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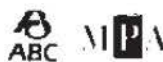
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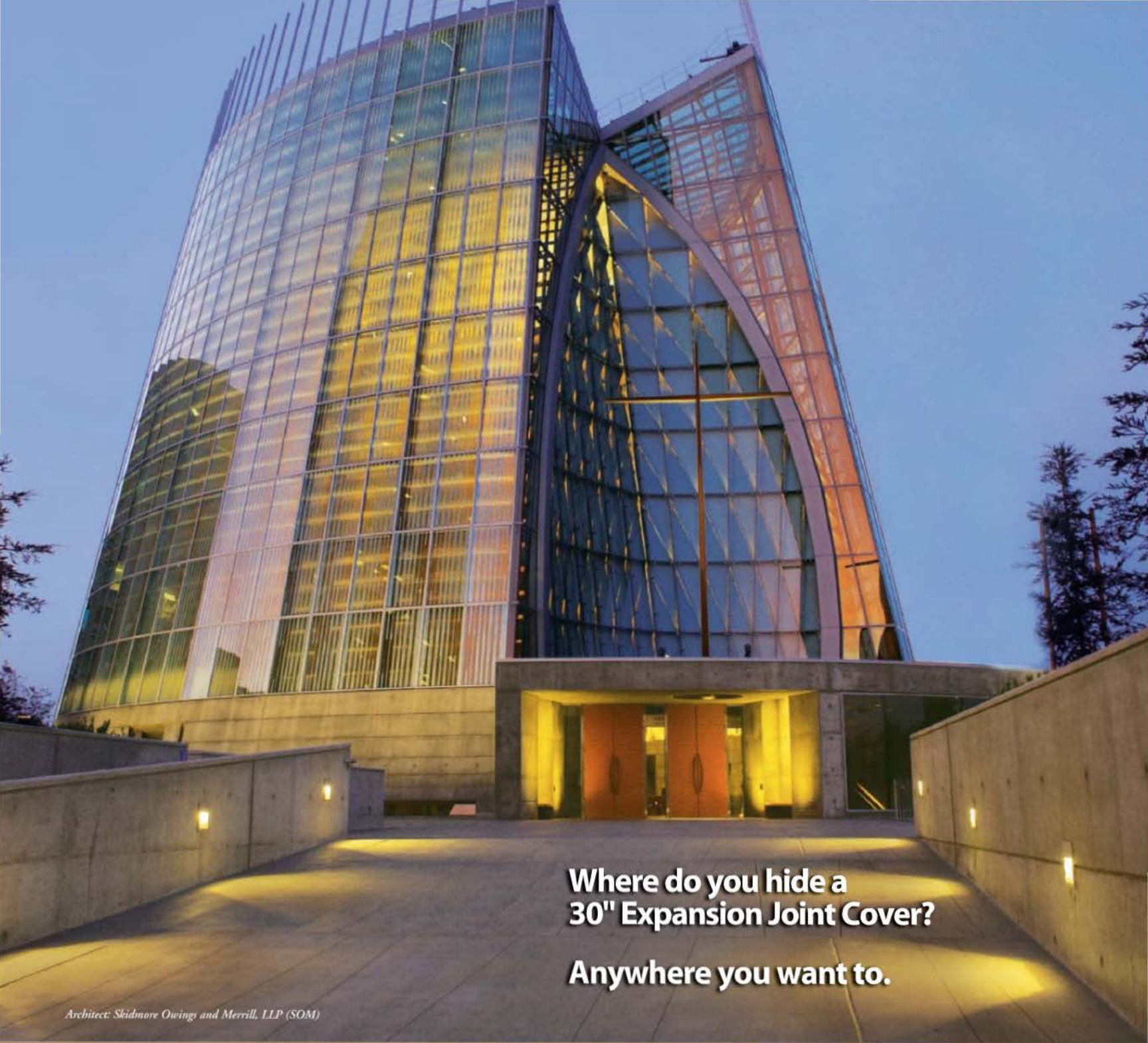
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William Fain, FAIA, and Scott Johnson, FAIA. Photo by David Albanese.

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Expanded coverage of Projects, Building Types Studies, and Web-only features can be found at [architecturalrecord.com](http://architecturalrecord.com).



03.2009  
On the Web 

This month, our online **Recession and Recovery** section features profiles of architecture professionals **surviving** the tough economy, a look back from designers who have weathered past **recessions, project updates, news, and more.**



Reader Photo: This photo of a LEED Platinum-rated nature center designed by LPA Architects is one of more than 2,000 reader-submitted images in ARCHITECTURAL RECORD's online galleries.

## Recession and Recovery

PHOTO GALLERIES

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VIDEOS

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### Recession Survival Guide

Read our guide to everything from résumé writing to teaching, and view profiles of architects coping with the economy.



### Tapping Into the Stimulus Plan

Advice from experts on getting U.S. government contracts, as well as full details of the stimulus plan and resources for finding projects.



### Global Reports

Architects are hurting around the world. Read expanded reports from Latin America, Asia, the Middle East, and beyond.

### Your Comments

*Government was invented to do things the private sector cannot. The Romans built aqueducts that still survive. It's hard to imagine private entities having either the foresight or the mission to do such things ... So let's just get on with it."*

— Craig Hodgetts on Michael Sorkin's "Some Suggestions on How to Spend \$800 Billion"

## New Online



### House of the Month

Webber + Studio builds an architect's own home in central Austin, Texas, with room to grow.



### Record TV

Watch more than 50 videos in our library. New this month: Eugene Kohn of KPF discusses surviving recessions past—and present.



### AR2

Meet Myanmar-based SPINE Architects. Plus, six young, recently laid-off architects making lemonade out of some very sour lemons.



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# Making the Most of It

## Editorial

By Robert Ivy, FAIA

If, unlike the Congress or the President, we offer no silver bullet for the recession, we can all search for silver linings. While architects love a new construction site, strategically, preservation is sounding better and better—whether the historic variety or the act of saving or revitalizing ordinary structures. In a down economy, it makes good sense to make the most of what you already have.

The arguments for historic or plain preservation are growing, and to expand the analogy, compounding, at a time that stock markets have contracted. Inertia, shrinking budgets, and sheer neglect will save some buildings, as public programs and donors evaporate, but preservation may prove to be a successful strategy for your firm's future. Consider the advantages of retaining or revitalizing structures: The time is right for most of us to save.

Preservation is environmentally correct and the most sustainable thing that you can do. This may prove to be the biggest boon to the movement, and represents the best of a long and growing list of reasons to preserve. First, the embodied carbon already residing in the timbers or steel constitutes a savings in the future footprint of any project. Why cut a tree if a tree has been cut? Why ask the earth for more, when more is standing?

Older buildings perform well. How on earth did we lose this lesson? Early builders made machines for living because they had to. They used common sense and science, observation and practice. The term “regional adaptation” has real potency here, if you understand how early designers and builders fashioned houses in the Gulf South, for example, with overhanging roofs to shade walls from direct sunlight and protect them from heavily falling rain, or provided walls with thermal mass in the desert southwest to respond to the oscillation of cool nights and hot, dry days. Every student of architecture learns those lessons.

Demolition costs money. Why replicate the design and construction process when you don't need to? Much less, why tear down a standing building (an energy-demanding activity itself) and be forced to cart away materials only to have to store them off-site in a landfill or a dump? Why have to clean up a deconstructed site, level it off, only to begin from scratch?

We know how to preserve. Although the term preservation has been co-opted by a larger public since the democratizing citizen movements of the 1960s, and gratefully so, planning and designing for existing buildings makes up roughly 50 percent of what architects traditionally do anyway.

Whether we are renovating, upgrading, roofing, weatherizing, making additions, rehabilitating, retrofitting, or finding creative new solutions such as adaptive reuse, we frequently transform older buildings.

