Fox School of Design & Visual Arts, Washington University in St. Louis. He writes frequently on Nordic architecture.*

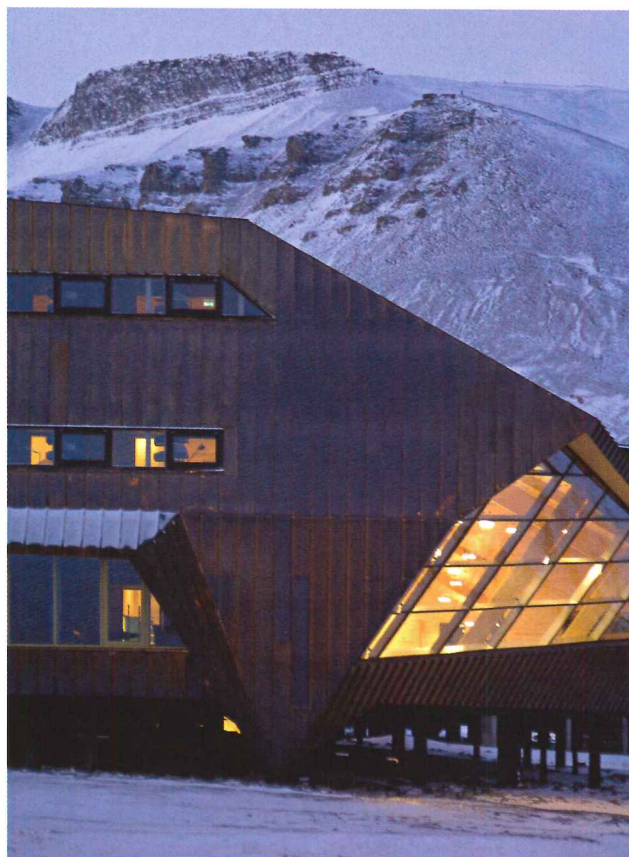
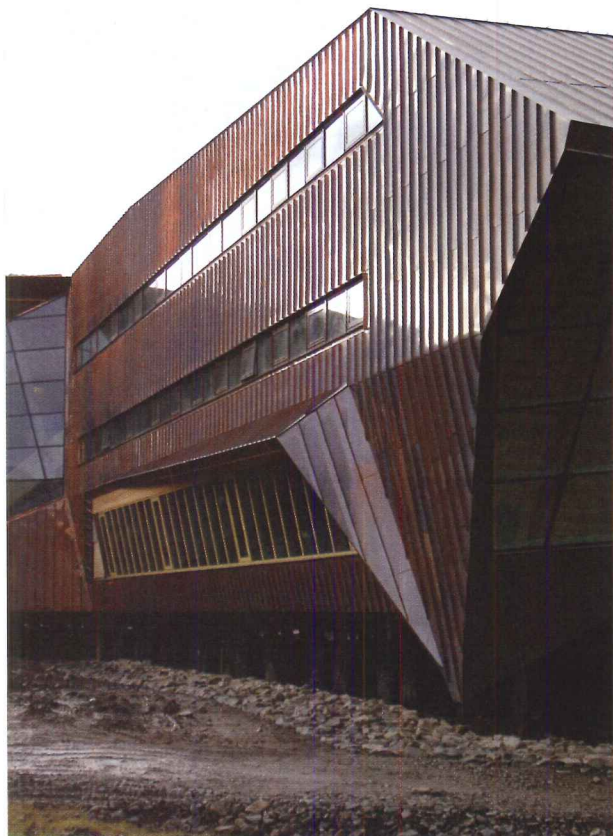
**Project:** Svalbard Research Centre, Longyearbyen, Svalbard, Norway

**Owner:** Statsbygg/Directorate of Public Construction and Property

**Architects:** Jarmund/Vigsnæs

**Architects—**Einar Jarmund, Håkon Vigsnæs, Alessandra Kosberg

**Engineers:** Frederiksen (structural); Monstad (electrical); Erichsen & Horgen (mechanical)



The faceted, canted surfaces of the building and its elevation above the permafrost are responses to the cold, wind, and drifting snow that characterize much of Svalbard's weather. Tested in a wind tunnel, the volumes of the structure reduce wind loads, lessen thermal exchange, and deflect the build-up of snow drifts (this page and opposite).



tions present not only a daunting habitat for humans but pose a fundamental, definitive question: Can one make an architecture here that goes beyond shelter or direct industrial use? Svalbard's stark setting positions architecture at its radical limits in nature—literally its degree zero of conception and expression—and in this clarifying context, any architectural decision must have an absolute value.

Oslo-based architects Jarmund/Vignæs designed the research facility, known as the Svalbard Research Centre, keeping in mind that “every commission should be unique with reference to its site and circumstances.” Their words resound in the faceted, glowing character of the building. Sited on the shores of the Advent Fjord in Longyearbyen, Svalbard's administrative center, the 91,500-square-foot complex expands an existing facility to accommodate a rapidly growing international faculty, staff, and student body, and to incorporate new museum spaces for the Svalbard History Museum.

Under the building's central “knot” of massive laminated spruce beams supporting the roof of the museum's exhibition hall, exhibits demonstrate the often tragic history of human inhabitation in the harsh arctic environment. Discovered by the Dutch explorer Willem Barents in 1596, the archipelago was occupied by hunters of many nations for 300 years, before coal mining operations began in 1906. Despite its sublime beauty, Svalbard's isolation—it is four hours by plane from Oslo—its six-month polar night, and intense cold and wind are constant conditions. And, too, there are territorial polar bears.

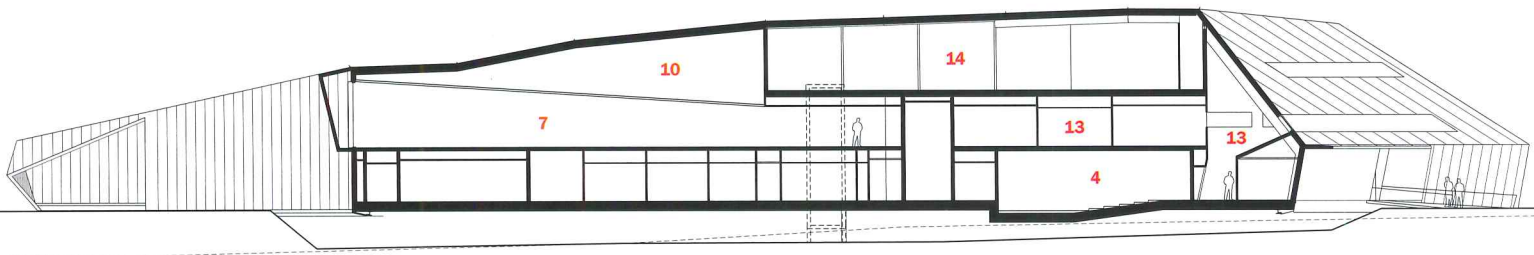
The immense north-facing glazed aperture of the building's spruce-paneled central atrium literally expresses the center's mission to

observe and explore the arctic environment. Such a climate places an absolute premium on light, thermal control, and durability. Spruce-clad corridors radiate out from the atrium and its adjacent public auditorium, providing access to the faculty offices, laboratories, and classrooms for 300 students and 50 staff in four departments of arctic study—biology, geology, geophysics, and technology. Each corridor terminates in the research community's shared resources and gathering spaces: a research library, a dining facility (in the renovated portion of the earlier structure), large machine shops and storage areas, and the publicly accessible

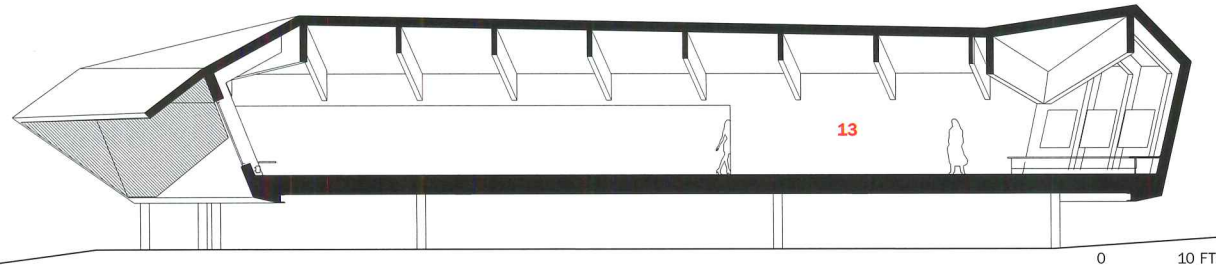
## **HERE, THE SIX-MONTH POLAR NIGHT AND INTENSE COLD AND WIND ARE CONSTANTS. SO, TOO, ARE THE POLAR BEARS.**

Svalbard History Museum exhibition hall. The separation of the program into thinner volumes or limbs (the body analogy is clear from an aerial view) produces the combined benefits of clear circulation and optimal natural light.

In its external forms and internal planning, Jarmund/Vignæs's faceted and canted scheme suggests that performance and purpose constitute essential attributes of design, while historical or cultural meanings are secondary. When applied to the research center's unique set of circumstances, this methodology informed every aspect of the design process, as applied to site and context, choice of foundation, external cladding, the composition of plan and section, entrances, views, and light. It also informed the proportion of public or social space to private space,



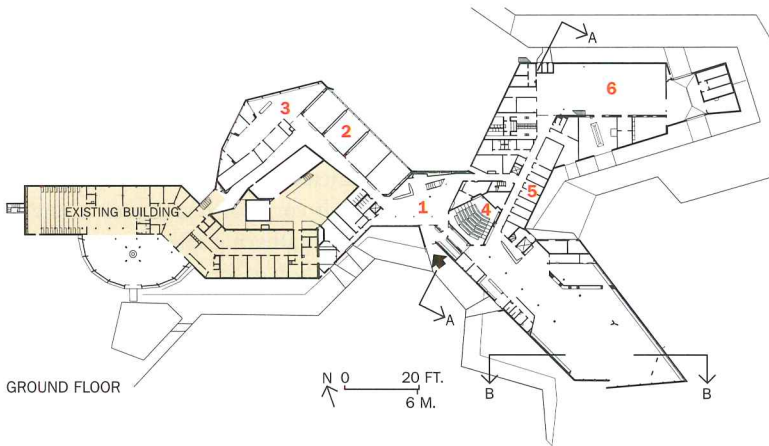
SECTION A-A



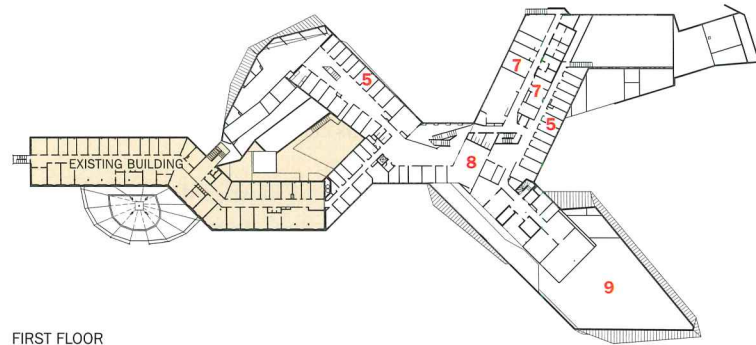
SECTION B-B

A stairway opens into one of the canted, pine-clad corridors, which feature slotted paneling on the ceiling to provide ventilation (opposite, top). A north-faced glazed wall brings light into the central stair hall (opposite, bottom).

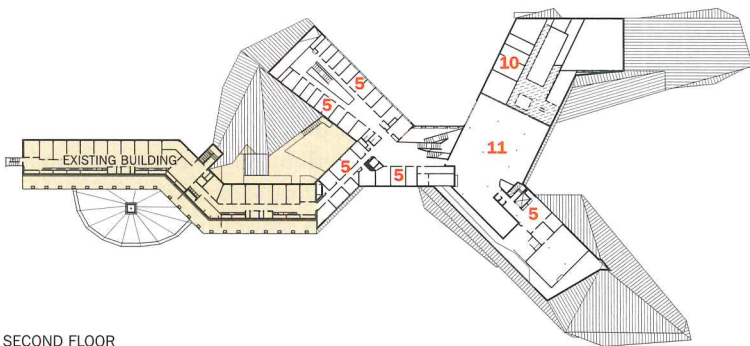
- |               |                       |                                    |
|---------------|-----------------------|------------------------------------|
| 1. Reception  | 6. Storage            | 11. Ventilation                    |
| 2. Classrooms | 7. Laboratories       | 12. Rooftop platform for equipment |
| 3. Library    | 8. Computer lab       | 13. Museum                         |
| 4. Auditorium | 9. Historical archive | 14. Technical rooms                |
| 5. Offices    | 10. Technical "loft"  |                                    |



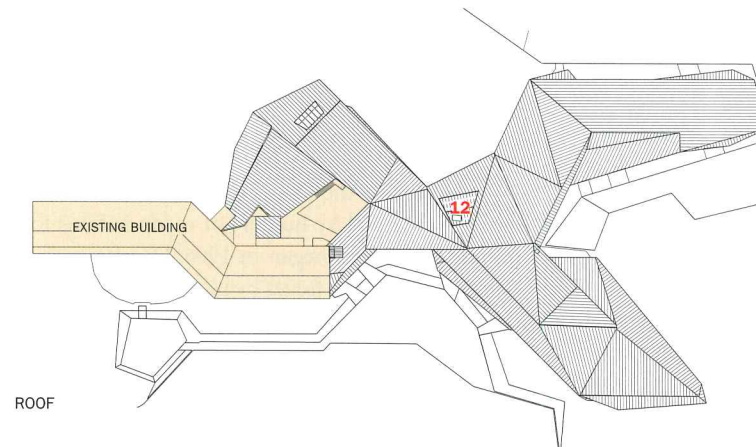
GROUND FLOOR



FIRST FLOOR



SECOND FLOOR



ROOF



and the choice of interior finishes and furnishings. As Håkon Vignæs describes it, “[The building] is an attempt to create an architecture totally suited to its setting, both mentally and physically.”

Clearly the faceted forms of the complex reflect Svalbard’s mountainous landscape and distant ocean sweep. Indeed, the sheer scale of the program and the dispersed character of the local community argued, in the architects’ eyes, for its reference to be to the larger scales and forms of the landscape. But the angles and cants of its exterior formations just as equally derive from the specific, even scientific, environmental facts of wind patterns, snow drifts, solar angles, and permafrost conditions, rather than from a simplistic, preconceived idea of an “artificial landscape.”

The tectonic complement to these environmental responses is the productive use of the constructed space in between—between the wings of the building, the rooms and walls, a ceiling and roof, a floor and a ceiling. The architects exploited this spatial “in between” at every scale of operation. For example, they suspended the mass of the building above the permafrost on 250 steel stilts (driven 36 feet into the ground). They differentiated programmatic elements into a multiwinged footprint, which results in shaping external courtyards as well interior spaces. The architects compressed numerous offices and laboratories into efficient short runs, and provided generously proportioned corridors and gathering areas. Lastly, and importantly, the designers neatly sandwiched mechanical systems inside interior partitions, and employed a ventilated roof construction with a thin outer membrane of standing-seam copper sheeting and a thicker inner ceiling of spruce paneling.



The Svalbard Research Centre's design, isolated on its arctic island, had to contend with material and production limits and conditions at every turn. All building products had to be transported to the site by ship, and construction had to proceed during dramatic climate and light changes. Fabrication techniques were a central element in design development, requiring the highest standards for performance.

Shaped by climate, light (and its absence), material resources, and our own perceptions of the arctic latitudes' regional character, the center denotes an architecture of true North, as a contemporary incarnation of Kenneth Frampton's argument for a "critical regionalism." Frampton believed that such an architecture would be found in the "interstices" of contemporary civilization. This project, at the edge of our conventional maps, is surely in a unique position, although the need for expanding the facility and the increase in tourism on Svalbard will put the project's isolation to the test.

The Svalbard Research Centre exemplifies research into design that performs at every scale, attentive to the essential dictates of climate, light, material resources, and human character. Here, the architect has achieved an architecture of absolute value and fierce beauty. ■

**Sources**

**Structural system:** Skanska

**Copper roofing:** Freitag

**Aluminum windows/doors:** Daaland

**Hardware:** TrioVing

**Elevators/escalators:** Kone

**Plumbing:** Mora

**Lighting:** Fagerhult; Glamox; Trilox

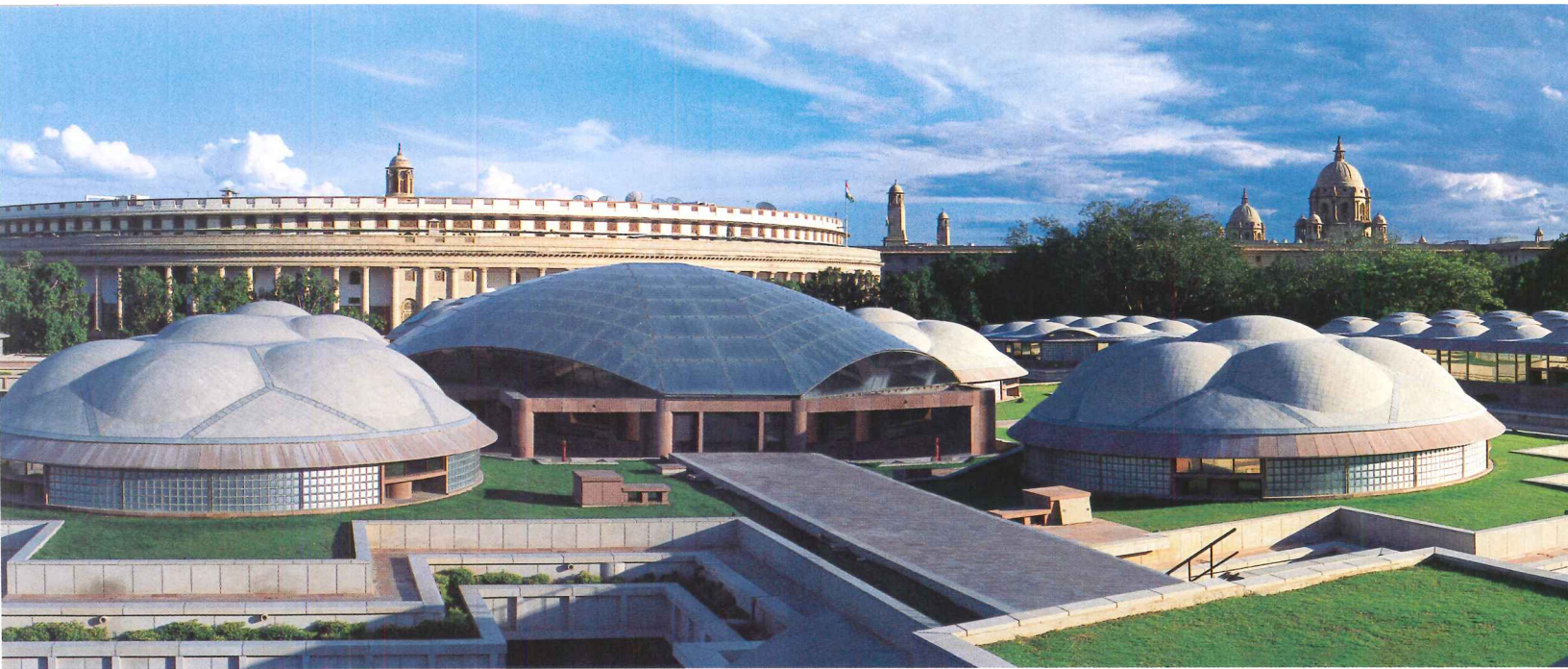
For more information on this project, go to Projects at

[www.archrecord.com](http://www.archrecord.com).

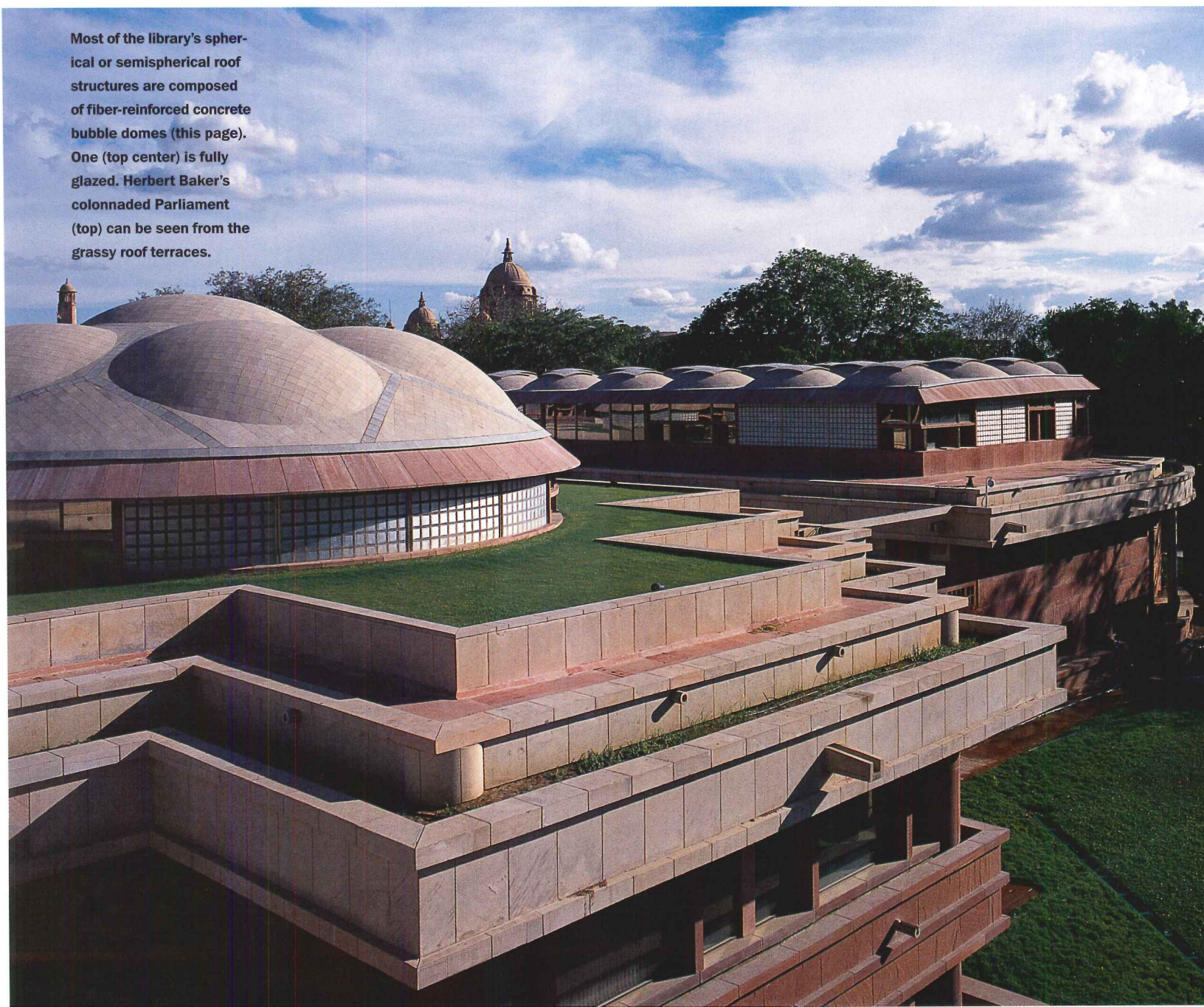


A central stair hall connects all three levels of the research center (this page and opposite, top) Enlarged windowsills form seating in the hallways outside the classrooms (opposite, bottom).





Most of the library's spherical or semispherical roof structures are composed of fiber-reinforced concrete bubble domes (this page). One (top center) is fully glazed. Herbert Baker's colonnaded Parliament (top) can be seen from the grassy roof terraces.



# Raj Rewal Associates combines traditional and modern forms to create an original scheme for India's **PARLIAMENT LIBRARY** in New Delhi

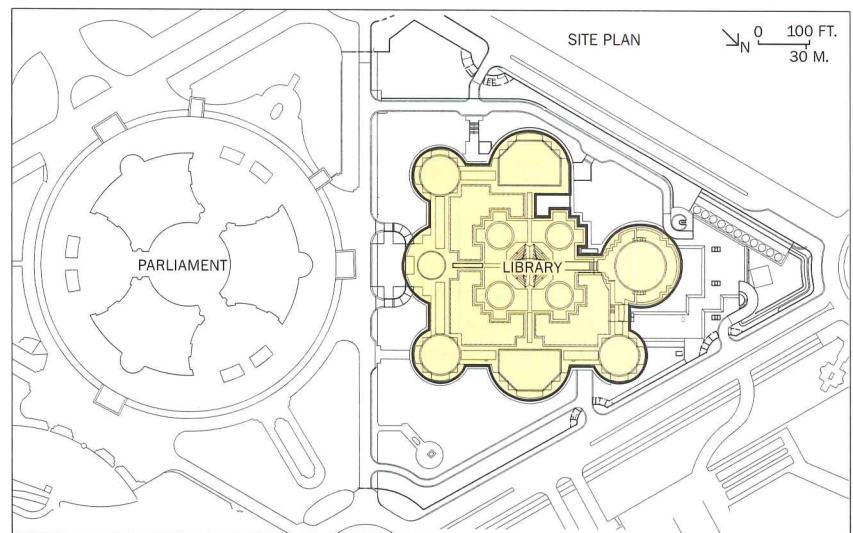
By Sam Lubell

**R**aj Rewal's Parliament Library, located in the heart of Sir Edwin Lutyens's and Herbert Baker's colonial New Delhi, is a hugely important project for India. This is especially true at a time when the country is rapidly developing its industrial and information-technology sectors. Not only does the library furnish vital research and meeting capabilities for the government, but its architecture attempts to establish an Indian identity within the once British imperial capital. The circular and rectilinear geometries of its plan, forms, materials, and decorative motifs recall the architectural patrimony of Hindu, Jain, and Buddhist temples more directly than buildings by the early-20th-century British architects.

Since the library was designed by an Indian, who is adapting traditional forms to modern technology and functions for the symbolically important site, Rewal's conscientious endeavor is very much a statement about the direction architecture should take here. Most new architecture in the country is not based on Indian tradition, Rewal argues, but is rootless, and if anything obsessed with novelty, or, at the other end of the stylistic spectrum, ends up being a "silly historical pastiche."

One of India's most established architects, Rewal has completed several important projects in this city, including the World Bank Regional Mission (1993) and a campus for the National Institute of Immunology (1988). But this \$45 million, 590,000-square-foot complex appears by far to be the high point of his career. It took more than a dozen years to realize: In 1991 Rewal won the commission for the much-needed addition to India's Parliament—a Classical-style building designed by Baker in 1927. The program for the sprawling library called for offices, meeting rooms, and study spaces for members of the Indian legislature. As a major state building, it needed to express grandeur and solidity, but as a house of learning it also needed to be calming, quiet, and inspirational.

The triangular 10-acre site for the Parliament Library lies north of Lutyens's Viceroy's House, now known as Rashtrapati Bhawan, the presidential palace. Designed and built from 1912 to 1931 by Lutyens as the seat of British imperial power (which existed until India's independence in 1947), its arresting architecture is often referred to as Delhi Classic, owing to its monumental forms and Mughal motifs. Today the palace and stately government buildings, plus the streets, such as the expansive, tree-lined Rajpath, form a cohesive urban context that Rewal had to address in



designing the Parliament Library. Included in his considerations, of course, was the Parliament on an adjacent site. One of this precinct's most notable buildings, Baker's round, white-granite Classical structure sits atop a red sandstone base and is surrounded by an extensive colonnade.

Bowing to Baker's circular building, Rewal's four-level complex, with two floors below grade, features a cluster of spherical and semi-spherical forms, organized axially around an incomplete square. The low-rise library defers to the Parliament, says Rewal, and speaks to it "as a guru gives advice to the king." The dominant use of red, white, and pink sandstone blocks, cladding a concrete frame, allude to the Parliament's red base, while its round composite stone-and-steel or concrete columns are reminiscent of the colonnade.

Traditional forms, like *jaalis*, or ornamental screens, rhythmically articulate much of the otherwise minimal exterior, as do the sandstone mullions. Both the mullions and stone *jaalis* were manually carved off-site by artisans in nearby Rajasthan. The facade's heavy sandstone blocks and

**Project:** Parliament Library, New Delhi, India

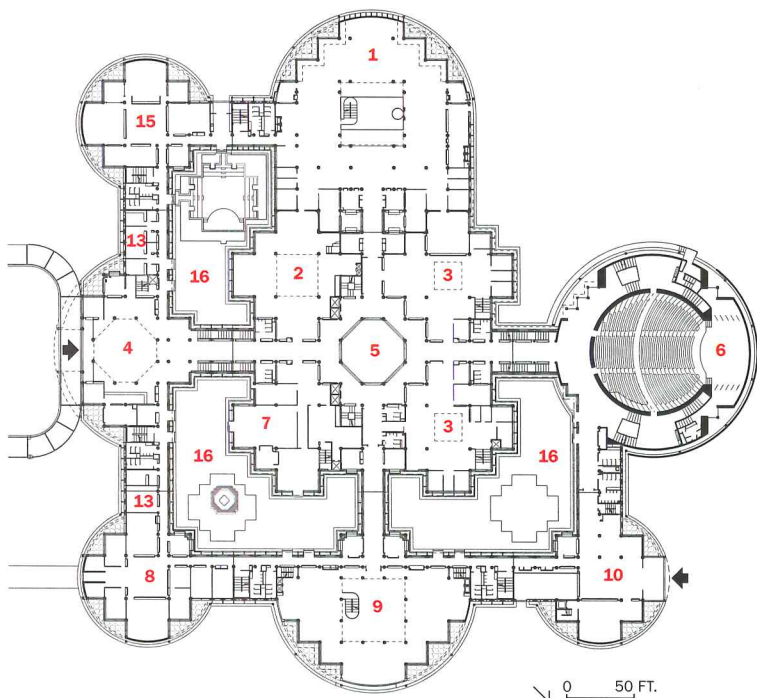
**Owner:** Government of India

**Architect:** Raj Rewal Associates—Raj Rewal, principal; Arvind Mathur, Anshu Mahajan, H.S. Sandhu, Sanjeet Bose, Pratap Talwar, Arun Rewal, Ankur Mathur, Vipin Thakur, design team

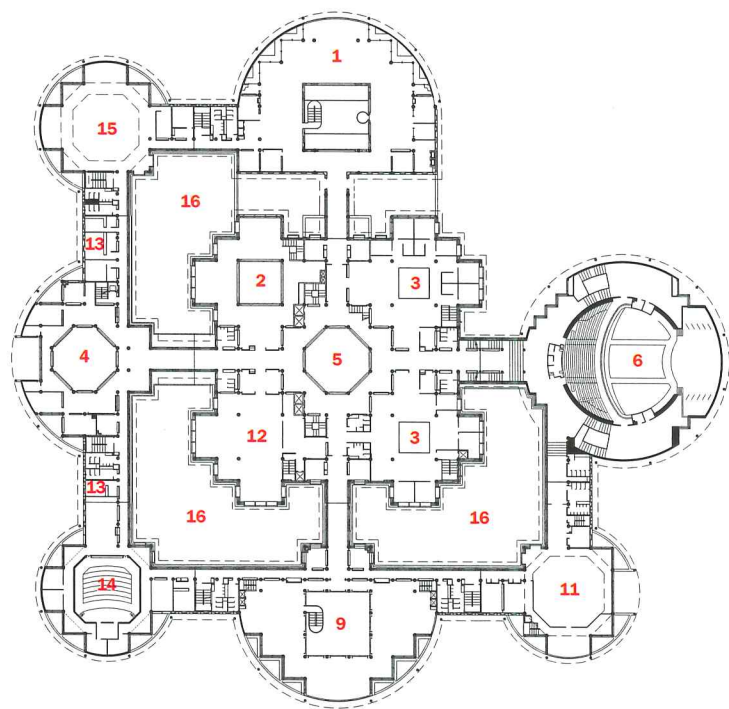
**Engineer:** India Central Public Works Department (CPWD); R.F.R. Engineers (for domes)

**General contractor:** Larsen & Toubro

**Consultants:** Satish Khanna (landscape); CPWD, Satish Khanna (lighting); CPWD (acoustical)



GROUND FLOOR



FIRST FLOOR

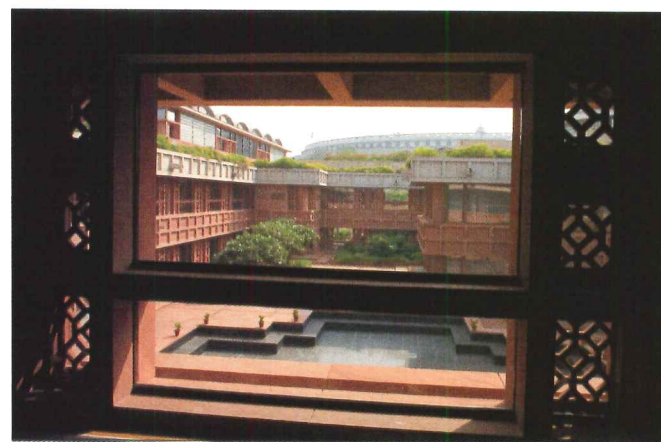
- 1. Scholars' library
- 2. MPs' reading room
- 3. Research and archives
- 4. Entrance atrium

- 5. Center atrium
- 6. Auditorium
- 7. Committee room
- 8. Press center

- 9. Digital library
- 10. Public reception
- 11. Cafeteria
- 12. Banquet hall

- 13. Offices
- 14. Conference space
- 15. Security
- 16. Courtyard

Red sandstone clads the building's exterior (below left). Narrow halls (below and bottom) are infused with light filtered through windows and stone screens.





The red-and-white chiseled sandstone buildings are organized around three courtyards, tiled with sandstone and planted with local vegetation.

small openings help shield the interior from the region's intense heat, which can rise to an average of 113 degrees in the summer. Also providing shade are the overhanging gridded cornices of white sandstone and gridded midlevel bands of red sandstone surrounding interior courtyards.

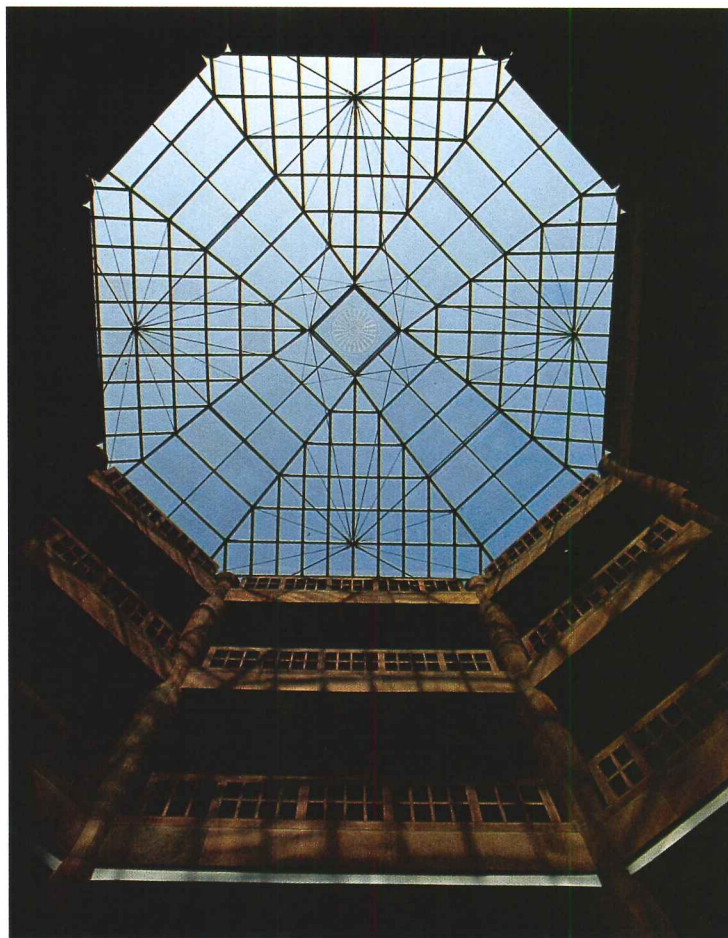
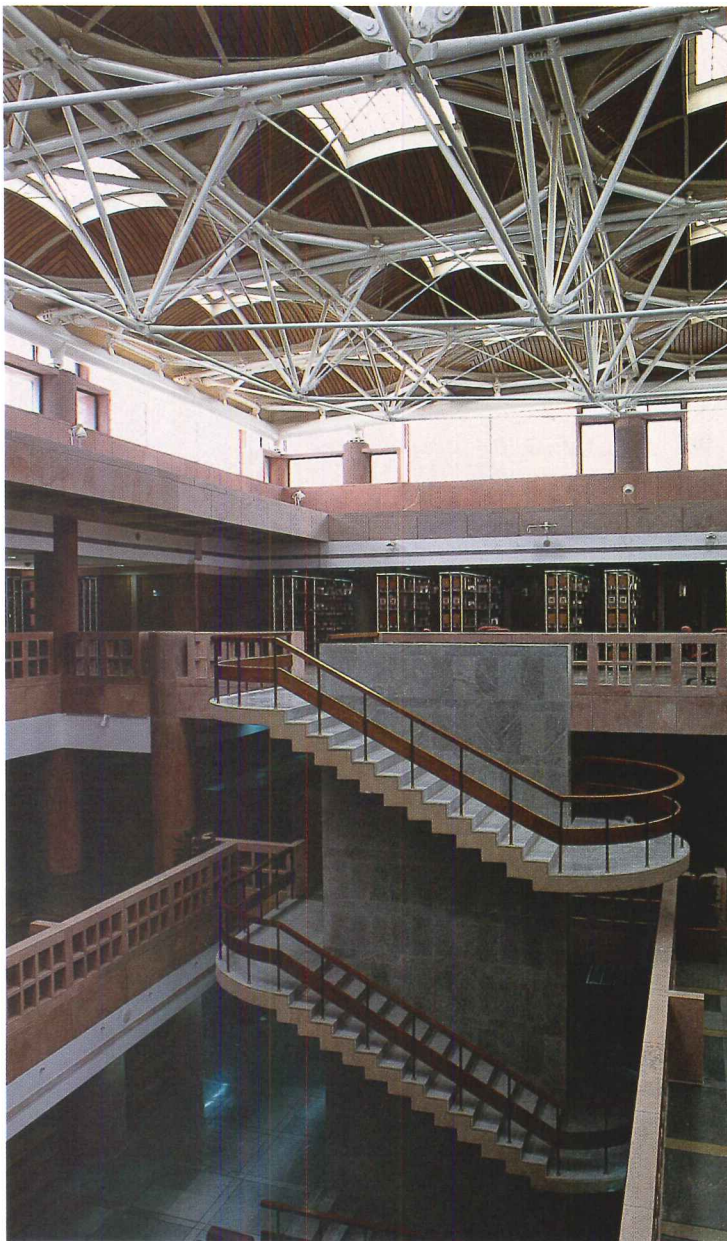
The basic plan, where a series of interior courtyards link the different structures, evokes the interpenetration of indoor and outdoor spaces of precolonial temple complexes, including the 15th-century Jain Adinatha temple in Ranakpur, and Fatehpur Sikri, the majestic Mughal sandstone city in Uttar Pradesh, built in the 16th century. The three courtyards, paved with sandstone tiles, subdivided by steps, and enclosed with low walls, are planted with local vegetation. Each space is intended to offer different symbolic meanings to its users. One courtyard's open-air theater is meant to provide a forum for debate. In another courtyard, ficus trees stand for social justice; in a third, a basin of water is an ancient symbol for equality.

But perhaps the building's most dramatic feature is the extensive use of bubble domes to cover the major spaces. The fiber-reinforced concrete shells for the bubbles were precast on-site. Resting on an armature of

steel ring beams and lattices formed from tubes, castings, and high-tensile tie bars, the roof system well demonstrates the extent to which modern technology is incorporated into this structure. Traditional materials also play a part: Surfaces of the domes are generally finished in polished sandstone or granite roof tiles, while the octagonal, hexagonal, or square components of the domes inside are often surfaced in terra-cotta, wood acoustical tiles, or teak battens.

Sandstone walls prevail in many of the rooms, which include a digital library, the scholars' library, an MPs' reading room, plus reception rooms, banquet halls, and a 1,400-seat auditorium. The multiheight spaces naturally are dramatic; but even the corridors, surfaced with marble or granite floors, exude a mysterious presence, since they are darker, but infused with a light filtered through syncopated openings. Such controlled light seen throughout the building can have a mesmerizing effect. "The longer you linger, the more you start to notice," says Rewal.

In the domed halls, daylight enters through clerestorylike bands of glass brick, and in some cases glazed brick panels inserted in the roof.



The three-level scholars' library is flooded with light (left), where panels of glass bricks are inserted into domical shells supported by a structural-steel lattice. The five-story central atrium's glass dome (above) spans 82 feet. The central dome, where glass "petals" are linked by four glazed ladder purlins, is formed from stainless-steel structural members, tensile rods, and layers of laminated reflective and clear glass.

Your eye is drawn upward, fostering, Rewal hopes, the sense of enlightenment you might experience in an Indian temple. The library's central dome, spanning 82 feet over a five-story hall, is entirely glazed: to counter the heat gain, the panels are composed of a top layer of reflective glass laminated over clear float glass and separated by an air space from another layer of laminated glass. The dome's framework of stainless-steel tubes in the form of parabolic petal-shaped segments linked by ladder purlins dramatically introduces light to the interior, creating a memorable central hall for the entire complex.

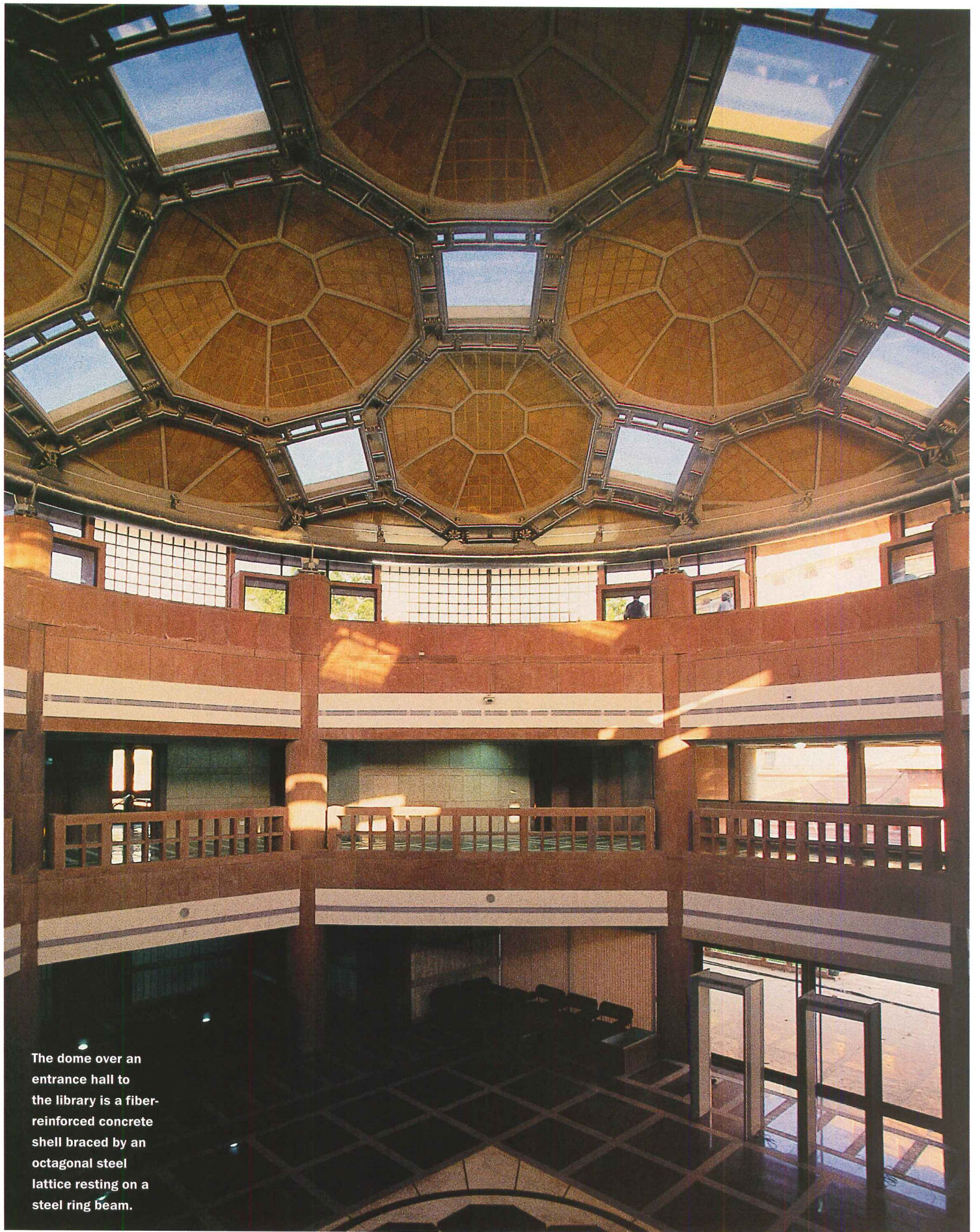
With its spatial variety, historical references, and solid materiality, the library lives up to its significant role as the newest addition to India's governmental buildings. The large open spaces, lofty domes, and carefully controlled natural lighting lend it a sense of majesty and calm. Still, Rewal's architectural vocabulary can seem strangely dated to a Westerner used to a more abstracted type of monumentality. For example, conference rooms and banquet halls patterned with brownish or maroon stripes and large circular motifs in marble resemble Late Modernist

designs of the 1960s. The bubble domes recall visionary schemes of the 1950s (even if the array of domes, viewed from the building's grassy rooftops, are strangely exhilarating). For this reason, several Indian architects, in private conversation, have criticized Rewal for not moving the country's architecture forward. And while the building's heavy exterior responds to the area's hot climate, the effect is sometimes ponderous—as if it were a fort, not a government building. Because of its lack of visual focus, the facade appears much less inspiring than the interior. Still, such drawbacks do not destroy the overall effect. Like much of India, the building feels blessed with the richness and poetry of history, but is still infused with the exuberance and complexity of modernity. ■

#### Sources

**Concrete:** *Larsen & Toubro*  
**Windows:** *Mahavir Aluminium*  
**Steel:** *TATA; Steel Authority of India (SAIL)*

For more information on this project, go to Projects at [www.archrecord.com](http://www.archrecord.com).



The dome over an entrance hall to the library is a fiber-reinforced concrete shell braced by an octagonal steel lattice resting on a steel ring beam.



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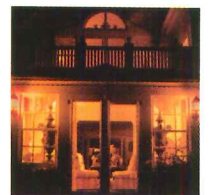
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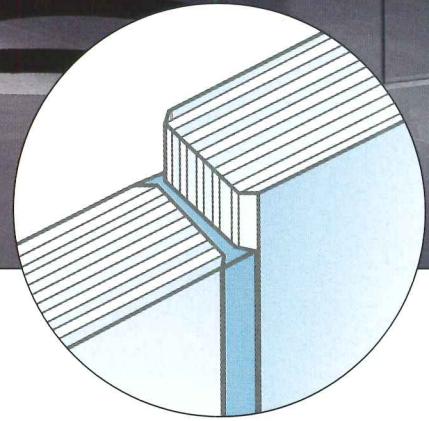
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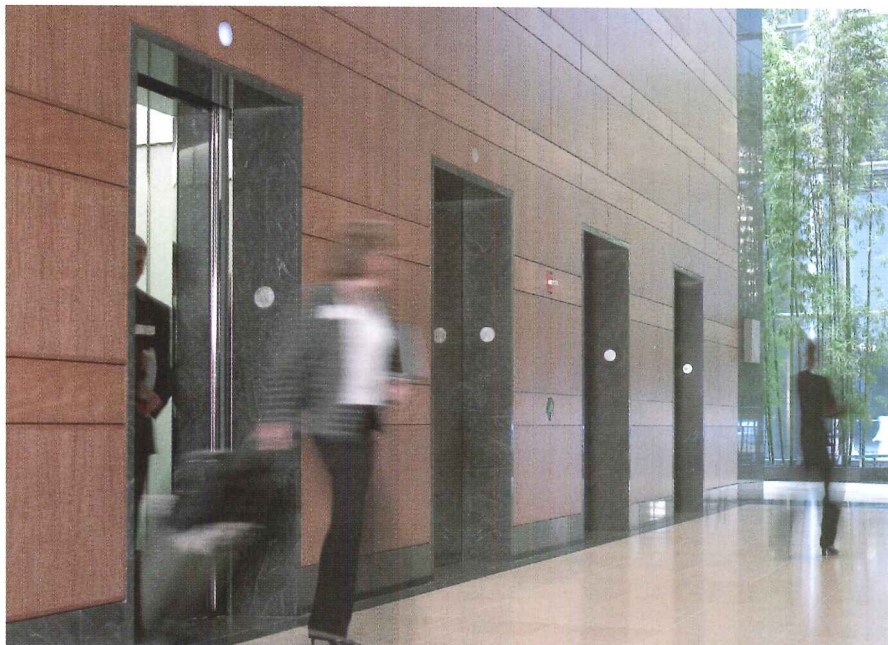
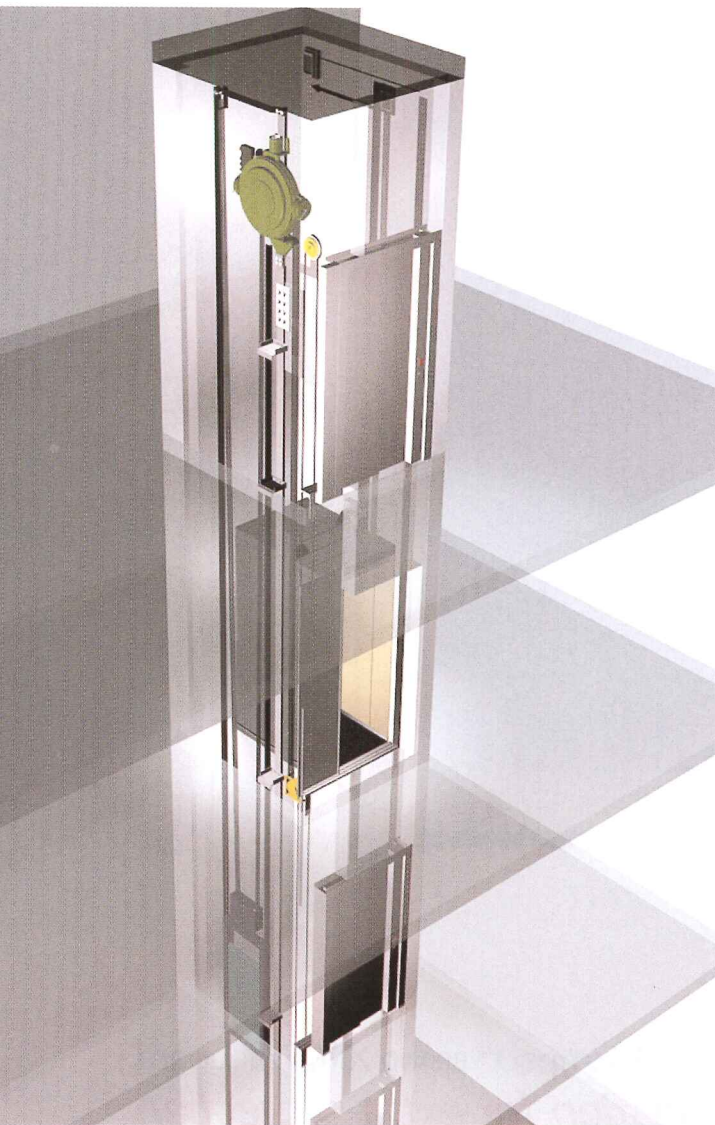
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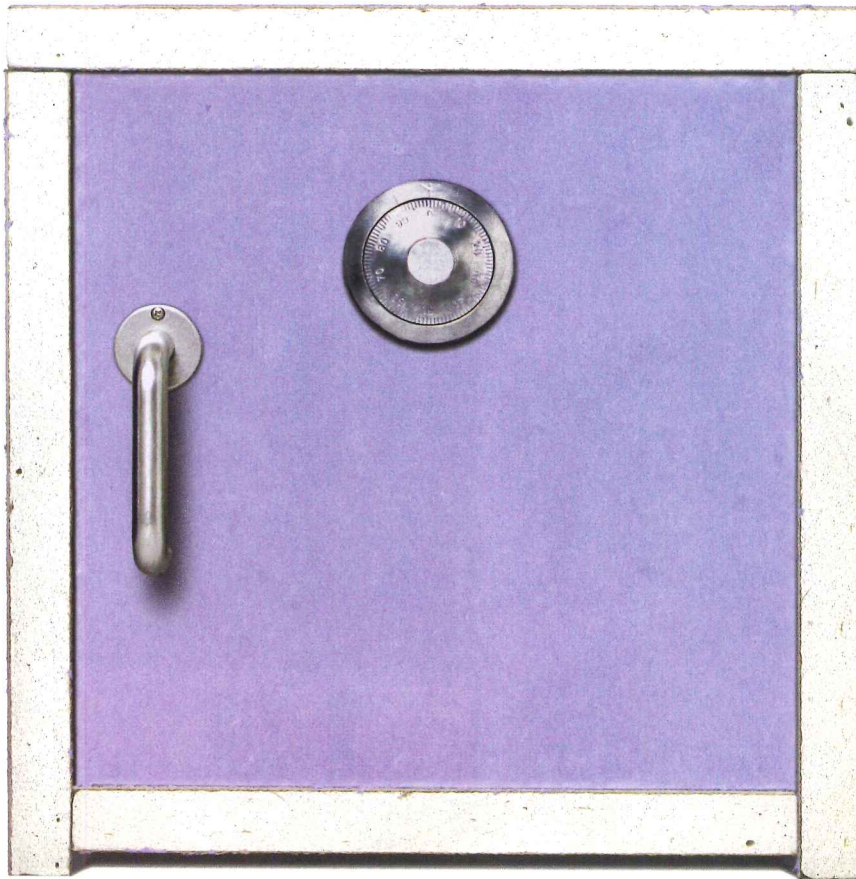
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## Offices

# Culture Clash

**AMERICAN ARCHITECTS TWEAK OLD NORMS TO CREATE AMENABLE OFFICES IN LOW-RISE BUILDINGS AND SKYSCRAPERS, HERE AND ABROAD.**



1.

### Chicago, Illinois

*Pei Cobb Freed made sensuality out of the Hyatt Center's hard-nosed brief. SOM carved out an elegant atrium within.*



2.

### New York City

*Studios Architecture used luscious colors and a curved, daylit reception space to enliven Bloomberg's new offices and studios.*



3.

### Madrid, Spain

*Kohn Pedersen Fox and Rafael de La-Hoz stretched a high-tech patio roof to conserve the electric utility Endesa's energy—and urbanity.*



4.

### Wilmington, Delaware

*Kling stylishly revised the bleak office-warehouse norm for E.J. DeSeta with a structure that adeptly serves two diverse businesses.*



5.

### Munich, Germany

*Murphy/Jahn redefined spec in a pair of technically sophisticated energy-efficient towers united by clip-on bridges.*

By James S. Russell, AIA

**O**n the following pages, the two European buildings we feature—their American design heritage notwithstanding—essentially could not be built here. Nor would our three American contenders, worthy though they are, be legal in much of Europe. The two architects who had worked in both continents explained the disparity.

The key difference is the European focus on energy conservation and reduction of pollutants that promote global climate change, said Lee Polisano, who led Kohn Pedersen Fox's London office in the design of Endesa, in Madrid. None of the requirements are permitted to come at the cost of occupant comfort, added Helmut Jahn, designer of the Highlight Munich Business Towers. That so many projects are awarded by competition, Jahn adds, encourages architects to innovate. The Munich scheme pleased his clients because he got the performance of costly and complex double curtain walls into a triple-glazed single layer. Projects deemed green by American standards would probably fall short of tightening code requirements in much of Europe. Custom components tend not to be prohibitively expensive in Europe but are here, which makes it much more difficult to innovate.

The three American projects focus on development values in the U.S.: speed, low cost, and layouts of predictable efficiency. Harry Cobb stretched the standard square plan of the center-core downtown office tower into a long lozenge at the Hyatt Center in Chicago, economically opening more of the building to daylight and views. Studios Architecture worked out a preconstruction arrangement for the spec building Bloomberg tenanted in New York that resulted in high ceilings to commodiously accommodate the dense, trading-floor ambience innate to the company's culture. The lesson? "People don't all work the same way anymore," says Polisano, an idea, he adds, better understood in Europe. The diminutive E.J. DeSeta building adopts a narrow, "European" floor plate—bathing its occupants in daylight and views from all sides.

Although Polisano is concerned about the implications of an America that's falling behind on environmentally sensitive design, he does not see a European model triumphing—yet. "I see a North American model, an Asian model, and a European model. Asian buildings are fitted with the latest technology available on the operational side, if not the environmental side. The emerging Asian model may hybridize the American and the European one."

Economics will force the European model to reflect more of the speed and cost advantages of North America, he predicts. "It's a brave new world." Indeed. ■

For more information on these projects, go to Building Types Study at [www.archrecord.com](http://www.archrecord.com).

# Hyatt Center

## Chicago, Illinois

# I

**PEI COBB FREED MAKES SENSUALITY OUT OF A HARD-NOSED BRIEF; SKIDMORE, OWINGS & MERRILL CARVES OUT AN ELEGANT ATRIUM INSIDE.**

By Blair Kamin

**Architect:** Pei Cobb Freed—Henry N. Cobb, George H. Miller, Michael D. Flynn, Brian P. McNally, John L. Sullivan, Que Ranne Rhee, Fintan Dunne, Julie Eng

**Architect of record:** A. Epstein and Sons International—Michael Damore, Thomas Scheckelhoff, Scott Marker, Weng Foong, Michael Mueller

**Interior architect:** Skidmore, Owings & Merrill (Pritzker spaces)—Stephen Apking, Nada Andric, Judy Fletcher Betts, Konstantin Buhr, David Davis, Peter Magill, Cynthia Mirbach, John Pickens, Elisabeth Rogoff, Annika Teig

**Client:** Higgins Development Partners

**Consultants:** Halvorson and Partners (structural); Environmental Systems Design (m/e/p); A. Epstein and Sons (civil); Peter Lindsay Schaudt Landscape (landscape); Weidlinger Associates (blast)

**Contractor:** Bovis Lend Lease

**Size:** 1.75 million square feet

**Cost:** Withheld

**Completion date:** 2005

### Sources

**Curtain wall:** Permasteelisa

**Glass:** Viracon

**Stone:** W. R. Weiss Stone Systems

**Entrances:** Crane

**Blinds:** Hunter Douglas

For more information on this project, go to Building Types Study at [www.archrecord.com](http://www.archrecord.com).

Chicago often seems positively Calvinistic in its devotion to the box, but things are loosening up. From various perspectives, the sleek stainless-steel-and-glass walls of the Hyatt Center suggest a very tall ship cruising gracefully through space. Call it the S.S. Pritzker, since it was codeveloped by the billionaire Chicago family that each year awards the Pritzker Prize and owns the worldwide Hyatt Hotel empire that is headquartered inside. In this, Chicago's first post-9/11 skyscraper, architect Henry Cobb, FAIA, of Pei Cobb Freed, has deftly integrated the new need for heightened security with his long-standing notion of "skyscraper as citizen."

### Program

The Pritzkers originally hired Foster and Partners to design a corporate headquarters with a lavish budget. But the day after the 9/11 attacks, Penny Pritzker, president of the Pritzker Realty Group, told Foster that the prospect of a major downturn in the hotel business made proceeding with his ambitious design impossible.

The Pritzkers and codeveloper Jack Higgins turned to Cobb, requesting a no-frills building that would be shared with other tenants. The brief: column-free, 33,000-square-foot floors, with 45-foot

*Blair Kamin is the Pulitzer Prize-winning architecture critic of the Chicago Tribune.*

spans from exterior wall to core.

Cobb was given four weeks to fashion a schematic design. Recalling the tight schedule, he quotes the British philosopher Isaiah Berlin: "My brain is like a taxi—it responds when hailed."

### Solution

Visiting the site, a block-long, rectangular plot a bit north of the Sears Tower, Cobb immediately discerned the advantages of an elliptical plan. Not only would it create a distinct skyline presence, it would open its floors to more expansive views than the typical block-filling box. The plan would eliminate the corner office, an icon of corporate hierarchy that a prospective tenant didn't want.

The sole modification to this diagram was a six-story, rectangular bustle attached at the base that created 51,000-square-foot floors to accommodate trading rooms for a financial-business tenant, Goldman Sachs. The low block felicitously improved the proportions of the steel-framed tower.

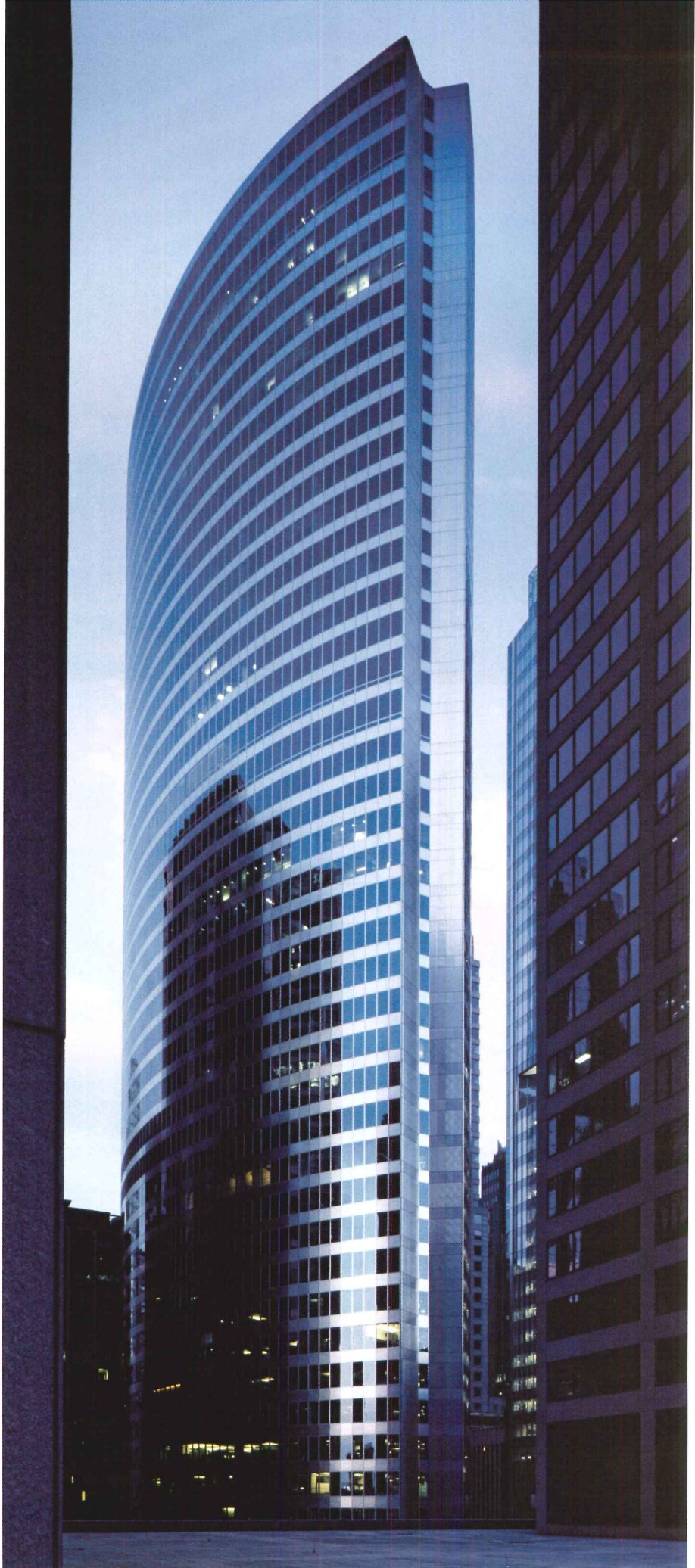
The tower's crisply handled long elevations, with their windows set flush with the luminous, linen-patterned, stainless-steel spandrels, were created from cost necessity as much as aesthetics. "Let's face it," says Cobb, "if you're doing a budget building, keep it smooth." The striking verticality of the end walls, with their nearly solid splaying surfaces of stainless steel, counters the dom-



inant horizontality of the long elevations. The visible tension in the taut, bulging skin administers the right dose of Chicago toughness.

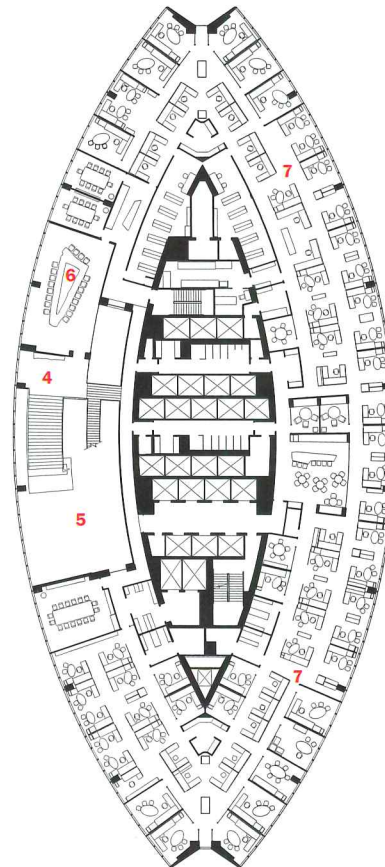
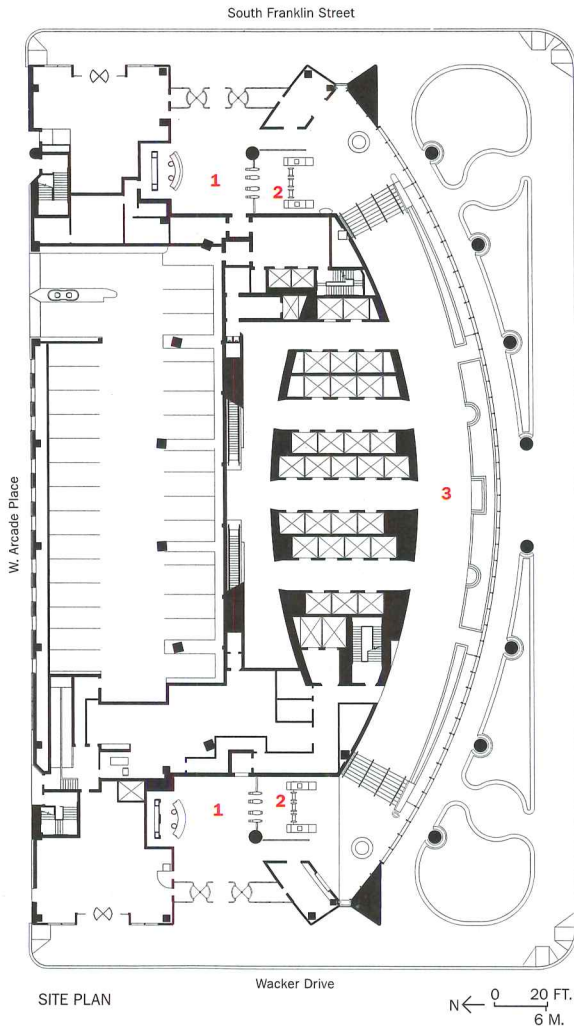
Cobb discreetly heightened security using free-form, granite-clad planters on the plaza, shaped with Chicago landscape architect Peter Schaudt. They echo the tower's curving geometry and invisibly do double-duty as barriers to the intru-

The Hyatt Center  
carves out space for a  
ground-level plaza that  
ushers thousands of  
commuters in and out  
of nearby Loop rail  
stations each workday.





For security, the columns of the monumental colonnade (opposite, top left) are concrete-encased inside their metal skins. The high, glass lobby walls are blast-resistant. Low entrance canopies at the juncture of the tower and the low "bustle" (left and lobby plan, below) balloon upward to 50-foot-tall, skylit vestibules accented with wall panels by British artist Keith Tyson (opposite, top right). Moving through a broad but low metal-detector zone, visitors arrive in the main lobby (opposite, bottom), with its tall bamboos augmented by soothing bubblers.



1. Vestibule
2. Metal detectors
3. Lobby
4. Atrium
5. Reception below
6. Boardroom
7. Offices







sion of bomb-laden vehicles. Cobb realized that post-9/11 security demands need not clutter lobbies with hastily conceived metal detectors. Instead, he shaped a richer processional sequence, playing a spatial game of “compress and release” (see pages 133 and 134).

The most architecturally significant floors within the Hyatt Center house the offices of the Global Hyatt Corporation and Classic Residence by Hyatt, for senior living, on floors 9 through 16. An atrium, evoking its counterparts in Hyatt’s hotels, ties the floors together, with a cascading, translucent-glass staircase to encourage casual meetings among Hyatt employees. The atrium was planned before construction began, according to interior architect Stephen Apking of the New York office of Skidmore, Owings & Merrill, which proved far less expensive than inserting it after the fact.

With the atrium’s cubic black-walnut coffee bars and crisply detailed stair, the interiors effectively express Hyatt’s global identity, synthesizing East and West, and urban sophistication with a more relaxed, resortlike atmosphere.

### Commentary

Even if the results are not as spectacular as they might have been had Foster designed the Hyatt Center—one imagines an inventively conceived workplace and a showstopping “green” tower—Cobb’s design has a value as a model more than a one-off. It’s an attractive, but not arbitrary, alternative to the box and shows that architects can elegantly respond to the imperative to fortify.

Ideally, the prominent client for this building would have been more aesthetically adventurous. Both architect and client deserve credit for creatively dealing with financial realities 9/11 imposed. While the Hyatt Center may at first appear to be a nose-thumbing break from Chicago’s past, it is, upon close inspection, simply the latest example of the city’s long and exemplary tradition of hard-nosed but high-quality commercial architecture. ■



Skidmore, Owings & Merrill's Stephen Apking concentrated amenities for Hyatt corporate offices along an atrium, most notably in coffee bars that cantilever over the glass stair (right). Equally arresting is the 12th-floor reception area (below and opposite, top), where the walls and a monumental stair are paneled in black walnut. The reception area and a boardroom (opposite, bottom) provide a showcase for wood furniture by Mira Nakashima, daughter of the Japanese-American craftsman George Nakashima.



# Bloomberg Headquarters

## New York City

# 2

**STUDIOS ARCHITECTURE ANIMATES AN OPEN OFFICE WITH LIGHT AND COLOR, PUNCHED UP BY LARGE-SCALE ART AND ELECTRONIC GRAPHICS.**

By Suzanne Stephens

**Architect:** Studios Architecture—Todd DeGarmo, AIA, principal in charge; Tom Krizmanic, AIA, design principal; Brian Tolman, senior designer and senior project architect; Mike Krochmaluk, project architect for typical floors and training center; Geoff Deold, project architect for broadcast spaces; Brooke Luckock, Sohith Perera, designers

**Client:** Bloomberg LP—Paul Darrah, director of global real estate and design

**Consultants:** Cosentini Associates (m/e/p); Johnson Schwinghammer (lighting); Shen Milsom & Wilke (acoustical); CS Technology, Scharff Weisberg (IT)

**Size:** 611,545 square feet (occupied); 81,900 square feet (for expansion)

**Cost:** Withheld

**Completion date:** 2005

### Sources

**Glass:** PPG (Starfire); Abrisa (Luxar); Schott (Amiran); Depp Glass (color laminated); McGrory Glass; Galaxy Glass

**Acoustical ceilings:** USG; Ceilings Plus; Baswa-Phon

**Plastic laminate:** Dupont Corian; Abet Laminati; Nevamar; Wilsonart

**Stone flooring:** Stone Source (Basaltina)

**Carpeting:** Interface

For more information on this project, go to Building Types Study at [www.archrecord.com](http://www.archrecord.com).

The spacious Bloomberg headquarters in New York, designed by Studios Architecture, jolts the first-time visitor like a swig of Red Bull. The bold and vibrant mix of the light-filled, open interiors, punched up with electronic graphics, large-scale art, vivid colors, and stylish furniture are, needless to say, not typical of the corporate office genre. The headquarters, which forms the anchor space in a mixed-use office, residential, and retail structure designed by Pelli Clarke Pelli Architects (formerly Cesar Pelli & Associates), extends vertically and horizontally over an entire city block. The basic parti is unusual: Rafael Pelli carved out a large, open, horse-shoe-shaped court in the middle of the block to accommodate entrances for offices, apartments, and a restaurant. A three-story bridge, used by Bloomberg, projects over the courtyard to link the 10-story office block on the east with a 54-story office and apartment tower on the west.

### Program

In 1999, Bloomberg, the global financial communication and professional services company founded by Michael Bloomberg (now mayor of New York City), decided to consolidate its Manhattan-based headquarters. The departments for broadcasting, research and development, and the sales of Bloomberg services (including terminals and software) had been dispersed in four different buildings.



The company signed a 20-year lease for 700,000 square feet (including 200,000 square feet for expansion) for its 3,700 employees.

The in-house design team, headed by Paul Darrah, an architect who is the director of global real estate and design, enlisted Studios Architecture, led by Todd DeGarmo, AIA, and Tom Krizmanic, AIA, to ensure the adherence to certain precepts of the Bloomberg ethos. To begin with, the design was to promote a literal transparency throughout offices, conference rooms, and circulation areas. "There is no front of the house and back of house," says Darrah. Needless to say, no one gets a private office, not even the C.E.O. (although he has his own dichroic glass-paneled conference room).

Since Bloomberg also believes

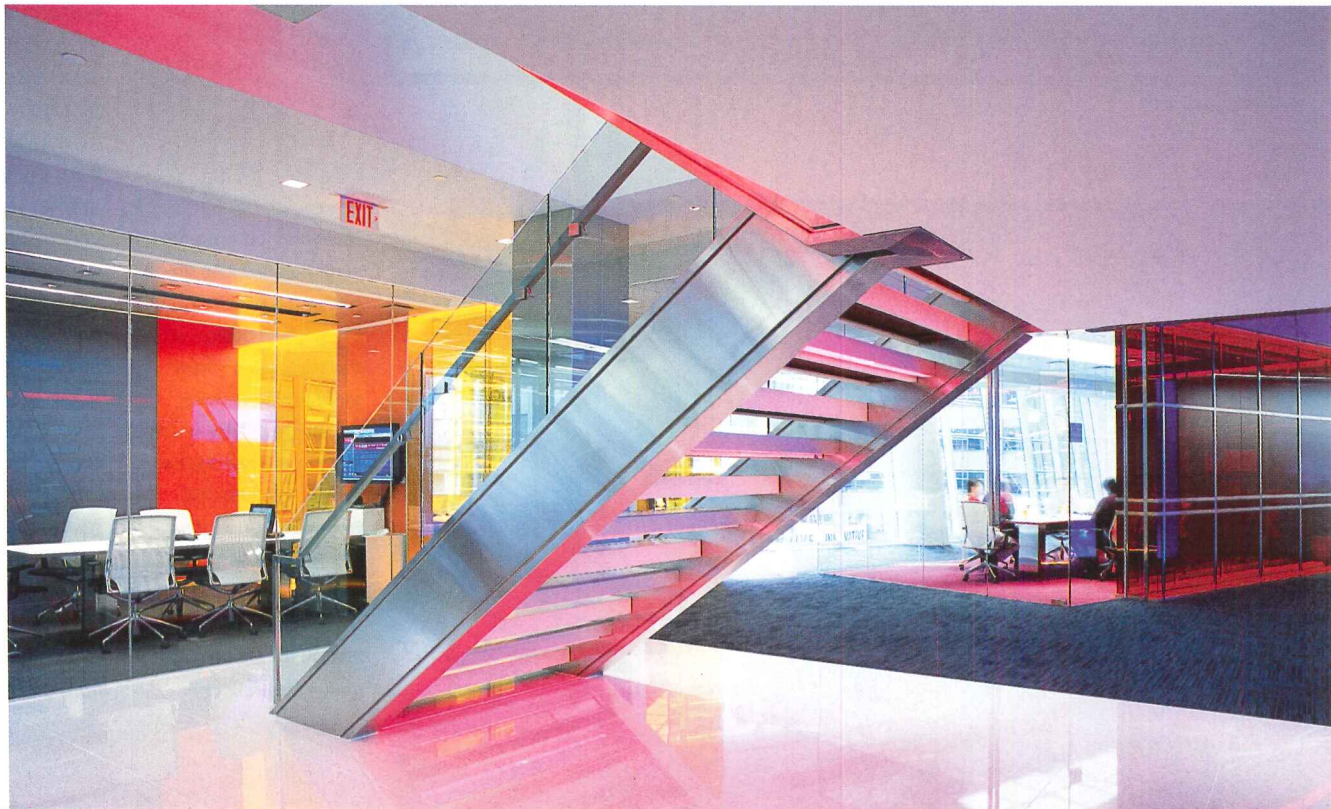
in the "paperless office," it asked Studios to design modular desks with a minimum of storage space, equipped with the company's monitors. Quick floor-to-floor accessibility via open stairs and escalators was also deemed essential. (With a training center below ground, and offices spread vertically, elevators are still part of the program.)

### Solution

A "wintergarden," or large reception area, on the sixth floor occupies the glazed bridge linking broadcasting studios on the east block to sales and administration departments on the west. Rafael Pelli, of Pelli Clarke Pelli, designed the double-height space with a steel radial-truss structure supporting a skylight that follows the arc of the courtyard. From this

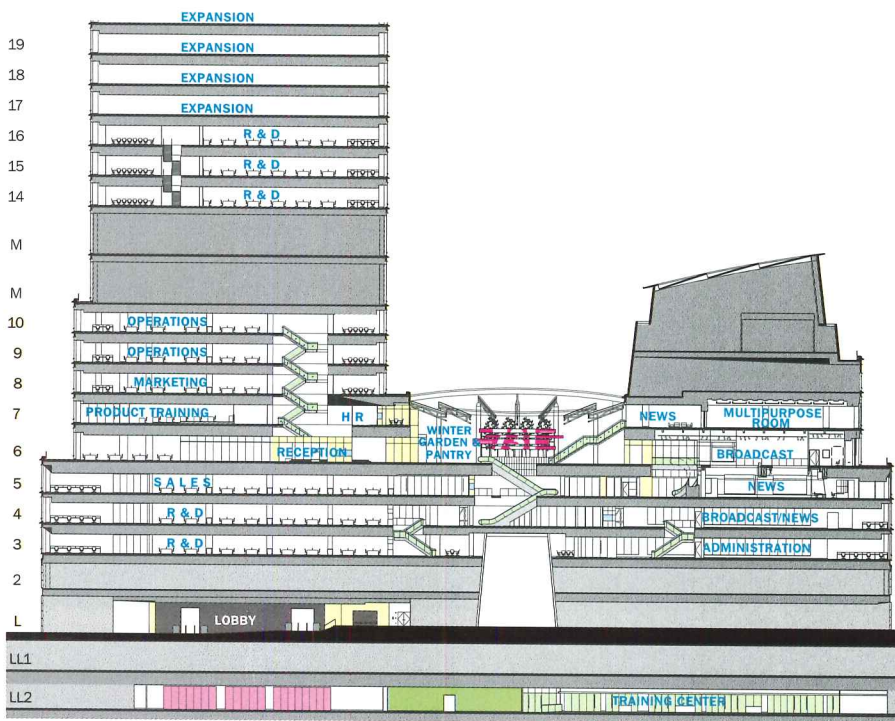


Studios Architecture executed offices for Bloomberg in a mixed-use, steel-and-concrete-framed spec building (opposite) designed by architects Pelli Clarke Pelli. The latter firm carved out a midblock interior court for entrances to offices and apartments (above). Bloomberg's open-riser stairs, such as one on the third floor (right), look like artworks, owing to the stainless-steel stringers with treads backlit by fluorescent tubes in red gel sleeves.





SIXTH FLOOR



SECTION A-A

1. Elevators
2. Reception
3. Offices
4. Meeting area
5. Wintergarden and pantry
6. TV broadcast
7. Radio broadcast

hub, where a pantry with free snacks brings employees together, open stairs and escalators connect to floors immediately above and below.

In keeping with the desire for transparency, Studios enclosed the conference rooms (125 in all) in vibrantly tinted glass, and strategically placed them as buffers between the open offices and the circulation areas. With their vivid orange, gold, fuchsia, lavender, green, and blue colors, the conference rooms appear to be life-size counterparts to the signature Bloomberg aquariums, filled with multihued exotic fish, coral reefs, and plants, found throughout the offices.

Low, modular white desks, 5 feet or 6 feet 6 inches long, depending on function, allow clear sight lines to prevail. Since ceiling heights range from 9 feet 6 inches to 12 feet 6 inches, the spaces rarely feel oppressive.

More than anything, the spectacular use of art and graphics in the public areas galvanizes the environment and provides a sense of orientation to this multilevel hive of activity. For example, Pentagram Design sparked up the wintergarden with a Times Square–size, four-band LED zipper carrying financial data. Permanent large-scale artworks, chosen in consultation with the Public Art Fund, transform the various circulation nodes: They include Iñigo Mangano-Ovalle's *Cloud* over a spiral escalator, and two lighting pieces by Spencer Finch mounted in equally visible places. For their part, the architects transformed the stainless-steel stairs connecting the various floors into light sculptures by backlighting the open risers with fluorescent tubes in red gel sleeves. A koi pond replete with colorful fish and a frog adds an unexpected note at the base of the sixth-floor stair.

### Commentary

"This is a total collaboration," remarks Darrah about the conjunction of architecture, art, graphics, and interior design. Obviously, such collaboration costs money—the reason most office workers may not benefit from this approach. Nevertheless, it

The two-story-high reception lobby on the sixth floor acts as the hub and a pantry. Pelli Clarke Pelli designed the steel radial-truss structure supporting the skylight (left) on the bridge between the two towers. The bipartite floor plates run generally from 30,000 to 40,000 square feet in the east tower and 20,000 to 30,000 square feet in the west one.





A chrome-paneled, curved escalator (this page) runs from the sixth to the fifth floor broadcasting studios. Founder Michael Bloomberg saw a similar one in Japan, but in this application it is topped by Iñigo Manglano-Ovalle's titanium *Cloud*.

The "paperless" open office with no partitions features modular desks and Bloomberg-designed monitors (below). The elevator lobby on the sixth floor (bottom left) is dramatized by a black glass chandelier art piece by Cerith Wyn Evans. From the wintergarden, viewers can look into the two-story broadcast studios (bottom right).



should be studied for the effect that architecture and design have on productivity. With regard to the common complaint that loud voices travel too well in the open office, Krizmanic replies that since there are no partitions and you see everybody, people automatically keep their voices down. To this observer, the main problem seemed to be the lack of storage space. (Overheard: It works best for "paper-phobic Lilliputians.") In terms of a total design, the Pelli columns and skylight in the wintergarden/pantry introduce a brawny muscularity not quite in sync with the shimmering weightlessness of the graphics, art, and interior design. In spite of all that, the headquarters is so far removed from the conventional office, it throws this normal Dilbert-in-a-cubicle drone into a state of (euphoric) shock. ■



Since the lower-level training center has no windows, the waiting area is enlivened by a sunny, yellow-tiled curved wall concealing closets and restrooms. In addition, a 100-foot-long fluorescent-light art piece by Spencer Finch, called *Sunrise*, and bold fuchsia seating energize the space.



# Endesa Headquarters

## Madrid, Spain

# 3

**KOHN PEDERSEN FOX AND RAFAEL DE LA-HOZ STRETCHED A HIGH-TECH PATIO ROOF TO CONSERVE AN ELECTRIC UTILITY'S ENERGY — AND URBANITY.**

**By David Cohn**

**Architect:** Kohn Pedersen Fox—Lee A. Polisano, James E. Outen, Cristina Garcia, Eliseo Rabbi

**Architect of record:** Rafael de La-Hoz Arquitectos

**Client:** Endesa

**Consultants:** Prointec (structural engineers); Battle McCarthy (m/e/p)

**Contractor:** Gerens Hill International

**Size:** 972,505 gross square feet

**Cost:** \$81.6 million

**Completion date:** 2003

#### Sources

**Masonry:** Eurogramco

**Curtain wall:** Permasteelisa

**Atrium roof structure:** Horta

**Structural glass, glass entrances:** Bellapart Engineering

**Glass louvers:** Glastec

**Shading devices:** Demetrio Sillero Arroyo

**Marble flooring:** Marmoles de Cabra

**Lighting:** Iguzzinni; Lleda



The eight-story atrium at the center of this corporate headquarters is actually a kind of condenser, combining aspects of identity, urbanity, and climate control in much the same way as the traditional patio in southern Spain does. The spreading table of its shade roof offers a ready corporate identity. Its main floor, surrounded by services and overlooked by the changing drama of light filtering through the roof's louvers and struts, brings a measure of urban intensity to its suburban setting. And with its sophisticated control of sun, heat, and air, it makes effective use of the traditional patio's climatic benefits, offering a model for office-building energy conservation. This last is a particularly appropriate feature, since Endesa is one of the country's major electric producers.

*David Cohn is RECORD's Madrid-based correspondent and author of Young Spanish Architects (Birkhäuser, 2000).*



#### Program

In the Campo de las Naciones business park outside Madrid, the building brings together the 1,300 employees and various divisions previously scattered around the city. Its 370,000 square feet of office space and 240,000 square feet of lower-level and basement services "creates a more efficient and interactive working environment," as Kohn Pedersen Fox's (KPF) brief explains. (KPF's London office designed the building with

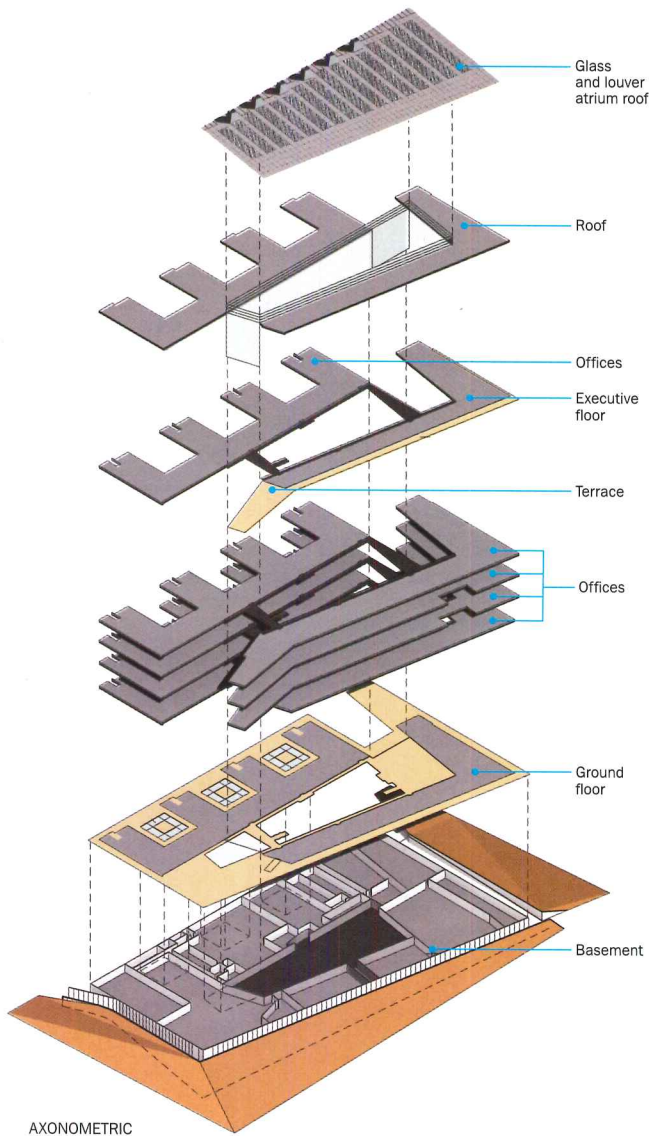
Rafael de La-Hoz, a Madrid-based architect specializing in corporate buildings.) The company initially expected to fill the facility gradually, leasing what it didn't use, although in the end it occupied the entire structure.