Preservation helps cities. We still need to curtail sprawl, to avoid the long commute, and densify, and where better to look than to the existing building stock already standing within our cities? In the United States, we anticipate 403 million inhabitants by the year 2050, a significant increase in population, not to mention the 9.5 billion worldwide during the same period. Will we spread out into the depopulated farmland and waste our dwindling material assets on transportation or turn toward the places we have already made and improve them? The time for urban centers, and the structures that constitute them, has arrived.

Thankfully, certain actions to strengthen preservation and rehabilitation are under way. Major organizations (the AIA, the National Trust for Historic Preservation, and the U.S. Green Building Council) are discussing how to better include preservation in the sustainability agenda. Importantly, the recent stimulus package calls out \$4.5 billion for “energy-efficient upgrades for federal buildings,” and part of the \$53.6 billion headed for the states could be used to modernize schools.

Preservation, whether historic or mundane, suggests human memory and the realization that other people have gone before. For the past, heady decade, we may have forgotten that economies cycle. This issue of ARCHITECTURAL RECORD offers singular coverage: a multipart feature on working your way through the morass, and a portrait of individuals and companies who report on the pinch. We can find help in recognition of others like ourselves and in the realization that we are not the first to experience a recession. In this issue, on our Web site, and in our own professional lives, history offers lessons on preservation—showing us ways to save our buildings and our practices.

**ONLINE:** See our **RECESSION AND RECOVERY** section at [architecturalrecord.com](http://architecturalrecord.com), and check out [www.construction.com](http://www.construction.com), which includes an in-depth look at the **FEDERAL STIMULUS** package.

# Letters

## DEPARTMENTS

### Sorkin's shopping list

"Sin boldly," exhorted Martin Luther. Taking the Wittenberg theologian at his word, Michael Sorkin propounds for us the greatest shopping list ever made, an offering wrong-headed on so many levels it cries out for refutation. But where to begin? Let's start with the exchequer. Among the necessary financial enablers would be: 1) Massive backstopping of Treasury auctions by our Chinese friends for at least a decade; 2) Quantitative easing of the Fed's balance sheet on, say, the order of the Weimar Republic; 3) The ability to pack up our current entitlement obligations for Social Security, Medicare, and Medicaid and dispatch them to Neverland.

Sorkin's raillery against the fraud and waste in Iraq will be but a shadow of what we may expect should jumbo

spending projects be repatriated to our shores, stripped of those pesky foreign intermediaries. The screed continues in lockstep with a pastiche of statist central planning, bureaucrat-ordained business models, and a dollop of social reengineering. The Japanese have been pouring concrete from one end of their island to the other for 10 years and the Nikkei is still down over 75 percent. No one has ever spent their way to prosperity. In the current turmoil, the world is approaching a realization that we may all be operating at a lower level of economic activity for some time. The way forward for architects is uncertain. Those who prevail will likely do so as a result of their own initiative, determination, and skill.

— James McQuiston, AIA  
Indianapolis

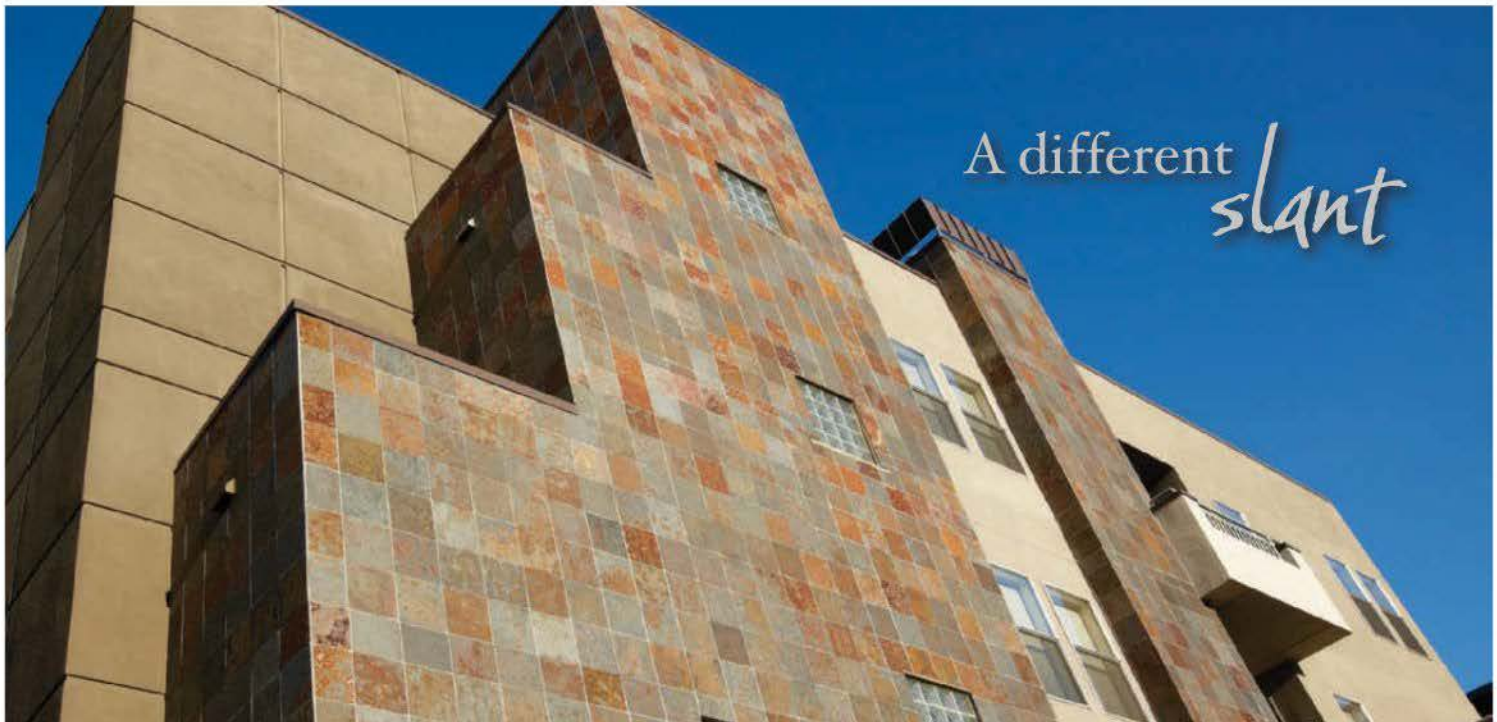
Thanks for Michael Sorkin's Critique — an appropriate article that pertains to our national concerns. I'll add one more suggestion for the stimulus package: substance abuse eradication and rehabilitation facilities. The majority of corrections procedures and facilities are required as a result of drug abuse. Would it not be a good strategy to rehabilitate our offenders rather than warehouse them?  
— William C. Maffett, AIA  
Cookeville, Tenn.

### Quit the railing

Please don't devote limited publishing space to letters like those criticizing the lack of a handrail in the home on the cover of the January 2009 Design Vanguard issue. The letter writers' comments are on the "my kid could paint that" level of architectural criti-

cism, and the topic is tired. ARCHITECTURAL RECORD is a magazine written by architects, for architects. We all know the code and life-safety issues. Homeowners are free to choose the level of risk acceptable for their home. For a house featured in a magazine devoted to design, and an issue specifically devoted to pushing our expectations, please focus criticism on how the (obviously intentional) choice to leave out a railing interplays with the overall intent of the work. (My rebuttal is a tired comment, too, but my son safely learned to walk in a house that centered on a stair with no railing; a child's safety depends more on parents than on design.)  
— Donna Sink, AIA  
Indianapolis

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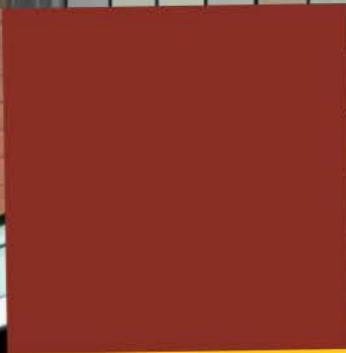
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# Record News

For daily updates, log on to [architecturalrecord.com/news/](http://architecturalrecord.com/news/).