The project had to create a strong identity for Endesa on a limited budget (the total cost, according to La-Hoz, was \$81.6 million). This required, for example, the use of standard components for the facades to partially compen-

For more information on this project, go to Building Types Study at [www.archrecord.com](http://www.archrecord.com).

Endesa faces the highway with a continuous mass (opposite, top) and a dramatically cantilevered wing (right), while a comb-shaped block with four projecting bays faces the street (opposite, bottom) along with the entry (below) and its glass atrium roof.

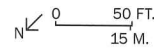




AXONOMETRIC



TYPICAL FLOOR



**A horizontal plane of frameless glass suspended from steel trusses admits ample daylight into the atrium (opposite).**

**Some of the walls are frameless glass (below left), and some of them have fritted shading glass blades (below right).**

sate for the extra expenditure of the atrium. The building is the first in a line of commercial offices that occupy a narrow strip of land between a railroad cut and the M-40, a major ring highway. The design had to contend with isolation, noise, and pollution.

**Solution**

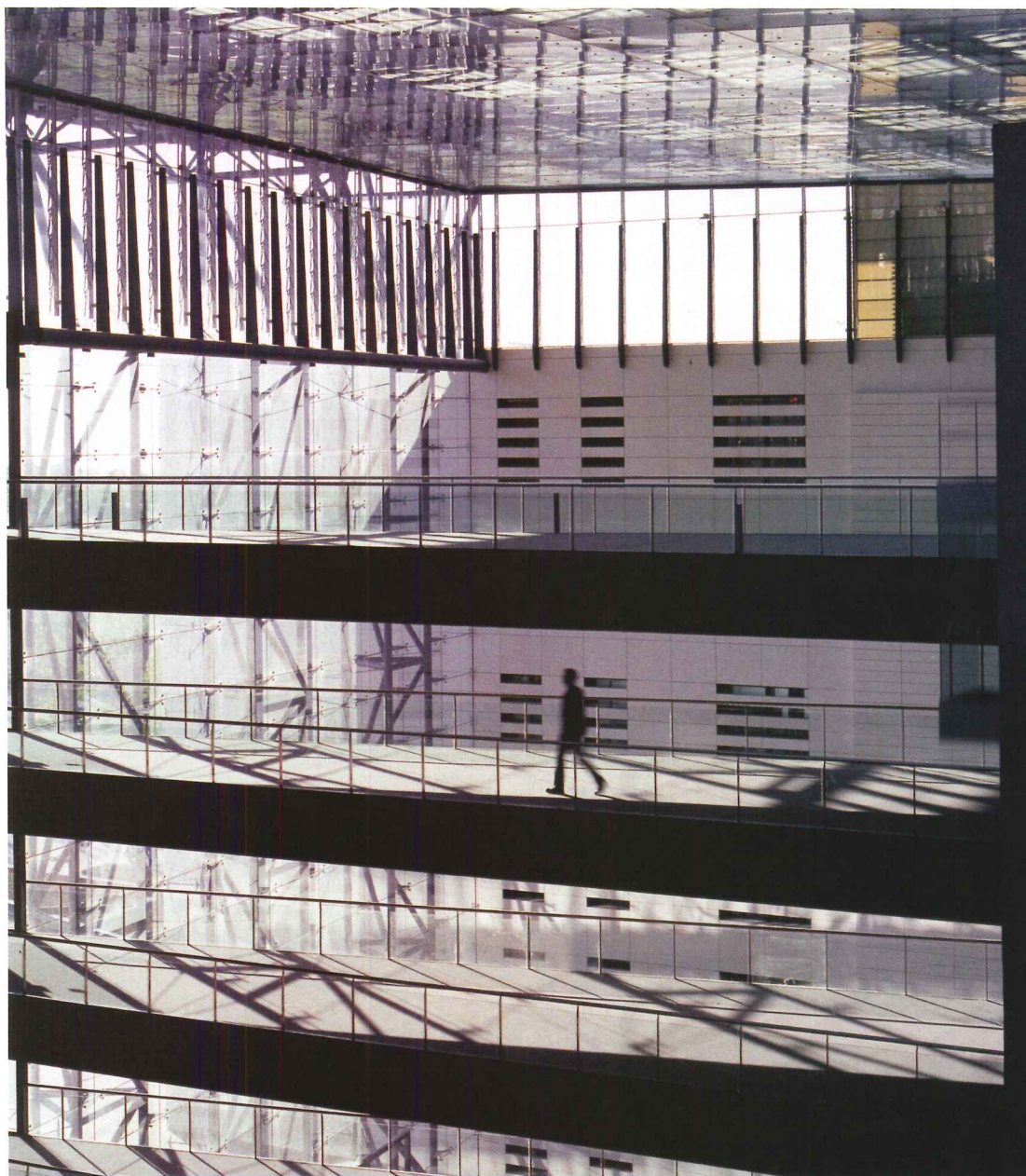
KPF, which has designed several atrium-centered projects in the colder climates of northern Europe, and La-Hoz divided the office floor area into two continuous blocks embracing the atrium. These are concrete structures with modular plans and floor plates over 50 feet deep. Open offices predominate, lit by continuous floor-to-ceiling windows. The layering of the facades, and the shadows they cast, further enlivens the indoors. The facades vary according to the exposure, with fixed aluminum brise-soleils on southern elevations of the comb-shaped block that faces away from the highway, with its northern corners marked by crisp folded planes of white Córdoba limestone.

Horizontal slats of fritted glass protect the southern and western exposures of the imposing block that faces the highway, reducing glare and noise. This block folds around the atrium to the south to create the executive office wing, and angles out at its northern end in a 100-foot-long cantilever, a gesture that commands attention from drivers zooming by on the highway (and conveniently avoiding foundations in poor soil, according to Polisano). Inside, corridor bridges span the atrium, dividing it into an entry court, a central gathering space, and a multilevel zone for work breaks and informal meetings at its northern end.

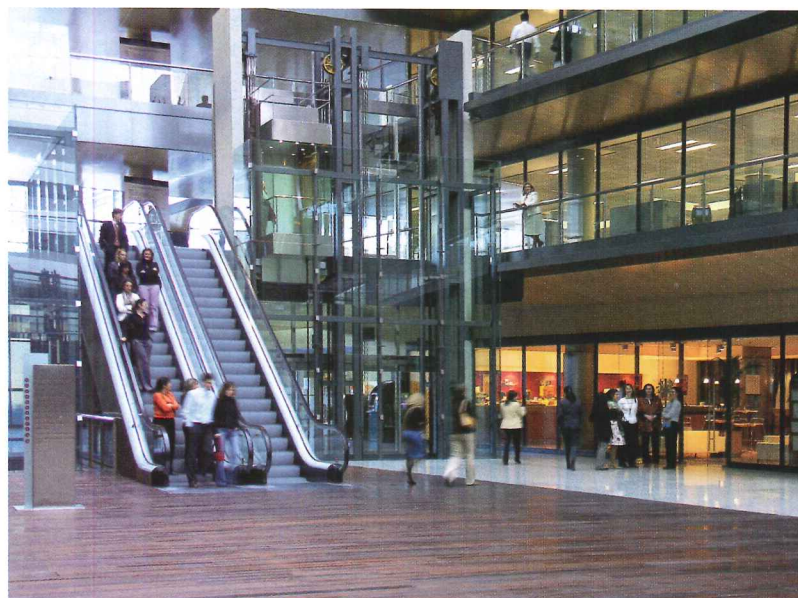
The large roof deck is a layered fifth facade, supported by a gangly structure of tubular steel legs and 17 trusses with spans of up to 120 feet. Mounted on the trusses, motorized aluminum louvers performing the role of the traditional patio's movable canvas tarp over the atrium. (The client ultimately rejected the architects' proposed







Bridges link the two wings of the building under dramatic daylight and shadow (above). Shared spaces for eating and meeting encourage casual encounters in the atrium (right).



arrays of photovoltaic cells.)

The continuous plane of glass over the atrium is the largest and most technically challenging glazing installation of its kind, according to the architects. Each glass sheet, about 4.5 feet by 9 feet, hung from the trusses, can support the weight of maintenance workers. The glass roof pitches for drainage, is acoustically sealed, and engineered for fire-resistance. Despite this complexity, its overall effect is light and direct. Polisano comments, "We all worked very hard to get that."

Exploiting the wide temperature swings in hot-climate Madrid, the underfloor ventilation system uses cool nighttime air to draw off heat accumulated in the slab during the day. Exterior windows were sealed for budgetary and acoustic reasons, but exhaust air flows naturally into the atrium from the slightly pressurized offices. Heat gain from the glass roof and four passive-solar chimneys induces exhaust air to rise, improving air circulation. An evaporative system delivers free cooling from the ground through the atrium floor, augmented by mechanical cooling when necessary.

### Commentary

The dramatic atrium changes its mood with the shifting of roof louvers and the moving clouds and sun. Despite this grand public gesture, the atrium feels oversized at ground level, and it lacks the hoped-for buzz of activity. Security measures keep the general public out—as would the isolation of the site to pedestrian traffic in any case—and the café tables and landscaping the architects envisioned have failed to materialize. The atrium feels more like a religious cloister, an inward-looking space of retreat and meditation, than one of southern Spain's livable residential patios. Replacing the dedication of religious life for the industry of enterprise, could there be a more thoroughly European interpretation of the American corporate campus than this? ■



The massive atrium roof projects over the monumental entry facade. Tubular truss supports carry the frameless-glass plane to the floor.

# E.J. DeSeta Building

## Wilmington, Delaware

# 4

**KLING STYLISHLY REVAMPS THE BLEAK OFFICE-WAREHOUSE NORM WITH A STRUCTURE THAT ADEPTLY SERVES TWO DIVERSE BUSINESSES.**

By David Gissen

**Architect/engineer:** Kling—Robert G. Little, Jr., AIA, Marcelo Franganillo, AIA, Richard Ashworth, AIA, Chris Portner, Francesca Oliveira

**Client:** E.J. DeSeta and the Buccini/Pollin Group

**Consultants:** Kling (engineering, lighting, landscape)

**Contractor:** Buccini/Pollin Construction

**Size:** 100,000 square feet (75,000 shop, 25,000 office)

**Cost:** \$11 million

**Completion date:** 2005

### Sources

**Cladding:** VM (zinc “flat lock” paneling); Centria (corrugated metal)

**Curtain wall, entrances:** Kawneer

**Acoustical ceilings:** USG

**Tile:** Crossville; Dal Tile; Stone Source

**Furniture:** Knoll, custom fabrication by DeSeta

Shop floors with offices tacked on are ubiquitous, but they are usually anonymous, built for as little money as possible, without expressing any identity for their tenants or offering any amenity to staff. Kling’s new E.J. DeSeta building, rich with architectural detail and craftsmanship, shows that the type is anything but irredeemable. The assemblage makes a highly visible landmark for a split-personality pair of companies, one of which returns industry to increasingly white-collar Wilmington, Delaware, while the other hastens the city’s transformation into a live/work destination.

### Program

For Bernadette DeSeta, moving the family companies—E.J. DeSeta and the Buccini/Pollin Group—to central Wilmington from New Castle was a return to roots. The companies came back to where E.J. DeSeta, a metal-fabrication company, was founded, but Ms. DeSeta also wanted to visibly shore up the city’s current revitalization efforts. In Wilmington, after all, the Buccini/Pollin Group, a real estate developer, has invested in residential and mixed-use conversions of older buildings and is completing a new apartment tower. The residential growth piggybacks revitalization

by banks and financial institutions that have converted former industrial structures in this “postindustrial,” credit-card-servicing capital. The commitment represented by DeSeta’s distinctive architecture is intended to help buyers, tenants, and partners alike feel that Wilmington is a good place to invest.

E.J. DeSeta, the older of the two companies, needed offices and a new, 75,000-square-foot shop floor for its 50-year-old metal-fabrication business. Known for architectural ductwork, it has been moving into ornamental architectural metalwork, including furniture, partitions, and wall coverings. Buccini/Pollin needed only office space, but the structure’s visibility would also signal the company’s commitment to this emerging market.

### Solution

Robert Little, the design principal at Kling’s Philadelphia office, located both businesses in a shared two-story office structure that is lifted above possible floods on steel columns and skewed to aim the structure to the best views (and avoid an adjacent gas station).

The office building is shaped on what Little describes as a “European approach”—narrow, 60-foot-wide floor plates offering ample light from both sides and access to views and shared space. The floors’ perimeters are lined by offices sep-

*David Gissen edited Big and Green (Princeton, 2002) and teaches at Pennsylvania State University.*

For more information on this project, go to Building Types Study at [www.archrecord.com](http://www.archrecord.com).

PHOTOGRAPHY: © WOODRUFF BROWN





The skewed orientation of the DeSeta building aims the office wing (far right in photo, right) at views of downtown Wilmington, and opens it to views of the revitalized Christina Riverfront (right). A bridge links the offices to a single-level production shop (below).



parated from the cubicle pool only by translucent screens, so that daylight penetrates to the full floor depth. On the roof, the architects thoughtfully provided an outdoor terrace that offers sunset panoramas of the city.

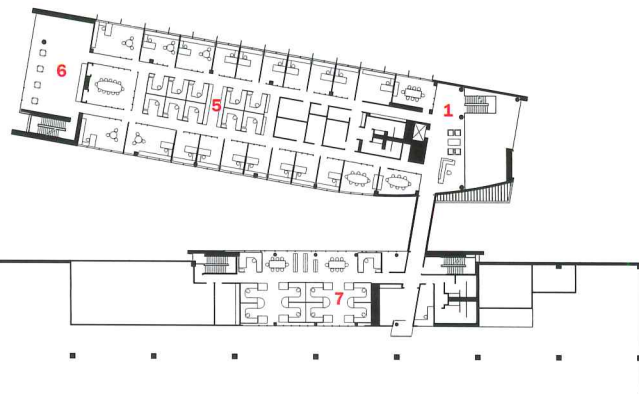
The corrugated-metal-clad production building is a conventional industrial shed. Glass walls push the exterior walls out a bit at the lunchroom, bringing light into the space between the two structures.

Kling worked closely with DeSeta fabricators to develop architectural details and furnishings that would advertise the company's prowess. On the outside, the DeSeta team fabricated the zinc sheathing system that shingles the walls of the office wing and the courtyard side of the factory. From simple sketches, DeSeta produced interior column details, stairs, railings, and furniture pieces from tubes, bar stock, panels, and wire fabric. A stone-and-steel reception desk greets visitors in the lobby.

### Commentary

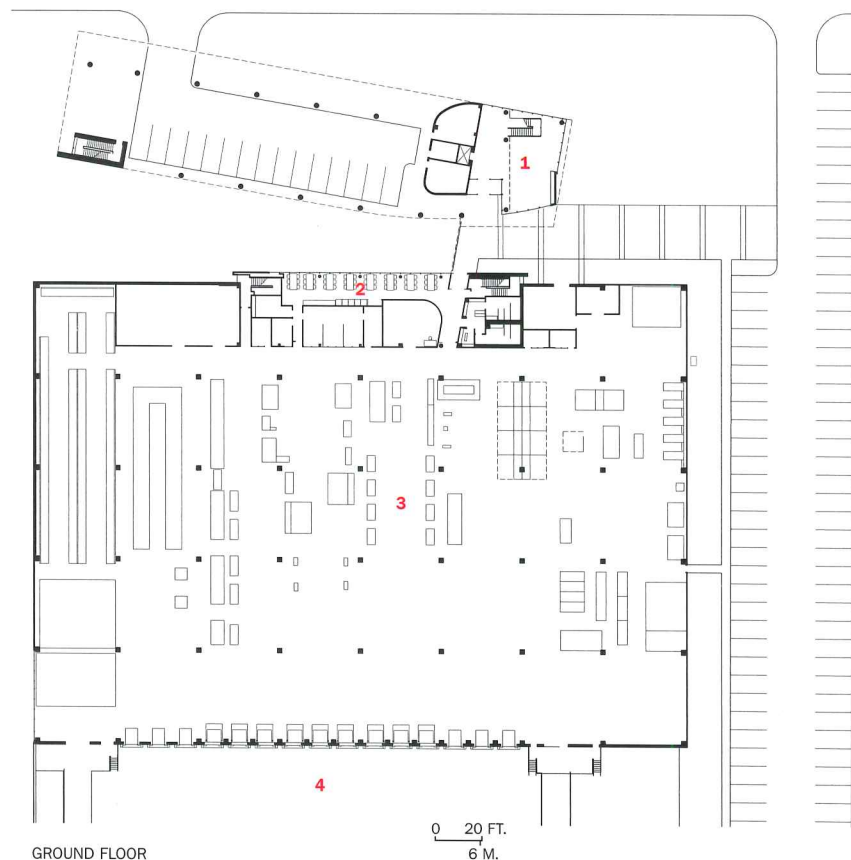
Kling has produced a space for office work that is communal, bright, and open to Wilmington's *mélange* of converted industrial structures and new residential ones. The proportion of bright, airy shared areas to individual workspaces is admirably high. The project's striking geometry is visible from the freeway as you enter town, yet adeptly fits into a context it still must share with a gas station. Even the biggish production building sits comfortably as the area witnesses increased urban residential development.

Though Wilmington possesses examples of the old sawtooth-roof types of factories that flooded shop floors with outside light and were ventilated with operable windows, the DeSeta production building, though beautifully articulated on the outside, unfortunately encloses a standard, windowless, mechanically ventilated workroom. Otherwise, the structure serving this odd couple of clients offers a worthy model for rapidly transforming service-sector cities that want to maintain an industrial presence. ■



SECOND FLOOR

1. Lobby
2. Lunch room
3. Fabrication
4. Loading
5. Office
6. Gathering
7. Drafting



GROUND FLOOR

**A drafting area, linked by bridge to the office wings, overlooks the conventional, windowless shed of the production shop (below).**





A conference room (with metal partitions made by DeSeta) opens to views and a double-height lounge (top and bottom right). The triple-height lobby displays DeSeta's metalworking prowess (bottom left).



# Highlight Munich Business Towers Munich, Germany

# 5

**MURPHY/JAHN REDEFINES SPEC IN A PAIR OF TECHNICALLY SOPHISTICATED ENERGY-EFFICIENT TOWERS UNITED BY CLIP-ON BRIDGES.**

By Tracy Metz

**Architect:** *Murphy/Jahn—Helmut Jahn, Rainer Schildknecht, Philip Castillo, Stephen Kern, Steven Cook, Charles Bostick, Joachim Schuessler, Jan Müller-Gauf, Ingo Jannek, Isabell Klunker, Dan Cubric, Carl D'Silva, Francisco Gonzalez-Pulido, Colleen Caulliez, Michaela Fuchs, John Manaves, Nabil Mekdaschi, Patricia Siesler, Frank Weingardt, Mark Verwoerd, Dieter Zabel*

**Owner:** *Bürozentrum Parkstadt München-Schwabing*

**Consultants:** *Werner Sobek Ingenieure (structural/facade engineering); Transsolar Energietechnik (climate and environmental); ENCO Energie-Consulting (m/e/p); Peter Walker & Partners, Rainer Schmidt (landscape); Jahn Lykouria Design (hotel interiors); Yann Kersalé (art lighting)*

**Size:** *800,000 square feet*

**Cost:** *\$212.8 million*

**Completion date:** *2004*

#### Sources

**Curtain wall:** *Schmidlin*

**Glass partitions:** *Glasmarte*

**Raised floor:** *Mero*

**Lighting:** *Georg Wölfinger Elektro (building outline); SITECO (task)*

For more information on this project, go to Building Types Study at [www.archrecord.com](http://www.archrecord.com).

A spec office building cannot usually be thought a lab bench for innovation, but Murphy/Jahn, working with the engineer Werner Sobek, has not only refined the engineering and detailing derring-do it has employed on previous office projects, but the team has created a sparkling urban landmark.

#### Program

A wedge-shaped swath outside the city center, but prominently located next to a ring road and near a free-way, became available when Munich officials held a redevelopment competition in 1999. Officials intended the office-building development to signal a new life for a district full of warehouses that have gradually emptied. Eventually, a row of office buildings should fill in behind the Highlight Munich Business Towers, separated by a landscaped zone from future housing development.

Planners sought two discrete slabs on this conspicuous location in order to avoid an overbearing mass. The developer, Bürozentrum Parkstadt München-Schwabing, did too, but for a different reason: It wanted construction to be phased so that the offices could be brought onto the market gradually. In spite of a local glut of space, 50 percent of the Highlight Towers are now rented.

*Tracy Metz is an international correspondent for RECORD based in Amsterdam.*



#### Solution

The pair of thin, offset parallelogram towers (one 33 floors, the other 27) seem to present the unwrinkled, expressionless face reminiscent of Modernist buildings the world over. But the effect is sculpturally dynamic as the sharply angled roofs and the thin slabs of the towers appear to slip by each other as the viewer moves around them on the ring road or the autobahn. The effect is especially dramatic at night, with the shifting towers outlined by strings of blue lights and lit from within the external stair and elevator shafts by narrow red and green stripes.

Design partner Helmut Jahn placed the towers in the middle of the site to avoid the noise and pollu-

tion produced by the ring road. A six-story office block on the south side doubles as a sound barrier, with the freight elevator and the stairwells shielding workers from traffic noise. A seven-story, four-star designer hotel, the Inside, wraps the towers on the north.

The two bridges (one of them two-level) that link the towers are the project's bravura gesture. Jahn, collaborating with his favorite structural engineer, Werner Sobek, pared them to a minimum: two long beams that support glass-panel floors, walls, and roof. The idea is that as many as eight bridges can be clipped on and off as desired, permitting floors in both towers to be combined in contiguous floors of about 26,700 square feet. The scheme offers enor-

Murphy/Jahn faced the short ends of the Munich twin towers toward the noisy highway (opposite). A low office block adds noise protection. The architect's bravura exploration of transparency is especially visible at night in lighted bridges and elevator shafts (right).



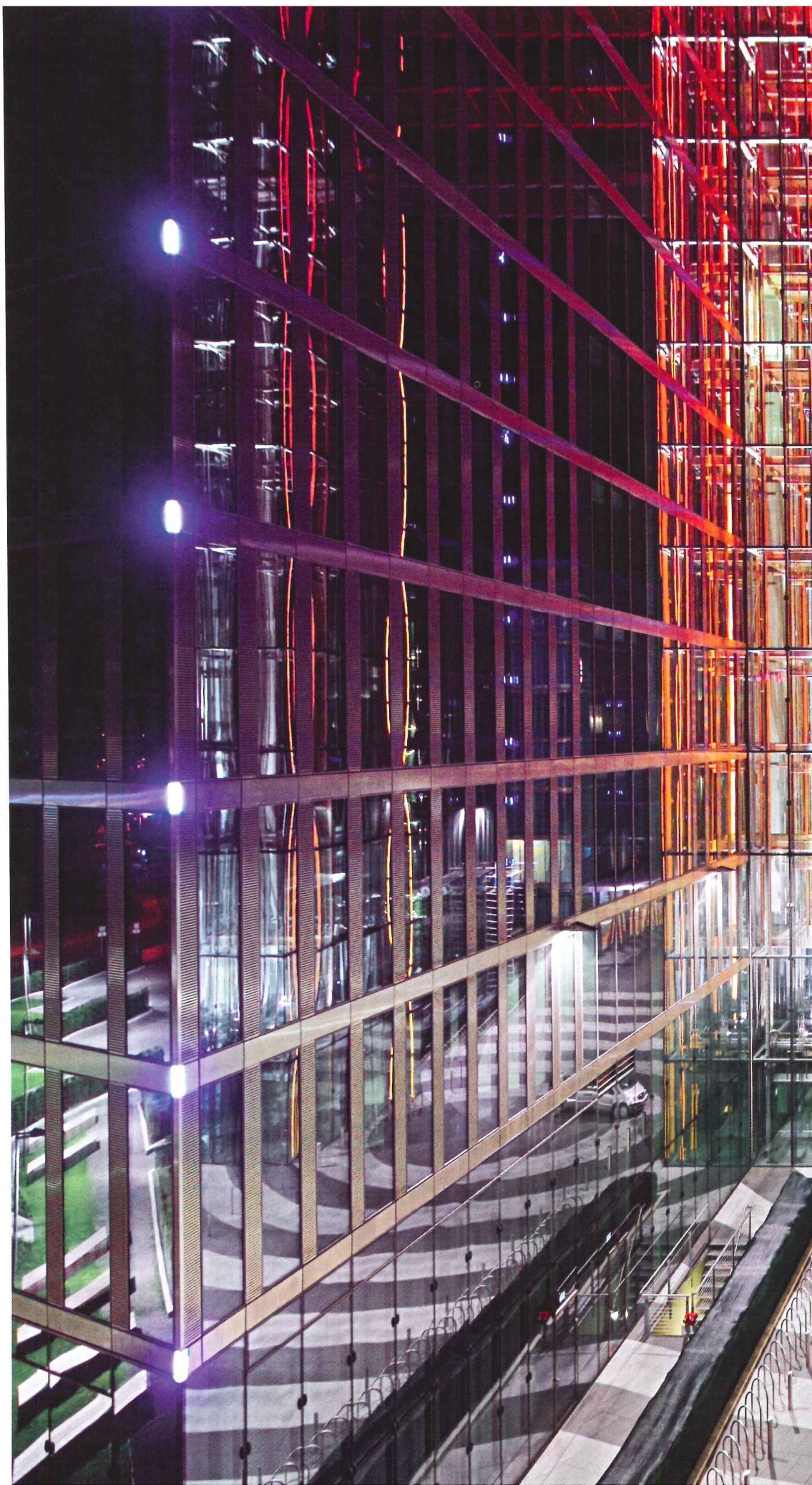
mous leasing flexibility.

Up close, the towers are undeniably light on their feet. Murphy/Jahn claims that the steel structure has one of the highest slimmness ratios in the world, 1 to 10. The buildings' small footprint liberated two thirds of the site for a landscape by Peter Walker, which opens the site visually to nearby park space. Above a 750-car, three-level garage, Walker united the site by drawing large concentric circles of black and white stone that run from the courtyards into the lobby.

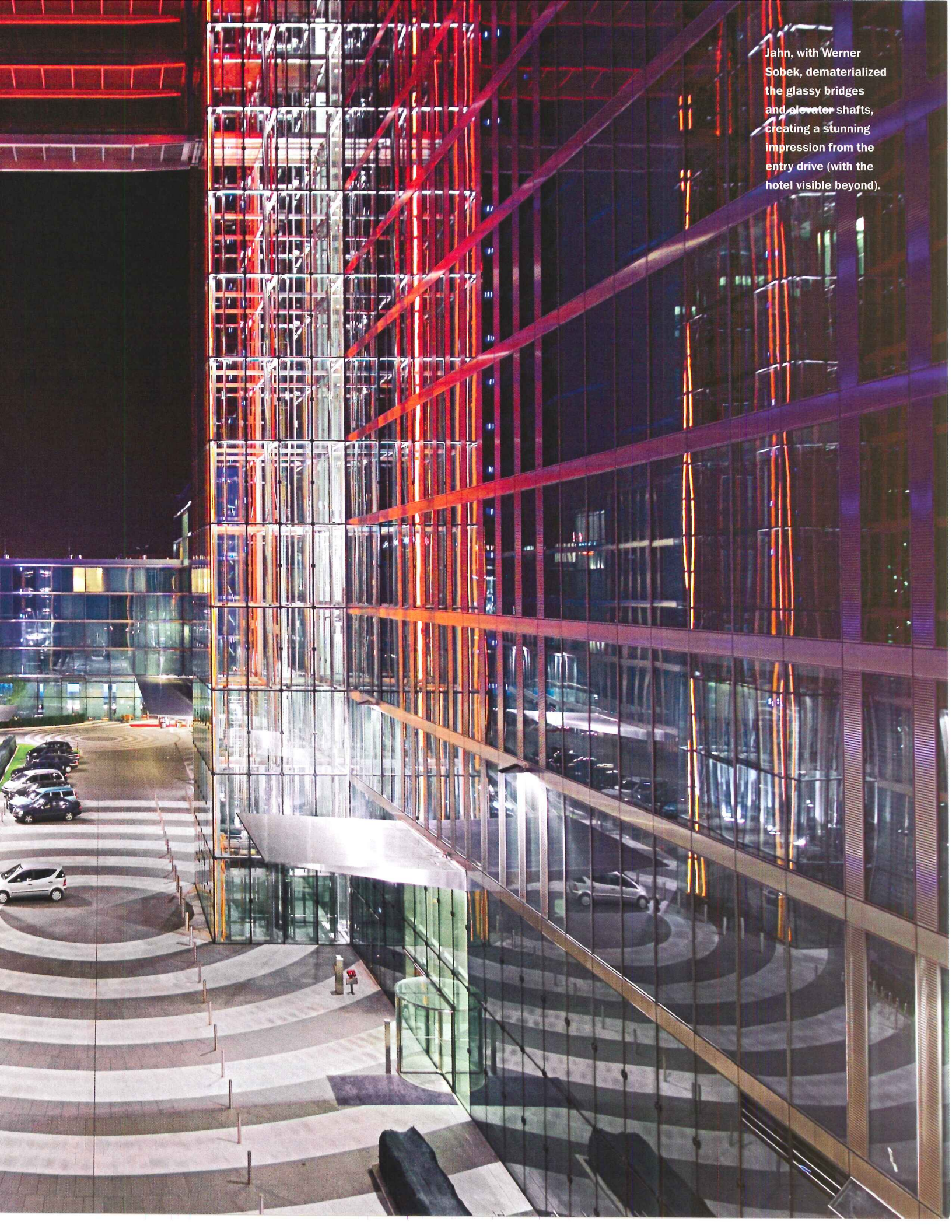
German codes demand natural ventilation and offices with windows that open, along with strict limits on energy use. In the past, Jahn and other designers have met these requirements with costly double curtain walls separated by an insulating airspace. At the Highlight Towers, Jahn and Sobek trimmed the extra cost by designing a single-layer facade of large, triple-glazed, fixed-glass panels, alternating them with tall, narrow ventilating panels. Faced on the outside with perforated stainless-steel sheets, the ventilating panels open inside via full-height, double-glazed casement windows.

The same ventilating panels feed fresh air to ducts that run to heating and cooling fan units on each level. Conditioned air moves under the raised floor and into the office space through low-velocity displacement outlets. (In the displacement concept, the buoyancy effect of warm air—rather than fan power—draws in fresh, cooler air from the floor.) Tiny perimeter fan units, along with the operable windows, offer individual thermal control. Radiant pipes in the slab above the ceiling, connected to a heat exchanger, draw off or supply additional heat at almost no energy cost.

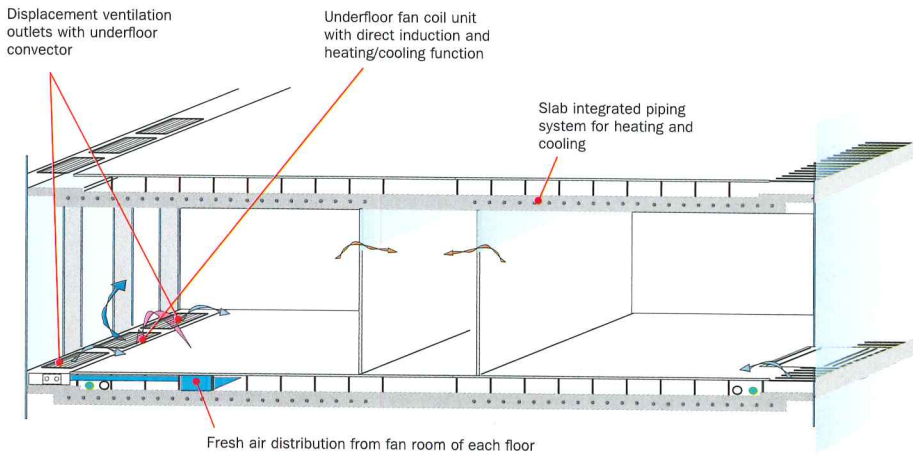
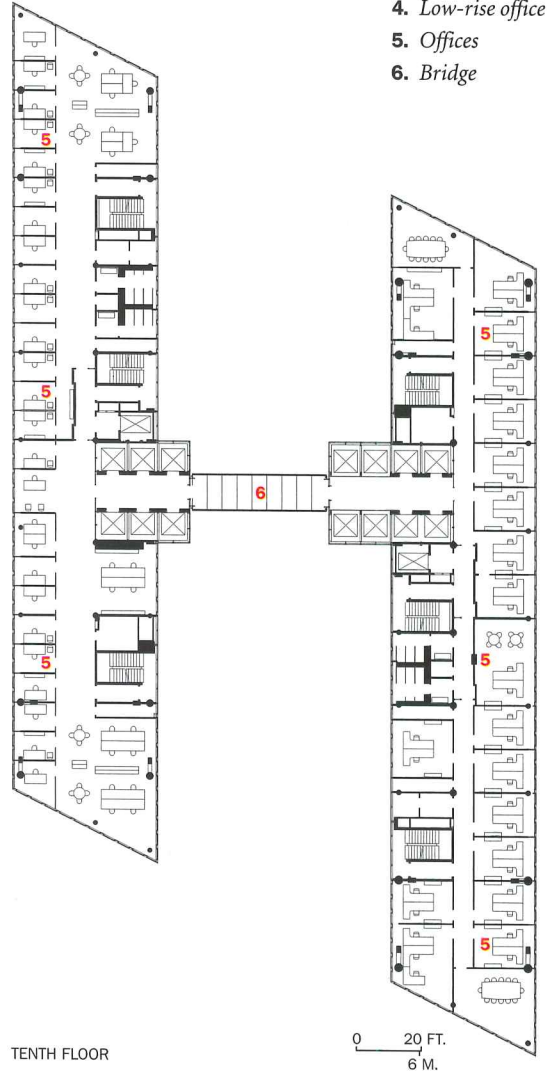
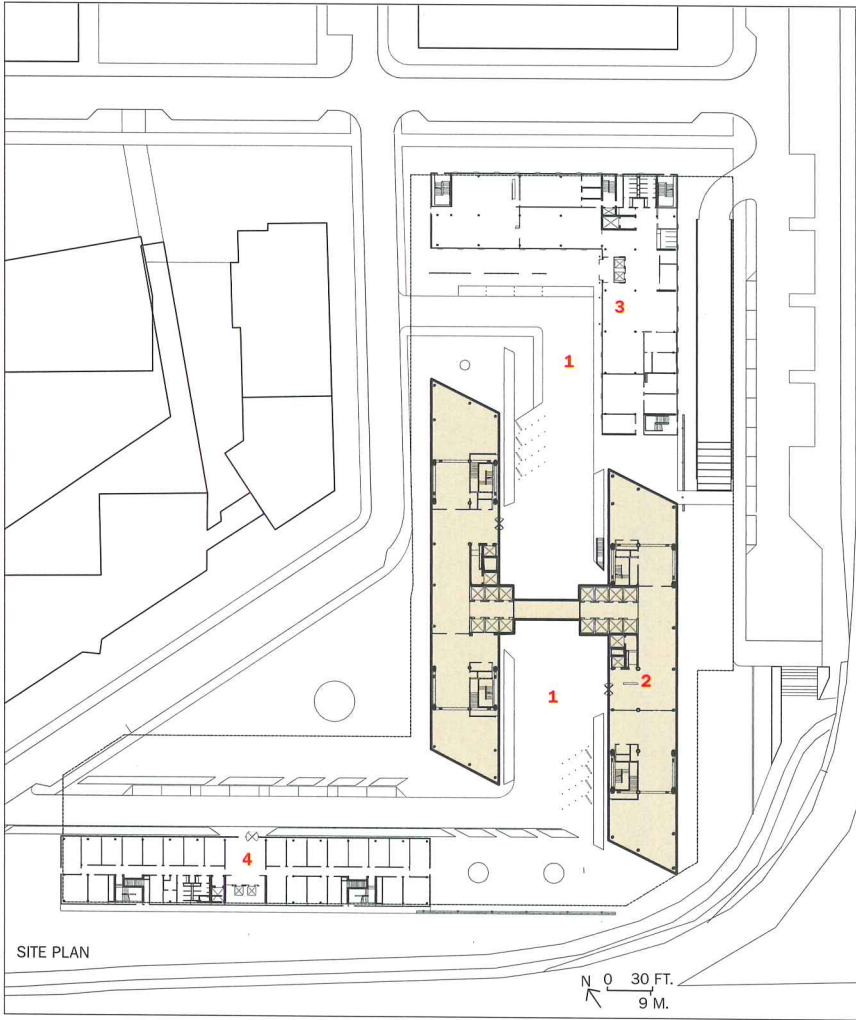
The elaborateness of these multiple systems (by American standards) is offset by a gain in usable space that accrues because the building has no need for a rooftop mechanical penthouse (the space, roof glazed, is rented instead) and avoids extensive conventional duct-



Jahn, with Werner  
Sobek, dematerialized  
the glassy bridges  
and elevator shafts,  
creating a stunning  
impression from the  
entry drive (with the  
hotel visible beyond).



1. Entry drive
2. Tower
3. Low-rise hotel
4. Low-rise office
5. Offices
6. Bridge



The Munich towers alternate sealed triple-glazed windows with operable lites protected by perforated

steel panels (above), part of a natural ventilation scheme (left) augmented by small, fan-coil units.





The “clip-on” bridges (this page) permit large, contiguous floors without sacrificing day light, views, and natural ventilation.

work and shafts.

In the hotel, Jahn turned to his interior design firm, Jahn Lykouria of London. They designed chairs, tables, even the three-watt LED reading lamps mounted flush in the headboards. Sleeping areas flow into glass-enclosed baths fitted with dish-shaped, stainless-steel sinks in glass countertops. Since Jahn did not want to interrupt the door-size windows with railings, local authorities will only permit them to open a few inches, for safety. The restaurant shows the same maximum attention to Minimalist detail, with an underlit glass bar over a bamboo floor, projection screens, and huge plate-glass panels held in thin mullions.

### Commentary

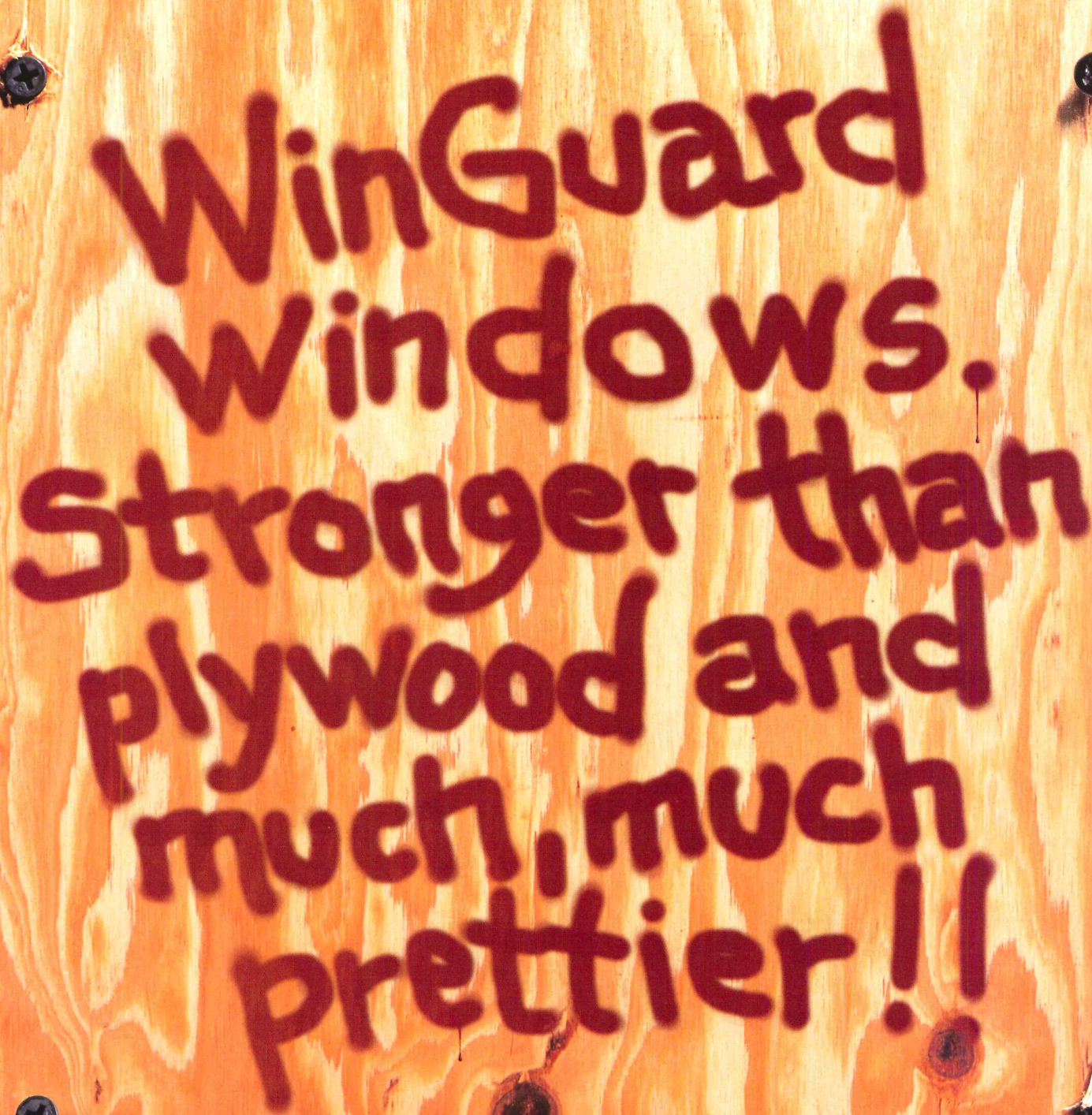
Not just technically innovative, the project has become an urban land-



Few columns obscure the panoramic views (top). Large, triple-glazed windows alternate with narrow panels that open to breezes (bottom).



mark—honed to a simplicity that keeps it sophisticated. I had not expected the towers to be so magnetic in person. They draw your gaze from different vantages because of the intriguing way their relationship to each other changes. With the project's inward focus and hidden entrances, it is not pedestrian friendly at street level now, in spite of the open space. That should change if the towers help to draw new development, animating the street. In their prominent and convenient location, the Highlight Towers also are waking up Munich, whose citizens liken their city to Sleeping Beauty's castle submerged in slumber. They join the recently completed Allianz soccer stadium by Herzog & de Meuron and Coop Himmelb(l)au's BMW Welt experience center opening next spring. ■



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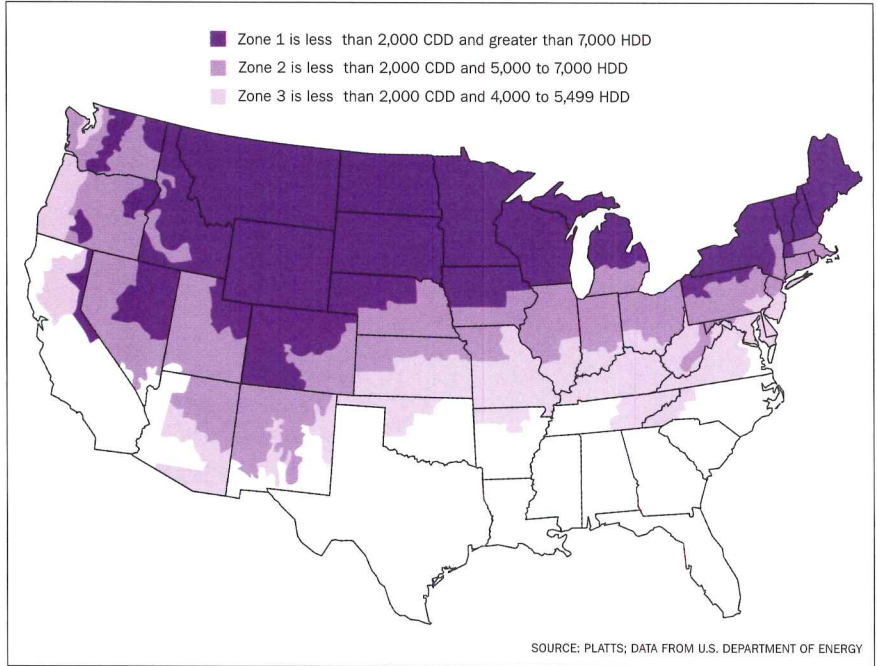
# Can a New Kind of Heat Pump Change the World?