## TVCC goes up in flames

On February 9, a fire devastated the OMA-designed Television Cultural Center (TVCC), a 33-story tower that was under construction next to the iconic CCTV tower in central Beijing. One firefighter was killed and at least seven other people were injured.

The fire occurred on the last day of Lunar New Year festivities, which were accompanied by firework celebrations throughout the city. After initial speculation that a stray firework may have ignited the blaze, Central China Television (CCTV) released an apology, claiming responsibility for an unregulated fireworks display that was set off near the tower. According

to the Xinhua News Agency, a dozen people were arrested in connection with the incident, including the man in charge of the construction site.

The fire is believed to have started around 8:30 p.m., Beijing time, and reportedly spread through the entire structure within 20 minutes. A sprinkler system in the building had not yet been activated, according to reports. The fire gutted the interior of the building but did not destroy its steel framework.

Aric Chen, a freelance architecture writer, was on the scene the night of the blaze. He said the TVCC building looked "burned to a crisp," adding that klieg lights aimed at the tower and hordes of police officers



**The OMA-designed tower was set ablaze by fireworks.**

and would advise the public as it received more information.

The firm also designed the CCTV tower, which was not damaged. Both build-

ings were scheduled for occupancy later this year. The TVCC building was to house the 241-room Mandarin Oriental Hotel, as well as a theater, restaurants, conference rooms, and other venues. As of press time, the future of the building was unknown.

Aleksandr Bierig and soldiers created an exceptionally eerie scene. When Chen left at 12:45 a.m., hundreds of onlookers were still at the site.

The Rotterdam-based OMA has not commented on the incident since issuing a brief statement on February 9 that said it had learned of the fire

## RECESSION REPORT

### Stimulus package: What's in it for architects?

On February 17, President Barack Obama signed the \$787 billion American Recovery and Reinvestment Act. While difficult to tally, it is estimated that about \$130 billion, or 16.5 percent, of the bill is earmarked for construction-related spending. Below are some highlights based on a summary released by Congress on February 12. Tom Ichniowski

#### TRANSPORTATION: \$49.3 billion

Highways: \$27.5 billion  
Passenger rail: \$9.3 billion  
Transit: \$8.4 billion  
Airport Improvement Program, construction grants: \$1 billion  
Coast Guard, acquisition and facility upgrades/construction: \$98 million

#### ENERGY: \$30.6 billion

Electricity grid, including "Smart Grid" activities: \$11 billion  
Energy-efficiency and conservation grants: \$6.3 billion  
Renewable-energy loan guarantees: \$6 billion  
Home weatherization assistance: \$5 billion  
Carbon capture-and-sequestration demonstration projects: \$1.5 billion  
Clean Coal Power Initiative: \$800 million

#### WATER/ENVIRONMENT: \$20.1 billion

Department of Energy, environmental cleanup: \$6 billion  
Environmental Protection Agency, Clean Water and Drinking Water funds: \$6 billion  
Corps of Engineers, civil works: \$4.6 billion  
Agriculture Department, rural water and waste-disposal facilities: \$1.3 billion  
EPA cleanup, including Superfund: \$1.2 billion

#### BUILDINGS: \$13.4 billion

General Services Administration (GSA), energy-efficiency upgrades for federal buildings: \$4.5 billion  
Facilities on federal and tribal lands: \$3 billion  
National Institutes of Health, facility upgrades/construction: \$1.5 billion

National Science Foundation, research equipment and facility upgrades/construction: \$600 million  
Department of Homeland Security, new headquarters: \$450 million  
National Oceanic and Atmospheric Administration, procurement, acquisition, and facility construction: \$430 million  
Department of Homeland Security, ports of entry: \$420 million  
National Institute of Standards and Technology, facility construction: \$360 million  
Department of Agriculture, facilities: \$330 million  
Border stations and ports of entry: \$300 million  
U.S. courthouses and other GSA buildings: \$300 million  
Fire stations: \$210 million  
State Department, Capital Investment Fund: \$90 million  
Smithsonian facilities: \$25 million

#### HOUSING/HUD: \$9.6 billion

Department of Housing and Urban Development (HUD), Public Housing Capital Fund: \$4 billion

HUD, redevelopment of abandoned and foreclosed homes: \$2 billion  
HUD, Community Development Block Grants: \$1 billion  
HUD, energy retrofits, "green" projects in HUD-assisted housing projects: \$250 million

#### DEFENSE/VETERANS: \$7.8 billion

Veterans Affairs, medical facility upgrades/construction: \$1.25 billion  
Department of Defense (DOD), facility upgrades/construction: \$4.2 billion  
DOD, military "quality of life" projects, such as housing and child-care centers: \$2.3

#### SCHOOLS: \$0

School construction was not a specific line item in the bill. However, \$39.5 billion of the bill's \$53.6 billion State Fiscal Stabilization Fund will go to local school officials, and school modernization would be one of several eligible uses of the money.

Read more stimulus package coverage in our **online section, Recession and Recovery**.



## Ailing economy infects health-care sector



**There is still demand for health-care facilities in the Middle East. Dallas-based HKS recently won a contract to design a 160-bed hospital (left) in Abu Dhabi.**

American Hospital Association said they were reconsidering or delaying renovations or expansions. Even California's health-care industry, which as of last September was expected to spend \$100 billion in construction over the next decade, is stumbling. Nearly 40 percent of the hospitals that responded to a

Cranes are still busy over Boston's medical districts. But the city's health-care construction boom, which in the past five years has seen more than a million square feet of new projects completed and more than 2 million square feet approved or under construction, is subsiding.

"We're seeing institutions taking a step back," says Sonal Gandhi, senior manager for institutional development at the Boston Redevelopment Authority. "They're looking at how they can optimize the space they have."

A similar scenario is playing out nationwide as the recession intensifies. Compared to other building sectors, the health-care industry has been a less anemic consumer of architectural services, but it is hardly immune to the economic malaise. Fund-raising is down, bond markets are faltering, credit remains elusive, and government spending is being slashed. Institutions are wary of breaking ground before lining up funds, and banks are pressing commercial developers for committed tenants.

More than half of the respondents to a recent survey by the

November survey conducted by the California Hospital Association expect to miss state-mandated deadlines for seismic retrofits.

"Following a record level of construction in 2008, for 2009 we're looking at a moderate pullback," says Robert Murray, vice president of economic affairs for McGraw-Hill Construction. Last year in the U.S., construction began on health-care projects totaling 110.2 million square feet, valued at \$30.5 billion. It was the fourth consecutive year that health-care construction totaled more than 100 million square feet.

For 2009, total square footage is expected to drop 12 percent, to 97 million square feet, according to Murray. A further 5 percent drop is expected for 2010.

Design firms anticipate fewer contracts for new construction and large-scale renovations, but those with an international reach and diverse services are better positioned to ride out the recession, says Chuck Siconolfi, director of HOK's health-care division and founding member of the American College of HealthCare

Architects. In prior recessions, he says, firms were "less able to hedge with international work."

The Middle East, South Asia, India, and China should maintain some demand, Siconolfi says. Indeed, Dallas-based HKS recently won a contract to design a 160-bed hospital for the Um Danat Al-Emarat development in Abu Dhabi, United Arab Emirates. But conditions in neighboring Dubai, whose economy has soured, underscore the uncertainty in emerging markets.

Here in the U.S., firms might still find work consulting on space requirements associated with new trends, Siconolfi says. Hospitals are increasingly performing clinical trials, which may entail the creation of specialized outpatient and data-management facilities. They are also organizing along disease lines, rather than around traditional departments, focusing on a continuum of care and

related lifestyle issues. "We're also advising clients on getting better patient outcomes with a smaller footprint," Siconolfi says. "And there's a growing appreciation on everyone's part that hospitals need to be better looking and more humane."