**AN ELECTRIC-BILL-BURDENED ENGINEER HAS DEVELOPED WHAT THE HVAC INDUSTRY HAS IGNORED: A HEAT PUMP THAT WORKS WHEN THE TEMPERATURE IS BELOW ZERO. WILL CONSUMERS BEAT A PATH TO HIS DOOR?**

By Charles Linn, FAIA

**W**hen David Shaw got a \$400 electric bill in 1995, he was inspired. He had recently retired from his job as compressor designer and refrigeration engineer at the Carrier Corporation, and had moved into a New Britain, Connecticut, condominium that was heated and cooled by an air-source heat pump. “It worked great,” he says, “except when it got cold. The air-conditioning industry never developed a heat pump that could heat a home when it is really cold outside.” So, Shaw set up an R&D lab, Shaw Engineering Associates, and started developing the heat pump that could.

Everyone loves the idea of heat pumps, because it’s as if they give us something for nothing. Conventional air-source models heat or cool using thermal energy that is naturally present in the air, and their cousins, geothermal heat pumps, tap the heat that is present in earth or water. These devices “compress” this energy to yield temperatures required to condition interior space. Air-source types are commonly used to condition homes and small commercial buildings in the southern part of the U.S. and in many parts of the world. Yet they’ve always been very expensive to use where ambient outdoor temperatures begin to approach and go below freezing and, as the map indicates, that leaves most of the U.S. out in the cold. The reason for this is that as temperatures fall, heat pumps become less and less efficient. So, most use electric-resistance heating as a backup when a severe cold snap occurs. But that’s a bit like making buildings into giant toasters—resistance heating is not only terrible from an efficiency standpoint, but when hundreds of thousands of resistance



SOURCE: PLATTS; DATA FROM U.S. DEPARTMENT OF ENERGY

**Platts E Source expects that the low-temperature heat pump will be competitive with conventional heat pumps and central air in Zones 1 and 2. In Zone 3, utility companies would likely have to provide consumers with incentives to get them to make the switch.**

heaters go online at the same time, electric utilities experience peak-loading. Their distribution systems are taxed, they must bring extra power plants online to meet demand, and they pay dearly to buy power from other utilities. Utility companies build these costs into their retail customers’ base rates.

The absence of viable low-temperature air-source heat-pump (LTHP) technology has left the geothermal heat pump as the only practical alternative for people who wish to use heat pumps in cold climates. The first-costs for these systems is higher than it is for fossil-fueled heaters because they are complex, and the systems that draw heat from natural sources can be difficult to install. Payback periods for them can be reasonable, but many urban and suburban sites are unsuitable because they lack either the real estate needed for ground loops or sources of water.

From a thermodynamics standpoint, the LTHP has always been possible, and Shaw says that most of the knowledge and components necessary to make LTHPs have been around “since I got in the business in 1958,” but they were never developed. Low prices for fossil fuels, and low first-costs for equipment have assured that furnaces and boilers continue to dominate the U.S. space-heating market. This didn’t deter him, and he tackled the problem in the mid-1990s, knowing full well the market forces needed to make the product a home run might not converge for years. Considering what is now known about global warming, and unprecedented prices for fossil fuels, it might be time for the LTHP to start changing the world, because it seems impossible that millions of individ-

## CONTINUING EDUCATION



Use the following learning objectives to focus your study while reading this month’s ARCHITECTURAL RECORD/AIA Continuing Education article. To receive credit, turn to page 168 and follow the instructions. Other opportunities to receive Continuing Education credits in this issue include several sponsored sections beginning on page 173.

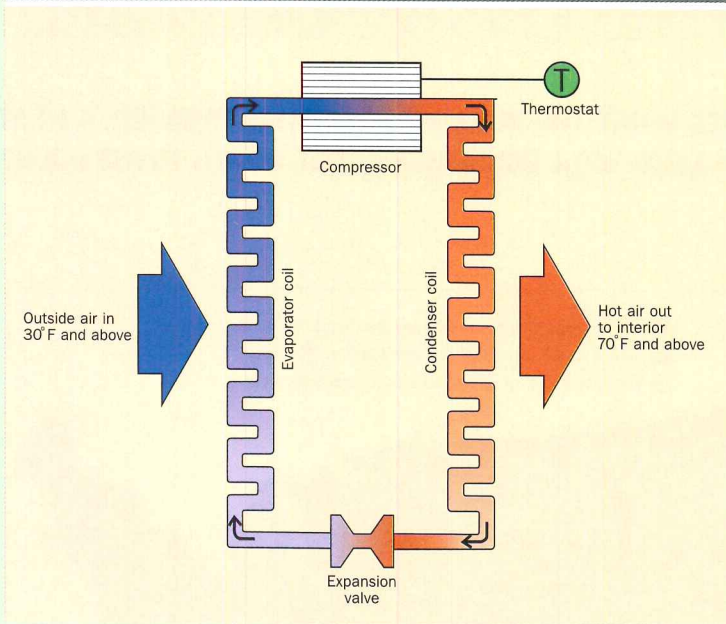
## LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Explain the difference between types of heat pumps.
2. Describe how a heat pump works.
3. Discuss solutions to using heat pumps in cold climates.

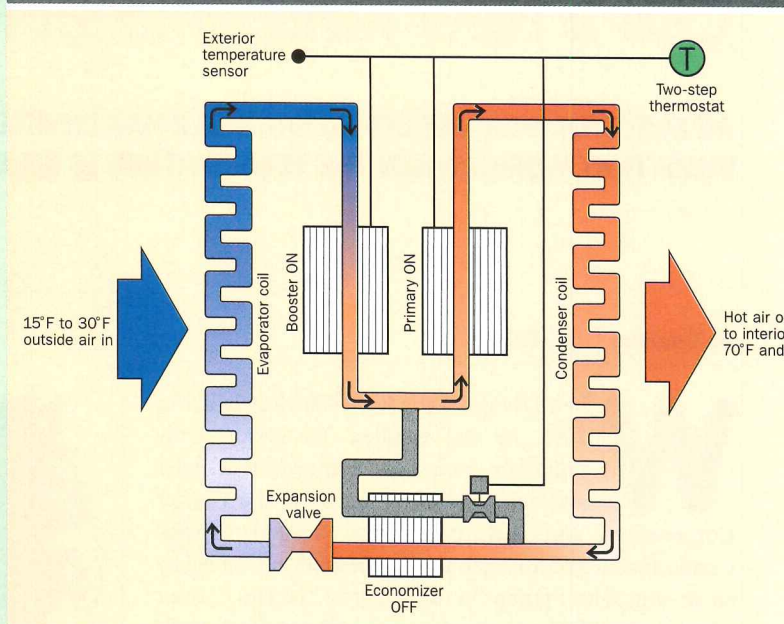
For this story and more continuing education, as well as links to sources, white papers, and products, go to [www.archrecord.com](http://www.archrecord.com).

**1. CONVENTIONAL HEAT PUMP**



The difference between a conventional heat pump (above left) and the LTHP is the addition of a second “booster” compressor and a “subcooling economizer,” which is a heat

**2. LOW-TEMPERATURE HEAT PUMP-STAGE 1**



exchanger. In Stage 1 mode (above right), the booster compressor is activated when the outside temperature reaches 25 degrees Fahrenheit. The extra capacity it provides

allows a much greater quantity of low-density refrigerant to be compressed into the liquid required to bring heat to the interior of the building. In Stage 2 (opposite), the econo-

mizer kicks in. It is a heat exchanger that uses heat usually wasted to produce refrigerant vapor sent directly to the primary compressor, instead of into the evaporator coil.

ual residential and light-commercial heating systems, each burning its own fossil fuels, can be sustained indefinitely. In terms of carbon production alone, it is better to have hundreds of utilities produce the power to run millions of heat pumps. Electric utilities have lots of options available to them for reducing their carbon footprint that are not available to the natural gas industry. These include carbon capture and storage, nuclear power, wind generation, and other renewables.

In 2005, Platts E Source, a Boulder-based consulting group that does research for the utility industry, released a report called “Can the Low-Temperature Heat Pump Defrost the Status Quo in the Space Heating Sector?” The authors, Jay Stein, Andria Jacob, and Jon Slowe, indicate that none of the major U.S. HVAC manufacturers is even doing research in the area of LTHPs. Without the market demand, the big companies simply aren’t interested in the concept, even though E Source estimates that the market could be as high as 2.2 million units annually.

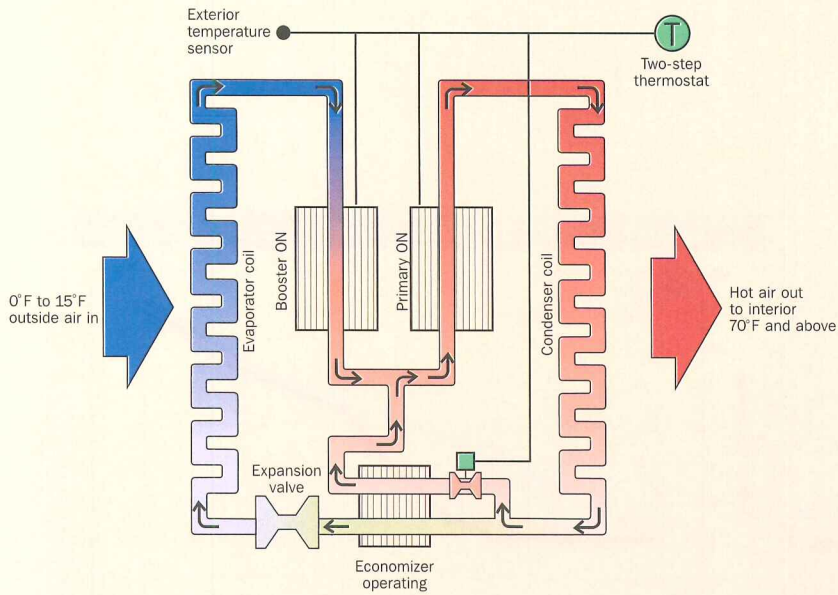
But the paper also describes how far the LTHP has to go. Very few LTHPs of Shaw’s design—only between 150 and 200—have ever been installed. Nyle Special Products, of Bangor, Maine, licensed the rights to Shaw’s patents for a few years and made them under the Cold Climate Heat Pump name between 2002 and 2005. A number of electric utilities conducted tests of the Nyle product with mixed results, mostly due to manufacturing glitches and installation problems. When they worked, they worked very well. But Shaw decided to take his patents elsewhere, and Nyle can no longer manufacture the products that used them. Shaw has become the chief technology officer of a new company, Hallowell International (<http://www.gotohallowell.com>), also of Bangor.

Hallowell hopes to start producing 2000 LTHPs for beta testing this year. Shaw also says that his company’s heat pump will only cost about 20 percent more than conventional heat pumps, which doesn’t seem like much, of course. But, as long as heating with natural gas or heating oil is cheaper than heating with electricity month after month, year after year, it will be hard to persuade consumers to buy them. On the other hand, utility companies often use economic incentives to push new technologies out to consumers. Those that have excess capacity to sell in winter, or experience peak-loading conditions at this time of year, are very interested in the product.

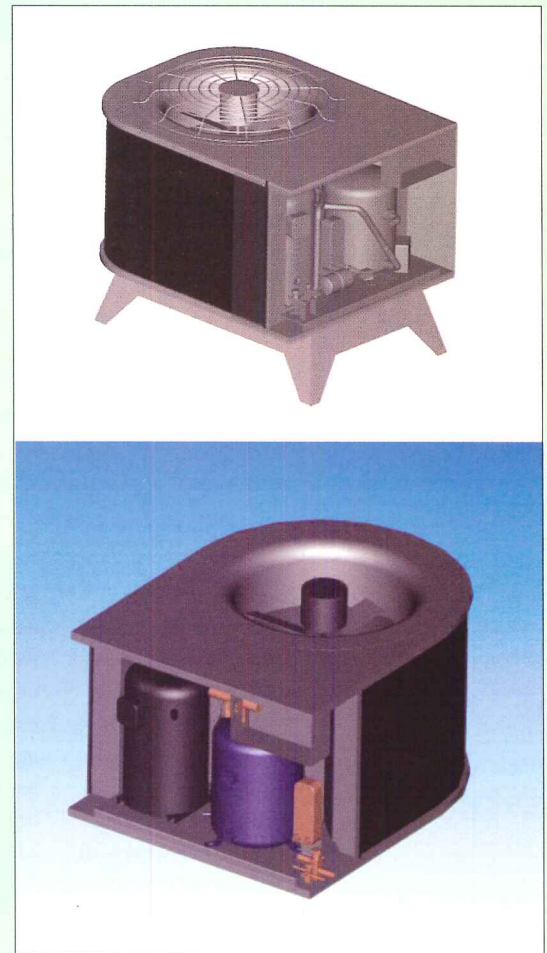
**Heat Pumps 101**

Here’s a refresher course on heat-pump basics. Refrigerants are the life-blood of every heat pump, refrigerator, or air-conditioning system. These materials are extremely efficient at absorbing thermal energy in one place, and moving and releasing it in another. Water is often used to move thermal energy in heating and air-conditioning. But the refrigerants used in heat pumps have many advantages over water. They don’t freeze at 32 degrees Fahrenheit, and they boil at temperatures that are much lower than 212 degrees Fahrenheit. Their boiling points can also be raised or lowered significantly by pressurizing or depressurizing them, so when and where they are changed from a liquid state into a vapor or gas can be controlled. That’s very useful, because it is when they are changing states that they do their work, absorbing heat when they are changing from a liquid to a gas, and releasing it when they are changing from a gas back into liquid. Old ozone-depleting refrigerants have been replaced by new ones

### 3. LOW-TEMPERATURE HEAT PUMP-STAGE 2



The LTHP has legs (top) to keep it out of snow and ice, which improves winter efficiency. The gray cylinder is the booster compressor; the gold-colored box is the economizer (right).



that are also much more efficient at absorbing and giving up heat. Today, R410A is the most commonly used refrigerant for both residential and light-commercial systems.

To understand how refrigerant works, imagine a closed bottle full of it sitting in a cold place, and assume the container is partly full of liquid refrigerant and partly of the refrigerant in a gaseous state. If it was moved to a warm place, it would gradually absorb heat from its surroundings, and as it did so, the liquid refrigerant would boil, evaporating into a gas. The pressure inside the bottle would increase until the boiling stopped, because as the pressure in the bottle increased, so would the temperature at which the liquid boils. If the bottle was put back in a cool place, the vapor would give up heat into its surroundings, condense back into liquid, and the pressure in the bottle would decrease.

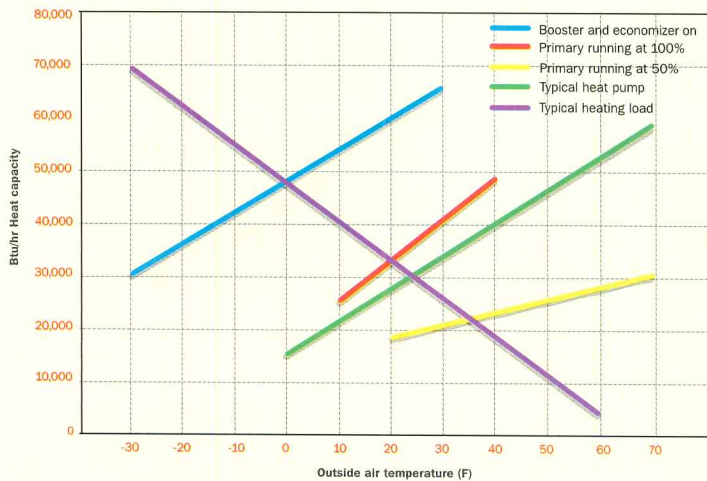
Now suppose that the bottle is replaced with a closed loop of tubing filled with refrigerant, half of it inside a building, where it's warm, and half outside, where it's cold. The refrigerant inside the tubing would change states constantly, boiling, evaporating, and condensing, moving heat from the inside of the building to the outside and returning for more. The only time it would stop changing states is when the temperature inside the building equaled the temperature outside. A heat pump does the opposite, using the refrigerant to gather heat from the air outside of the building and move it to the interior. To do this, it is necessary to add two components to the loop. One is a compressor (see opposite page, diagram 1), which pressurizes vapor so it can be turned into liquid inside an assembly, called the condenser. The condenser is made up of coils of tubing running through sheet-metal fins, which is

installed downstream from the compressor. It provides lots of surface area, so the heat in the refrigerant can be transferred to the air efficiently when it condenses. When a heat pump is being used to heat a building, the condenser is placed inside, adjacent to a fan that forces the warm air into ductwork.

The other component needed to make a heat pump from the loop of refrigerant-filled tubing is an expansion valve. This device is placed downstream from the condenser. It restricts the flow of the refrigerant inside the condenser so the compressor can build up pressure that's necessary to condense the gas into a liquid. It also keeps this liquid from leaving the condenser before the heat it contains has fully transferred out of it. Expansion valves can be modulated, so that the amount of pressure in the condenser is variable, and the rate the condensed liquid leaves the condenser can be controlled. The pressure downstream from the expansion valve is much lower than it is in the condenser, so when warm liquid refrigerant leaves the condenser and is forced through the expansion valve, where the boiling point is also lower, some of it "flashes" into vapor. The temperature of liquid that left the condenser now becomes cold as it enters an assembly of pipes and sheet-metal fins, called the evaporator, which sits outside the building. It is at this point that any heat that remained in the warm liquid refrigerant after it left the expansion valve is boiled off into cold vapor. As it changes state, it absorbs heat from the outside air, helped along by the evaporator's large surface area. Soon, the thermal-energy-laden vapor is on its way back to the compressor to start the cycle all over again.

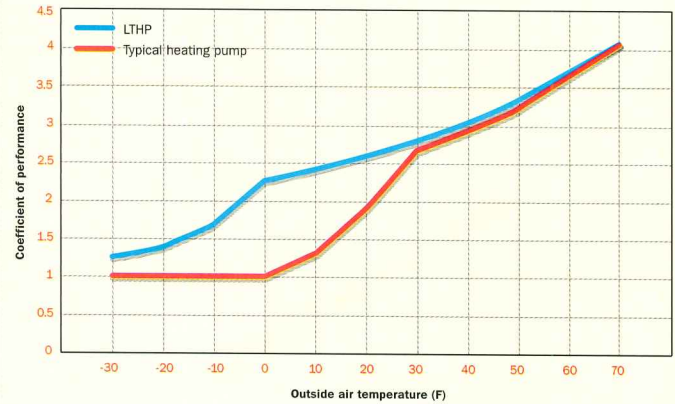
What differentiates a heat pump from an air conditioner used

3-TON LTHP HEATING CAPACITY BTU/HR VS. TYPICAL HEAT PUMPS



The top graph shows how well different parts of an LTHP keep up as the temperature drops. With everything running, an LTHP keeps up with heating load until 0 degrees Fahrenheit, while conventional heat pumps bottom out at 25 degrees. The graph at right shows coefficients of performance of performance. At 0 degrees, the LTHP makes twice as much heat per unit of electricity input as the conventional heat pump.

3-TON LTHP VS. TYPICAL HEAT PUMP USING BACKUP RESISTANCE HEATING



strictly for cooling is that the direction of the refrigerant flow can be reversed—the evaporator and condenser can be switched end-for-end, so one can deliver either heat or cooling to the inside of a building. In cooling mode, the condenser is outside, and the evaporator is inside.

#### Efficiency counts: how the LTHP works

As the temperature starts getting near freezing outside, the amount of heat that can be absorbed by the liquid refrigerant boiling in the evaporator decreases. This is because the pressure of the boiling liquid (measured in pounds per square inch) inside the evaporator decreases, and so does the density of the vapor (measured in pounds per cubic foot) the boiling liquid turns into. This causes two problems. First, the compressor has to work

### A LTHP WILL COST ABOUT 20 PERCENT MORE THAN A CONVENTIONAL AIR-SOURCE HEAT PUMP, ACCORDING TO ITS INVENTOR.

harder to pump it because the pressure has dropped. Second, because the amount of heat that vapor can carry is proportional to its density, the compressor doesn't have the capacity to deliver sufficient heat from the outside air to keep the inside of the building warm. As the temperature continues to go down, the situation worsens and, at 30 degrees Fahrenheit, the backup resistance built into most air-source heat pumps turns on.


The most obvious way to solve the problem would be to put a really big compressor into the system. But when it's not very cold outside, this overcapacity would cause the system to be so inefficient that it would be counterproductive. So instead, Shaw decided to add a second compressor, which he calls a *booster compressor* (see page 164, diagram 2). This is installed between the evaporator coil and what he calls the primary com-

pressor—the compressor that's already present as standard equipment in every heat pump. Most of the time, the booster compressor would be bypassed, and only the primary would compress the vapor that is generated in the evaporator. When the vapor pressure and density dropped below a certain point, however, the booster compressor would be allowed to come on if the outdoor air temperature had dropped below a certain point and the thermostat inside the building is also calling for more heat. The booster compressor has a much larger displacement than the typical primary compressor, so when it is enabled, it can move many more cubic feet of vapor per minute. The LTHP's performance can be enhanced in the future when variable speed booster compressors are introduced.

Shaw also knew that in most heat pumps, even after the liquid refrigerant has given up much of its heat to the condenser, it is still pretty warm. When it gets really cold outside, this warmth causes as much as 40 percent of that liquid to vaporize as it goes through the expansion valve. It would be better if it cooled first. That way, more of the refrigerant would remain in liquid form, so it could be boiled later on in the evaporator coil, where it absorbs heat from the outside air while changing states. Shaw figured that one way to cool the refrigerant would be to "donate" some of its surplus heat to a process that would create a source of high-density vapor that would bypass the evaporator coil altogether and be sent directly to the primary compressor.

Shaw calls the device he uses to do this a *subcooling economizer* (see page 165, diagram 3). It is a heat exchanger that is placed between the condenser and the expansion valve. It splits the refrigerant liquid coming from the condenser into two streams. The majority of the refrigerant passes through one side of the heat exchanger, where it gives up the heat necessary to vaporize a smaller stream of refrigerant being fed into the other side of the exchanger. This vapor is then sent to a point





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between the booster compressor and the primary compressor, while the larger stream of liquid refrigerant, now cooled significantly, is sent through the expansion valve and on to the evaporator coil, where it boils into vapor.

The LTHP wouldn't work if it weren't for an impressive array of sensors and controllers that place the different components in the system into action in the proper sequence at the proper time. Energy is never used to supply excess capacity to the system. The indoor thermostat is a two-step model, which alters the capacity of the system based on small variations in indoor air temperature. When the thermostat first calls for heat, only 50 percent of the primary compressor's capacity is energized until the outdoor ambient air temperature drops to 40 degrees Fahrenheit, when the primary compressor begins working at 100 percent of capacity. The booster compressor won't come on until 25 degrees, and only if the second step of the thermostat calls for it. At 5 degrees, the subcooling economizer is activated, but again, only if the second step of the thermostat calls for it.

### How well LTHPs perform

The graphs on page 166 show the actual performance of the LTHP units that are now under development at Hallowell International, according to measurements taken in the company's labs. Shaw says they have been verified by an independent lab, as well. Above 30 degrees Fahrenheit, the energy efficiency of the LTHPs is fairly consistent with most common heat pumps, but as Shaw says, "Below 30 is where the action is." One of the graphs shows the performance of a 3-ton LTHP, in Btu per hour, compared to a conventional heat pump, as the exterior temperature falls. At 0 degrees, with the

economizer, primary, and booster compressors all running, the LTHP is keeping up with the heating load, but the air-source heat pump cannot keep up below 25 degrees. The other graph shows coefficients of performance (COP) for the two heat-pump types. The COP is the ratio of the energy transferred for heating to the input electric energy used in the process—the higher the COP, the more efficiently the unit operates. Below 30 degrees, the efficiency of the heat pump using resistance heating drops very quickly. At 0 degrees, the typical air-source heat pump has basically stopped producing any heat and is using only its electrical-resistance heat, which has a COP of 1, while the COP for the LTHP is 2.23.

So, can the LTHP change the world? Not just yet. E Source's studies show that the calculation of an owner's payback for installing one, as compared to a furnace, differs greatly by region and involves such variables as prevailing costs for fossil fuels, electric rates, and weather conditions. Often, both furnaces and water heaters have to be changed to electric models in order to make the numbers work, so utility companies will have to embrace the technology and push it to their customers aggressively.

For any innovation in the HVAC industry to succeed, sales, distribution, and installation training obstacles have to be overcome, not to mention the kind of manufacturing problems that plagued the first generation of LTHPs that made it into the field. Probably, the hardest thing to overcome is cultural: It's simply the reluctance of both utility companies and consumers to place their trust in a new product, even if the technologies that made it possible aren't new. Hopefully, the optimism that inspired David Shaw to come this far will continue to encourage him and his company to keep trying. ■



## AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

### INSTRUCTIONS

- ◆ Read the article "Can a New Kind of Heat Pump Change the World?" using the learning objectives provided.
- ◆ Complete the questions below, then fill in your answers (page 236).
- ◆ Fill out and submit the AIA/CES education reporting form (page 236) or download the form at [www.archrecord.com](http://www.archrecord.com) to receive one AIA learning unit.

### QUESTIONS

1. Geosourced heat pumps tap the heat that is present in which?
  - a. earth and air
  - b. air and water
  - c. earth and water
  - d. earth and rock
2. Which do heat pumps compress in order to achieve desirable temperatures?
  - a. energy
  - b. air
  - c. water
  - d. refrigerant
3. As temperatures fall, typical heat pumps do which?
  - a. become less efficient
  - b. become more efficient
  - c. become a toaster
  - d. quit working
4. Geothermal heat pumps are not used in urban areas for which reason?
  - a. lack of earth depth
  - b. lack of adequate water sources
  - c. lack of fossil fuel
  - d. lack of bedrock
5. When the refrigerant in a heat pump is changing from liquid to gas, it is doing which?
  - a. releasing heat
  - b. absorbing heat
  - c. storing heat
  - d. converting heat
6. The freezing and boiling points of refrigerants can be changed by which?
  - a. cooling
  - b. heating
  - c. pressurizing
  - d. vaporizing
7. The device that restricts the flow of refrigerant is which?
  - a. condenser
  - b. compressor
  - c. tubing
  - d. expansion valve
8. When the warm liquid refrigerant is forced through the expansion valve, it does which?
  - a. flashes
  - b. the boiling point drops
  - c. instantly boils
  - d. all three above
9. A heat pump is differentiated from an air conditioner by which?
  - a. the pressure of the refrigerant is reversed
  - b. the volume of the refrigerant can be altered
  - c. the expansion of the refrigerant can be controlled
  - d. the direction of the refrigerant can be reversed
10. The low-temperature heat pump is more efficient than other heat pumps below which temperature?
  - a. 10 degrees Fahrenheit
  - b. 20 degrees Fahrenheit
  - c. 30 degrees Fahrenheit
  - d. 40 degrees Fahrenheit

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LANDMARK PROJECT

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2



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## Stretching the digital imagination

By James Murdock

### Acrobat 3D

Adobe Systems  
[www.adobe.com](http://www.adobe.com)  
Windows

Adobe Systems has added a new dimension to its Acrobat product suite—literally. Acrobat 3D includes all of the features available in Acrobat 7.0 Professional plus the ability to create PDF files that feature detailed 3D models. Using the software, designers can import objects from CAD programs such as MicroStation without the native modeling software installed on their computers. Then, within the Acrobat authoring environment, they can rotate objects, change the color or graphic style, create cross sections, animate models, create walk-throughs, and more.

### MaxonForm for ArchiCAD

Graphisoft  
[www.graphisoft.com](http://www.graphisoft.com)  
Windows and Mac

For every architect who has fantasized about an easy way to warp and extrude rectilinear volumes in ArchiCAD without using special scripts or GDL editing, MaxonForm might be the right solution. Based on Cinema 4D, a free-form modeling program used mainly by the entertainment industry, MaxonForm is a plug-in for Graphisoft's ArchiCAD software. It allows architects to model organically within ArchiCAD's Virtual Building platform, using basic shapes such as cubes, pyramids,

For more information on technology for architects, including reviews, vendor lists, and links, go to Digital Architect at [www.archrecord.com](http://www.archrecord.com).

cones, cylinders, and spheres, as well as polygon forms, including arcs, bezier curves, and b-splines.

### FormFonts

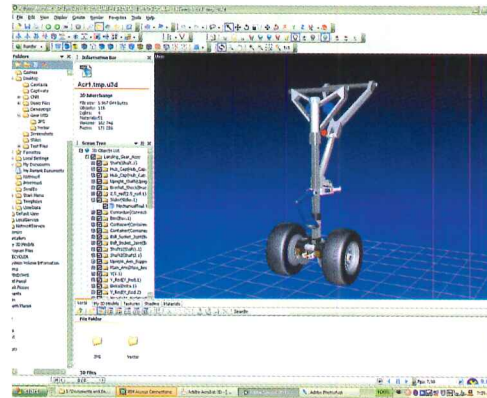
FormFonts  
[www.formfonts.com](http://www.formfonts.com)  
Windows and Mac

Offering something for A&D firms of all sizes, FormFonts provides an inexpensive online library of 3D objects and 2D images of items such as windows, cars, trees, and shingles. For a monthly fee of \$11, subscribers can download thousands of objects from FormFont's Web catalog directly into their CAD programs. The service is ideal for smaller firms that lack the time and resources to create such a library themselves, while its optional online storage can help larger firms that want an easy, secure way of sharing proprietary styles among multiple offices.

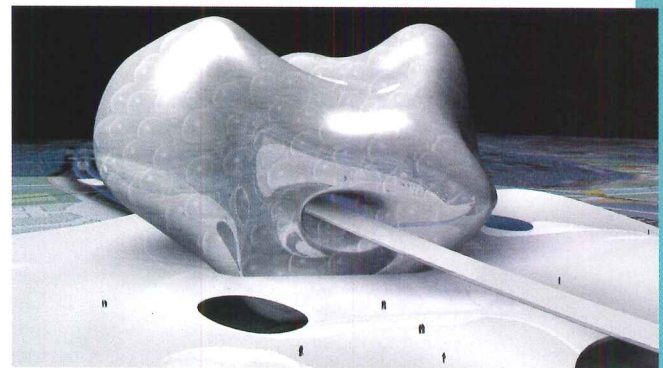
### NetBlender

NetBlender  
[www.netblender.com](http://www.netblender.com)  
Windows

DVDs are great for delivering high-quality photos, plans, and other files to clients, but the format's creators failed to anticipate one feature: DVDs cannot "talk" to the Internet. NetBlender enables DVD programmers to embed active hyperlinks on a disc, thereby creating a viewing environment in which the end user seamlessly shifts between stored content on the disc and additional content, such as streaming video, on the Web. For architects who want to package their portfolios or proposals on DVD, this software eliminates any guesswork for clients surfing the Web for additional or updated information.



Acrobat 3D, the latest offering from Adobe Systems, creates PDF files that feature detailed 3D models.

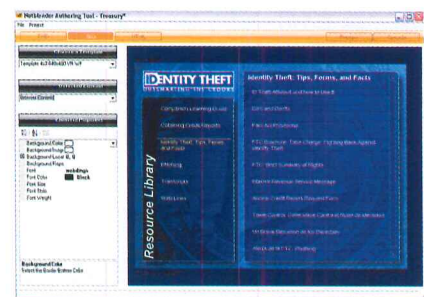


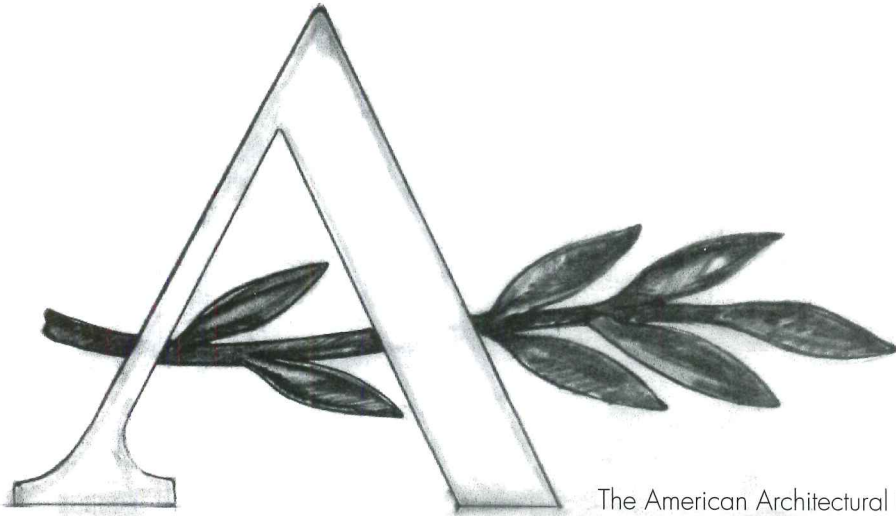
MaxonForm is a plug-in for Graphisoft's ArchiCAD software.



FormFonts provides an inexpensive online library of 3D objects and 2D images of items such as windows, trees, and shingles.

NetBlender software allows DVDs to "talk" to the internet, offering viewers additional or updated information.





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# Exploring the High-Performance Benefits of Laminated Glass

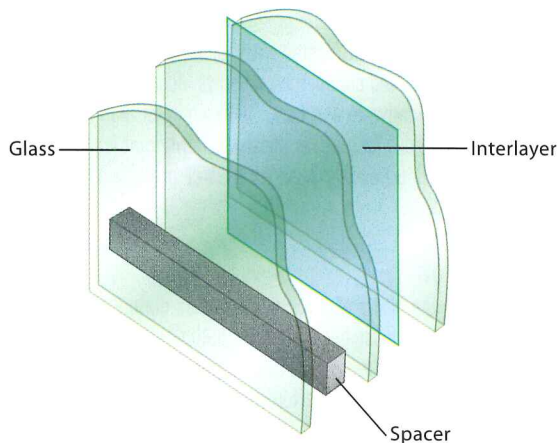
Versatile Building Material Provides Multiple Advantages

Provided by Solutia Inc. and Viracou

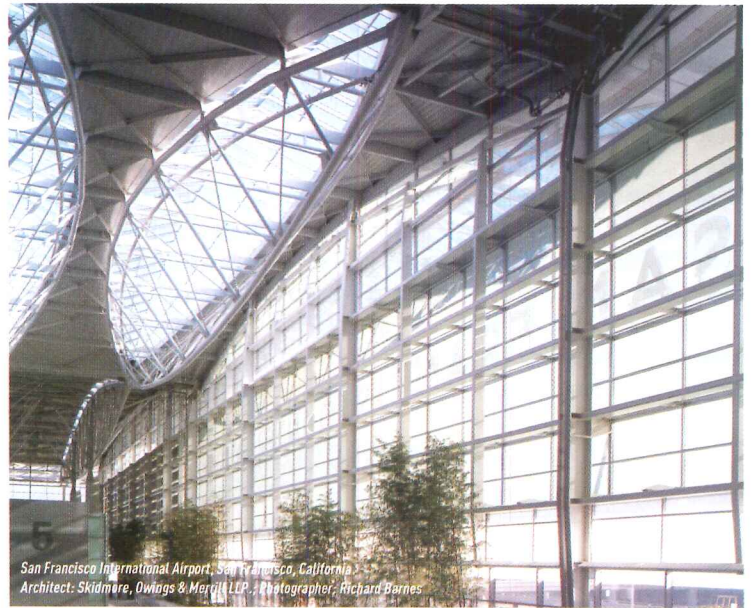
Global terrorism and natural disasters have emphasized the need for architects to address emerging design challenges regarding safety, security, sustainability, and energy efficiency. As the building industry examines these performance issues and design criteria, architects are increasingly turning to laminated glass because of its many high performance benefits.

While laminated glass is a relatively new architectural product in the United States, it has been a popular design tool in Europe for many years. Europe's experience with blasts and natural disasters has led many countries to place a premium on the safety and security of their citizens, especially in public buildings. Standards vary by country, but generally all government and public buildings including hospitals, daycare centers, airports, post offices, and train stations, must be built to withstand blast. In addition to the safety, security, and sound reduction benefits it affords, laminated glass also contributes to sustainability goals, which has further driven demand in many European countries.

Laminated glass is formed by permanently fusing an interlayer between two pieces of glass under heat and pressure. It is rapidly becoming a popular alternative to the often-specified



PVB is the main component in laminated glass. The fused interlayer and glass function as a single unit and can be used in almost any configuration. Used in an insulating glass assembly (pictured above), laminated glass can help improve the thermal and sound-reduction performance of a glazing unit.



tempered glass in safety and security applications. Unlike tempered safety glass, which breaks into small pieces instead of sharp shards, laminated glass remains in the frame, maintaining the building envelope and protecting building contents. Laminated glass also offers multiple security, sound, safety, daylight, and energy benefits, unlike tempered glass.

## Safety

Safety glazing refers to the reduction of the risk or occurrence of injury or loss from accidental or natural causes, while security glazing refers to the reduction of the risk or occurrence of injury or loss from the deliberate or intentional human actions. Safety glazing is specified to protect people from injuries due to accidental glass impact, breakage or fallout, and laminated glass is rapidly emerging as a powerful and versatile safety glazing option. Upon impact, ordinary glass typically shatters and falls from the window frame, which can result in serious or even fatal injuries to building occupants and passers-by. Used in a properly designed system, laminated glass windows may crack, but fragments tend to adhere to the interlayer, reducing hazards associated with falling or flying glass.

### CONTINUING EDUCATION



Use the learning objectives below to focus

your study as you read **Laminated Glass**. To earn one

AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 177, then follow the reporting instructions on page 239 or go to the Continuing Education section on [archrecord.construction.com](http://archrecord.construction.com) and follow the reporting instructions.

### LEARNING OBJECTIVES

After reading this article, you should be able to:

- Understand how laminated glass addresses design and safety challenges.
- Recognize the benefits of laminated glass during hurricanes and earthquakes.
- Explain why laminated glass offers a high degree of security protection.
- Discuss how laminated glass reduces sound transmission.
- Identify the sustainable, energy-efficient performance qualities of laminated glass.

Laminated glass is versatile and suitable for almost any desired configuration. By using laminated glass as the inboard component of an insulating unit, the assembly provides the thermal performance of an insulating air space along with the safety glazing of the inboard laminate.

In appropriate configurations, laminated glass meets all requirements set forth in architectural glazing safety sections of major model building codes and test standards such as the Consumer Product Safety Commission (CPSC). Category I certification requires the glazing to withstand one 150 foot-pound impact, produced by impacting a 100-pound shot bag from a vertical height of 18 inches. Category II certification requires the glazing to withstand one 400 foot-pound impact, produced by impacting a 100-pound shot bag from a vertical height of 48 inches.

SAFETY GLAZING REQUIREMENTS - CONSUMER PRODUCTS SAFETY COMMISSION		
	CATEGORY I	CATEGORY II
Definition	9 sq. ft. or less, except patio doors, shower and tub enclosures	Greater than 9 sq. ft. and patio doors, shower and tub enclosures of any size
Test Requirement	Break safely at 150 ft.-lb. impact	Break safely at 400 ft.-lb. impact
Test Standard	CPSC 16CFR 1201 Category I or equivalent model code standard	CPSC 16CFR 1201 Category II or equivalent model code standard
Complying Laminated Glass Made with PVB	Two-ply with 0.015 in. PVB interlayer or greater	Two-ply with 0.030 in. PVB interlayer or greater

Safety Glazing Requirements – Consumer Products Safety Commission

Laminated glass has also been shown to meet Underwriters' Laboratories (UL) standard UL972 for security glazing, as well as Class I of the American Society of Testing and Materials (ASTM) International's F1233 security glazing test standard.

In vertical safety glazing applications, laminated glass has proven to be a unique design tool for entrance doors, shower and bath enclosures, storm and patio sliding doors, sidelights, and fixed glazed panels. The glass also meets significant design and safety challenges presented by sloped and overhead glazing surfaces.

### Portland International Airport

Air travelers arriving at Oregon's Portland International Airport, designed by Zimmer Gunsul Frasca Partnership, are welcomed by a dramatic, 100,000-square-foot laminated glass canopy that covers and connects the parking garages, floating pedestrian bridges, and roadway leading to the terminal. Because of the sheer volume of glass overhead, safety was paramount in material selection. Laminated glass was chosen because it adheres to the interlayer and remains in its frame if impacted or broken, which makes it safe for overhead glazing applications. In Portland, the laminated glass canopy also provides acoustic insulation from the noise of overhead air traffic and allows natural light in,

creating a bright, pleasant environment for travelers arriving at the airport.



Architect: Zimmer Gunsul Frasca Partnership  
Photographer: Wes Thompson

Portland International Airport, Portland, Oregon.

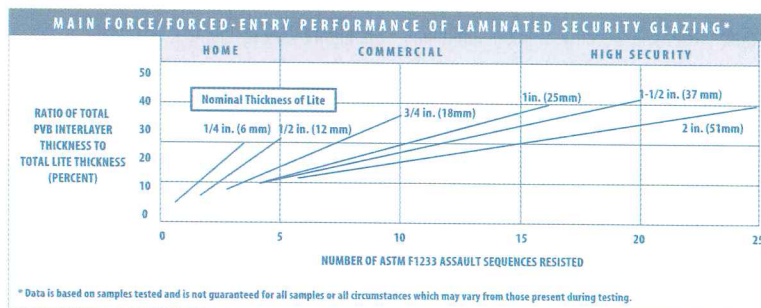
## Security

Around the world, architects and building owners are seeking to balance the desire for living and working in bright, daylight spaces with the need for security protection against criminal and terrorist attacks.

## Burglary and Forced Entry Resistance

Burglaries in commercial buildings and residences are usually directed towards targets of easy opportunity and low perceived risk. The most critical step of a burglary is entry, and the most common means of entry is a window or door.

In correct configurations, laminated glass meets the requirements of significant test standards including: UL972 of laminated glazing products against forced entry, ASTM International and other test standards for security in Home, Commercial and High Security categories. While many forms of laminated glass are considered strong enough to prevent "smash and grab" burglaries, systems can be designed with appropriate glazing thicknesses to resist most weapons used to force entry, including: rocks, hammers, screwdrivers, bricks, pry bars, sledgehammers, pipes, battering rams, chisels, axes, thermal stress weapons (CO<sub>2</sub>, fire extinguishers or propane torches), and chemical deterioration weapons (gasoline and acetone). Even quiet glass cutters become useless tools because laminated glass cannot be cut from only one side. Security glazing products with the greatest overall thickness and largest percentage of interlayers offer the best resistance to forced entry.



Main Force/Forced-Entry Performance of Laminated Security Glazing

Because it withstands most forms of attempted entry, laminated glass is frequently used for enhanced security in residential and commercial windows, doors, and storefronts, providing an aesthetically superior alternative to iron bars. Unlike burglar alarms and other security systems, security glazing provides continuous passive security that is not subject to human error or electronic failure. It ultimately provides greater protection by preventing entry instead of reacting to an entry.

## Ballistic Protection

In addition to withstanding the blows of a variety of objects during an attempted burglary, laminated glass offers protection against ballistic (bullet) attack. In specific ballistic configurations, laminated glass can reduce the risk of injuries from a ballistic attack without compromising the complete visual clarity afforded by a glass system. It can also resist penetration by high-velocity ballistics when constructed in multiple alternating layers of glass and interlayers.

UL test 752 tests the ability of glazing to withstand penetration by various classes or levels of firearms. In order to pass certification for a certain level, the projectile (bullet) must not



penetrate the glazing and must not result in large fragments of glass being forcibly thrown from the witness side of the sample for a distance of 18 inches or more. Based on the UL tests, certain laminate thicknesses are needed to resist specific ballistic impact. Thicker security glazing will exhibit greater resistance to both penetration and glass spall (tiny slivers of glass).

TEST REQUIREMENTS FOR UL 752 - BULLET-RESISTANT EQUIPMENT				
UL 752 TESTS*	TYPICAL WEAPON	AMMUNITION CHARACTERISTICS	MINIMUM VELOCITY (FPS)/GRAIN	TYPICAL LAMINATE THICKNESS**
Level 1 Medium Power - Small Arms	Super .38 Automatic/9 mm	9 mm full metal copper jacket with lead core	1,175/124	1-1/4 inches
Level 2 High Power - Small Arms	.357 Magnum Revolver	.357 Magnum jacketed lead soft point	1,250/158	1-1/2 inches
Level 3 Super Power - Small Arms	.44 Magnum Revolver	.44 Magnum lead semi-wadcutter gas checked	1,350/240	1-3/4 inches
Level 4 High Power - Rifle	.30-06 Rifle	.30 caliber rifle lead core soft point	2,540/180	2 inches

\*Test are conducted at approximate temperature conditions expected in use.  
\*\*The projectile must not penetrate the glazing, and the impact must not result in large fragments of glass being forcibly thrown from the rear of the sample for a distance of 18 inches or more.

Notes:  
Higher rating levels are available. Consult the laminated glass manufacturers for appropriate configurations of glazing to pass these levels. Table shows typical laminate thickness needed to resist specific ballistic impact. Thicker security glazing will exhibit greater resistance to both penetration and glass spall.

Test Requirements for UL 752 – Bullet-Resistant Equipment

Because of its demonstrated ability to withstand ballistic penetration, laminated glass is often used to provide round-the-clock protection to employees in high-risk facilities such as banks and prison control rooms, which require extreme ballistic protection and complete visual clarity.

## Blast Resistance

Several of the survivors of the September 11, 2001 Pentagon attack credit blast-resistant laminated glass with saving their lives. The impacted section of the building had just been renovated for security upgrades, which included windows manufactured with a laminated glass component. After the explosion, these windows remained in the frames, providing building occupants protection from flying glass shards.



United States Federal Courthouse, Jacksonville, Florida.  
Architect: HLM Design. Photo courtesy of ©Solutia Inc.

Experts at Texas Tech Glass Research and Testing Laboratory estimate that approximately 75 percent of all damage and injury from bomb blasts can be attributed to flying and falling glass following an explosion. They note that a single square foot of unprotected glass can project as many as 100 sharp shards of glass flying at speeds of up to 300 feet per second. Laminated glass provides passive protection and can mitigate the effects of a blast in several ways. Most importantly, it protects people, both within the targeted building and in the surrounding area and structures. Because laminated glass stays

Typical Glazing Retentivity Under Blast Load  
This courthouse uses insulating laminated units with low-e coatings to address safety and security, and optimize energy performance.

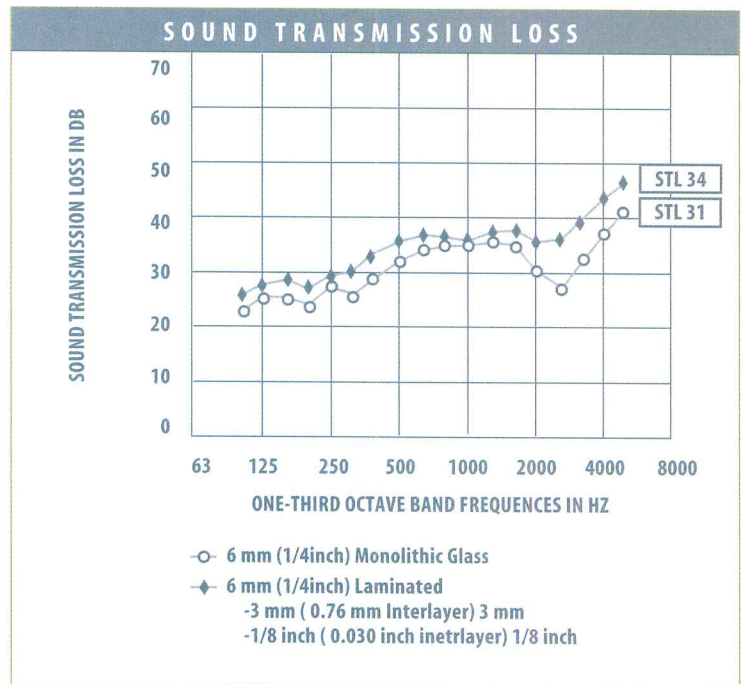
within its frame during the initial blast wave and when impacted by flying debris, it reduces or eliminates flying glass to prevent injuries, and provides protection against flying debris. The glass also protects the building, reducing collateral damage, opportunity for looting, and costs to repair the targeted and surrounding buildings. The performance of laminated glass is often compared to ordinary monolithic glass based on retentivity, or ability to stay in the opening or hold on to glass fragments.

Because of these characteristics, laminated glass meets stringent blast-resistant standards outlined by the U.S. Department of State and the U.S. General Services Administration (GSA), and is used in many federal buildings.

## Sound

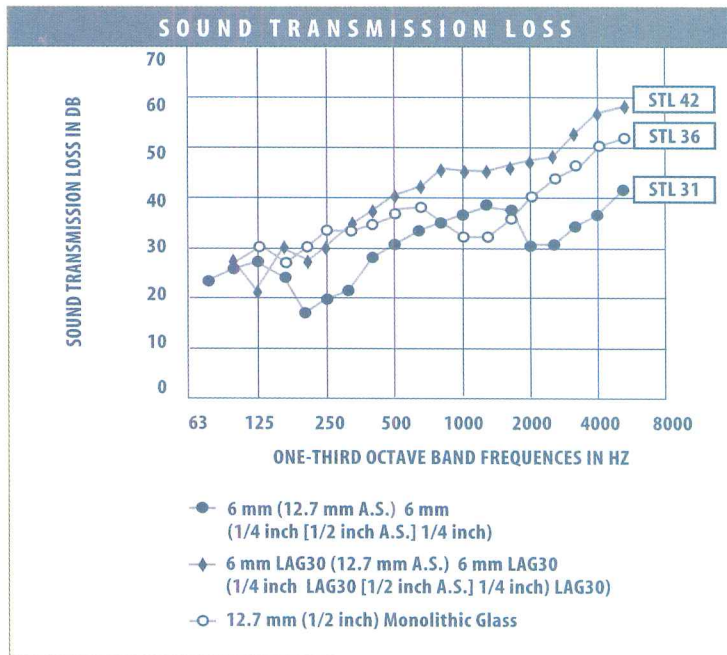
Anyone who has ridden in a luxury automobile has likely noticed the dramatic difference in perceived interior noise between luxury and economy cars. Today, the same technology used to dampen noise in cars is being used in building architecture. In many building types ranging from concert halls and office buildings to homes and schools, isolating interior spaces from exterior noise is critical, and laminated glass effectively reduces sound transmission between indoor and outdoor spaces.

Sound transmission through glass or any other building material is related to the limp/mass law. The heavier and more flexible the building material is, the better it will be at reducing sound transmissions. Because ordinary monolithic glass is essentially lightweight and very stiff, it tends to transmit more sound than other building materials.



A PVB interlayer increases glazing Sound Transmission Loss (STL) without significantly increasing the glass thickness or mass of a glazing system.

As with monolithic glass, the sound isolation performance of insulating glass can be increased significantly through the use of laminated glass.



A This figure presents a comparison between two 25.4mm [1 inch] insulating glass configurations, one using two lites of 6mm [1/4 inch] monolithic glass and the other using two lites of 6mm [1/4 inch] laminated glass (LAG). The 6mm [1/4 inch] laminated glass consisted of two lites of 3mm [1/8 inch] monolithic glass laminated together with 0.76mm [0.030 inch] PVB interlayer. As a reference, the STL for 12.7mm [1/2 inch] monolithic glass is provided.

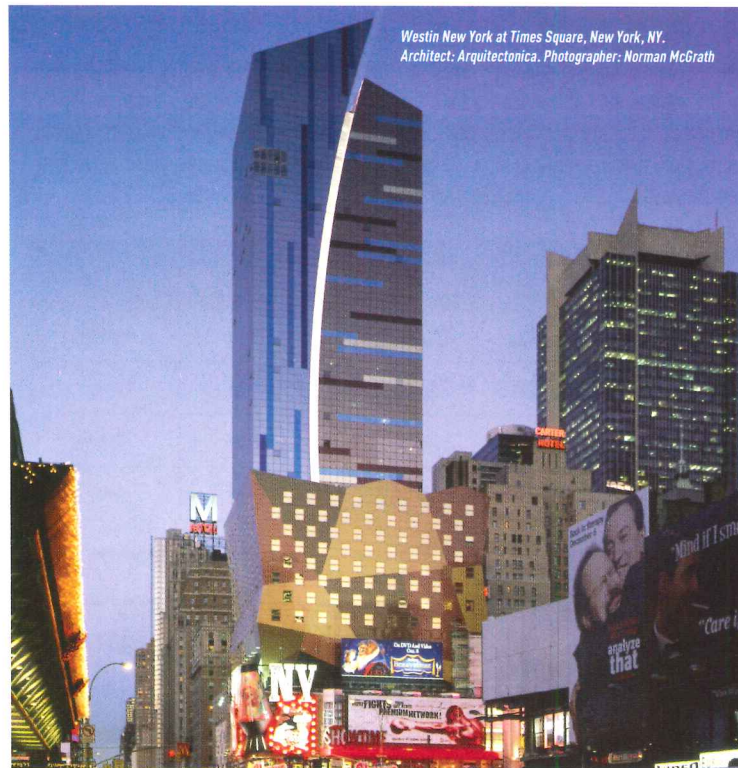
The three glass configurations have nearly the same overall glazing weight, but the combination of air space (A.S.) and interlayer results in an STL for the double laminated insulating configuration which is significantly higher than that for either standard insulating or monolithic glass.

Adding laminated glass to a glazing system is one of the best ways to optimize performance. The PVB interlayer effectively absorbs significantly higher levels of soundwaves than monolithic glass, thus creating a greater sound barrier. Adding a pane of laminated glass to an insulating glazing system gives the unit an even higher Sound Transmission Class (STC), blocking more soundwaves.

The key to creating an acoustically insulated indoor environment is to select products with a high STC, which is used by acoustical engineers as a measure of a building materials' resistance to the passage of sound. The higher the STC, the better the sound barrier.

Acoustic performance is especially critical in airports and surrounding structures, hotels, restaurants, and schools. At the San Francisco Airport International Terminal, designed by Skidmore, Owings and Merrill, LLP, laminated glass dampens noise of runway activity and overhead air traffic and provides seismic protection. On the other coast, the Westin New York hotel in Times Square, designed by Arquitectonica, uses insulating laminated glass with high-performance coatings to minimize outside noise from busy midtown Manhattan. The innovative design features a colored glass panel exterior that blocks sound and provides guests with a quiet indoor oasis in New York City.

Use of laminated glass for noise reduction provides building occupants with the highest level of environmental comfort. The glass blocks noise and lets in natural light. In addition to walls and windows, laminated glass can also be used in interior applications such as floors, shower and bath enclosures, partitions and room dividers, elevators, and doors.



In these applications, laminated glass helps eliminate the "cocktail effect" in interior spaces, in which multiple voices, noise sources, and reverberations occur in an occupied space. A room with high noise absorption will yield an environment that is conducive to improved hearing and higher productivity.

## Sustainability

The sustainability movement has become one of the world's leading architectural trends. In the U.S., buildings account for 39 percent of total energy use and 68 percent of total electricity use. Sustainable design supports efforts to conserve and restore natural resources and reduce waste. The resulting benefits include enhanced occupant comfort and health, energy efficiency, and improved quality of life.

Laminated glass usage contributes to sustainability goals by maximizing natural light in a building while minimizing heat gain. The laminate interlayer provides a number of options when specifying laminated glass for daylighting. Various laminates, including colored or textured interlayers, can let in appropriate amounts of light and diffuse the light throughout interior spaces. Tinted glass substrates, coatings, and silkscreen patterns may also be used. Ultimately, daylighting may reduce cooling costs, as natural light produces less heat than artificial light. Various studies, including one by the Rocky Mountain Institute, have noted that this may also improve occupant productivity and health, and create a more pleasant environment.

Daylighting with laminated glass can also reduce energy costs associated with lighting and cooling a building. A standard light bulb produces 85 percent heat and 15 percent light. In the U.S., 40 to 50 percent of total energy consumed by buildings is for electric light and to remove the heat it produces. Reducing the amount of artificial light reduces both electricity costs and cooling costs associated with removing the heat from the electric lights. ■

CLICK FOR ADDITIONAL REQUIRED READING

The article continues online at <http://archrecord.construction.com/resources/conteduc/archives/0603solutia-1.asp>. To receive AIA/CES credit, you are required to read this additional text. The quiz questions below include information from this online reading. To receive a faxed or emailed copy of the material, call 877-674-1233 or email [glazin@solutia.com](mailto:glazin@solutia.com).

AIA/ARCHITECTURAL RECORD  
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LEARNING OBJECTIVES

After reading this article, you should be able to:

- Understand how laminated glass addresses design and safety challenges
- Recognize the benefits of laminated glass during hurricanes and earthquakes
- Explain why laminated glass offers a high degree of security protection
- Discuss how laminated glass reduces sound transmission
- Identify the sustainable, energy-efficient performance qualities of laminated glass

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self report form on page 239. Follow the reporting instructions, answer the test questions, and submit the form. Or use the Continuing Education self report form on *Record's* web site—[archrecord.construction.com](http://archrecord.construction.com)—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

1. Upon impact by an object, laminated glass is likely to:
  - a. Break into small, compact pieces
  - b. Exit the framing system
  - c. Crack, but adhere to the interlayer
  - d. Discolor, due to exposure to the elements
2. Laminated glass has been tested and approved for use in safety glazing applications including:
  - a. Shower and bath enclosures
  - b. Overhead and sloped canopies
  - c. Entrance, storm, and patio doors
  - d. All of the above
3. Which of the following are true about glass performance following an explosion?
  - a. Typically, 40 percent of injuries are caused by broken or flying monolithic (ordinary) glass.
  - b. Monolithic glass can project at speeds of up to 300 feet per second.
  - c. Framing systems do not impact the ability of laminated glass to resist explosions.
  - d. The General Services Administration does not require the use of blast-resistant glazing system in high-risk government buildings.
4. Benefits of using laminated glass to protect against ballistic intrusion include:
  - a. Complete visual clarity
  - b. Reduces possible injuries due to ballistic attack
  - c. Can provide secure, around-the-clock protection for employees of high-risk facilities
  - d. All of the above
5. During a hurricane, the force of winds entering the building through windows broken by high winds or flying debris can have the following effects on the building structure:
  - a. Allow for a dramatic increase in internal pressure inside the structure
  - b. May allow the roof to be lifted off
  - c. May exert pressure on the outside walls, causing structural failure
  - d. All of the above
6. Laminated glass can be an effective safety measure during earthquakes because:
  - a. It tends to stay in the frame following an earthquake, thereby protecting people from falling or flying glass.
  - b. It consistently performs better than structural wall systems.
  - c. It breaks into small shards of glass that are easy to remove after a quake.
  - d. It flexes in concert with the racking movement of the earth.
7. To create an acoustically insulated interior environment, it is important to specify products with:
  - a. A low Sound Transmission Class
  - b. A negative Sound Transmission Class
  - c. A high Sound Transmission Class
  - d. A neutral Sound Transmission Class
8. Glazing units with at least one pane of laminated glass provide greater reductions in sound transmission than ordinary monolithic glass.
  - a. True
  - b. False
9. Adding a low-e coating to a laminated or insulating laminated unit can:
  - a. Reduce energy consumption
  - b. Increase energy consumption savings
  - c. Pay for itself within a number of years
  - d. All of the above
10. Laminated glass can contribute to credits in the following LEED system categories:
  - a. Local and Regional Materials
  - b. Indoor Environmental Quality
  - c. Energy and Atmosphere
  - d. All of the above



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# The Essential Design Element for Any Office Space

Provided by Lutron

## Introduction

There are 86 billion square feet of commercial office space in the United States. The business of these offices is vast in scope: law, advertising, government, finance, and manufacturing. The legacy of these offices ranges from the most established banking firms to budding e-Commerce companies. Despite these wide variations in business scope and organizational structure, the purpose of every square foot of commercial office space is the same—facilitating communication and serving as a place where work can be accomplished and organizational needs met.

While the purpose of an office space may be clearly defined, office space design remains, by necessity, much more fluid. Businesses trying to succeed are forced to constantly change and adapt in the fast-paced and dynamic arena of corporate competition. The design of the office space must transition, in order for the space to remain relevant and functional for new organizational needs.

## Transition of Office Space Design

In the 1960s, the number of available office jobs was growing rapidly as the American economy shifted from agrarian, to industrial, to office buildings and knowledge workers. Most office spaces were carbon copies of the offices across the hall or down the street. Advertising agencies were indistinguishable in appearance from legal offices. The design template of the time was bland and neutral. Office spaces were mostly private, their sizes defined by seniority and clout with cookie cutter precision. The office design reinforced the rigid formality of the business world. Walls and doors prevailed. Communication was carried out in memos. Employee interaction occurred in planned meetings with agendas. Typewriters and telephones were hot technologies whose weight and wires kept employees tethered to their desks. Corporate cultures were functional, framed by the 9-5 workday, and intensely loyal. People typically remained with the same company until retirement.

### CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **The Essential Design Element for Any Office Space**.

To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 183, then follow the reporting instructions on page 238 or go to the Continuing Education section on [archrecord.construction.com](http://archrecord.construction.com) and follow the reporting instructions.

### LEARNING OBJECTIVES

After reading this article, you should be able to:

- Examine how office design has transitioned to accommodate changing organizational needs.
- Incorporate lighting control strategies that improve building efficiency and add value to the office space.
- Specify lighting controls that are easy to install, maintain, and reconfigure when floor plans change.

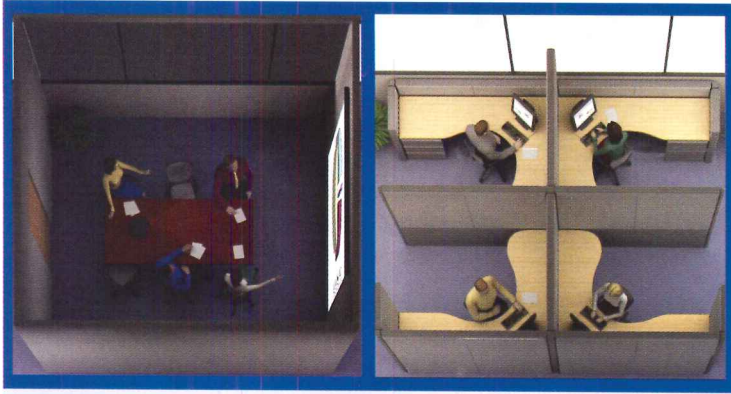


Office design today aims to create spaces that are flexible and efficient, and work environments that are comfortable and productive.

Office space design in the 21st century must accommodate a very different corporate landscape. Information technologies like mobile phones, laptop computers, and the Internet have created an atmosphere where a person's office is really wherever that person happens to be, anywhere in the world, and at any time, frequently available 24/7. Traveling to the office is no longer required to get work done.

The office building has become a flagship communicative hub reinforcing corporate culture, collaboration, and development. Office space design increasingly incorporates elements of branding and corporate identity into a structure with colors, credos, and furnishings. Open office spaces, atria, and cafeterias encourage informal communication between teammates that is invaluable for keeping people informed and generating ideas. Communication frequently occurs face-to-face or over cyberspace. AV presentations, intercontinental teleconference calls, e-mails, and text messages are important mediums that the office space must be able to accommodate. Office buildings provide a medium to communicate corporate identity and brand. Office design builds bridges between employees, facilitating communication, information transfer, and interpersonal collaboration.

The popularity of rigid private-office-heavy floor plans has waned in favor of highly adaptable, partitioned spaces with modular office furniture systems. This new design allows spaces to be quickly and easily reorganized to match changes in corporate strategies and initiatives. Individual cubicles merge to create a collaborative team environment. Longer tables and whiteboards are partitioned off to quickly create project rooms or other needed conference areas. The International Facilities Management Association (IFMA) quoted the current inter-corporate churn rate at 41%, which means that almost half of the employees in an office space are physically moved to a different location within the same company every year.



Ensure that the office space will be able to accommodate changing organizational needs and floor plans by including a reconfigurable lighting control system in the design. Reconfigurable lighting control systems easily support a space that may be a conference room today and a team environment tomorrow.

Perhaps the most fundamental difference between the organizational needs of 1960 and today is the fierce competition to hire and retain quality employees. Talent is viewed as the most scarce and valuable resource that a company can obtain. Subsequently, employees' salaries and benefits are by far the largest expense that an office building incurs. Office spaces are tasked to provide productive and interactive work environments, and to serve as tools for employee comfort, satisfaction, and retention. It is essential that the design of the office space support these efforts, simultaneously communicating to employees that they are important and valued by the firm.

Amidst the tumult of intense competition, quick strike and counterstrike initiatives, continuous reorganization, and a team roster that is constantly in flux, concrete and glass provide the semblance of stability, purpose, and success. The employees and floor plans will change, that is the nature of business. The office building will stand, that is the nature of architecture.

## Benefit from the Building

Keeping an office building capable of supporting organizational needs is an essential element of good business, underscored by the fact that, for many companies, the physical building is the most expensive capital asset on the balance sheet. In fact, the significant investment required to construct, operate, maintain, and repair an office building (an investment that often represents between 10-20% of a company's annual revenue) creates a strong demand from building owners and shareholders to pinch every last benefit out of the built environment. "Failure to wring every benefit out of the most expensive capital asset most companies have would not be countenanced in any other aspect of corporate life" (Seiler, John A. 1984. *Architecture at Work*. "Harvard Business Review," September/October, 120).

Reducing the amount of money required to operate the building can significantly affect the bottom line and is often easily accomplished by improving the efficiency of various building systems, like lighting, heating, or cooling. But opportunities to squeeze the maximum benefit from a building asset exist beyond improving its operational efficiencies. Buildings can be designed to create value for the company, one square foot at a time.

## Efficiency vs. Value

Efficiency is highly quantitative. It describes the cost of producing something—in energy, time, money—in a manner that gets more of something for less. To create system efficiencies, the current performance of the lighting system or HVAC system must be examined and improved. Achieving better system efficiency will reduce operational expenses, but a more efficient building is not necessarily a better place to work. The impact of system efficiency on the office environment depends upon the methods employed to achieve it.

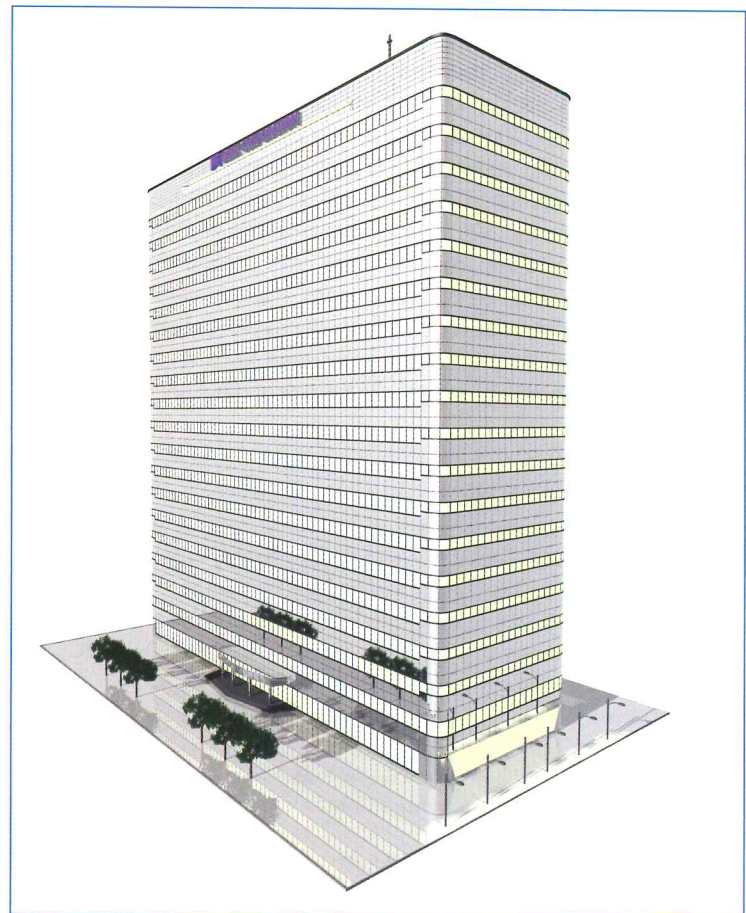
Value is a relative term that provides a comparison for buildings and the ways they are designed. The value of an office building to an organization can describe the cost/square foot, productive capacity, sustainability, and its overall ability to facilitate communication and meet organizational needs. An office space's value is defined by whether it creates an enjoyable, productive work environment, while sending the right corporate message to clients and employees.

Multiple methods for achieving greater system efficiencies have been employed over the years. While each of the following was successful in reducing operational expenses, the value of the space was damaged as a direct result of its more efficient design.

## HVAC Efficiency

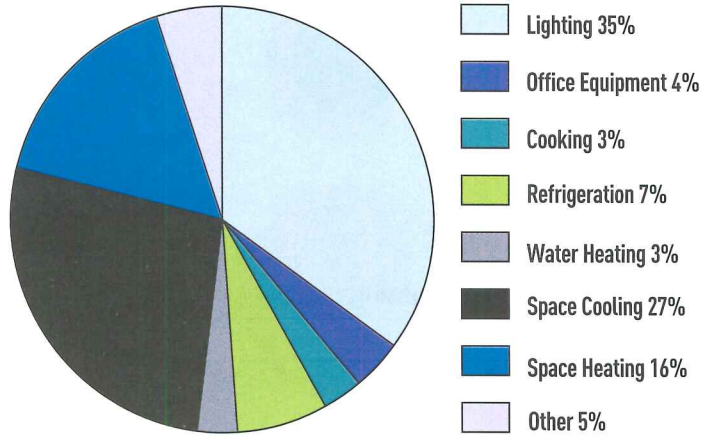
Originally, windows provided the climate control in buildings. With the introduction of HVAC systems, fewer windows were designed into commercial projects, reducing the potential of leaks and thermal transmittance. This self-contained environment allowed buildings to heat and cool themselves more efficiently, without being forced to accommodate the influence of outdoor elements. Improved HVAC efficiency was achieved, but it cost the commercial space the presence of daylight and outdoor views.

In office buildings, the presence of daylight and views has been linked to improved employee mood, motivation, satisfaction, health, and productivity. In European commercial buildings, the access to daylight and the connection to the outdoors is a fundamental design element that has been manifested in the construction doctrine "no employee office area can exist more than 6 meters away from a window." In the United States, the incorporation of daylight and views is recognized by the LEED™ (Leadership in Energy and



Lighting control equips buildings to operate more efficiently and adds value to the floor space by making it a healthier and more productive place to work.

### Electricity Use in Office Buildings



In a typical office building, lighting consumes more electricity than heating or cooling systems.

### Achieve Efficiency and Add Value with Lighting Control

Improving system efficiencies can negatively affect the value of a space, but efficiency and value are not mutually exclusive. Opportunities exist to create system efficiency, and at the same time, make an office space more flexible, productive, healthy, and valuable to an organization.

One such opportunity exists in the design of the building's lighting system—or, more specifically, the design of the building's lighting control system. The lighting control system specified in a building determines how occupants are able to use the lights in the space. In the most minimal capacity, light control allows lights to be switched on/off either independently or in larger groups. Dimming technologies allow light fixtures to provide a range of light output—often ranging from 1 or 10% to the full 100%. Lights can be controlled manually with a handheld remote or from wall stations, or programmed to automatically turn on and off at certain times or when rooms are empty. Light control can even be preset to recall specific light levels—much like the presets programmed into a car radio—based on the activities in the space. Light controls enable a building to save energy and allow employees to select a comfortable light level that is best suited to their tasks.

Lighting systems represent a significant operational expense. Today, more electricity is used to light a typical building than is used to heat, cool, secure, or otherwise operate the structure. It is estimated that roughly 10% of all of the electricity consumed in the United States is used to light commercial buildings and, in 2005, that electricity cost Corporate America over \$7 billion.

Rising energy costs have spurred a re-examination of how commercial spaces are using their kilowatt-hours. Systems designed to provide more light than necessary, minimal light control, and few light level options have been identified as three reasons why the lighting bills are unnecessarily high.

Environmental Design) rating system as an element of sustainable design, enhancing the sustainability of the space by making it a more productive and healthy environment for building occupants.

An office space with few windows may have a lower heating bill, but it may also have higher absenteeism and turnover ratios, less healthy employees who are less excited to come to work every day and are less productive when they get there. This space is efficient, but its value to the organization and its ability to support organizational needs is low.

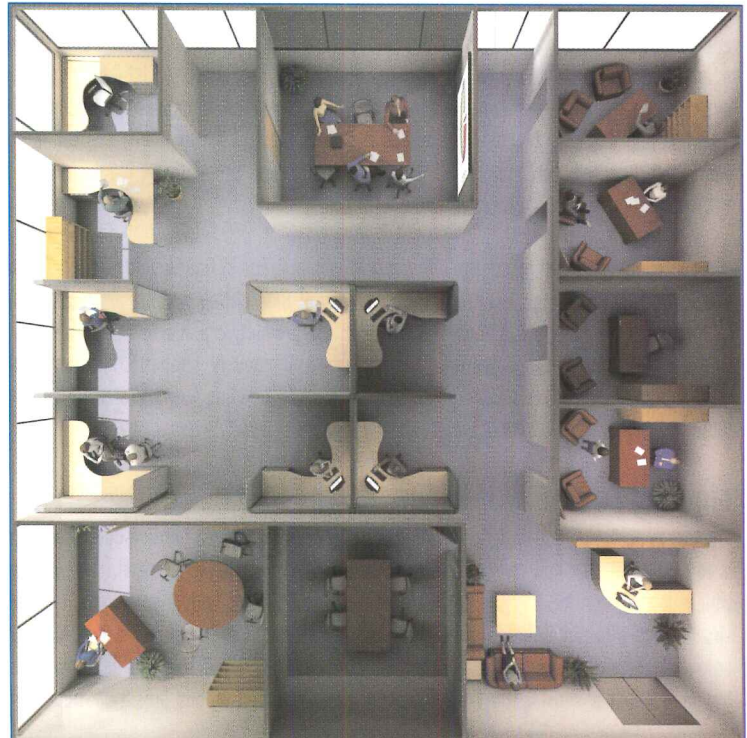
### Space Efficiency

Rent is another big expense for office buildings. Space equals money, as buildings are charged dollars for every square foot. The pursuit of space efficiency aims to improve how well a building is using the space it is paying for to create revenue for the company. Studies of sales organizations, accounting firms, consulting firms and others concluded that in many office environments an employee's desk may be unoccupied 60% of the year.

The discovery of the empty, yet expensive, workspaces drove the development of the organizational concepts: hot-desking and desk pooling. The term hot-desking is borrowed from the Naval term "hot-bunking," which is a practice on submarines where one cot is used by multiple sailors—one after the other. Hot-desking is a strategy that aims to rotate employees in and out of community desks so efficiently that the chair is reoccupied before it has time to cool down. Desk pooling provides employees who are normally elsewhere with a group of standard and unpersonalized desks to use during those rare visits to the office. The desk is equipped with all usual accouterments: stapler, phone, power for laptop and an Internet link. But it is devoid of personalized touches and an everyday owner.

The reaction to the loss of a personal office space was negative across the board. Employees, even those who do not spend much time at their desk, associate their workstations with feelings of importance, security, and ownership. In the 21st century, office spaces have become more important than functional spaces; they provide a sense of identity and represent, in square feet and ergonomic furniture, an investment in the individual by the company.

Hot-desking and desk pooling increased the space efficiency of the building. They also generally upset the company's most valuable asset (its employees), reduced productivity, and communicated to the workforce that their contributions were minimal and their importance marginal.



Design office spaces to be able to provide unique lighting levels to match individual preferences and tasks.

While the presence of light is essential for an office space to be functional, lighting systems are often designed to provide more light than necessary for typical office tasks. The Illuminating Engineering Society of North America (IESNA) recommends that the office building should be equipped to provide between 30-50 footcandles on a workspace. Fluorescent lamps are highly efficient and currently the industry standard in commercial construction. However, as fluorescent lamps age, their light output diminishes. Lamp output is also reduced when the lamps become dusty and dirty. To ensure that there is always enough light present in the office space, many lighting systems are designed to compensate for the diminished output and, subsequently, regularly provide more light than is needed.

Lighting control can be a design tool that promotes space flexibility and energy savings. Incorporating only the most basic or minimal light control on a project locks the building's lighting resource into a rigid and uncompromising structure that wastes energy as unused lights are kept on. For example, in private offices light switches are often placed conveniently near the door. This switch location makes it easier for employees to turn the lights off before they leave their office space, saving energy and money. In the shift from private office spaces to open office spaces, switches now control large groups of lights located over desks that may be vacant for a significant portion of the day. A lighting control system that ties 20 light fixtures to one light switch unnecessarily wastes energy by keeping all of the lights on, even if only half of the people are in their seats.

Beyond the operational expense of keeping overhead lights on when the desk is empty and providing more light than necessary on the workspace, providing no available light range between 100% and off can unnecessarily tax the human element of the office. Too much light exposure has adverse effects on people's health, mood, and performance. The squinting and strange postures employees strike to avoid glare and unnecessarily bright conditions cause headaches, fatigue, and muscle aches.

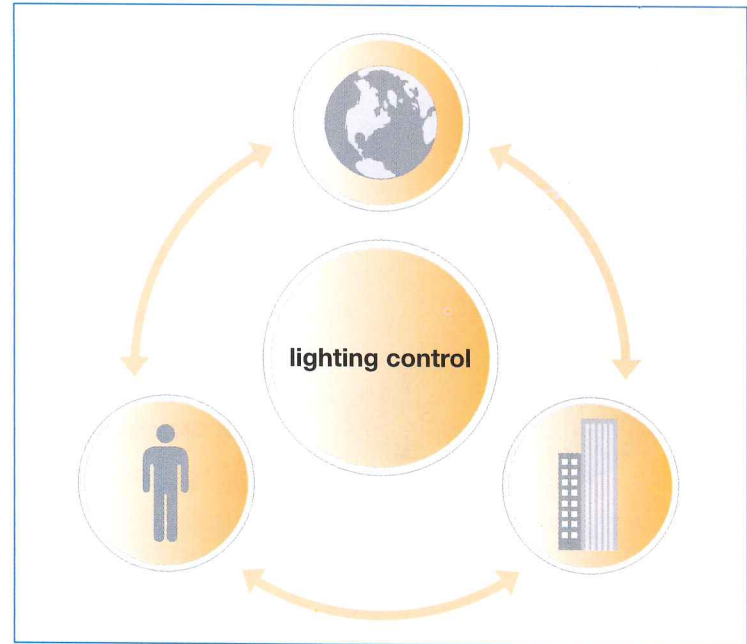
Although the reactions to the wrong light level may be fairly routine, the light levels considered right and wrong differ from person to person. Health conditions, preferences, age, and task are factors that combine to create the unique visual environments ideal for each individual employee. Providing inappropriate lighting levels in the workplace have been linked with productivity losses, reduced attention spans, and dissatisfaction. Lighting systems in office spaces can be easily designed to match employee preferences by incorporating dimming technologies in the overhead lights. This improved controllability has been credited with improving individual employee productivity 4-7%, reducing eyestrain, and improving worker satisfaction.

Incorporating more lighting control and offering a wider range of light levels throughout the office space saves energy, improving the efficiency of the lighting system, and adds value to the space by making it a more comfortable and productive place to work. Designing lighting control into an organizational space simultaneously supports environmental interests and sustainable design guidelines, equips the building to work smarter and be more profitable, and accommodates the company's most valuable asset.

## Lighting Control Strategies

The key to achieving the best fit between an office building and its lighting control system is to first determine how the space should function and how it will be used, then identify which lighting control strategy delivers the functionality that supports the intent of the space. Each different lighting control strategy offers a unique blend of energy savings potential and controllability. Five strategies popularly employed in office buildings are: tuning, occupancy sensing, daylight harvesting, personal control, and preset control.

Tuning is a strategy that uniformly lowers the high-end light level available throughout a space or building. Instead of switching fluorescent lights between 100% on and off, tuning



Lighting control strategies need to support sustainable design, improve building efficiency, and accommodate the individual.

lowers the high-end light level to 90%, for example, so lights switch between 90% and off. This strategy provides energy savings to the building every time the lights are turned on, automatically reducing the amount of electricity used for lighting by 10%. Tuning is often employed in corridors, hallways, stairwells and other areas of the floor plate where lights are constantly on, but occupants do not require a high level of personalized control for task or comfort.

Occupancy sensing is a lighting control strategy that equips a building to turn lights off when rooms are empty. Occupancy sensing can create an average energy savings of between 25-40% and is typically employed in private offices and ancillary areas like copy rooms, kitchenettes, and bathrooms, where occupancy is sporadic.

Daylight harvesting balances the electric light and natural light in a space, automatically lowering electric light levels when daylight is present and increasing electric light levels in a space as daylight wanes. Daylight harvesting saves energy by using electric light as a complement to available daylight and protects the visual ergonomics of the space by ensuring that the appropriate amount of light is always present at the desktop. Daylight harvesting has been credited with reducing lighting energy consumption by almost 40% and can be incorporated into any office area that receives daylight exposure.

Personal control allows employees to select their own overhead light level and modify the light level throughout the day. Personal control gives employees the option to turn their overhead lights on, off, or to select a light level in between. This light control strategy has been credited with lighting energy savings of over 60% and is often applied in open office areas, private offices, and team environments.

Preset control provides a space with different pre-selected lighting scenarios. For example, a conference room wall station may be marked AV presentation, Meeting, Cleaning, and Off. Each of these scenarios is tied to a different light setting in the room. The AV presentation button lowers the light levels to accommodate the AV technology and makes it easier for people to see the screen. The meeting button engages overhead lights at a level that is on, but less intense than 100%, perhaps 75%. Cleaning provides 100% light so that staff can see dust and dirt. This lighting control strategy is most beneficial in areas that host many different employees for numerous types of tasks. Preset control makes it easier for the space to best fit the needs of the group, without being prohibitively difficult to use.



Incorporating the appropriate lighting control strategy in commercial buildings improves system efficiency and adds value to the space, but lighting control systems are able to further support office space design. Lighting control systems are available that provide tuning, occupancy sensing, daylight harvesting, personal control and preset control in a

package that is easy to reconfigure, easy to maintain, easy to understand and use. These features ensure that a system that was once the best fit for the office design will continue to fit organizational needs, even as those needs change. ■

CLICK FOR ADDITIONAL REQUIRED READING

The article continues online at <http://archrecord.construction.com/resources/conteduc/archives/0603lutron-1.asp>. To receive AIA/CES credit, you are required to read this additional text. The quiz questions below include information from this online reading. To receive a faxed or emailed copy of the material, call Jeanette Fitzgerald at Lutron, (610) 282-6661 or fax (610) 282-6437.