The federal economic stimulus package could provide a shot in the arm for the health-care sector. The legislation directs billions toward the construction or renovation of health-care and research facilities owned by agencies such as the National Institutes of Health and Department of Veterans Affairs. Architects say they are optimistic. "We haven't made any formal conclusions, but I think it's going to be a positive," says Jocelyn Frederick, a principal at Perkins + Will. "Personally, I think the issue is to seal commitments for long-term infrastructure and research projects that are good for the community." *Ted Smalley Bowen*

## ABI hits all-time low

In January, the Architectural Billings Index (ABI) sunk to 33.3, the lowest level in its 13-year history. The score has fallen below 50 for 12 straight months; a score above 50 indicates an increase in billings, and below 50, a decrease.

One of the profession's leading economic indicators, the index is compiled by the American Institute of Architects (AIA) and is based on surveys sent largely to commercial firms. It reflects a nine- to 12-month lag time between architectural billings

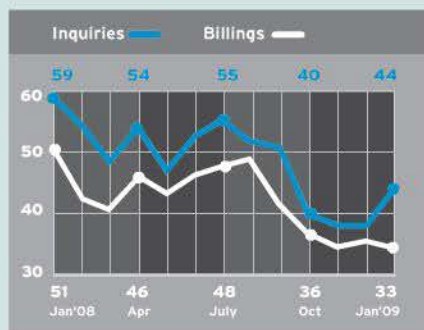
and construction spending.

The inquiries score for January was 43.5, up from 38.5 in December. In terms of project sectors, the score was 29.5 for multifamily residential and 33.8 for commercial/industrial. The institutional score slipped to 37.1, down from 38.3 in December.

Kermit Baker, the AIA's chief economist, is hopeful that the \$787 billion federal economic stimulus package will reinvigorate the industry. "Now that the stimulus bill has passed and includes funding for construction projects, as well as

for municipalities to raise bonds, business conditions could improve," he says. "That said, until we can get a clearer sense of credit lines being made available by banks, it will be hard to gauge when a lot of projects that have been put on hold can get back online."

*Jenna M. McKnight*



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CIRCLE 17

## Record News

### Jan Kaplicky, a visionary, dies

Jan Kaplicky, the dour but visionary Czech architect, died January 14 in Prague of a heart attack, within hours of the birth of his daughter. He was 71 and had been dividing his time between London and the Czech Republic, where he had several major commissions.

After emigrating to England in 1968, Kaplicky worked with some of Europe's esteemed architects, including Denys Lasdun, Norman Foster, Richard Rogers, and Renzo Piano, the last two on the breakthrough Centre Pompidou in the mid-70s. He spent several years in Foster's office before founding his own firm, Future Systems, in 1979.

As it turned out, these high-profile, high-tech associations were calisthenics for his own adventurous designs, which owed as much to science fiction as to mainstream Modernism. Compared to his peers, Kaplicky was the avant-garde incarnate, relentlessly pursuing the *new* new thing, refusing to settle into some predictable, and comfortable, architectural niche.

From Future Systems – a manifesto as well as a logo – came a stream of proposals for solar-powered cars, lightweight survival housing, and furniture for the international space station. While many remained paper dreams, a few were built, ranging from a sleek white-disc press box at Lord's cricket ground in London – a Star Wars touch for a Pimm's Cup clientele – to a playful yet impeccably engineered pontoon bridge in the London Docklands that looked and moved like a gigantic water spider.

For Lord's, Kaplicky received the 1999 Stirling Prize, a long overdue honor from an architectural



**Kaplicky, a Stirling Prize winner, designed the unbuilt National Library of the Czech Republic (above), dubbed "the octopus" by locals.**

establishment that had generally shunned him. And with the prize came larger commissions, including a Selfridges department store in Birmingham (2003), the Maserati Museum in Modena, Italy (2009), and the unbuilt National Library of the Czech Republic in Prague – a fluid, organic design reminiscent of late Frank Lloyd Wright. The local press christened the library "the octopus," prompting Czech president Vaclav Klaus to threaten to throw himself in front of the bulldozers to stop it. (Supporters now hope to rescue the project with private funds.) Last year, Kaplicky won the competition for a new concert hall in Ceske Budejovice, another sumptuous organic design that may actually be built.

Kaplicky himself was no day at the beach. He could be contentious about his work, suspicious of rivals, and uncompromising in his demands for a new and more responsive architecture for a new age. "Where is it written that buildings have to be boxes?" he told one reporter. "People aren't boxes."

Yet along with the crankiness came a dry wit, quiet hopefulness, and unquenchable enthusiasm for pushing design boundaries farther out, to see what was on the other side. The concert hall in Ceske Budejovice, if built, could be the stunning epitaph Kaplicky deserves. *David Dillon*

### Record News on the WEB

The Copenhagen-based firm Tegnestuen Vandkunsten has won the 10th **AIA Aalto Medal**. Since its creation in 1967, the award has been given approximately every five years. This is the first time a firm, rather than an individual, has received it.

The American Institute of Architects has announced the **2009 recipients** of its Young Architects Award, Thomas Jefferson Award

for Public Architecture, and Honors for Collaborative Achievement. The winners will be recognized during the AIA National Convention, scheduled for April 30 to May 2 in San Francisco.

**Foster + Partners** is laying off between 300 and 350 people due to the global economic slowdown – a move that will reduce the company's workforce by nearly a quarter. The firm is also closing its Berlin and Istanbul offices.

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CIRCLE 19

# The emerging architect

## archrecord2



## design

### SPINE Architects

An architectural backbone in a challenging land

**Pahtama Group  
Headquarters (far right)  
Yangon, Myanmar,  
2008**

*This 19,400-square-foot building for a major wholesale merchandise company includes executive, sales, and marketing offices, a showroom, and a product warehouse.*

It's probably safe to say that most architects get into the business of architecture because of a creative urge, not because of the money. Amelie Chai and Stephen Zawmoe Shwe, principals of SPINE Architects, took that reasoning to another level when they moved to Shwe's home country of Myanmar and began their firm in 2003. "We're not here to make money," says Chai. "We're here to build a lot."

And build a lot they have. The married and professional couple have completed some 30 commercial and residential buildings since they opted to leave their jobs at prestigious New York firms and create SPINE, and they have about 15 more on the boards. Completed projects include a 70-room beach resort, a 19,400-square-foot headquarters for a wholesale distributing company, a 10,800-square-foot hotel, and the headquarters for *The Myanmar Times*. "The challenges are many here," says Chai, whose family is in Maryland, "but Myanmar needs lots of buildings. And since the people don't have much exposure to Modern architecture – most of the newer buildings are a kind of a neo-Colonial pastiche – it's been really rewarding to introduce our clients to that kind of aesthetic."

To learn of the challenges Chai and Shwe face is to wonder how they could have accomplished what they have in six years. The politics of Myanmar are complicated (Chai says they stay out of them and keep under the radar), the tropical climate is extreme, materials and finishes are very hard to come by and expensive to import, services such as electricity are spotty and inconsistent, and budgets are very limited (Myanmar is one of the poorest nations in southeastern Asia). Not to mention that Cyclone Nargis wiped out half the trees in the country and killed at least 146,000 people (according to Wikipedia) in May 2008. "Yes," says Chai wearily, "there's an 'event' every year that makes me question my decision to move here. But we've done so much, and the rewards are so great, that we stay."

Chai and Shwe run their 17-person Yangon office out of a live/work space of their own design. They also now have an 8-person satellite office in the city of Mandalay, about 445 miles north of Yangon. Chai says SPINE is lucky to have a talented team, especially since most architecturally inclined individuals tend to leave for places like Singapore for economic reasons. "Construction budgets

### **Golden Valley Residence, Yangon, Myanmar, 2008**

*The metallic cladding and angled steel columns of this 5,600-square-foot house reflects the client's love of cars. The playful environment's sharp edges and clean lines continues inside.*



IMAGE S: COURTESY SPINE ARCHITECTS



here are about \$15 per square foot," says Chai. "Finishes are maybe \$30 to \$50 per square foot." Doing the math reveals a pretty slim salary for the architect at the end of the day.