AIA/ARCHITECTURAL RECORD  
CONTINUING EDUCATION Series

LEARNING OBJECTIVES

After reading this article, you should be able to:

- Examine how office design has transitioned to accommodate changing organizational needs.
- Incorporate lighting control strategies that improve building efficiency and add value to the office space.
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INSTRUCTIONS

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QUESTIONS

1. Today, office spaces are designed to:
  - a. facilitate communication between employees.
  - b. quickly and easily reorganize.
  - c. provide productive work environments.
  - d. all of the above
2. In 2005, how much did it cost to light commercial buildings in the United States?
  - a. \$700,000
  - b. \$7 billion
  - c. \$700 million
  - d. \$7 million
3. Which of the following is the reason why so much money is spent on necessary lighting?
  - a. lighting systems are often designed to provide more light than necessary
  - b. minimal light control causes lights to be left on when unneeded
  - c. few light level options provides lighting at only 100% on, which may be too bright, or off
  - d. all of the above
4. Improving the efficiency of an office building always makes it a better place to work.
  - a. true
  - b. false
5. Designing appropriate lighting controls into an office space:
  - a. wastes energy.
  - b. improves productivity and comfort.
  - c. eliminates the possibility of changing the floor plan.
  - d. creates glare and overly bright conditions.
6. Personal control is the lighting control strategy that:
  - a. detects when a person enters the room.
  - b. allows employees to program the lights to turn on at a certain time and off at a certain time.
  - c. allows individuals to select their own overhead light level and change it throughout the day.
  - d. none of the above
7. Daylight harvesting is the lighting control strategy that:
  - a. balances electric light and natural light, automatically lowering electric light levels when daylight is present and increasing the electric light level as daylight wanes.
  - b. uses only daylight to illuminate a space.
  - c. describes any space where daylight is present.
  - d. none of the above
8. Which of the following characteristics of a lighting system ensure that it will be able to adapt to changing organizational needs?
  - a. inexpensive and flimsy
  - b. energy efficient and able to accommodate personal preferences
  - c. provides minimal light control and offers few light level options
  - d. easy to reconfigure, easy to maintain, easy to understand and use
9. Which of the following is NOT needed to design a fluorescent lighting control system capable of occupancy sensing, daylight harvesting, personal control, and preset control?
  - a. fluorescent dimming ballast
  - b. daylight sensor
  - c. interfaces and power packs
  - d. occupancy sensor
10. Which of the following features, if specified, makes it possible to reconfigure a lighting system without rewiring?
  - a. digital addressable ballasts
  - b. sensors that can be grouped to different fixtures
  - c. wireless handheld programmer
  - d. all of the above



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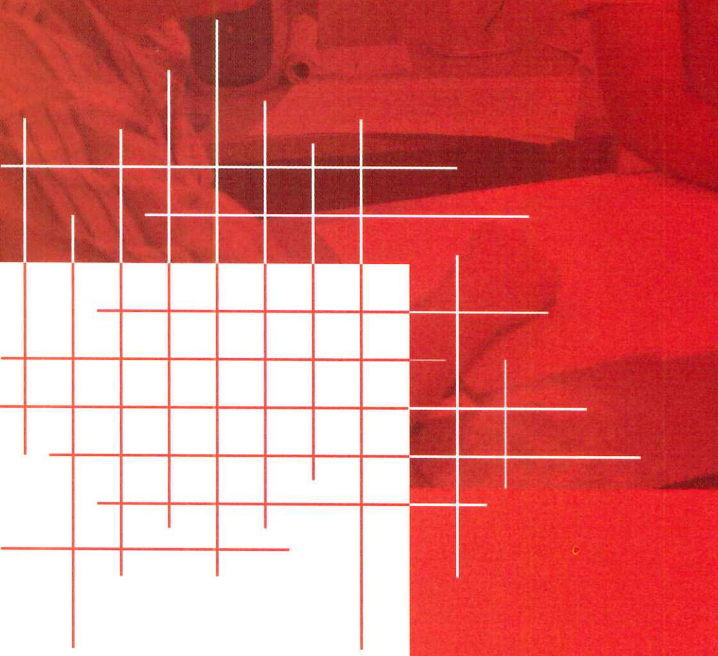
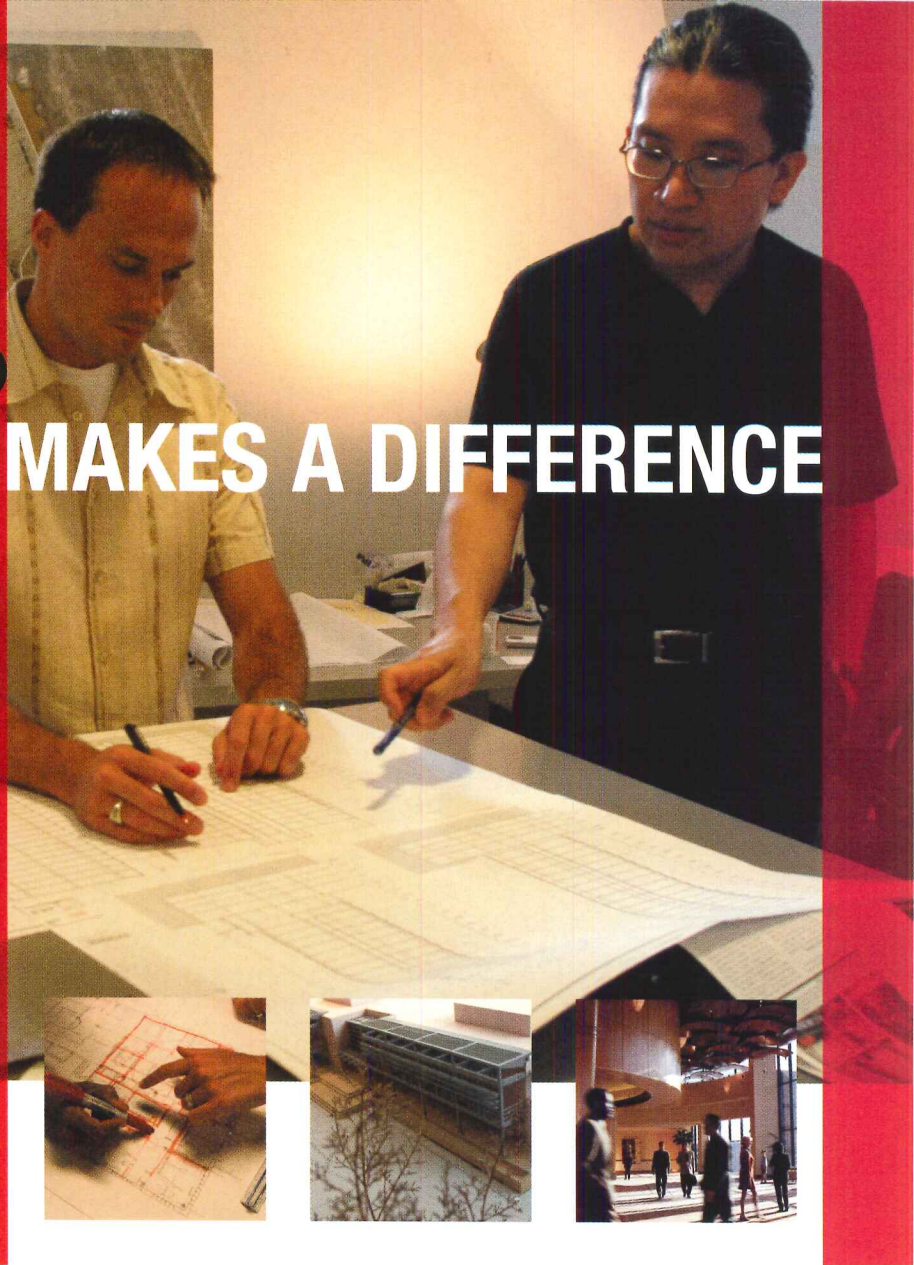
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# Interiors

## Big effects in small spaces: architects transform urban interiors with color and humble materials

### BRIEFS

#### **The Furniture of Carlo Mollino,**

a new monograph by Fulvio and Napoleone Ferrari, surveys the audacious work of the 20th-century Italian architect who blazed a trail over four decades, beginning in the 1930s, designing furniture with shapes **inspired by tree branches, animal horns, and the human form.** Most of Mollino's pieces were site-specific, one-off commissions, which is rare in today's marketplace. Last year, a Christie's sale of a 1949 Mollino table set a new record for a piece of 20th-century furniture. Go to [www.phaidon.com](http://www.phaidon.com). **Strategies for specifying color** are the focus of *Interior Color by Design Volume 2*, by architectural designer Jonathan Poore (Rockport Publishers, 2005). The book illustrates effective color selection mixing more than 250 samples hues. Go to [www.rockpub.com](http://www.rockpub.com).

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*Miloby Ideasystem*

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*Lewis.Tsurumaki.Lewis*

#### **203 Interior Products**

**Y**ou may have found yourself there before. The assignment is to design a compact commercial interior on a tight budget within an even tighter build-out schedule. Renovate a nondescript space, mask footprint problems, and solve mechanical constraints. Wedge required program elements into a leased facility, but elicit an architectural big bang that will help to spark new business.

The three architects who designed the interiors we survey this month met all of the challenges cataloged above with, well, flying colors. Whether the urban space employs intersecting painted planes, panels of translucent film, or bright acrylic strips sandwiched to catch light, each uses color in unexpected ways. These examples of divergent building types—a rehabilitation studio, an office, and a restaurant—welcome clients into

small-scale architectural interiors that engage the eye and spur movement inward.

For the Flex physical rehabilitation and fitness center in Oakland, California, Pierluigi Serraino turned the unwieldy program requirement of an aquatic therapy zone into a strong visual anchor. Setting the above-ground pool at center stage in its own room bordered by dressing areas, he gave the process of water therapy an iconic presence. Walls painted in vibrant hues add visual depth to the rectilinear space.

Miloby Ideasystem designed a new headquarters in Miami for Lucini Italia, a gourmet food importer, orchestrating a stripped-down landscape that prizes openness. Wedding green, translucent panels and exposed mechanical structures, the office's kit-of-parts Minimalism plays a supporting role to dramatic views of the city.

In New York, Lewis.Tsurumaki.Lewis overhauled a deli to create Xing, a Pan-Asian restaurant (above). Showcasing tactile materials and practically percolating with color and diffuse light, the handsome eatery makes a strong case that thinking outside the *small* box can overcome a litany of project constraints. *William Weathersby, Jr.*



# Pierluigi Serraino weds geometry and color to enliven the **Flex** physical therapy center in California

By William Weathersby, Jr.

Anyone who has ever labored to recover after a physical injury knows that the rehabilitation process can be arduous but the end results often invigorating and life-affirming. For Flex, a physical therapy and fitness studio in Oakland, California, architect Pierluigi Serraino has enhanced the functional grace of a 3,200-square-foot space with a vibrant visual aesthetic. Planar geometry and the juxtaposition of bright colors envelop the compact facility in a soothing ambience that aims to help clients push ahead toward their goals.

“In her book *Illness as Metaphor*, Susan Sontag remarks that a language of war and battle often rules when professionals and clients deal with debilitating health and physical conditions,” Serraino says. “Challenging this notion, the main goal of Flex is to insert joy in the path toward recovery from ailment.”

Serraino, who is a project designer with the architecture firm Anshen + Allen in San Francisco, took on this project as a solo assignment. The client was his wife, physical therapist Pamela Wain, who was expanding her practice with her own studio. Though he had never designed a physical therapy space before, the architect says the project’s program, and particularly its mechanical requirements, intrigued him. “With a limited footprint and budget, I wanted to create a Modernist

**Project:** *Flex Physical Therapy and Fitness, Oakland, California*

**Client:** *Pamela Wain*

**Architect:** *Pierluigi Serraino, Assoc. AIA*

**Consultants:** *Gregory Paul Wallace (structural); Haddon Engineering (HVAC); Callahan Engineering (plumbing)*

**General contractor:** *Eric F. Anderson*



The pool is the iconic focus of one main room (right spread). A dado of corrugated metal masks mechanical systems. The facade’s translucent panels allow discretion for waiting patients (below left).

PHOTOGRAPHY: © DAVID WAKELY

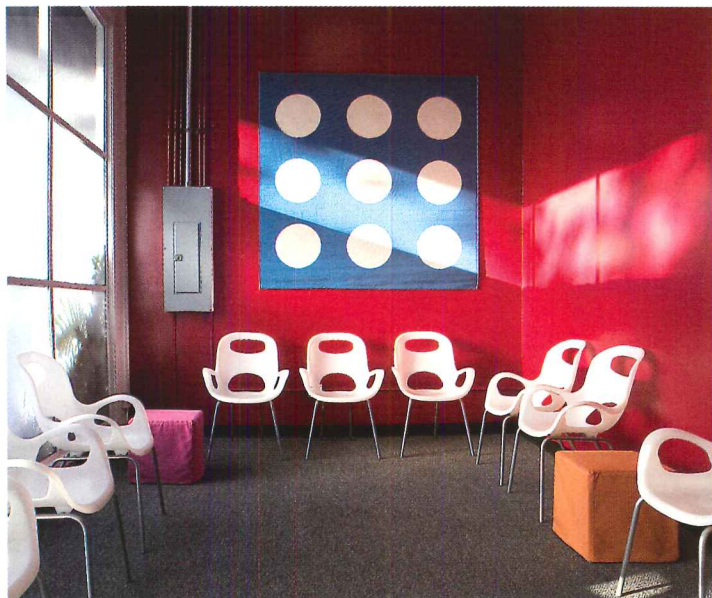






The custom pool is wrapped in a seamless sheet of corrugated metal (above). Each wall plane is a different

color to create visual depth. The red-walled waiting room/reception area provides a bright welcome (below).



landscape that went beyond a series of enclosed spaces,” Serraino says. “The forms and materials create visual relationships, and clearly reveal how the space is constructed.”

Gutting a rental storefront space that had most recently housed a flower shop, the architect plotted a straightforward sequence of spaces with clear sight lines to establish a sense of procession. Entering through a metal-framed storefront whose glass panels are treated with translucent film for privacy, clients arrive at a double-height reception room painted bright red. A blue-and-white wall graphic accompanies curvaceous chairs designed by Karim Rashid that add a Pop Art feeling.

Beyond the reception area, an exercise room reserved for floor and massage-table workouts has walls awash in red and yellow. Called the “land therapy” area, the zone is filled with wood-based equipment stations that support Pilates instruction. “They are such beautiful pieces of equipment, mechanically and aesthetically, that I wanted to showcase them,” Serraino says. In lieu of partitions to separate massage and exercise stations, 14-foot-tall curtains create a vertical scale and aid temporary privacy. The curtains, he notes, visually simulate the look of a colonnade.

An above-ground therapy pool commands the second main room, a 1,000-square-foot space. Measuring 8 feet by 20 feet, the custom pool sits atop three steel beams set at grade within the concrete flooring. The resin pool shell is supported by a wood-frame structure and rises to a height of 5 feet 2 inches within the 16-foot-tall room. Leaving the pool above ground was required because the facility is a leased space, but Serraino says he welcomed the chance to create two elevations in the



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Fourteen-foot-long curtains in the massage and Pilates areas stand in for built partitions (above). Easy-to-maintain finishes in the dressing room area include an epoxy-resin floor, metal panels, and louvered doors (left).

room. Along its two exposed sides, the pool is faced with seamless sheets of corrugated metal. Across the room, two opposing walls feature a dado of the same metal, creating a visual dialogue with the pool enclosure. The panels also screen the studio's HVAC and plumbing systems, which represented a significant part of the build-out budget. Serraino placed the pool lift in a prominent location to emphasize its sculptural quality.

Each wall within the aquatic room—along with its epoxy-resin floor and pool deck—is a different, vibrant color. Along one wall, the interiors of four changing rooms fitted with louvered doors are also painted in varying hues to provide visual cues. While color at Flex is the visual vehicle defining intersecting planes, it also casts economical theatrical backdrops where the mending of body and spirit is celebrated. ■

**Sources**

- Wood doors:** Lemieux
- Hardware:** Schlage; Builders Brass
- Acoustical ceiling:** USG
- Metal panels:** AB Steel Structures
- Resilient flooring:** Mount Diablo Flooring System

- Paint:** Sherwin Williams
- Chairs:** Umbra
- Pool lift:** Aquatic Access

For more information on this project, go to Interiors at [www.archrecord.com](http://www.archrecord.com).

The corners of his mouth peak slowly, revealing a mischievous secret. He slides gracefully from one room to the next, entertaining, teasing, stirring the wind with every step. Back and forth, the game is played for our amusement. And then he leaps; transcending the plane of all that is expected. The contest of intellect is won, emotion prevails soundly over reason.

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The reception desk is faced with a backlit, digitized photograph of an olive-tree branch, subtly alluding to the company's product line.

## Miloby Ideasystem makes transparent office design part of the branding for **Lucini Italia** in Miami

By John Peter Radulski

**W**hen the gourmet Italian food importer Lucini Italia decided to relocate its headquarters to Miami, Florida, company executives wanted the interior architecture to subtly act as part of the branding experience. On a tight budget within a 2,200-square foot space, the multidisciplinary design firm Miloby Ideasystem has created an open, largely transparent interior environment imbued with colorful graphics and sweeping views of Biscayne Bay.

New York-based Miloby Ideasystem was founded in 2001 by architects Milana Kosovac and Tobias Lundquist to provide architectural, interior-design, branding, packaging, and related creative solutions. Blending backgrounds that include stints at large architecture firms and experience designing products and music videos, the partners had also collaborated on Chicago-area offices for Lucini Italia before they were asked to help select the space for, and then design, the Florida facility.

Kosovac explains that the most promising site was on the sixth floor of a low-rise building that housed a range of law, medical, and other

professional offices. Although large window walls framed views of Biscayne Bay (less than a block to the east) and Miami's expanding skyline to the north, the former tenant had outfitted the space with a sea of pink marble, coffered ceilings, and other embellishments, an "introverted" design that seemed disconnected to the cityscape, Lundquist notes.

Gutting the interior to its concrete shell, the architects simplified the plan and introduced a tightly edited palette of materials. The L-shaped space now is divided into a clearly defined sequence of reception, office, conference, and support areas. Floor-to-ceiling wall dividers fabricated from gypsum board and painted a slate-gray color—Lundquist calls them bulkheads—are set perpendicular to the window walls to delineate each function area. Directing the visitor's eye toward views framed by the windows, each bulkhead also provides storage space for files and office equipment. The reception desk and workstations are attached to the bulkheads and raised on metal legs to enhance visual openness.

Mechanical systems are set above a suspended ceiling with 2-by-10-foot translucent, polycarbonate panels set into an aluminum grid. The panels' subtle moiré pattern changes appearance depending on interior and exterior lighting, so the ceiling functions as a diffuse light box. Visible

*John Peter Radulski, the former editor in chief of Hospitality Design, is a freelance writer based in Westport, Connecticut. He frequently writes for RECORD.*



Space-dividing bulkheads, striped carpeting, and the ceiling grid direct the eye toward the east-facing window wall (above). A display of digitized photographs adds color and texture to the corridor (left). Opaque painted walls in the conference area contrast with the transparent walls elsewhere (opposite, top). The suspension system supporting the stationary and sliding-glass panels is set within a 5½-inch-wide space within the ceiling grid (opposite, bottom).



through each panel are abstracted silhouettes of the mechanical equipment above. By eliminating decorative details such as cornices and baseboards and exposing the connecting infrastructure of the ceiling and wall planes, the architects sought to “buttress the core narratives of simplicity and openness,” Kosovac says.

Three private offices on the north-south axis of the suite—each framed on two sides by the bulkheads and on one by the window wall—open to a central corridor. Each office is fronted by two floor-to-ceiling laminated-glass panels flanking a central sliding panel that runs along a track ceiling. Sandwiched between two sheets of glass, a layer of green

film evokes the rich color of Lucini Italia’s extra-virgin olive oils. The laminated glass allows views from the main corridor through each office and beyond to the bay, while providing solar and sound insulation. The narrow space between the ceiling tracks and the suspended panels serves as a return air plenum, eliminating the need for an obtrusive grille.

The conference room in the north-facing leg of the space is anchored by a custom table fabricated from century-old fir, a reference to traditional Italian refectory dining tables. The designers left a product storage area exposed nearby so the packaged goods function as an interior graphic element. Distilling the company’s image to its essence, the office is bold yet straightforward, like the food items it sells. ■



**Project:** *Lucini Italia, Miami, Fla.*

**Architect:** *Miloby Idecosystem—Tobias Lundquist, Milana Kosovac, principals; Carl Mahaney, Ashley Moore, Onki Cheng, design team*

**Architect of record:** *Slack Alvarez Associates*

**Engineer:** *Martin-Vileto Associates*

**General contractor:** *Rothstar Construction*

#### Sources

**Glass partitions:** *Solutia*

**Ceiling panels:** *GE Structural Products*

**Suspension grid:** *Armstrong*

**Laminate:** *Wilsonart*

For more information on this project, go to Interiors at

[www.archrecord.com](http://www.archrecord.com).

Acrylic strips that measure  $\frac{1}{4}$  inch wide by 2 inches deep are sandwiched together to form the bar top that extends into a column

and then into a canopy (below and opposite). Lit by dimmable linear incandescents, the canopy draws the eye through the space.







## Lewis.Tsurumaki.Lewis turns the tables on an oddly shaped space, fashioning **Xing** in New York City

By William Weathersby, Jr.

**L**ewis.Tsurumaki.Lewis (LTL), selected as one of RECORD's emerging Vanguard architecture firms in 2000, has gone on to establish a strong track record of designing inventive New York City restaurants known for a surprising use of materials. Often working with odd floor plans in near-crumbling spaces, and almost always facing budget and space limitations, the team has orchestrated custom-tailored environments well suited for equally creative restaurateurs.

The Pan-Asian restaurant Xing in the Hell's Kitchen neighborhood of Manhattan is one of the latest winning eateries designed by LTL. Xing, whose name means "star" in Chinese, is a bright, modern space filled with contrasting textures and crisp details. Tactile surfaces such as wood, stone, and velvet are threaded with colorful acrylic forms that capture the light.

The 2,000-square-foot restaurant is located in a street-level space previously occupied by a delicatessen and a studio apartment behind it. "The floor plan, typical in New York, was barbell-shaped, in which the middle is a bottleneck resulting from light wells placed on each side of the tenement building," explains design partner David Lewis. "Rather than force a design that would hide the distinction between the front and back, the approach was to accentuate the unique nature of each space."

Though the restaurant seats only 72 patrons, the owners wanted to retain an open ambience that could accommodate room for a prominent bar. Employing a collagelike technique of juxtaposing disparate materials (Lewis cites the Surrealist game known as the Exquisite Corpse as an inspiration), the space is composed of four distinct yet interlocking areas, each defined by texture. From front to back, patrons move through areas wrapped with hard surfaces (wood and stone) from the most public vantage points toward softer surroundings (fabric) within the most intimate dining space at the rear. Aside from small sections of the ceiling, no public area exposes any drywall.

In the front entry alcove and bar area, surfaces are clad in layered stone. Vertical strips of dusky gray stone rise along the north wall,

**Project:** Xing, New York City

**Architect:** Lewis.Tsurumaki.Lewis—David J. Lewis, Marc Tsurumaki, Paul Lewis, partners in charge; Lucas Cascardo, Adam Frampton, Katherine Hearey, Matthew Roman, Eric

Samuels, Alex Terzich, project team

**Engineer:** Jack Green Associates (mechanical)

**General contractor:** Gateway Design Group



The walls, floor, and custom banquettes are fabricated of bamboo, an inexpensive yet attractive material LTL favors.



with smoother finished stone serving as floor pavers.

Along the south wall at the front of the main room, a row of booths sits inside “a wrapper of bamboo,” Lewis says. The floor, walls, ceiling, and banquette frames are fabricated from bamboo strips. Backlit slots inset along each plane are streaks of light that lend a sense of motion.

A luminescent, ribbonlike form animates the main space. Fabricated from more than 10,000 linear feet of acrylic strips in three colors sandwiched together, the form begins as the bar top, rises up as a column at one end, then curves into a backlit ceiling canopy. The structure helps force the perspective to make the space appear deeper than it is. Set at an angle, the canopy provides a connection to the narrow center zone, which contains the bathrooms and a wait station. At this compact pivot point, every surface is clad in the same stacked acrylic, turning a transition space into an attractive jewel box. Illumination from within the bathrooms creates a pattern of shadow and light across the striped surfaces.

With its lower ceiling heights, the rear dining room is an intimate inner sanctum. Red-velvet panels cascade down the walls to meld into banquettes. Outfitted with an aquarium, the dimly lit room evokes a secret center at the end of a journey, awaiting the discovery of diners. ■

The bar and canopy are set at an angle to slash through the bamboo-clad front room (above). A bar top

combining three colors of acrylic catches the light. The rear dining room is clad in velvet panels (below).



**Sources**

**Stone:** Stone Source

**Bamboo flooring:** Teragren

**Acrylic surfacing:** GE Polymer

Shapes

**Chairs:** Karim Rashid

**Upholstery:** Donghia

**Lighting:** Osrtam

**Lighting controls:** Lutron

**Sink fabrication:** Veyko

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# Interiors Products

## Cologne Furniture Fair

Often referred to as the “second-most-important” furniture show of the year after Milan, imm Cologne welcomed thousands of visitors in January to its new fairgrounds on the banks of the Rhine. *Josephine Minutillo*



### ◀ Panton Chair precursor

Before making a name for himself with iconic designs like the Cone Chair and the eponymous Panton Chair, legendary Danish designer Verner Pantan designed his first chair for a restaurant in Tivoli, Copenhagen. Known as the Tivoli Chair when it was first mass-produced by Fritz Hansen in 1955, it has been reintroduced by the young Danish firm DJOB, which has renamed it VP1. Originally designed in rattan, the plastic weave is now available in various colors for use indoors or out. DJOB has also introduced a bar and lounge version of the chair based on Pantan's sketches. DJOB, Allerød, Denmark. [www.djob.dk](http://www.djob.dk) **CIRCLE 200**



### ◀ Norse tradition

Norwegian designer Hans Brattrud created the Scandia chair collection in 1957. Fjordfiesta has gradually put this classic design back into production by first reintroducing the lounge version, as well as a smaller stacking version for dining or office use. At this year's furniture fair, they presented the generous-size Scandia Senior easy chair. The lightweight design features curved laminated-wood strips that comfortably conform to the user's shape, topped by a black leather cushion. The chair is available in walnut, or other woods upon request. The swivel base comes in satin chrome. Fjordfiesta, Molde, Norway. [www.fjordfiesta.com](http://www.fjordfiesta.com) **CIRCLE 201**



### ▲ Warming the bench

The Vienna-based EOOS design group created Together for Walter Knoll. As a single element, it is simply an elegant upholstered bench. When configured with two or more elements, Together appears as a spacious, floating sofa. The backrest has adjustable wings at each end to vary seating positions. Benches and corner elements are available in various lengths. Walter Knoll, Herrenberg, Germany. [www.walterknoll.de](http://www.walterknoll.de) **CIRCLE 202**



### ◀▶ Fresh faces for a classic collection

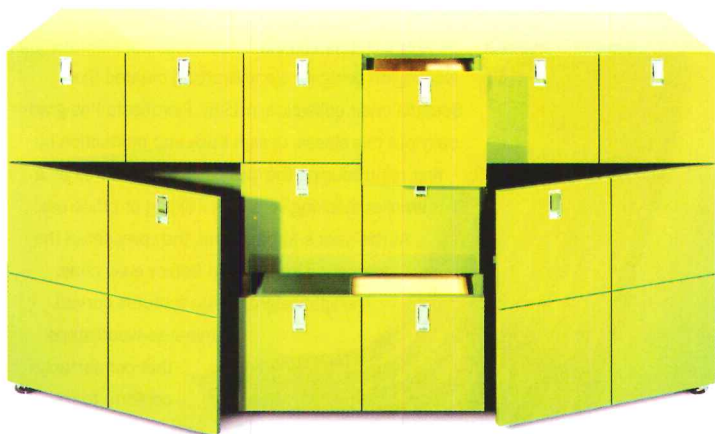
In its new showroom at Design Post, just outside the main fairgrounds at imm, ClassiCon introduced new versions of classic pieces from its collection alongside brand-new items by a group of 30-something designers. Selene is a suspension lamp by German designer Sandra Lindner.

The transparent, blown-glass diffuser houses a single, 60-watt bulb with a decorative filament. Satyr, by the three-person design group For Use, is an unconventional lounge chair with a spring back. Fabric-upholstered cushions rest on a powder-coated steel frame. ClassiCon, Munich, Germany. [www.classicon.com](http://www.classicon.com) **CIRCLE 203**



## Interiors Products

### Cologne Furniture Fair



#### ▲ Beautiful boxes

Behr International's collection of wall units, consoles, tables, and shelving has been created by Germany's leading furniture designers, including Peter Maly and Werner Aisslinger. Maly, who also serves as art director for the company, designed Menos, a line of brilliantly colored, lacquered cabinets. Available in a variety of configurations, Menos is designed to seamlessly accommodate media equipment. Behr International, Osnabrück, Germany. [www.behr-international.de](http://www.behr-international.de) **CIRCLE 204**

#### ► Straightforward design

Designed by the young Danish duo of Christina Strand and Niels Hvass, the Straight Chair's simple lines and light construction strip seating to its bare essentials without forgoing comfort or beauty. The solid wood frame is available in oak, ash, or walnut, with seat cushions in fabric or leather. Matching tables complete this collection by Tranekær Furniture, a young company that began furniture production 30 years ago on the grounds of Tranekær Castle on the Danish island of Langeland. Tranekær Furniture, Aarup, Denmark. [www.tranekaer-furniture.com](http://www.tranekaer-furniture.com)

**CIRCLE 206**



#### ▲▼ No longer hip to be square

Josef Hoffmann was a leading member of the Vienna Secession and founder in 1903 with Koloman Moser of the Wiener Werkstätte, an avant-garde workshop involved in the design and crafting of furniture, fabrics, and ceramics. His iconic designs have been reintroduced in Wittmann's Recreation Josef Hoffmann range. Wittmann has added two very different pieces to the collection for 2006.



The Musikzimmer armchair (left), with its cubelike form, is an unmistakable Hoffmann design from the first decade of the 20th century. The Salon armchair (above), inspired by an undated drawing, suggests a later period when Hoffmann's rectilinear designs were replaced with more florid and organic ones. Wittmann, Etsdorf, Austria. [www.wittmann.at](http://www.wittmann.at)

**CIRCLE 205**

#### ▼ Sinuous seating

With Shaman, the new armchair by Ligne Roset, French designer Eric Jourdan reaches a new level of fluid design first seen in Tolozan and Snowdonia, his earlier seating pieces for the company. The lines of the armchair, featuring an integrated seat cushion, are extended in the shape of the footrest, which can double as a low table. Both pieces rest on an aluminum disk that allow them to rotate. Ligne Roset's extensive introductions included a variety of seating, tables, and lighting. Ligne Roset, New York City. [www.ligne-roset-usa.com](http://www.ligne-roset-usa.com)

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# Products

## Walls & Ceilings

Our focus on **walls & ceilings** includes a range of product types, from a more healthful interior paint to lightweight ceiling panels that borrow technology from the aircraft industry. The surfaces that surround us continue to become more lightweight, sustainable, durable, and **acoustically enhanced**. *Rita Catinella Orrell*

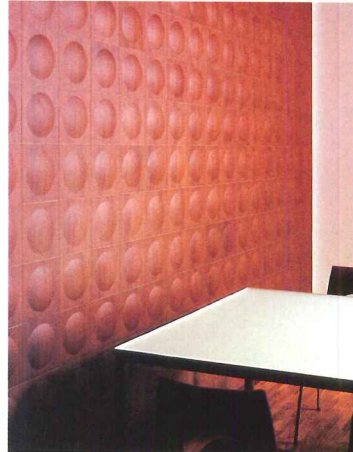
### Finnish-made 3-D wood tiles available in U.S.

Brainwood, the Finnish manufacturer of POP Panels, has signed an exclusive North American distribution agreement with Hightower Group, an importer of Scandinavian products based in Washington state. POP surface panels are a three-dimensional, form-pressed plywood tile for modern interior decoration with wood. Panels are available in four standard surface options: light birch, warm cherry, walnut, and sound-absorbing cork.

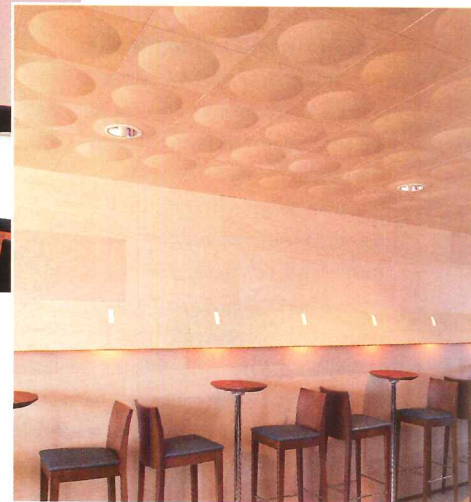
Pop panels are manufactured in Finland according to strict environmental standards. They come in two standard sizes: a 15 $\frac{3}{4}$ "-square tile and a smaller, 7 $\frac{1}{2}$ " panel. Special color lacquers and wood finishes

are available on large-scale projects. Panel elements are mounted with concealed aluminum fittings that provide a neat edge; fittings are included in the panel price and shipped complete. To increase durability and facilitate cleaning, the product has been laminated with an invisible transparent matte film.

Reflecting the influence of Midcentury Modern and an adherence to Scandinavian design simplicity, POP panels can be used on walls, ceilings, room dividers, retail elements, reception desks, built-in seating units, and as components applied to custom furniture. Hightower Group also offers flat panels in both standard



The POP pressed-plywood panel system can add dimension to a room as an alternative wall decor (left) or ceiling detail (below).



sizes and all four finish options that are compatible with the POP panel system. Hightower Group, Bellingham, Wash. [www.hightoweraccess.com](http://www.hightoweraccess.com)

CIRCLE 208

### Green interior paint line offers a warm-toned color palette

Self-proclaimed "color nerds" Virginia Young and Janie Lowe created the Yolo Colorhouse brand of Green Seal-certified interior paints to address the industry's need for environmentally responsible paints offering a wide range of color choices. Their initial collection of 40 warm-toned colors has been grouped into seven categories, from pastels to brights found in nature. Available in durable flat, satin, and semigloss finishes, the paint emits no VOCs and is mold- and mildew-resistant.

The Yolo Colorhouse palette includes a novel sampling system: giant, poster-size swatches coated with real paint, not ink. A low tack strip of tape on the back allows specifiers to move colors from wall to wall, saving discarded sample quarts of paint from entering the waste



stream. Made in collaboration with Rodda Paint Company, the collection is available throughout the West Coast and can be shipped nationwide. Yolo Colorhouse, Portland, Ore. [www.yolocolorhouse.com](http://www.yolocolorhouse.com) CIRCLE 209

### Sound-control products for multifamily use

Supress Products has announced the nationwide availability of its Supress-branded sound-engineered drywall, steel, and wood products to address noise- and sound-control within commercial and residential structures.

Specifically designed to meet the needs of multifamily developers, builders, and contractors, Supress products deliver unprecedented sound- and noise-control in a non-metallic, thin-panel construction

that does not interfere with cellular reception or network operation. Noisy rooms in the home, such as home theaters, can be acoustically enhanced by adding a layer to the existing wall. In new construction, Supress panels attach directly to the wall studs or the floor joists. The panels are fire-rated (ASTM E 119) and available in standard 4' x 8' panels in  $\frac{1}{2}$ ",  $\frac{5}{8}$ ",  $\frac{3}{4}$ ", and 1" thicknesses. Supress Products, San Rafael, Calif. [www.supressproducts.com](http://www.supressproducts.com) CIRCLE 210



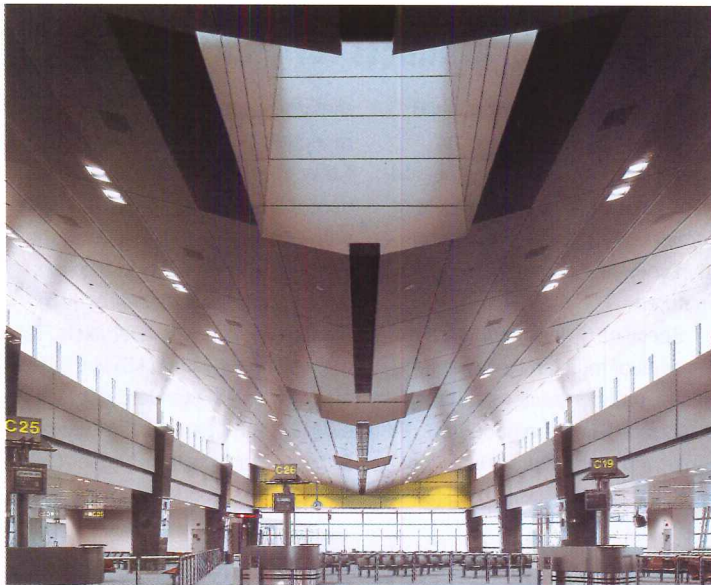
Supress has the acoustical performance of up to eight layers of standard drywall.

## Products Walls & Ceilings



### ▶▶ Old-world ceiling looks

Armstrong offers two new ceiling options for commercial projects. A second pattern has been added to the Ledges ceiling panels that feature a design reminiscent of old-world raised panel woodwork (above). The new panel is 24" square, but unscored like the original, creating a larger scale on the ceiling plane. A new paint-finishing technique designed for use on Armstrong TinCraft Circles ceilings (right) produces a hand-crafted antiquated effect. The look is ideal for use in boutiques and other types of speciality retail and hospitality environments. Armstrong World Industries, Lancaster, Pa. [www.armstrong.com/ceilings](http://www.armstrong.com/ceilings) **CIRCLE 211**

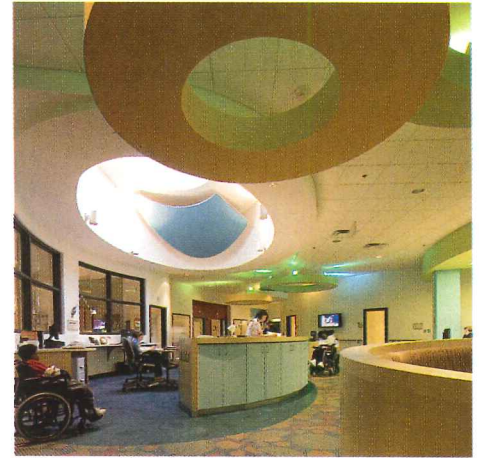


### ▲ Fitting ceilings for extra-large spaces

The XL Panel is Hunter Douglas's latest product addition to the Luxalon line of metal ceilings. Designed specifically for spaces such as airports, convention centers, and sports arenas, XL Panels can span up to 5' in width and 15' in length. The panel incorporates composite technology from the aircraft industry—an intricate honeycomb structure is embedded within the panels' aluminum skin, providing strength but no extra weight. In addition, XL features 70 percent recyclable content and no VOCs. Hunter Douglas Contract Ceilings, Norcross, Ga. [www.hunterdouglascontract.com/ceilings](http://www.hunterdouglascontract.com/ceilings) **CIRCLE 214**

### ▶ LEGO-inspired pediatric center

More than 1,500 feet of Flex-C Trac from Flex-Ability Concepts were used to create sweeping elliptical walls and soffits and curved planter boxes throughout the 60,000-square-foot Ranken Jordan Pediatric Rehabilitation Center in St. Louis. Designed by St. Louis-based Lighthouse Architects, Ranken Jordan is the only subacute pedi-



atric hospital in the Midwest. The architects consulted with patients to determine what features they would like to see in the center and had them construct models of the building with LEGOs. Flex-Ability Concepts, Oklahoma City. [www.flexc.com](http://www.flexc.com) **CIRCLE 212**



### ◀ Increased load tolerance

Simpson's new Steel Strong-Wall is a composite of steel and wood that provides allowable loads between two to three times higher than the original Strong-Wall. The design resists distortion of the center section and results in sustained vertical-load capacity. Walls are available in five widths from 12" to 24" and offer an ideal solution to narrow garage-wall returns. Simpson Strong Tie, Dublin, Calif. [www.strongtie.com/strongwall](http://www.strongtie.com/strongwall) **CIRCLE 213**

### ▼ Alternative extrusion material

At last November's GreenBuild show in Atlanta, Novawall Systems introduced Novawall EcoTrack, a PVC-free, 100 percent recyclable plastic extrusion for Novawall's site-fabricated stretch-fabric ceiling system. Novawall researched several plastics compounds for two years before finding a PVC-free alternative that has the same strengths as the company's PVC-based product and passes the required fire standards for use in commercial interiors. Novawall Systems, Alexandria, Va. [www.novawall.com](http://www.novawall.com) **CIRCLE 215**



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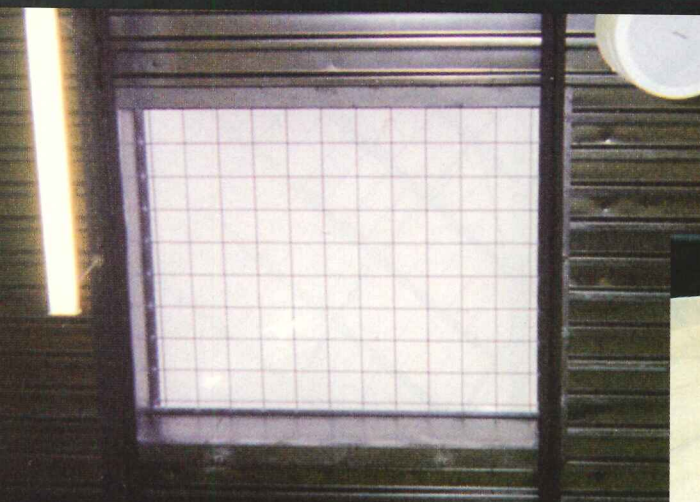


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## Product Briefs

### ◀ A relief for architects

Using hallmark techniques developed over three decades, the Architecture in Relief studio produces handcrafted metal reliefs featuring a building's elevation, plan, or portrait, in bronze and aluminum. The custom panels are ideal for lobbies, boardrooms, and architectural offices; past clients include the Boston Public Library and the Smithsonian Institution. Architecture in Relief, New York City. [www.architectureinrelief.com](http://www.architectureinrelief.com)

CIRCLE 216



### ▼ Greener sports flooring

PlybooSport bamboo athletic flooring was developed in response to the growing demand for a LEED-qualified sports floor. PlybooSport will install over most existing athletic floor systems that are appropriate for standard 3/4" maple flooring. With precision milling and tight manufacturing tolerances, PlybooSport requires less sanding and labor than alternatives. The flooring comes in a standard 3/4" x 2 1/4" x 24" size. Smith & Fong, San Francisco. [www.plyboo.com](http://www.plyboo.com) CIRCLE 218



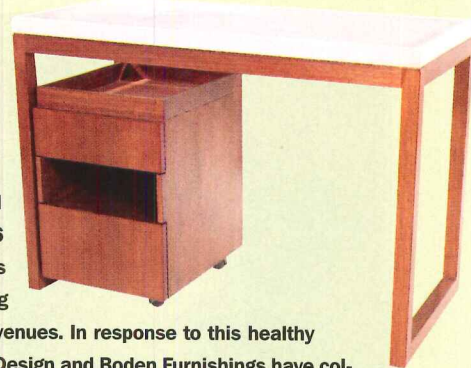
### ► Ahead of the curve

Already a leading manufacturer in the workplace furniture arena, Hon has now developed a line of classroom furniture suited for instructional and meeting spaces. The line includes ergonomic and space-saving desks, chairs, storage, and desk accessories for spaces that undergo regular reconfiguration due to changes in teaching methods, advancing technologies, and class size. The Hon Company, Muscatine, Iowa. [www.hon.com](http://www.hon.com) CIRCLE 219



## Product of the Month Clodagh Spa Collection

According to the International Spa Association, in 2004, 136 million visits were made to spas in the United States, generating an estimated \$11.2 billion in revenues. In response to this healthy market for spa design, Clodagh Design and Boden Furnishings have collaborated to produce the first full collection of furniture specifically designed for spa use. "In our work over the past couple of years it, seemed that every renovation or new build included a spa," says Bob Angus, cofounder of Boden,



"and in each project there was more square footage dedicated and more sophisticated design than before." Boden Furnishings, a manufacturer of high-end hospitality furniture, partnered with Clodagh Design, a firm known for its high-profile spa projects, to create a collection that fills the void in the market. The collection includes a range of tables (including the Caitra manicurist table, above), chairs, stools, benches, shelving, storage (including the Kevala locker group, left), and accessories for both public and private areas of the spa. A range of standard finish options are available, from light to dark wood stains. Boden Furnishings, New York City. [www.bodenfurnishings.com](http://www.bodenfurnishings.com) CIRCLE 217



### ► Luminous plastic clears the table

MB Wellington Studio collaborated with Bergmeyer Associates to apply luminous Lightblocks plastic panels into the design of Table 1280, a new, 150-seat restaurant at the Woodruff Arts Center in Atlanta. In addition to creating the restaurant's tabletops from the material, the designers used Lightblocks for the restaurant's ice-colored host station and 26'-long, 4"-thick bar, both of which incorporate dramatically cantilevered slabs. The material was also used for the 6'-long, custom rectangular-shaped sink that passes through a mirrored wall that separates the Men's and Women's rooms. Lightblocks is customizable, scratch-resistant, and 100 percent recyclable. MB Wellington Studio, Nashua, N.H. [www.lightblocks.com](http://www.lightblocks.com) CIRCLE 220



## Product Briefs Cersaie Tile Show

A world leader in ceramic tile, Italy hosts the Cersaie trade show each year in Bologna. At the 2005 show, exhibitors presented a wide range of flexible products that go far beyond conventional uses. *Jane F. Kolleeny*

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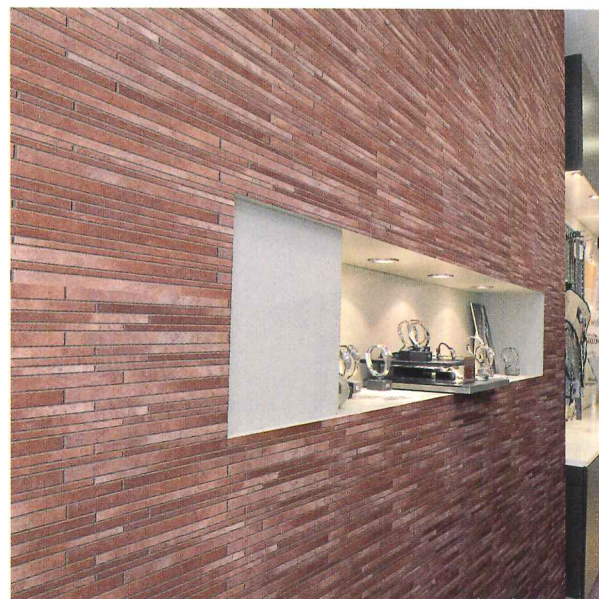
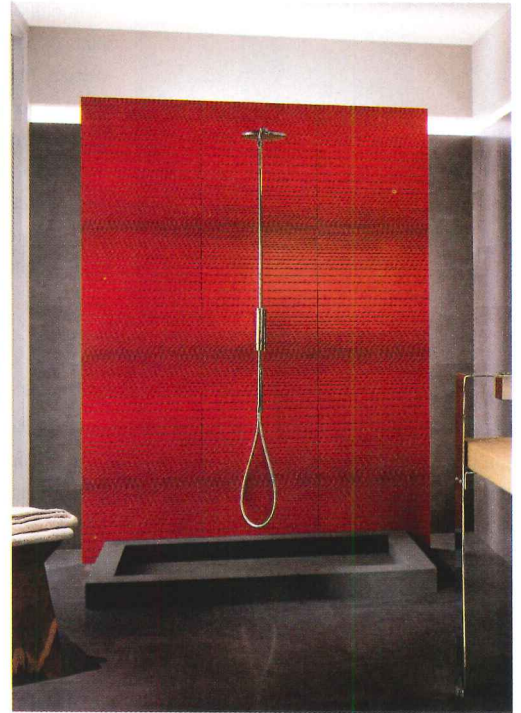
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### ▲► Fabriclike textures/vibrant colors

Inspired by the texture of fabric, the simple elegance of the Next collection from Atlas Concorde, shown above, creates a continuous uniformity due to its ground edges for closed joint laying and full-tile pattern. The porcelain stoneware tiles are available in Snow, Ivory, Lead, Canvas, Sage, Gray, Smoke, and Black, in a satin finish. Brush-applied concrete and resin finishes contribute to the vibrant colors of the

View collection (above right). Available in red, orange, green, and blue, in 30½" x 56" and 15" x 56" sizes, these tiles can occupy entire wall sections adding a graphic motif to spalike, Minimalist bathroom decors. Italian Trade Commission, New York City. [www.italytile.com](http://www.italytile.com) **CIRCLE 221**



### ◀ Layers of earth, recreated in porcelain tile

Appearing like the layers of rock in a geological formation, this collection of enameled porcelain tile is from Gaya, a Tile of Spain manufacturer. Called Stratos, it is named for its stratified, variegated appearance. Ideal for indoor or outdoor installations, the 13¾"-square wall tiles can be cut into desired sizes. Available in copper, green, gray, black, and cream, each color, combined with its unique textured surface, creates a distinctive visual effect. Stratos works well in residential living rooms, bathrooms, and kitchens, and in commercial projects such as shopping malls. Tile of Spain Center, Coral Gables, Fla.

[www.spaintiles.info](http://www.spaintiles.info) **CIRCLE 222**

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#### ◀ Imitation animal skins

This collection of textured tiles replicates the organic forms of animal skins, including leather, crocodile, and elephant. Shown here is Ma Touche, part of a new collection by Rex Ceramiche Artistiche. Made possible through "TwinPress" technology, this fine porcelain stoneware is compact, transparent, and soft. Offered in four different textures—Cuir, Peau, Eleph, and Croco—each has a distinct material depth and tactility. Colors include Ivoire, Tabac, and Charbon; the tiles measure approximately 24" square. Hastings Tile and Bath, New York City. [www.hastingstilebath.com](http://www.hastingstilebath.com) **CIRCLE 223**

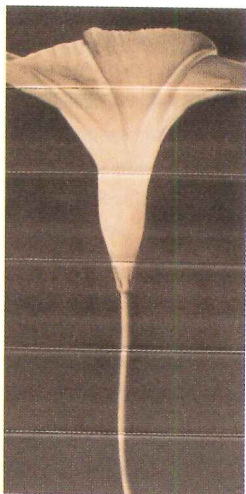
#### ▶ A touch of deep blue elegance

One of the various styles launched by Ceramiche Coem this year, Pietra d'Irlanda porcelain stoneware is a variant of the rich blue stone known as Belgian Blue Stone. Available in an Irish blue or Irish gray color, Pietra d'Irlanda has a smooth, elegant surface, pleasing to the touch. Its squared and honed edges, delicate filigree work, precise tones, and geometric grid pattern give it a contemporary look. The 3/8"-thick tiles come in matte and matte/rectified finishes in a 2"-square and 1" x 2" size. Matching bullnose and step trims as well as a decorative border are available. Italian Trade Commission, New York City. [www.italytile.com](http://www.italytile.com) **CIRCLE 224**



#### ▼ First tiles of spring

Seen through the poetic eyes of Massimo Gardone, nature is revealed in the medium of ceramic tile in Haute Couture, part of Viva Ceramica's Limited Edition line (left). Reminiscent of the flowery 6 or 12 tile panels that were a hit in the 1980s and '90s, the line has updated the look with bigger flowers, subtler colors, and a bold, mural-like display. Also from Viva Ceramica is the Floranova line, composed of six panels, six single flowers, and three flooring tiles. Italian Trade Commission, New York City. [www.italytile.com](http://www.italytile.com) **CIRCLE 225**



#### ◀ Anatomically correct mosaics

Architect Nigel Coates transforms the human figure into the medium of ceramics for Bodypark, an unusual tile series from Ceramica Bardelli. Using computer scanning, a lifelike image is achieved that is at once natural and abstracted. The collection includes two full-body and two half-body figures depicted in platinum on brilliant (Bianco Extra) and matte whites in an approximate 8"-square size. Italian Trade Commission, New York City. [www.italytile.com](http://www.italytile.com) **CIRCLE 226**

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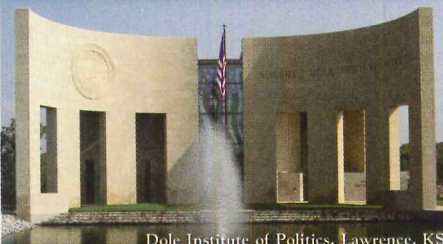
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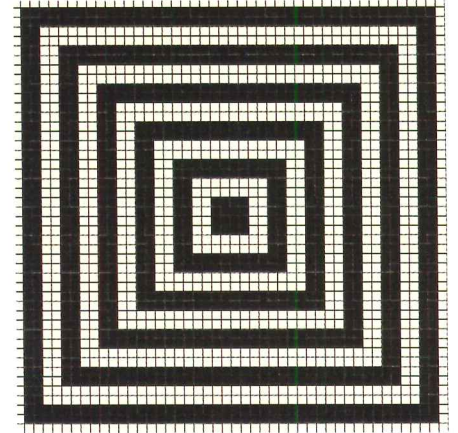
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## Product Briefs Cersaie Tile Show

### ► The beauty of mosaic in geometric form

At Cersaie this year, seven new patterns by four designers for indoor and outdoor coverings were debuted by Bisazza. Within this collection is the mosaic cube pattern called Wengé, a durable tile appropriate for cladding both walls and floors. It is particularly good for floor locations where heavy traffic may occur. Designed by Carlo Dal Bianco, who also designed the company's flagship stores in Milan, Berlin, London, and New York, this computer-generated pattern is derived from the warmth of wooden floors. Wengé is shown here in Nero, made from ½"-square Opus Romano tiles. In the showrooms, the mosaic collections are displayed as if they were books in a large library. Bisazza, New York City. [www.bisazzausa.com](http://www.bisazzausa.com) **CIRCLE 227**



### ▲ Subtle earth tones enliven these organic forms

The Gypsum collection of premium-quality white-paste tile from Ceramgres features a velvety surface contrasted with rectangular lines in warm earthy tones. Offered in 25 colors and three sizes, Gypsum is part of the company's "Material and Nature" line. It is a double-fired, white biscuit ceramic with a rectified edge. A striped relief finish is available in certain formats. Italian Trade Commission, New York City. [www.italytile.com](http://www.italytile.com) **CIRCLE 228**



### ◀ Tile, the new upholstery

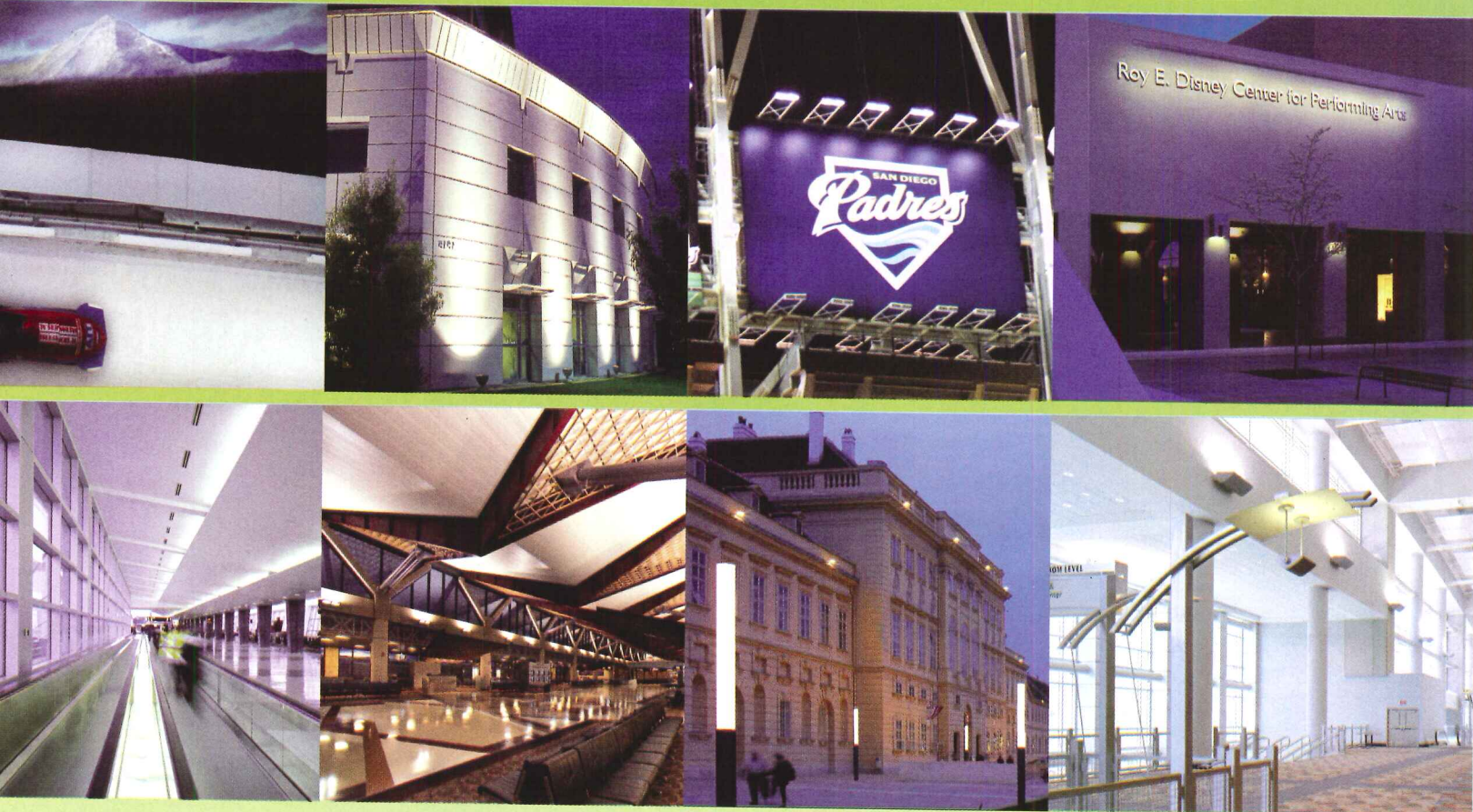
Lea Ceramiche presents Studies by Diego Grandi, an award-winning designer and architect. Bold geometric colors and shapes are achieved through a highly precise sanding and cutting process. Opaque porcelain is combined with glass powder to create a pattern that emerges from the ceramic base through color and light. By creating textilelike shapes in the tile, the designer goes beyond surface covering into the realm of furnishing by almost "upholstering" the walls and floors. Sizes range from 12" square to 35" x 53". Italian Trade Commission, New York City. [www.italytile.com](http://www.italytile.com) **CIRCLE 229**

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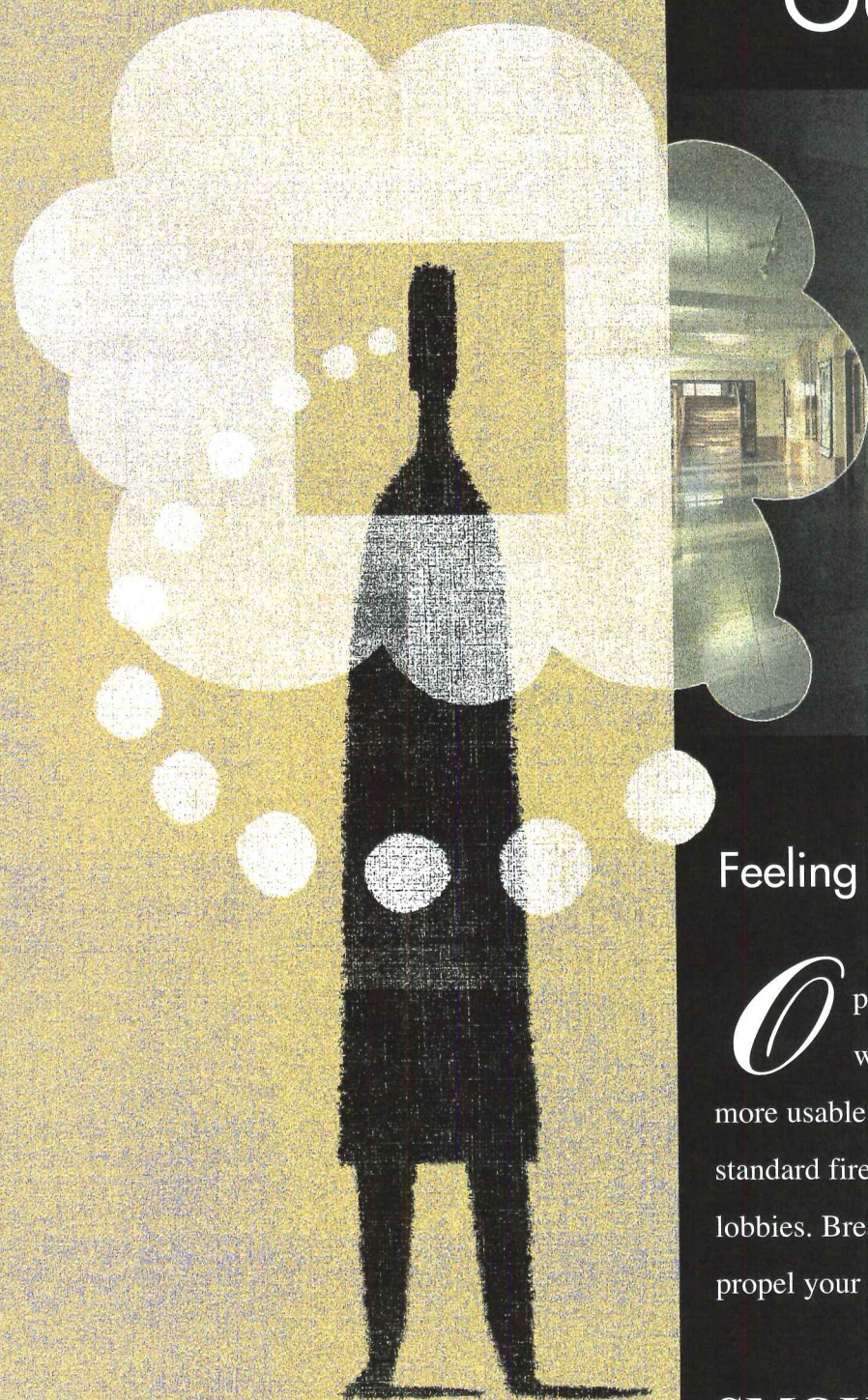
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# Design

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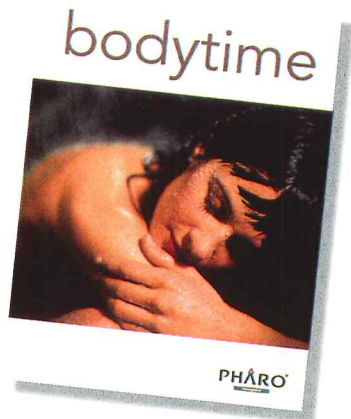


### Great range of offerings

RangeCraft Manufacturing's new 12-page range-hood brochure depicts the wide array of hoods offered by the company. RangeCraft also specializes in the custom manufacture of concealed wood-hood blower inserts in various sizes for wall-mounted and ceiling-mounted installations. RangeCraft Manufacturing, Fairlawn, N.J. [www.rangecraft.com](http://www.rangecraft.com) **CIRCLE 230**

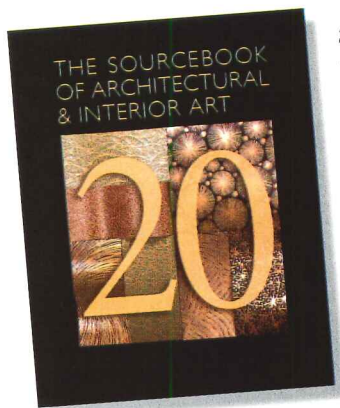
### Luxury shower collections

Hansgrohe recently introduced a new, 32-page brochure that presents its entire line of Pharo luxury shower products. Titled *Bodytime*, the brochure includes Pharo's complete line of shower panels and showerheads, body sprays, and advanced thermo-static valves. A five-page technical section includes dimensional line drawings and product-specific features. Hansgrohe, Alpharetta, Ga. [www.hansgrohe-usa.com](http://www.hansgrohe-usa.com) **CIRCLE 231**



### 20 artistic years later

The Guild, a distributor of original art and fine craft items, has published the 20th-anniversary edition of *The Sourcebook of Architectural & Interior Art*. This edition presents the work of more than 225 artists in 700 full-color photographs illustrating 15 categories of commissioned art. A new Web-based version of the sourcebook is also available. The Guild, Madison, Wis. [www.guild.com](http://www.guild.com) **CIRCLE 232**



### Entrance system CD

Special-Lite's 2006 product catalog is now available on CD, giving specifiers the complete range of information needed to evaluate and order the company's heavy-duty commercial entrance system products. Based on Special-Lite's print catalog, the Windows-based CD provides exportable CAD drawings in AutoCAD R12 DWG format. Special-Lite, Decatur, Mich. [www.special-lite.com](http://www.special-lite.com) **CIRCLE 233**



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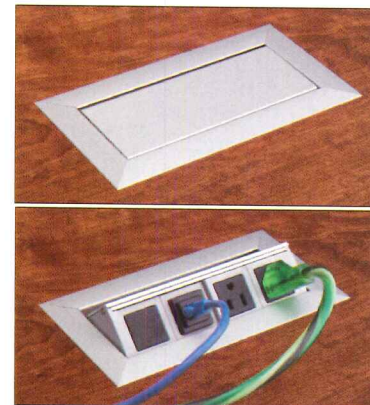
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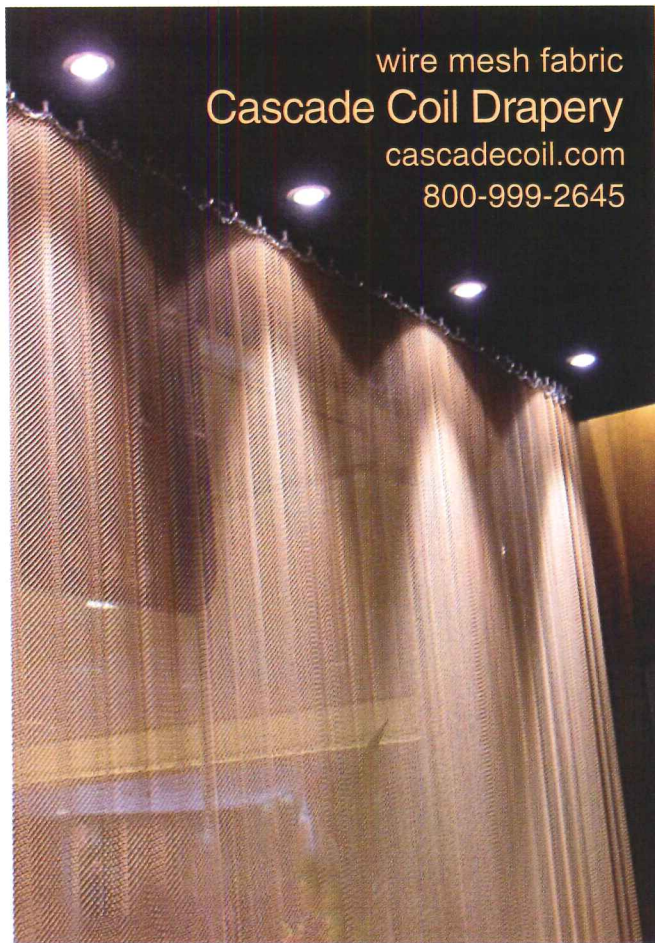
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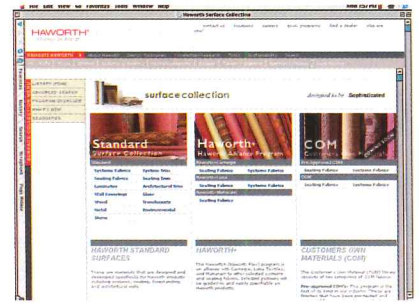
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## Product Resource: On the Web

### www.haworth.com

Haworth has launched a comprehensive surface collection site that can be found on the main menu as a category on the Catalog bar, or directly linked at [www.haworth.com/Brix?pageID=20](http://www.haworth.com/Brix?pageID=20). The surface collection site offers three menus: one for standard finishes, one for Haworth+ (a new fabric alliance program with Carnegie, Luna Textiles, and Maharam), and one for COM's. An advanced search feature allows users to quickly sort materials in a variety of ways.



### www.betterhomebetterplanet.com

BASF's new Web site is intended as a practical learning tool for builders, architects, and homeowners about how to build homes that are 80 percent more energy-efficient, disaster-resistant, faster to construct, and affordable. The site features an interactive, multimedia presentation of the BASF Near Zero Energy Home, part of BASF's Better Home Better Planet initiative now under construction in N.J.



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### www.kartell.it

Kartell's new interactive site offers info on the Italian manufacturer's latest lighting and furnishings in five languages. As you glide your mouse across the bottom menu bar, lights will illuminate and chairs will rotate. In addition to company and exhibit info, the site is set up to deliver the latest news from the cutting-edge manufacturer.



### www.materia.nl

The goal of this site is to gather information on the way new materials are being used (and can be used) and making that info easily accessible for the worldwide A&D community. A search engine allows registered members to select and compare a growing variety of new, innovative materials. Members also receive a monthly newsletter.



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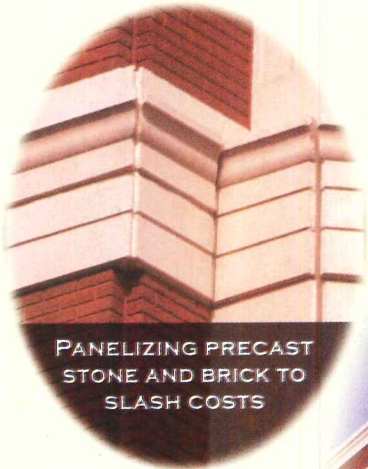
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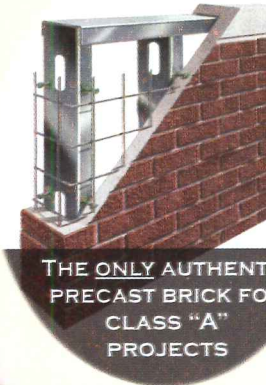
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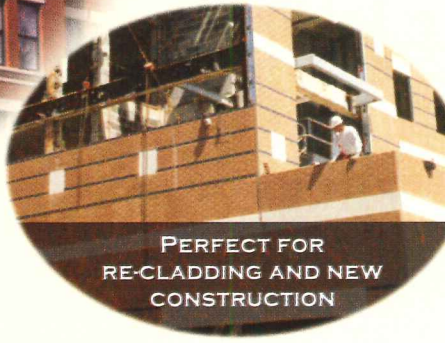
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# Dates & Events

## New & Upcoming Exhibitions

### **Reinventing New York: Thesis Projects from the BFA Interior Design Department at SVA New York City**

March 23–30, 2006

Whether it is a former meatpacking building transformed into a spa and yoga center, or a new luxury hotel in Gramercy, these senior thesis projects demonstrate the power of design to change our world—even when history looms large.

Capturing the dynamic mix of activities that are the pride of New York, projects include a bus terminal, a shopping mall, a plastic surgery clinic, and an interactive art museum. At the National Arts Club. For more information, call 212/592-2000 or visit [www.sva.edu](http://www.sva.edu).

### **Southpoint: from Ruin to Rejuvenation—ENYA International Ideas Competition Exhibition**

#### **New York City**

March 31–June 17, 2006

The Emerging New York Architects (ENYA) Committee presents an exhibition of the second biennial international ideas competition. The exhibition features 77 visions for a Universal Arts Center at Southpoint Park on Roosevelt Island. ENYA Prize recipient, second place, third place, student prize, and historic preservation award, along with 42 selected entries are included in the accompanying catalog. At the Center for Architecture. Call 212/683-0023 or visit [www.aiany.org](http://www.aiany.org).

### **The Green House: New Directions in Sustainable Architecture and Design Washington, D.C.**

May 20, 2006–June 3, 2007

A groundbreaking exhibition that will examine new developments in green technology and products. The exhibition will examine some questions homeowners often ask when considering a green home or product, including: What makes a product green? How is a green home healthier, safer, and more comfortable? and How much does it cost to “go green?” The exhibition will include the prefab Green Trend House, demonstrating sustainable principles, and feature models, photographs, and drawings representing how sustainable principles are being applied with

innovative and beautiful results in homes around the world. At the National Building Museum. Call 202/272-2448 or visit [www.nbm.org](http://www.nbm.org).

## Ongoing Exhibitions

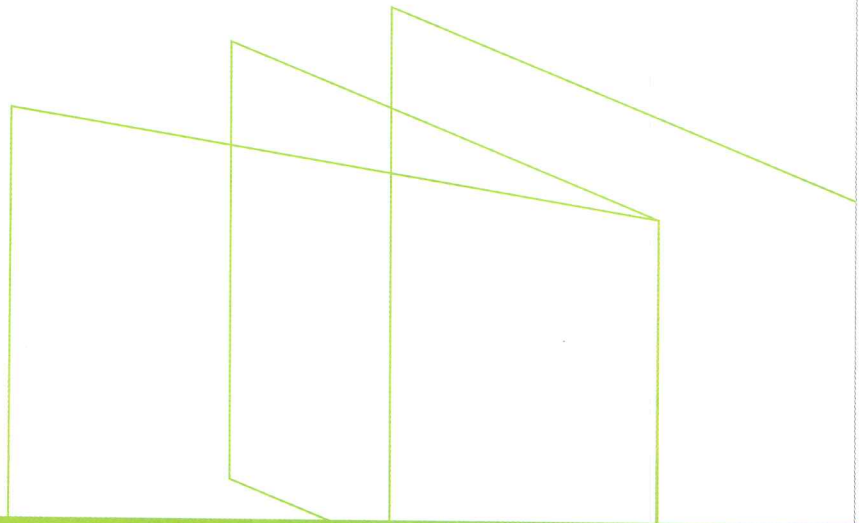
### **Extreme Porosity Los Angeles**

Through March 24, 2006

This exhibition features photographs, drawings, and models designed and fabricated at UCLA by architecture and urban design students who participated in a traveling seminar led by faculty member David Erdman. The studio went to Istanbul to examine mosques reflecting 15th- and 16th-century innovations in the use of minimal surfaces where extreme lightness, porosity, and geometry are in evidence. At UCLA Department of Architecture and Urban Design

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## Dates & Events

Perloff Gallery. Call 310/825-2585 or visit [www.aud.ucla.edu](http://www.aud.ucla.edu).

### **The HOME House Project: The Future of Affordable Housing Atlanta**

*Through March 28, 2006*

A multiyear traveling initiative created by the Southeastern Center for Contemporary Art (SECCA) in Winston-Salem, North Carolina.

The first component of the project was a national design competition and exhibition that showcased innovative solutions for sustainable low-to-moderate-income-family housing proposed by more than 440 contest entrants from around the world. At the Museum of Design Atlanta. Call 404/688-2467 or visit [www.museumofdesign.org](http://www.museumofdesign.org).

### **Architectural Art Atlanta**

*Through March 30, 2006*

Presented by the Foundation for Community Arts, exhibitors include Kenneth von Roenn, Walter Gordinier, Seranda Vespermann, Susan McCracken, Arthur Stern, Christian Culver, Christina Lihan, and Katherine Linn, AIA. Also on view is a niche exhibition of the art of landscape design. At Mercer University Brown Art Gallery. Call 678/547-6280.

### **Chicago Architecture Foundation Tours Chicago**

*Through March 2006*

Led by trained volunteer docents, these acclaimed tours explore the architecture of the Chicagoland area via bus, boat, train, Segway, or by walking. For descriptions of all tours, visit [www.architecture.org/tours](http://www.architecture.org/tours).

### **On-Site: New Architecture in Spain New York City**

*Through May 1, 2006*

Featuring 53 noteworthy architectural projects, this exhibition focuses on the most recent architectural developments in a country that has become known in recent years as an important center of international design experimentation and excellence. At the Museum of Modern Art. Call 212/708-9431 or visit [www.moma.org](http://www.moma.org).

### **Prairie Skyscraper New Haven**

*Through May 5, 2006*

A traveling exhibition showcasing Frank Lloyd Wright's only skyscraper, Price Tower. Now celebrating its 50th year, the 19-story building in Bartlesville, Oklahoma, was an exemplar of one of Wright's ideals: a single structure incorporating residential, commercial, and public spaces. Today, the building serves as a museum of modern art, design, and architecture, housing a hotel and restaurant as well as gallery spaces. The installation for this exhibition was

designed by celebrated architect Zaha Hadid. At the Yale School of Architecture. Call 203/432-2288 or visit [www.architecture.yale.edu](http://www.architecture.yale.edu).

### **Symmetry Los Angeles**

*Through May 7, 2006*

In the world of space and time, symmetry derives its meaning from a center, a repetition of forms on mirroring sides of an axis. This exhibition features works by Los Angeles-based contemporary artists that use or relate to this concept. At the MAK Center for Art & Architecture L.A., at the Schindler House. Call 323/651-1510 or visit [www.makcenter.org](http://www.makcenter.org).

## Lectures, Conferences, and Symposia

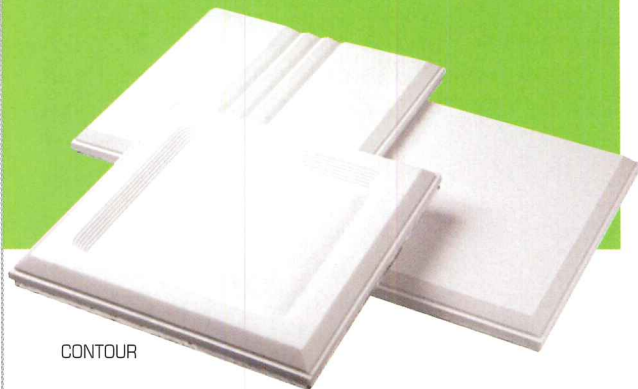
### **Eric R. Multhaupt Lunchtime Lectures Chicago**

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## Dates & Events

A forthcoming lecture series at the Chicago Architecture Foundation (CAF) will include the following topics: "Northerly Island: The Story of a New Public Park," with Arnold Randall, director of planning and development, Chicago Park District; "Creating New Parks from Vacant Land in Chicago," with Kathy Dickhut, acting department commissioner, Zoning and Land Use Division, Department of Planning and Development, City of Chicago; "Reclaiming Brownfields for New Public Meeting Grounds," with Kimberly Worthington, deputy commissioner, Department of Environment, City of Chicago; "Update on Block 37," with Grant Uhlir, Gensler; "The Spectacular Landscape: 17th-to-21st-Century Park Design," with Ned Cramer, curator, CAF. At the John Buck Company Lecture Hall Gallery. Call 312/922-3432 or visit [www.architecture.org](http://www.architecture.org).

### Fifth Annual McKim Lecture New York City

March 8, 2006

Hosted by the One West 54th Street Foundation at the University Club, Institute of Classical Architecture and Classical America board member and president of the American Academy in Rome Adele Chatfield-Taylor will give a talk about Charles Follen McKim's involvement in the academy. At the Institute of Classical Architecture and Classical America. Call 212/730-9646 or visit [www.classicist.org](http://www.classicist.org).

### Craig Dykers, Snøhetta Chicago

March 14, 2006

The Oslo-based firm Snøhetta has emerged as an international leader in design with several large and complex public projects. Principal Craig Dykers will discuss recent and upcoming projects, such as the

Cultural Center at the World Trade Center site in New York, and the National Opera House in Oslo. At the John Buck Company Lecture Hall Gallery. Call 312/922-3432 or visit [www.architecture.org](http://www.architecture.org).

### Lecture: George Ranali— Iconic Form New York City

March 16, 2006

George Ranali is dean of the School of Architecture, Urban Design, and Landscape Architecture at the City College of the City University of New York. His work has been exhibited around the world, and his office has received many AIA awards. At the City College of the City University of New York. Call 212/650-7312 or visit [www.ccnycunyc.edu](http://www.ccnycunyc.edu).

### 2006 Built Green Conference Seattle

March 16, 2006

The Northwest's premier green-building conference. Industry professionals, government agencies, and students will gather to learn

about and discuss environmentally friendly residential building and development. The conference will include a trade show featuring green products and services, along with numerous educational workshops on site development, energy efficiency, permits and incentives, design, marketing, and more. At the Washington State Convention and Trade Center. Call 425-460-8238 or visit [www.builtgreen.net](http://www.builtgreen.net).

### Third Annual Lewis Mumford Lecture

New York City

March 23, 2006

The lecture on urbanism will be given by Enrique Penalosa, former mayor of Bogota, Colombia. His lecture, "A New Urban Paradigm: Building a Just and Sustainable Metropolis," will elaborate on his belief that cities in developing countries are in a position to create a different and better urban model than that of the industrialized world. Under Penalosa's leadership, the city of Bogota undertook a remark-



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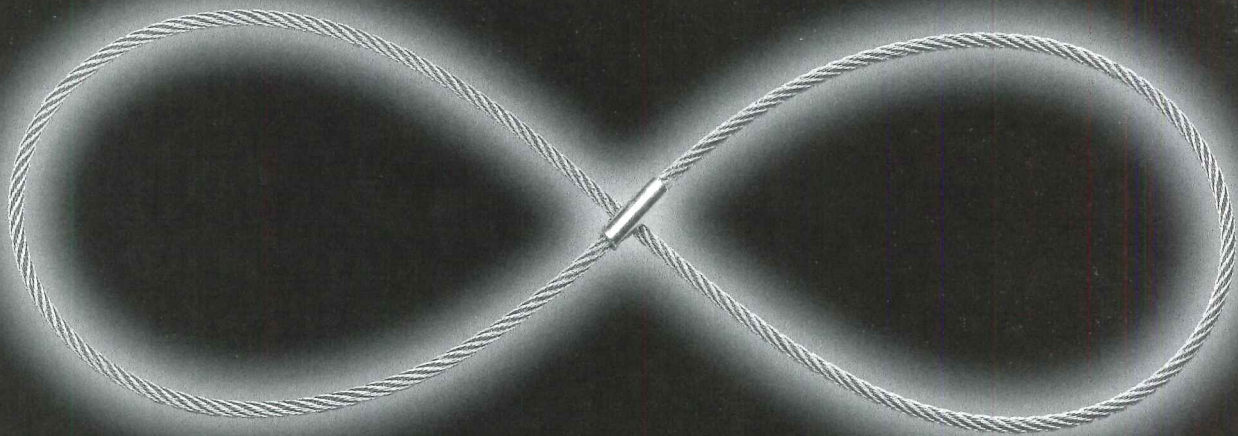
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## Dates & Events

able and transformative series of initiatives that remade a city felt to be dangerous and without hope to one in which a sense of optimism and belonging burgeoned. At the City College Great Hall. For further information, contact Kathleen Sheridan at [kms@ccny.cuny.edu](mailto:kms@ccny.cuny.edu) or Michael Sorkin, director of the Graduate Program in Urban Design, at [sorkin@thing.net](mailto:sorkin@thing.net).

### CA Boom 3 Los Angeles

March 23–26, 2006

CA Boom is the West Coast independent contemporary design show. This year, which is the show's third year, an impressive lineup of acclaimed architects and designers are set to participate in the show, which should be a major event. At the Santa Monica Civic. For additional information, visit [www.caboomshow.com](http://www.caboomshow.com).

### Paul Lewis Vancouver, B.C.

March 23, 2006

Paul Lewis of LTL Architects, New York, will lecture on the firm's projects, which include restaurants; new houses in New York and Pennsylvania for private clients; affordable housing in East New York; the expansion and renovation of the Arthouse at the Jones Center for Contemporary Art in Austin, Texas; and several new commercial projects. At the C 300 Theatre. Call the Architectural Institute of British Columbia at 604/683-8588 or visit [www.lecturesonarchitecture.net](http://www.lecturesonarchitecture.net).

### Asia Dialogues: Fertile Ground for Architecture New York City

March 25, 2006

Asia's cities are growing at an exponential rate, and new models of

designing and building offer counterperspectives for global practices. This half-day roundtable puts the spotlight on China—its government, developers, and practitioners. Architects and planners from China join their American counterparts for a lively discussion. At the Center for Architecture. Call 212/683-0023 or visit [www.aiany.org](http://www.aiany.org).

### The New Orleans Levees: What Went Wrong and What Do We Do Now? Washington D.C.

March 30, 2006

The multiple breaches of New Orleans's levees in the immediate wake of Hurricane Katrina constitute one of the most spectacular and consequential failures of urban infrastructure in modern history. What went wrong? Is it possible to build a levee system that will reliably protect the city from future disasters? A panel of engineering experts, including Dr. Ivor van Heerden, deputy director of the Hurricane Center at Louisiana State

University, will address these and related questions. At the National Building Museum. Call 202/272-2448 or visit [www.nbm.org](http://www.nbm.org).

## Competitions

### 10th Biennial Bridge Awards Competition

Deadline: March 31, 2006

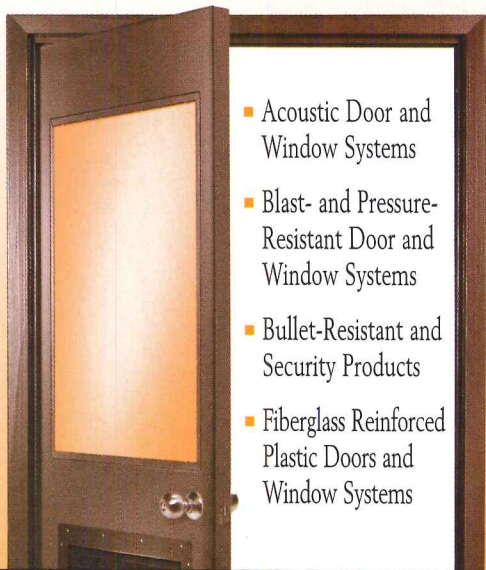
Portland Cement Association (PCA) is seeking nominations for its 10th biennial Bridge Awards Competition. All types of bridges in which the basic structural system is concrete—highway, railway, pedestrian—are eligible. For further information, call 847/972-9100 or visit [www.cement.org](http://www.cement.org).

### Edge as Center: Envisioning the Post-Industrial Landscape

Registration Deadline: March 31, 2006

The Boston Society of Architects (BSA) announced recently that the city of Somerville, Massachusetts,

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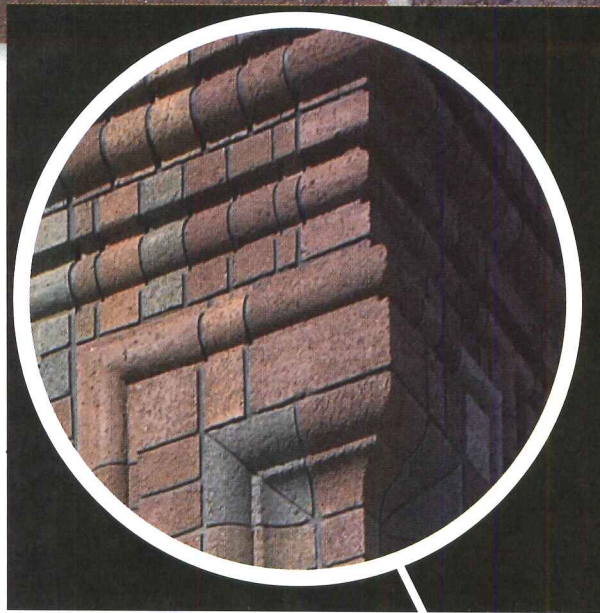
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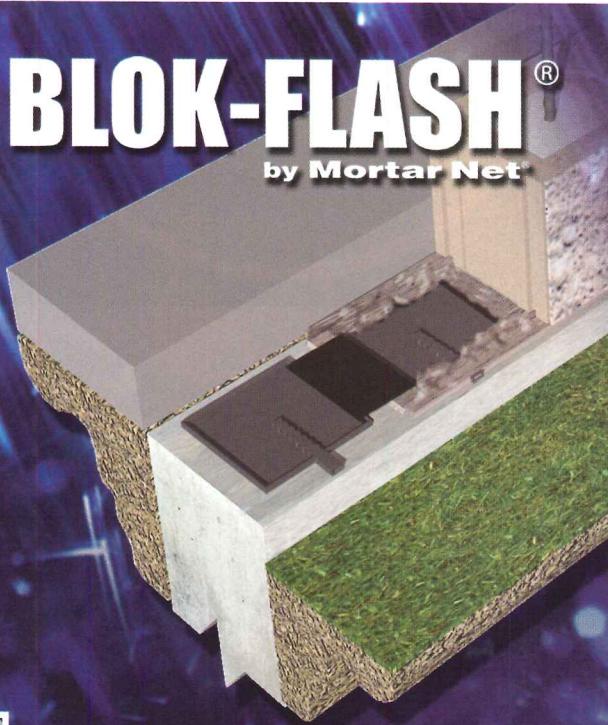
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## Dates & Events

will join with the BSA to hold an international urban design ideas competition for the industrial Brickbottom area in East Somerville. A competition prize fund of \$35,000 will be awarded to the top three entrants. For details, visit [www.architects.org/somerville](http://www.architects.org/somerville).