Despite all that, and the couple's latest project – twins – Chai and Shwe still have found the resources to give back to Myanmar. They collaborated with local architects to create Project Shelter, designs for low-cost, durable, modular shelters for villages in precarious locales. Separate from that effort is a Buddhist monastery shelter currently in construction in the village of Thagyahinoh. The project will provide shelter for about 300 people should water levels rise. Says Chai, "To live here you have to adapt. It's challenging, but there's also so much beauty here, so much color. Sometimes you can't help but be inspired." *Ingrid Spencer*



**Bay of Bengal Resort, Ngwesaung Beach, Myanmar, 2007**

*This 70-room resort is on a 14-acre beachfront plot. To encourage the guests to explore the vast property, the public buildings and facilities are spread out over the site, linked by a series of open walkways and water features.*

THE RECESSION REPORT

work



**Dave Rizzolo** lined up a job with a general contractor, and the collaboration included the Westerly Summer House (above). Without a job in his field,

**Karl Larson** is focusing on his art (right), and prepping for the ARE.

**Brian Jones** (below) got laid off and moved to Guatemala. He plans to work for an architecture firm in Latin America.

**Laid off?**

How emerging design professionals are coping

An informal survey on Archinect.com reveals that 51 percent of employed architects are "a little worried about their job status," while 22 percent are "very scared." It is easy to become consumed with anxiety even if your job is relatively secure. However, many have been affected much more directly. As you fight the urge to perpetually wear pajamas and subsist on Ben & Jerry's, contemplate your new situation as an opportunity rather than a sentence. Poised to be laid off after 12 years with a firm in Rhode Island, Dave Rizzolo lined up an interim job as an assistant project manager with a general contractor with whom he had worked on several projects. Once work picks up at the architecture firm, he will transition back into his previous position, but in the meantime he is "learning quite a bit about architecture from a new perspective, as well as gaining new project-management, estimating, bidding, ordering, and subcontracting skills."

While Rizzolo essentially maintained status-quo, Scott Gustafson of Boulder, Colorado, is thinking globally. He recently sent 400 résumés to firms all over the world. He also recently became a registered architect in Iceland and is planning to apply for licensure in Sweden and Palestine in addition to completing the ARE. He formed a Facebook group called Unemployed Architects as a venue to discuss everything from bad daytime TV to freelance projects.



Nick Loeper, on the other hand, returned to where he began. He was recently let go from his job with a small firm and moved back to his hometown near Philadelphia and in with his parents. Loeper is organizing his portfolio, painting, and perfecting his Revit skills.

Similarly, Karl-Erik Larson finds the free time invigorating. He attended the presidential inauguration and is now focusing on his art. He is talking with galleries in Williamsburg, Brooklyn, and also hopes to obtain a street vendor's license. He plans to take his time to rejoin the architecture profession, carefully reworking his résumé and portfolio and prepping for the ARE.

Brian Jones, who was laid off in November, heard horror stories from friends about huge layoffs at their corporate firms while simultaneously being inundated with résumés from talented designers. Instead of joining the fray, Brian moved to Guatemala. "Having no real ties or large responsibilities, I decided now would be the best time to do something like this rather than 'settle for a job,'" he explains. He is living with a family, perfecting his Spanish, and plans eventually to work for a Latin American firm.

In some cases, it is not an issue of losing a job but rather attaining one in the first place. Jesse Duclos graduated last spring and hasn't had luck finding work in Los Angeles. He has, instead, found an emotional coping mechanism: perfecting his secret recipe for a barbecue rub. He is in the process of designing the packaging and label and intends to sell the rub through a local restaurant and marketplace.

Although this situation can't be sugar-coated, these six emerging professionals prove that a temporary setback can become an opportunity to reevaluate life, and career path, and to accomplish goals not possible while working full time. *Murrye Bernard*



Read an expanded version of this article with links and tips online.

IMAGES: COURTESY SPINE (TOP); AARON USHER (TOP LEFT); KARL LARSON (MIDDLE); BRIAN JONES (BOTTOM)

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# Rolling out the unwelcome mat for visitor centers

## Critique

By Martin Filler



**The Capitol Visitor Center in Washington, which has 580,000 square feet of mostly underground space, cost \$621 million.**

might be dubbed “the Freedom Showroom.”

This combination entry lobby, security checkpoint, history gallery, and food-service complex was designed beyond an inch of its life by RTKL and overseen by the Office of the Architect of the Capitol, the in-house congress-

I'm baffled by people who dismiss whole categories of things. Two decades ago, I was summoned to the office of *House & Garden's* new editor in chief, Anna Wintour, and saw my dumbfounded expression reflected in her sunglasses as she declared, “I don't like adjectives. You use too many adjectives. That's all.” How can you eliminate a major part of speech, I wondered? Did she realize that her ultimate accolade – “It's so modern” – is one-third adjective? But now I confess complete antipathy to an entire building type: the visitor center.

Additions to accommodate ticketing, tour groups, and interpretive displays have become commonplace at landmarks of all kinds. But leave it to our federal government's legislative branch – ethically impaired

*Martin Filler writes for The New York Review of Books and is the author of Makers of Modern Architecture.*

and pathologically self-indulgent – to max out the genre. The opening, in December, of the Capitol Visitor Center in Washington, D.C., went nearly unnoticed by the press, which was just as well for anyone implicated in a star-spangled boondoggle worthy of *The Guinness Book of Pork*.

When construction of the labyrinthine subterranean annex beneath East Capitol Plaza began, in 2002, no one could have predicted an accident of timing that would put this extravaganza of excess in an unexpected context when the job was finally completed, six years later. Several weeks before the facility's low-key debut, an overwhelming economic crisis compelled Congress to pass a \$700 billion bailout package, compared to which the Capitol Visitor Center's flabbergasting tab of \$621 million, double the original estimate, suddenly looked like chump change – though that's about \$200 million

more than Yoshio Taniguchi's MoMA renovation and expansion (which opened in 2004).

This 580,000-square-foot finished basement – three fourths the size of the Capitol itself – supersedes its principal functions as tourist-processing machine and exhibition hall in several unstated ways. It is also an embodiment of the profligate but ineffectual regime that commissioned it; a *reductio ad absurdum* of prevalent notions that historic sites require a panoply of “amenities” to entice, engage, entertain, enlighten, and enlarge its audience; and a manifestation of the “grow-or-die” corporate philosophy increasingly embraced by cultural, educational, and philanthropic institutions in thrall to their plutocratic backers.

Such alternative interpretations offer cautionary civics lessons quite different from the panegyrics of politicians who promoted what

sional construction agency headed during most of this project by Alan M. Hantman, FAIA, who retired in 2007.

The massive initiative was not prompted by the 9/11 terror attacks, as might have been expected, but rather by the shooting deaths of two Capitol policemen in 1998. Forget their being memorialized by stricter gun controls enacted by a Congress in the pocket of the NRA. The obvious solution to that tragedy was to dig deep and create an insanely expensive, oppressively scaled, marble-armored bunker to keep lawmakers and lobbyists out of firearm range. The result is an eerie, meta-Classical netherworld that makes Pei Cobb Freed's airportlike Grand Louvre (1989) appear humane and understated.

Although the Capitol Visitor Center purports to ease public access to our nation's seat of government, it does exactly the opposite,

## Critique

and thereby turns mere architectural wrongheadedness into something more sinister and alarming. The inherent problem with all visitor centers has never been more clearly exposed than it is here. The citizenry's ability to roam around the halls of Congress is a thing of the past, and henceforth most people's experience of the Capitol will be confined to the new underground annex. Its hermetic atmosphere – symptomatic of all below-grade interiors – is relieved only by skylights, one of which frames a foreshortened vignette of Thomas U. Walter's white-painted cast-iron dome (1863). From this disorienting worm's-eye perspective, the looming cupola brings to mind a superscale souvenir snow globe.