### Accessible Design Awards

Deadline April 3, 2006

The focus is on new or renovated buildings or other facilities that are accessible for persons of all abilities. Designers, clients, community groups, public agencies, and anyone else may submit specific solutions located/built in Massachusetts. Visit [www.architects.org/awards](http://www.architects.org/awards).

### Urban-Open

Deadline: April 15, 2006

A two-phase, open competition with the objective of honoring Chicago's commitment to sustainability and community development. The first phase solicits design schemes for an outdoor community space. Visit [www.urban-space.org](http://www.urban-space.org).

### The SOM Prize

Application Deadline: April 28, 2006

Since 1981, the Skidmore, Owings & Merrill Foundation has helped young architects and engineers broaden their education through travel fellowships awarded annually. This award has been created in celebration of the foundation's 25-year legacy. The \$50,000 grant will be awarded to the most promising student in architecture, urban design, and design, as selected by an independent jury of prominent professionals. Graduating undergraduate and graduate students of accredited U.S. schools of architecture, urban planning, and design are eligible. For more information, visit [www.somfoundation.som.com](http://www.somfoundation.som.com).

### International Student Design

**Competition: Concrete Thinking for a Sustainable World**

Deadline: May 3, 2006

Sponsored by the Portland Cement Association (PCA) and administered by the Association of Collegiate Schools of Architecture (ACSA), students will be challenged to investigate an innovative application of portland-cement-based materials to achieve sustainable design objectives. The competition is open to all ACSA-affiliated schools. Visit [www.acsa-arch.org](http://www.acsa-arch.org).

**inside::out—Weaving Arts into the Urban Fabric**

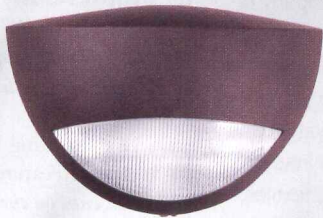
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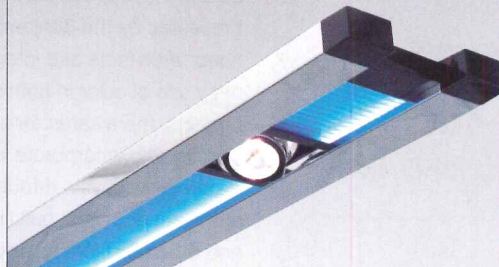
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## Dates & Events

*Deadline: May 9, 2006*

A national open design competition sponsored by the Boston Center for the Arts (BCA). The competition will transform the Tremont Street plaza and other public spaces surrounding the BCA, which occupies an entire city block from Clarendon Street to Berkeley Street in Boston's historic South End. Registration is open to all interested persons within the U.S. regardless of background or training. Visit [www.insideout.bcaonline.org](http://www.insideout.bcaonline.org).

### 2006 Benjamin Moore HUE Awards

*Deadline: May 19, 2006*

Presented by the Benjamin Moore company to honor architects and interior designers for exemplary use of color in both residential and contract projects, the awards recognize design professionals who incorporate color in innovative and imaginative ways—through the use of interior and exterior paints, building materials, textiles, and other surfaces, plus design elements and furnishings. Call 212/966-3759, x 233 or visit [www.benjaminmoore.com](http://www.benjaminmoore.com).

### Dream House with HGTV

*Deadline: June 2006*

High Noon Productions announces the continuation of the HGTV series *Dream House*, and seeks architects who are interested in appearing on the show. To be eligible, you must have broken ground by the first half of 2006 and be willing to have camera crews follow your home's construction from start to finish. Interested families, contractors, or architects may call 303/712-3184 or visit [www.highnoonentertainment.com](http://www.highnoonentertainment.com).

### The 2006 VIP Awards

*Deadline: July 1, 2006*

Since 2000, Vetter Windows & Doors has recognized projects that preserve and respect the time-honored tradition of quality custom building and master craftsmanship through the Vetter Inspired Project Awards (VIP). The VIP Awards is a national design competition open to any architect, custom builder, or remodeler in the United States that has used Vetter products. Call 800/838-8372 or visit [www.vetterwindows.com](http://www.vetterwindows.com).

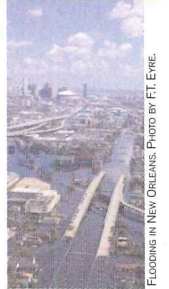
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### Lectures

#### The L'Enfant Plan from Idea to Landscape March 14

Don Alexander  
Hawkins, architect and  
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#### Environmental Film Festival March 18

*Tall: The American Skyscraper  
and Louis Sullivan*

#### March 19

Documenting I.M. Pei on Screen:  
Double Feature  
*Museum on the Mountain*  
*First Person Singular*

#### Building in the Aftermath March 30

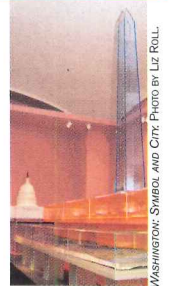
The New Orleans Levees: What Went  
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through July 4



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#### Cityscapes Revealed: Highlights from the Collection

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#### Washington: Symbol & City

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**Program title: "New Technologies Create New Challenges," Architectural Record (03/06, page 163).**

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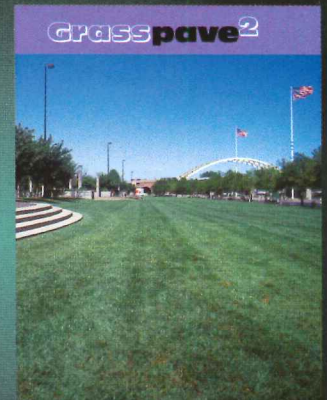


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Program title: **"The Essential Design Element for Any Office Space," (03/06, page 179)**

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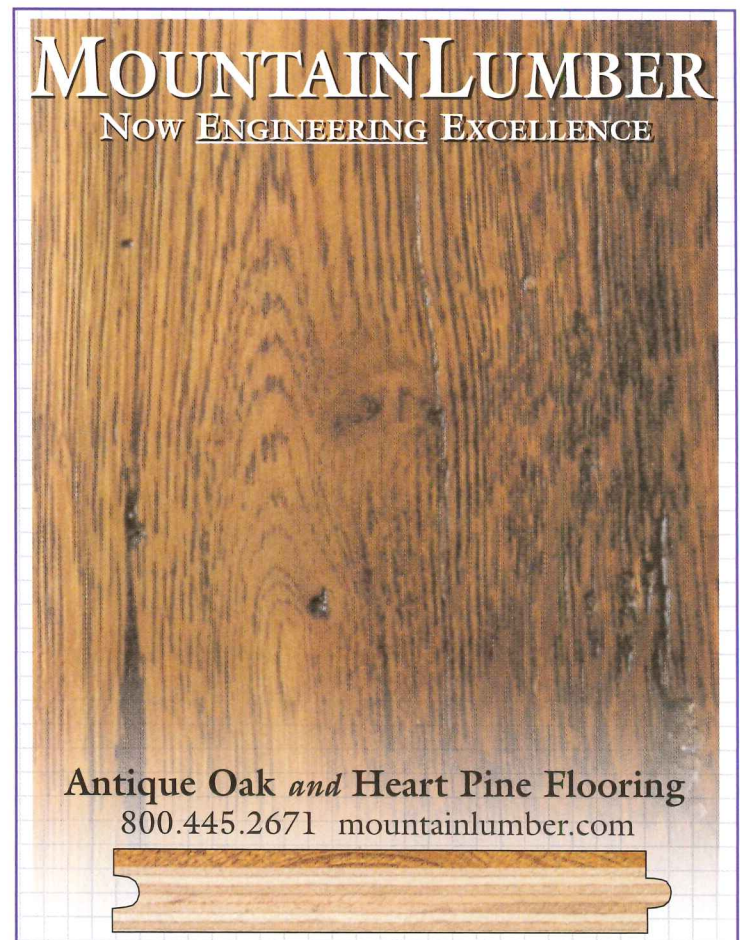
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Program title: **"Exploring the High-Performance Benefits of Laminated Glass," (03/06, page 257)**

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# Kitchen & Bath Portfolio

The editors of ARCHITECTURAL RECORD are calling for entries for the 2006 KITCHEN & BATH PORTFOLIO. Entry is open to any registered architect who has recently completed an innovative kitchen and/or bath project. Of interest are projects that feature unexpected materials, address unique client needs, or are designed in a manner that allows these utilitarian spaces to be both functional and beautiful.

There is no fee. Submissions should include images (color prints, large-format transparencies, or high-res digital images on CD along with a labeled color printout), a brief project description, and a complete credit and product source list. No slides or e-mailed submissions please. We must receive all materials by Friday, April 7th. Selected entries will be featured in RECORD's July 2006 issue.



## Kitchen & Bath Portfolio

At once practical and whimsical, the kitchens and baths selected for this year's Portfolio welcome us into their bright and well-crafted spaces without imposing on the rest of the residence. These open areas serve double-duty as both workhorses and beauty queens. *See Casella (over)*

### A kitchen "light box" and bathroom "lanterns" serve as beacons in a New York City loft

62 Cooper Square, constructed in 1926 for renowned music publisher Carl Fischer, now serves as a luxury residential building in New York City's Astor Place neighborhood. David Chia Architecture recently converted 8,000 square feet of the seventh floor into a permanent home for a young, growing family. Wrapped with wireframe on three sides, the concept design sustains the industrial feeling typical of city lofts, yet approaches the spirit of a second story.

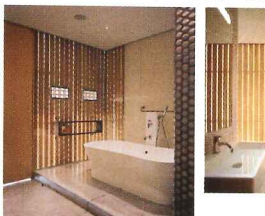
"Maintaining the sense of the raw light was one of the client's goals," explains Chia. With that in mind, the firm wanted the bathroom and kitchen spaces in particular to feel luminous both day and night.

The apartment is anchored spatially by two cores sheathed with a steel vane and glass skin. One core houses the private bathroom, the other a guest bathroom and home office space. Rather than fit the bathroom in solid boxes in the center of the loft, they were "lanterns" in the space. The bathroom features an otherworldly ash-wood slat system that is constructed to allow light to penetrate while blocking direct views. The clear glass on the inside not only lets in light, but also serves as a waterproof membrane, acoustic barrier, and structural surface for hanging towel bars, storage bins, and operable partitions that the architect found through a Dutch design company. Round openings cut into the glass and wood slat system allow for ventilation and view from within the cores when the partitions are open.

Serving as the hub of family life for the client, the kitchen features a 9'-long, cantilevered island that can be used for food prep,



homeowner, or as the setting for a casual dinner party. The island worked with a structural engineer to create a bridge truss system beneath the cantilevered section. Concealed lighting along with a variety of reflective, transparent, and translucent materials in the kitchen

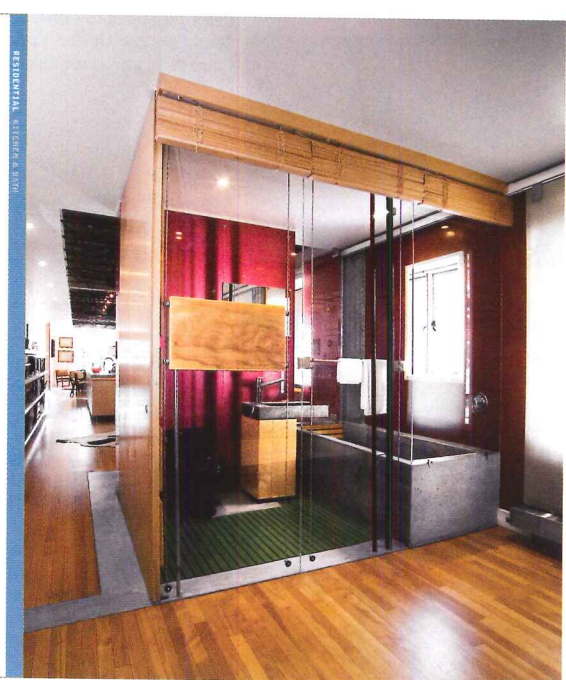


A clear glass soffit in the kitchen (left) exposes the air-conditioning duct and acts as a large light box. The translucent, transparent, and reflective materials prevent the room, a hub of activity, from dominating the surrounding open areas of the loft. The walls of the loft's three bedrooms (two shown below) let light flow in and out of the spaces through a custom glass-and-wood slat system.

dematerialize the surfaces of the room. "It's kind of an architectural piece," adds Chia of the kitchen, "and that's what they like about it." The apartment has proved to be popular with more than just the clients — it was awarded an AIA New York Design Award last fall. R.C.O.

Architect: David Chia Architecture — Keith Chia, Arián Deal, Philip Kirtner, project team  
Contractor: Government Sources: Durabuild, Unger, Vda (lighting fixtures), H&M (cabinets, mirrors), microban (bathtub), Brno (dishwasher), Nidus (lighting)

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Submissions should be mailed to:  
Rita Catinella Orrell  
ARCHITECTURAL RECORD  
Two Penn Plaza, Ninth Floor  
New York, NY 10121

If you have any questions, please E-mail Rita Catinella Orrell at [rita\\_catinella@mcgraw-hill.com](mailto:rita_catinella@mcgraw-hill.com)

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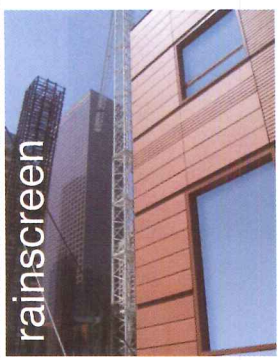
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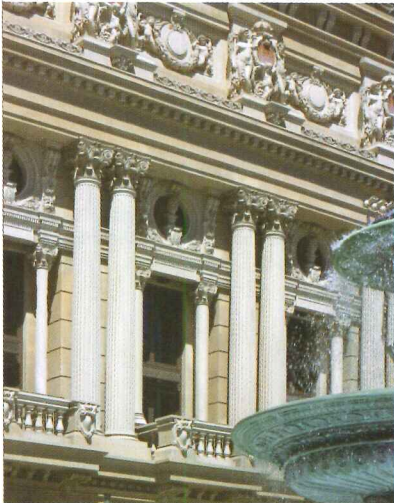
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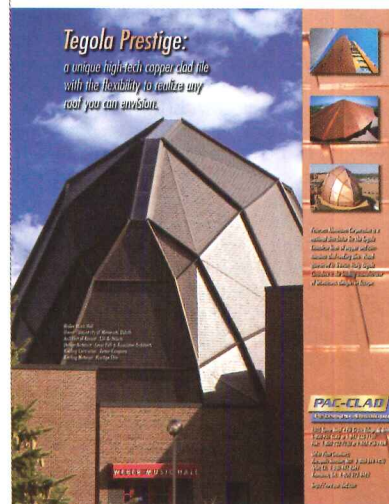
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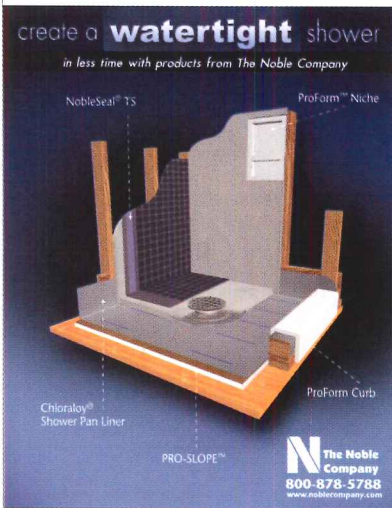
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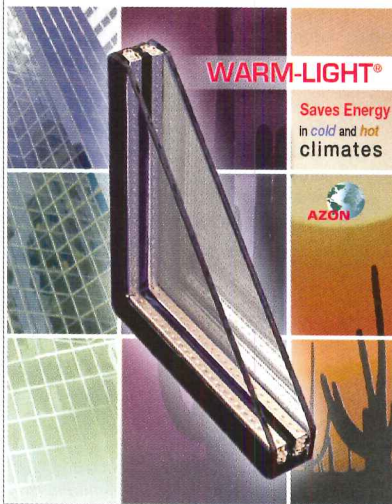
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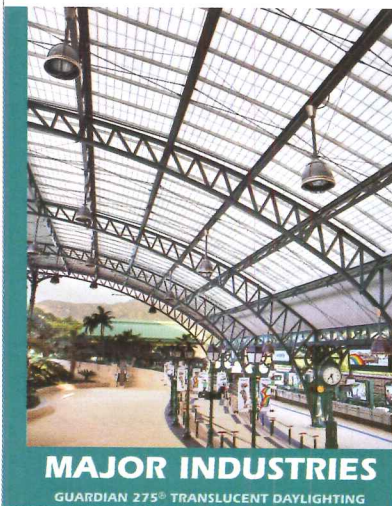
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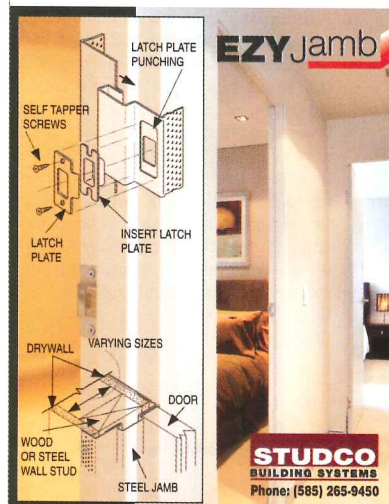
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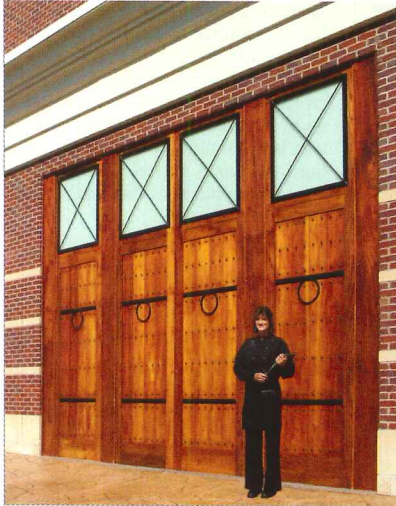
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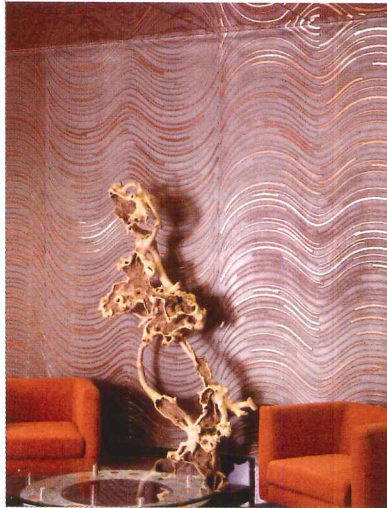
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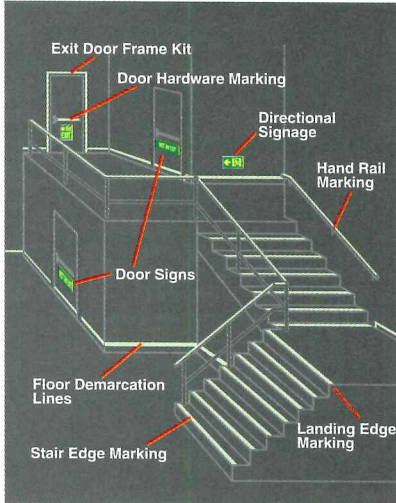
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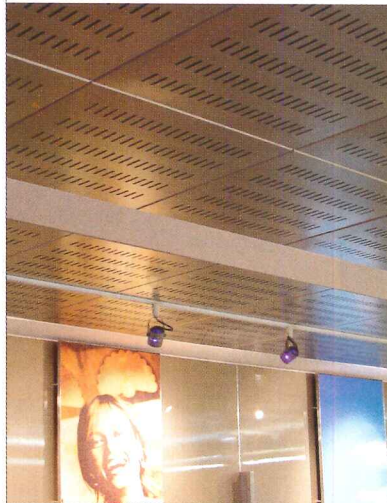
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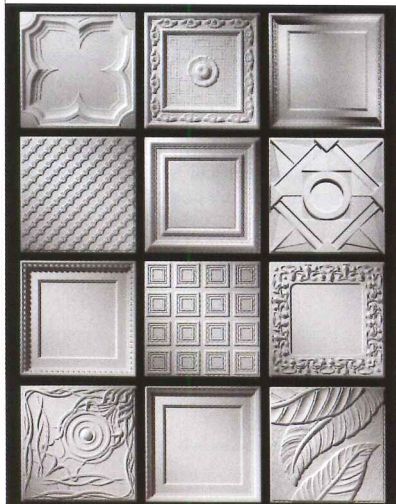
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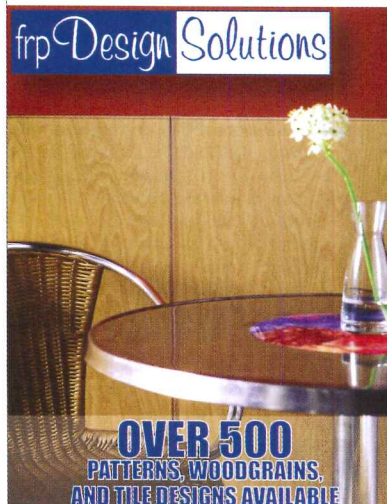
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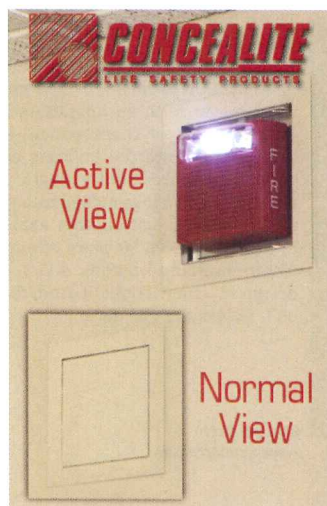
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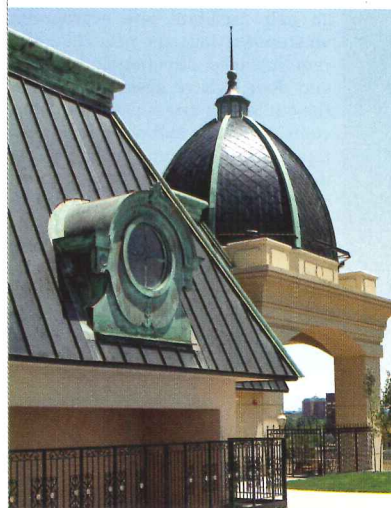
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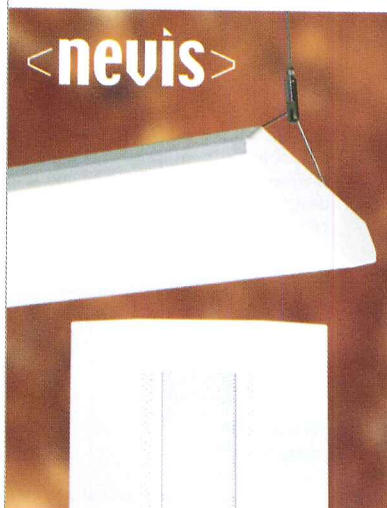
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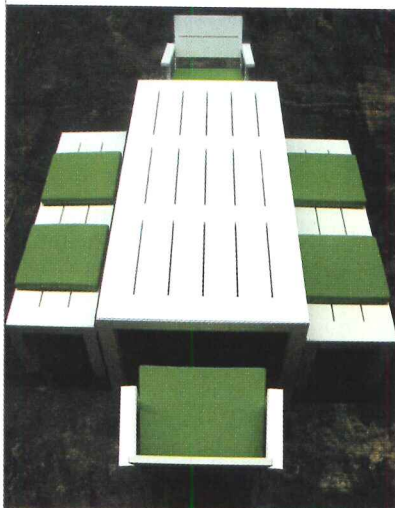
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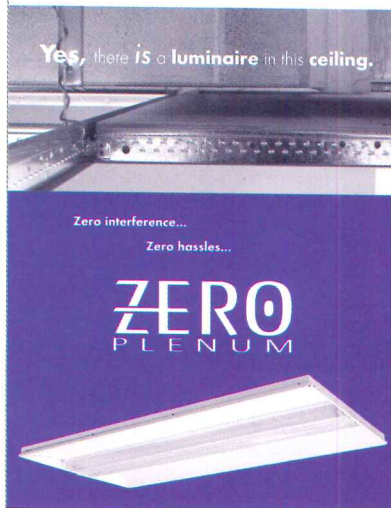
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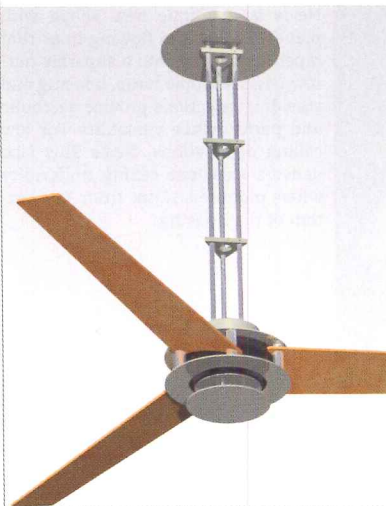
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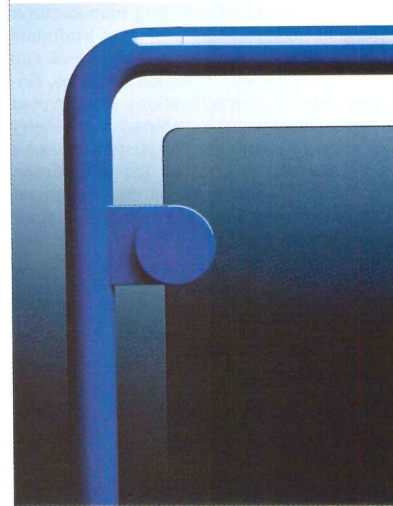
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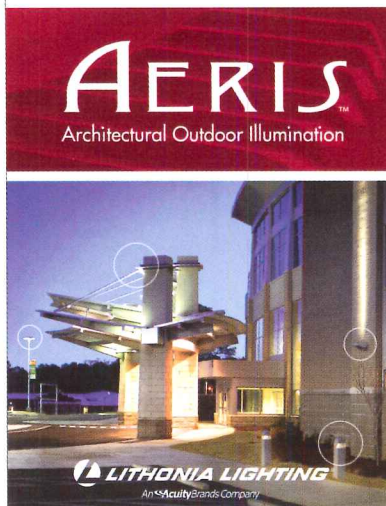
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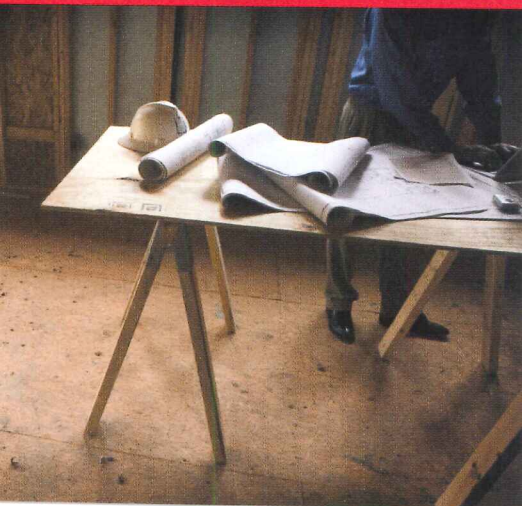
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POSITIONS AVAILABLE



## Dean of Architecture

### Sam Fox School of Design & Visual Arts

Washington University in St. Louis is seeking to fill the position of Dean of Architecture in its Sam Fox School of Design & Visual Arts. The appointment begins July 1, 2006. The successful candidate must be an accomplished leader in architecture. The Dean of Architecture will be a tenured full professor in Architecture and will report to the Dean of the Fox School. The Fox School, to be formally inaugurated July 2006, includes the College of Art, College of Architecture, Graduate School of Art and Graduate School of Architecture & Urban Design as well as the Mildred Lane Kemper Art Museum. The University is in the midst of completing two major new buildings for the School, designed by Fumihiko Maki. The College of Architecture is composed of about 50 faculty, 200 undergraduates and 160 graduate students and offers international semesters in Barcelona, Spain; Buenos Aires, Argentina; Florence, Italy; Helsinki, Finland; and Tokyo, Japan.

The successful candidate will be responsible for recruiting and evaluating faculty, overseeing the educational programs, and developing scholarly initiatives. The Dean of Architecture will be part of a collaborative team of academic leaders within the Fox School, engaging other parts of the University and working with community professionals. Knowing that women and members of minority groups are underrepresented in the profession of architecture, candidates from these groups are especially encouraged to apply, and the successful candidate must be committed to strengthening diversity and improving gender balance of the faculty and administration.

Nominations and expressions of interest may be submitted to the Chair of the Advisory Committee for the Appointment of the Dean of Architecture: **William A. Peck, M.D., Campus Box 1133, Washington University in St. Louis, St. Louis, Missouri 63130; e-mail: peckw@wustl.edu**

Washington University in St. Louis is an equal opportunity, affirmative action institution and encourages applications from and nominations of women and minority candidates.

#### ARCHITECTURAL SENIOR CAD DRAFTER

Prepare architectural detailing, prepare schematics, draw plans to scale and provide visual guidelines. Requires a clear understanding of building materials and codes. Must have a B.S. in Architecture or related field plus 2 years experience in drafting. Contact WESTAR Architects, LLC, at (702) 878-0000 or email resume to hr@wagnarchitects.com

#### FACULTY POSITIONS AVAILABLE COLUMBIA UNIVERSITY

The Graduate School of Architecture, Planning and Preservation is seeking candidates for several full-time positions in its architecture programs. Appointments are open in rank and based on candidates' experience. Responsibilities include teaching, research, and administration. Professional and/or teaching experience is required. Emphasis should be on architectural design with the ability to teach courses in history/theory or technology, or emphasis on history/theory with the ability to teach design studios. Candidates must hold a Master of Architecture or the equivalent. Applicants should respond with a letter of interest, curriculum vitae, illustrations of work and/or a writing sample. Please provide names and addresses for three references. Review of applications will begin on March 31, 2006. Materials should be sent to: Mark Wigley Dean, Graduate School of Architecture, Planning and Preservation, Columbia University, 1172 Amsterdam Avenue, 402 Avery Hall, New York, NY 10027. Please note that materials sent via email will not be accepted. Columbia University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

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#### ARCHITECTURAL DESIGNER

Responsible for architectural design development drawings & construction documentation using AutoCAD; research bldg codes, city reg. & bldg. safety; discuss budget & design focus with clients; interface directly with Sr. Architects. Req. Bach. in Architecture plus 6-mth in job/related work exp. Knowledge of AutoCAD is req. Resume: Steve Albert, The Albert Grp Architects, 3635 Hayden Ave., Culver City, CA 90232.

#### ARCHITECTURAL PROJECT MANAGER

BMK Architects, Inc., a rapidly expanding firm in Sarasota, FL, is seeking a highly motivated Architectural Project Manager with a minimum of 3 years of architectural design, production experience and AutoCad 2006 for work in all phases of commercial and/or institutional projects. A strong emphasis on hospital and/or educational projects would be very beneficial. BMK offers a pleasant non-smoking working environment and attractive benefits package. Sarasota, FL offers many amenities including its beautiful Gulf beaches, fine dining and a varied arts and cultural environment. Interested individuals should direct their resumes to William Tyle, Sr. V. P., BMK Architects, Inc., 323 Central Ave., Sarasota, FL 34236. Inquires held in confidence. EOE.

#### TENURE & NON-TENURE TRACK POSITIONS VIRGINIA TECH (VPI&SU)

The proposed Myers-Lawson School of Construction jointly housed in the College of Architecture and Urban Studies and the College of Engineering at Virginia Tech seeks to fill two tenure and one non-tenure track positions. The tenure track positions will be at the assistant, associate, or full professor level in Blacksburg, Virginia. One of these positions will be filled for fall of 2006 and start on August 15, 2006, and the second will be for fall of 2007 to start on August 15, 2007. Candidates for the tenure track positions are expected to possess a Ph.D. in Building Construction, Engineering, Architecture, or another related field. Candidates with exceptional practical experience with a minimum of a masters in a related field will also be considered. The non-tenure track position will be for the earliest possible date with fall of 2006 as the target date. Candidates for the non-tenure position are expected to have a masters in a related field plus several years of practical experience. These appointments will bring to a total of 16 faculty whose positions support the School of Construction. Understanding of the current state of construction and a commitment to teaching excellence are requirements. We look for someone who is interested in making profound change and improvement to the construction community. Tenure track candidates are expected to develop or to have a track record in construction research. The candidates are expected to compliment and diversify the School of Construction's three areas of excellence that characterize and form the philosophical foundation for the School. These are values based leadership, creative learning and research environments, and integrating and sustaining the built environment. We particularly seek candidates with expertise in leadership, safety and creative learning environments. Tenure track positions will be academic year appointments. The non-tenure track position will be for the calendar year and the candidate is expected to teach and to direct and coordinate our internship program. The internship program will seek to help ensure relationships with companies to create commitments for support of internships. This position will be a three-year renewable calendar year appointment. Virginia Tech is an equal opportunity employer. Review of applications will begin February 15, 2006 and continue until positions are filled. For more information see: [www.mlsoc.vt.edu](http://www.mlsoc.vt.edu). Interested applicants should apply online: <http://jobs.vt.edu/applicants/Central?quickFind=182872> or <http://jobs.vt.edu/applicants/Central?quickFind=182893> and arrange for three references to send letters to: Prof. Yvan Beliveau, Chair, Search Committee; 122 Burruss Hall; Virginia Tech; Blacksburg, VA 24061-0156. EO/AA

#### ARCHITECTURAL JOB CAPTAIN

Prepare architectural plan for projects, field measure, existing conditions, and review shop drawings. Analyze building codes, space and site requirements, and other technical documents and reports and determine the effect on architectural designs. Coordinate structural and mechanical designs and determine a method of presentation to graphically represent building plans. Coordinate and inspect the work of draftspersons and fellow architects. BS in Architecture or related and 2 yrs. exp. in Architectural related. Send resume to Mr. Howard Graf - Graf & Lewent Architects, - 91-31 Queens Blvd., Ste. 209, Elmhurst, NY 11373.

#### PROJECT MANAGERS

Growing Chicago based firm seeks talented licensed architects with 7+ years of experience. Responsibilities include: design thru construction administration and AutoCad proficient. Call at 312-226-4488 or send your resume to: [ray@hprarchitecture.com](mailto:ray@hprarchitecture.com)

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Prepares detailed drawings/sketches of architectural designs as per architect spec's, code/req's using CAD/visits client sites; assists architect in preparing architectural surveys/scale models/budgets/schedules. Req. Bach in Architecture & 3 yrs. exp. Send Resume to: A. Santa at P.A.S. Programa de Ayuda Simple Corp., 6034 SW 24th Street, Miami, FL 33155. Please no calls.

**PROJECT MANAGER**

Review project proposal. Determine project scope, schedule, budget, procedures, staffing & allotment of resources. Outline work plan & assign duties. Direct & coordinate project activities. Monitor project progress. Review status reports. Prep & update master project schedule. Prep project reports. Communicate w/client & local gov. B.S. in Architecture & 2 yrs exp req'd. Job Site: LA. Send resume w/this ad to: Rothenberg Sawasy Architects, Inc., Attn: Mitchell Sawasy, 953 E. 3rd St., LA, CA 90013.

**INTERN ARCHITECT (MULTIPLE OPENINGS)**

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**PROJECT ARCHITECT**

BMK Architects, Inc., a rapidly expanding firm in Sarasota, FL, is seeking a highly motivated Project Architect licensed in Florida with a minimum of 3 years of architectural design, production experience and AutoCad 2006 for work in all phases of commercial and/or institutional projects. A strong emphasis on hospital and/or educational projects would be very beneficial. BMK offers a pleasant non-smoking working environment and attractive benefits package. Sarasota, FL offers many amenities including its beautiful Gulf beaches, fine dining and a varied arts and cultural environment. Interested individuals should direct their resumes to William Tyle, Sr. V. P., BMK Architects, Inc., 323 Central Ave., Sarasota, FL 34236. Inquires held in confidence. EOE.

**INTERIOR DESIGNER-(MANH)**

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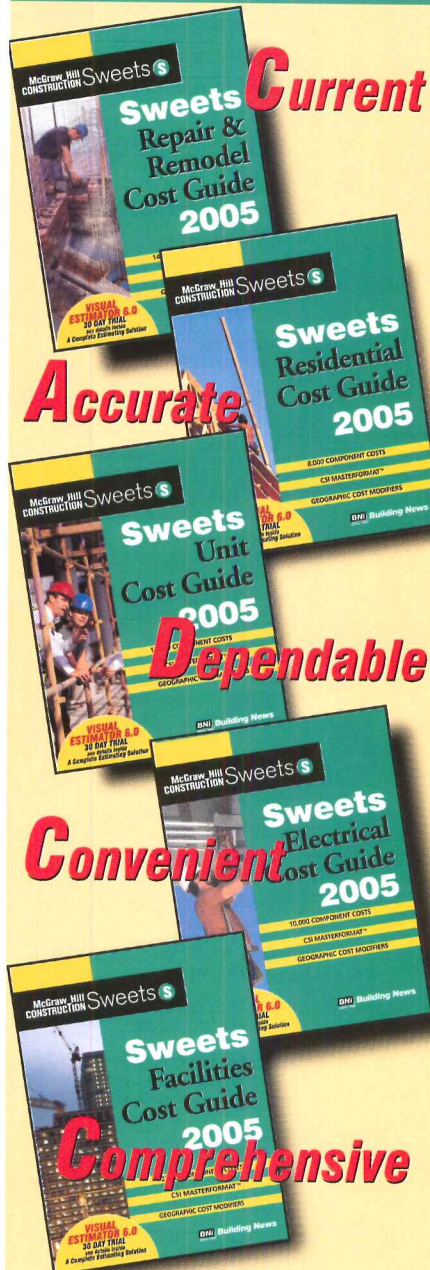


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185		AIA <i>aia.org</i>	233	99	Cooper Lighting <i>cooperlighting.com</i>	129	58	<b>S</b> KONE <i>kone.com</i>
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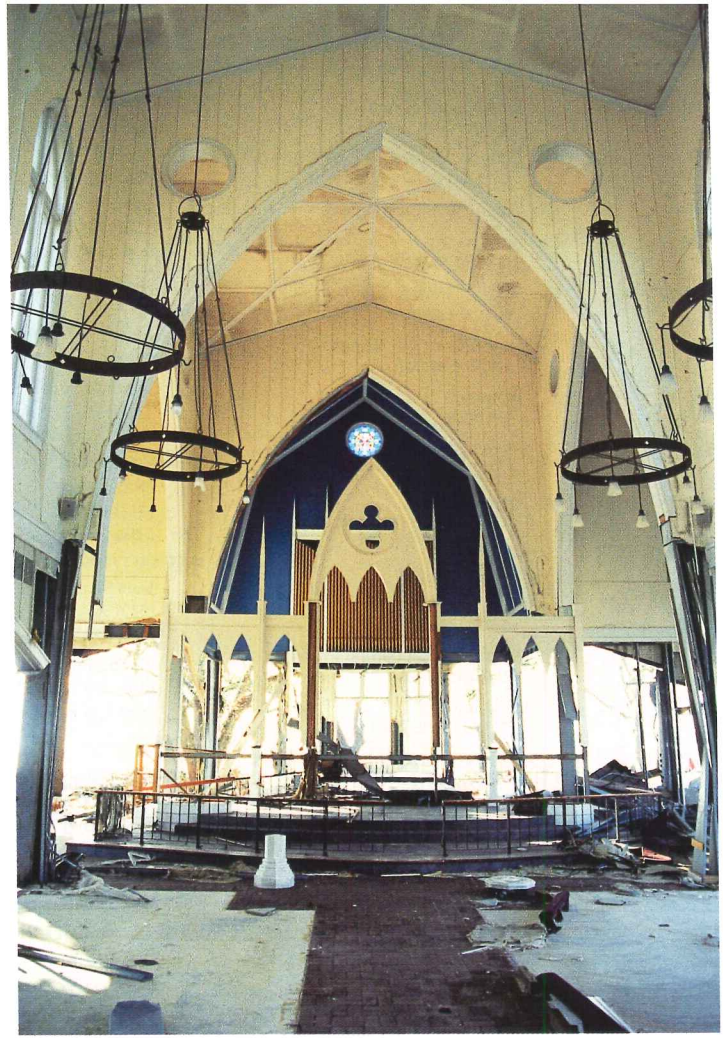
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# Lost to Katrina



## Can Gulfport's St. Peter's by the Sea be rebuilt?

The five-year-old church, designed in a simple Carpenter Gothic style by the New Orleans firm Erroll Barron/Michael Toups (above), was featured in *RECORD* in 2001 (below). Hurricane Katrina caused severe damage to the first-floor sanctuary (above right). Now the congregation wonders whether or not to relocate.

Architect Erroll Barron, FAIA, took heed of hurricane winds when he designed St. Peter's by the Sea in Gulfport, Mississippi. At 17 feet above sea level, it was supposed to be safe from floods like the one propelled by Hurricane Camille in 1969 that inundated this Episcopal parish's previous home. No one counted on Hurricane Katrina's 30-foot wave of water, however. It slashed quite cleanly through the lower story of the five-year-old church, carrying the pews and a hefty electric organ three blocks north to a railroad berm. The upper level is intact, but the adjacent parish house has vanished, as well as every other structure on this once-residential block. The mature live oaks, however, have already leafed out again.

Doug Singletary, who chaired the building committee when the building was designed,

explained that the extensive debris still visible on a January visit had to remain until an insurance payout was resolved. With the Gulf glittering benignly beyond the trees, the appeal of the site and the congregation's attachment to it was understandable, in spite of the mess. "We've been St. Peter's by the Sea since 1901," he explained. The congregation at press time had not decided whether to risk rebuilding on the same site. "We have a hard time even thinking about leaving because the church itself was such a spiritual place," he added.

He is among those who argues that the magnitude of the storm surge is unlikely to be duplicated. The structural frame of the church is unharmed, and moving upland would mean, he says, "walking away from \$500,000 worth of improvements." *James S. Russell*

St. Peter's by the Sea  
Gulfport, Mississippi

2 ERROLL BARRON AND MICHAEL TOUPS ARCHITECTS INVESTIGATES THE EPISCOPAL CHURCH WITH THE ARCHITECTURAL LANGUAGE OF CARPENTER GOTHIC.

**Project** St. Peter's by the Sea, Episcopal Church, Gulfport, Mississippi. The church was designed by Erroll Barron and Michael Toups Architects, New Orleans, Louisiana. The church was completed in 2001.

**Program** The church was designed in a simple Carpenter Gothic style. The church features a prominent steeple and a large organ. The church is located on a hillside overlooking the Gulf of Mexico.

**Architect** Erroll Barron and Michael Toups Architects, New Orleans, Louisiana.

**Interior** The church features a large organ and a prominent steeple. The interior is finished with wood paneling and features a large organ.

**Exterior** The church features a prominent steeple and a large organ. The exterior is finished with wood siding and features a large organ.

**Photography** The church was photographed by [Name].