My misgivings about "interpretive" interventions in historic precincts grew during a 2003 trip to see a trio of additions at Philadelphia's Independence National Historical



**Bohlin Cywinski Jackson designed the Liberty Bell Center in Philadelphia.**

Park: Bohlin Cywinski Jackson's Liberty Bell Center; Kallmann, McKinnel & Wood's Independence Visitor Center; and Pei Cobb Freed's National Constitution Center. I've admired work by each of those partnerships elsewhere, but at Independence Mall, all three seemed badly miscast, particularly Bohlin Cywinski Jackson. Perhaps they were intimidated by the setting's gravitas, or were persuaded to abandon their woody post-and-

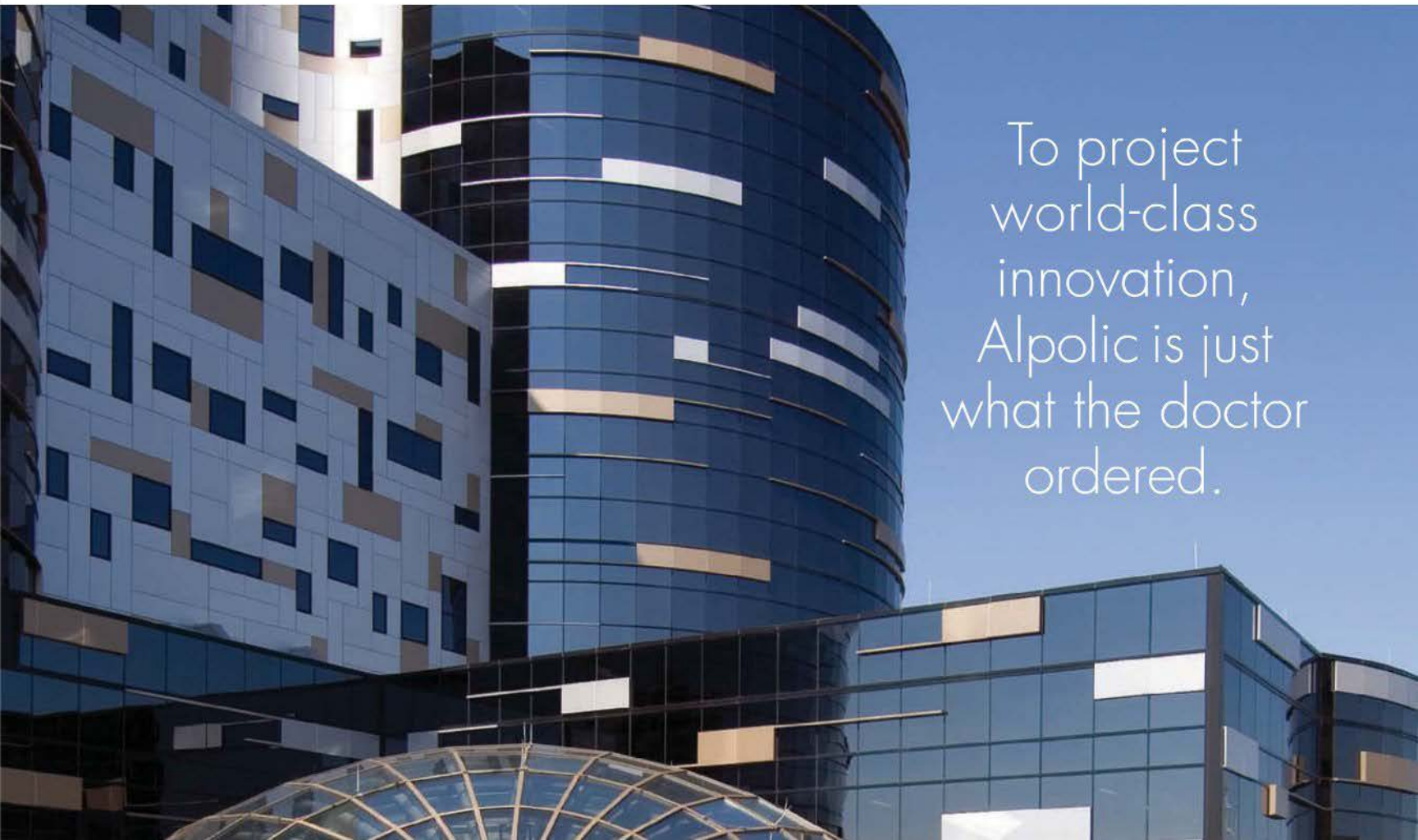
beam manner for a less congenial mix of masonry and metal. Whatever the reason, inside their new shelter the real Liberty Bell looks fake.

Variations on that phenomenon recur with distressing regularity at other visitor centers. Although double-take simulacra of world-famous structures can be a hoot on the Vegas Strip, at revered historic shrines confusion between true and false amounts to sacrilege. I have

come to realize that visitor centers subvert credibility through the extra degree of separation they impose between viewer and artifact, and that all visitor centers abet that pernicious process to some extent.

I'm also skeptical of marketers' insistence that the survival of our cultural institutions demands extreme museological means to beguile a cyber-addicted populace. Earlier generations found ways to enjoy historic sites without the aid of touch screens, surround sound, interactive simulations, holograms, costumed reenactors, cappuccino, T-shirts, and Ralph Appelbaum (whose firm designed the Capitol Visitor Center's exhibits). If such gimmicks are now deemed obligatory, how did unmediated landmarks sustain America's collective imagination – what Abraham Lincoln called "the mystic chords of memory" – for so long?

Nowhere has the communicative power of a pure historic environment been conveyed with more palpable personal immediacy than at George Washington's Virginia estate, Mount



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Vernon. Established as a house museum 150 years ago by the pioneering Mount Vernon Ladies Association, the home of our first President would still be familiar to him, thanks to vigilant preservation of pristine vistas from the house in every direction – a miraculous accomplishment amid a modern megalopolis. The mansion itself, filled with original Washington furnishings and memorabilia, feels as if its illustrious owner has just stepped out for a stroll.

After valiantly fending off anachronisms for so long, why did Mount Vernon's venerable Ladies permit the intrusive and distracting additions by GWWO Inc./Architects – the Ford Orientation Center and the Donald W. Reynolds Museum and Education Center – that opened there in 2006? Partially submerged beneath a meadow adjacent to the mansion, the new facilities are banked by grass-covered berms intended to render them invisible. The trick fails, and the patriot weeps. Until these dreadful impositions, Mount Vernon survived as our plu-

perfect 18th-century time machine: historically veracious, high-mindedly noncommercial, and astonishingly unspoiled.

Well before the current economic meltdown, several American museums faced ruin because they overspent on ill-considered architectural adventures. An overreaching visitor center can be equally ruinous for a historic site. In 2003, the Mark Twain House in Hartford, Connecticut – Edward T. Potter's 1874 Stick Style masterpiece – inaugurated an annex by Robert A.M. Stern Architects. It cost \$19 million, twice the initial budget, and now the foundation that runs the property faces insolvency. The Stern addition, another of the firm's overinflated, misproportioned, historicizing pastiches, is excruciating enough in itself. Equally grotesque is how this story might end, with a plot twist reminiscent of the cynical Twain's most corrosive satires. The author's dream house, which he lost through foolhardy investment schemes, could again meet that fate, as America's second Gilded Age

reprises the follies of the first one.

Even when visitor centers are well designed, other caveats arise. Now under construction in Buffalo is a Minimalist glass-walled entry pavilion by Toshiko Mori at Frank Lloyd Wright's Martin house (1907). That long-neglected Prairie Style house is undergoing a \$38 million restoration as part of a tourism development program premised on that city's notable architectural heritage. Mori's vitrine is exquisite, but also jarringly contrary to Wrightian precepts cherished by his countless fans, none of whom will come because of a visitor center, let alone this one.

Architourists (as the scholar Joan Ockman has termed them) are a resourceful lot, as the much-put-upon private owners of landmark houses can attest. Practitioners, historians, and students don't need to be told what they're about to see. Neither do nonprofessional design buffs, who outnumber the uninitiated at architectural landmarks. Amenities be damned: Well-read pilgrims don't want entry-level

explication. If there's no on-site café, they can find one nearby. If there's no souvenir shop, they can send JPGs instead of postcards. The only improvements we'd all welcome are more and better bathrooms.

An imploding economy will doubtless curtail proliferation of visitor centers, though regrettably, not one planned for Maya Lin's Vietnam Veterans Memorial (1982) in Washington, D.C., still in the fundraising phase. As a *Nw York Times* editorial rightly warned, "At best, the visitor center can offer only a sanitized glimpse of that deeply controversial war. At worst, it will become a political battleground. Either way, it will damage the clarity of what Maya Lin achieved." That contradiction is emblematic of a pointless, wasteful building type we'd be well rid of. Lincoln once compared some conventional redundancy to writing "horse" on the side of a horse. When our mania for visitor centers abates, the liberating logic of simplification will seem as self-evident as Lincoln's unlabeled steed. ■

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# How Medellín got its groove back

## Commentary

By Jimena Martignoni

Medellín, the second-largest city in Colombia, has been known and labeled for decades as a place of violence and anarchy related to the drug-trafficking conflict. During the late 1990s, and especially since the turn of the millennium, it has been reinventing itself through controversial urban plans and experimental architecture. Proposed primarily by the local government and supported by a group of forward-thinking architects (many of them Colombians with young practices), these plans and projects have resulted in a profound process of change that serves as a relevant model for other cities.

Enacted in 1997, Law 388 compelled all Colombian city councils to draft a public-space renovation plan, called Plan de Ordenamiento Territorial (POT), and put it into action within a three-year term. The POT marked a turning point for decision makers, urban planners, and architects of every important Colombian city. Bogotá, the country's capital – which also had a tarnished image and had undergone decades of unplanned growth – set an example with its successful urban renovation plan and consequent social transformation. In this city, which has a population of more than 7 million and an area of 612 square miles, change has been affected greatly through infrastructure and reconnection with the surrounding natural environment. In Medellín, which has less than half that population and an area of just

*Jimena Martignoni is based in Buenos Aires and writes on Latin American architecture and landscape design.*



147 square miles, change was envisioned as stemming from meaningful architectural projects that hopefully would trigger other work, eventually resulting in a resuscitated urban social dynamic. (This initiative marked the city's second notable planning effort of the century. During the 1950s, the Medellín Master Plan, spearheaded by architects Paul Lester Wiener and José Luis Sert, was largely abandoned due to the repercussions of political and financial instability.)

But the differences between Bogotá and Medellín go beyond scale and population. Historically, Bogotá has been developed under traditional canons of architecture and construction techniques, while Medellín, known as the country's industrial capital, has been characterized by innovation and change. In fact, Medellín is the only Colombian city served by a modern urban rail system. The Metro,

which was instituted in 1995, connects with an elevated gondola system, or Metrocable, which was added in 2004 to provide access to one of the city's most impoverished and previously inaccessible hillside communities. In the nine years between the construction of the Metro and the Metrocable, Medellín began to implement a series of architectural and urban projects that have helped to establish and solidify its new, positive image.

Mayor Sergio Fajardo, who was elected in 2003 and reelected in 2005, has been credited with assembling professionals and academics who, together, have defined the general basis for the transformation of not only this city but the entire region of the Aburrá Valley. In 2006, following the completion of a number of successful architectural and urban projects in Medellín, the leading regional administrative entity, Area

**The Orquideorama shelters the Botanic Garden's orchid collection and hosts open-air events.**

Metropolitana, sanctioned the Metropolitan Directives of Territorial Planning, which seeks to qualify and redefine guidelines for the preservation and/or construction of natural features and public and private structures and help blur, through democratized spaces, the strict lines that traditionally have been drawn between the

classes. With these objectives in mind, the consortium has helped initiate policies and projects that range from new waterfronts and plazas to social programs, such as public libraries and schools, strategically placed in degraded neighborhoods.

Architect Giancarlo Mazzanti's Biblioteca España [RECORD, November 2008, page 138], completed in 2007, is one of the 10 "park-libraries" built as part of the social plan for the city's most neglected sections. Standing as a powerful symbol of a new cultural era, the building's three rocklike volumes visually dominate what used to be the most violent and stigmatized part of town. Nearby is Carlos Pardo's Santo Domingo Savio High School, one of the five proposed schools for low-income sectors. Although not completely finished, due to budget cuts and irregularities in the original



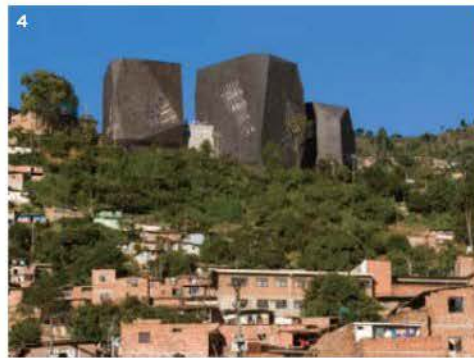
## Commentary

(1) Children play at Felipe Uribe's Parque de los Pies Descalzos (Barefoot Park). (2) Lorenzo Castro's entry to the Botanic Garden. (3) Uribe's EPM Library. (4) Giancarlo Mazzanti's Biblioteca España. (5) Mazzanti and Daniel Bonilla's International Convention Center.

financial plan, the school, which overlooks Medellín's barrios with terraces and promenades, is in operation, contributing to a completely new dynamic for the area.

While many of these projects materialized through local and national competitions held by the city, Empresas Públicas de Medellín (EPM), the area's most financially powerful enterprise, contributed greatly to their execution. In 1999, they commissioned the first important urban project in Medellín's financial center: Parque de los Pies Descalzos, or Barefoot Park, by architect Felipe Uribe de Bedout. The 5-acre plaza, with water features and a large esplanade, set a new precedent for the inhabitants of Medellín, or *paisa*, who had grown accustomed to life behind walls. The park sits adjacent to Uribe's linear, glass and stone-clad Museum of Science and Technology, and another public plaza for the International Convention Center, completed in 2005, on which Mazzanti collaborated with architects Daniel Bonilla [Record Vanguard issue, December 2008, page 90] and Rafael Esguerra. After the success of this first cultural-recreational site, there followed Uribe's Parque de los Deseos in 2003, also commissioned by EPM and located in the north district of the city. This project took advantage of a large abandoned lot in front of the local planetarium, creating a gathering venue between this building and Uribe's House of Music, which hosts a variety of events, including free open-air movies projected on the renovated planetarium's main facade.

With a focus on the city's commercial center and north district,



development continued. In 2004, Uribe's EPM Library and Parque de la Luz, by architect Juan Manuel Peláez, rose side by side in the financial district. Conceived to symbolize the city's new spirit, Parque de la Luz exists as a visual counterpoint to the library, a robust, stone-clad structure whose front is defined as an inclined plane of glass that helps draw light and the public into the building. Bedecked with 300 concrete-and-steel masts, which have an average height of 72 feet and are equipped with LEDs, the park changes in mood and appearance throughout the day and the year, according to the position of the sun and the shadows cast. Because of financial constraints, however, the masts are not regularly illuminated, as originally envisioned.

The 2006 renovation of the Botanic Garden in the north district followed the completion of the nearby Parque de los Deseos. Beginning with the complete replacement of the gardens' boundary walls with a new permeable fence made of black-painted steel-and-wire-mesh panels

by architects Lorenzo Castro and Ana E. Velez, this project produced what is now one of the landmarks of the city: the Orquideorama, by architects Felipe Mesa, Alejandro Bernal, J. Paul Restrepo, and Camilo Restrepo. This 45,200-square-foot structure unfolds with a series of 10, 65-foot-tall "flower-trees" made of wood-frame hexagons that shelter the orchid collection below; the hexagonal module repeats in a fractal composition to create a large canopy and provide a protected venue for cultural events. In 2008, Castro completed the circular poured-in-place-concrete entry pavilion that guides visitors around a large reflecting pool at its center as they transition from the street to the garden. Also contributing to the rejuvenation of the north district is Alejandro Echeverri's Explora Park, completed in 2008. The complex – which comprises four massive, raised, boxlike buildings clad in red aluminum and polyurethane panels that house an interactive museum and a series of open spaces – is separated from the Botanic Garden by a pedestrian walkway and has quickly

become a popular destination for the locals. Work continues across the city with a focus on neighborhoods in decline, including master plans for some of these barrios and recently announced competitions for two libraries that will incorporate outdoor public spaces in the north and north-west metropolitan areas.

According to national statistics, in 1991 the number of homicides in Medellín was 381 for every 100,000 inhabitants. By 2005 that number had dropped to 34. The role of strategic city planning and dynamic architecture in this dramatic change is undeniable. By simultaneously looking inward to the needs of the most destitute segments of the population, and outward toward a more globalized vision of design, Medellín is deep in the throes of reinventing itself. By creating spaces that speak to and for the city and its inhabitants and that invite people out from their cloistered or ghettoized lives to connect with the urban environment, Medellín is putting itself on the map once again – this time for something it can be proud of. ■

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# Past imperfect: looking back on the 20th century

## Books

**On Architecture: Collected Reflections on a Century of Change**, by Ada Louise Huxtable. New York: Walker & Co., 2008, 496 pages, \$35.



This exceptionally readable compilation of short critical essays is an introduction to postwar American architecture. Huxtable began her career at the Museum of Modern Art in the 1940s and since has had a ringside seat for many of the most spectacular events in American architecture, especially after becoming the first architecture critic at *The New York Times* in 1963. Huxtable's terse and often funny prose tells the story of how Modern architecture gained increasing acceptance during the postwar years, as the public was introduced to work of now-canonical figures such as Le Corbusier, Mies van der Rohe, Alvar Aalto, and Louis Kahn. She records the shifts toward Postmodern historicism that began in the 1960s and paralleled a revaluing of urban pedestrian life and its historic surroundings. Her essay on Robert Venturi, "Plastic Flowers Are Almost

Alright," brings the reader back to the freshness and strangeness of what would soon develop into a full-fledged rejection of Modernism, while other essays thoughtfully examine figures such as John Hejduk, Richard Meier, and Aldo Rossi, as well as the ramifications of certain building types, such as the art museum, becoming a focus for architecture by the 1980s.

Reflecting the ongoing importance of urbanism in American architectural criticism, Huxtable includes evaluations of various interventions, built and unbuilt, in New York City and elsewhere that date back to 1960 – projects such as Eero Saarinen's CBS Building and the many design efforts in and around the World Trade Center site. She also discusses some prominent works in Washington, D.C., particularly Edward Durell Stone's Kennedy Center, which she saw as a gigantic missed opportunity.

In general, the book is a good survey of Huxtable's best columns from *The New York Times* and the *Wall Street Journal*. Her work is very much of its time and place, and in most of the essays she addresses contemporary concerns about environmental issues and architecture's role in advancing progressive social ends from a Manhattan-centered Modernist perspective. Some readers may wish for more nuanced discussions of recent architecture in less urban or prominent settings. The illustrations are also unfortunately quite sparse, and in many instances will have to be supplemented with Web searches. Minor criticisms could also be made

about the lack of an index, but such quibbles are far outweighed by the value of bringing this impressive range of critical work to a contemporary audience. *Eric Mumford*

**The Philip Johnson Tapes: Interviews by Robert A.M. Stern**, edited by Kazys Varnelis. New York: The Monacelli Press, 2008, 208 pages, \$40.

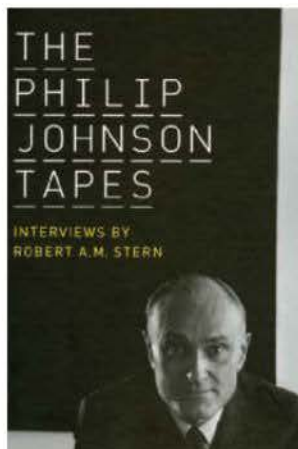
The principal defect of this book of chatty interviews is that it presents itself as history and fails in the effort. Editor Kazys Varnelis claims that several people at Stern's office and Columbia University diligently checked facts. Yet numerous errors go unnoted, beginning on the first page, where Stern says that Johnson was "one of three children." (He was one of four.)

And the miscues go on. Reminiscing about the period between the wars, Johnson misidentifies the Czech architect Otto Eisler as the German architect Otto Haesler, and inaccurately calls him

Jewish. Mies van der Rohe's famous Liebknecht-Luxemburg monument of 1926, said by Johnson to be "just a little wall very, very thin," was in fact 20 feet high, 40 feet long, and 13 feet wide. The quote Johnson attributes to Mies – "I had only one regret. That I didn't help Lilly [Reich] get out of Germany" – is both undocumented and untrue. (Reich made one trip to America, in 1939, and wanted desperately to stay with Mies, who made no effort to keep her from returning to Berlin.) And Johnson's own romances? He alleges that "John Hohnsbeen was the first, second, and third Mrs. Johnson," simply forgetting two other men who shared his favors. Another misrepresentation: In 1934, Johnson and a friend, both caught up in the fever of the politics of the time, quit New York to follow Huey Long, the populist senator from Louisiana, who "wanted us as ideologists," but who in fact rejected the two men out of hand. Stern himself writes of Johnson's "misgivings over his successor at the Museum of Modern Art, Arthur Drexler," but neither he nor Johnson identifies them.

Since these interviews were conducted in 1985, but published more than 20 years later, what is troubling to the reader is the book's lack of engagement with Johnson's active later life (he died in 2005), including his highly publicized involvement with Deconstructivist architecture.

"But this is the document that we have," Varnelis writes, in a lame, hardly compensating conclusion. *Franz Schulze*





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CIRCLE 26

# Snapshot



## Pod life

By Sebastian Howard

Mexican architect Gerardo Broissin's prefabricated modular shelter has a certain sci-fi quality to it. It could be that the residence is reminiscent of the set design from *2001: A Space Odyssey*, or that a rendering of the project appearing on the cover of *RECORD's* 2007 Design Vanguard issue (in which dozens of the units were affixed to a skyscraper) alludes to a scene from *The Matrix*.

But Broissin's project has quickly made the transition from rendering to reality. A prototype was displayed at a Mexico City exhibition last October; this year, one will travel to five Mexican universities, beginning with Broissin's alma mater, Anahuac University, in Mexico City.

The shelter, or pod, stands some 20 feet tall, and its 270-square-foot program accommodates two or three residents. To prove the concept, Broissin asked two members from his studio to live in the prototype for 48 hours during the Mexico City exhibition. According to the architect, "They said that it was great – the bed was very comfortable."

Each pod has three floors: The lowest contains a hydroponics garden; the second, a kitchen, bathroom, and living room; and the top has two beds and storage space. The structure is composed of steel, though cladding made of a sandwich of gypsum board, insulation, and DUROCK also provides some support.

The \$10,000 units are easy to build – a team of 12 can assemble one in a day, using what Broissin calls "common tools, like a screwdriver and hammer." The architect is energized by the idea that the pods may be deployed as shelters for victims of natural disaster, or in rural Mexico, where, he notes, "The unit could improve the quality of life" for people without access to decent housing. ■



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# THE RECESSION REPORT

**FOR ARCHITECTS, THE NEWS HARDLY CAME AS A SHOCK.** In December, the National Bureau of Economic Research announced that the U.S. is in the midst of a recession that began in December 2007. Certainly our readers have felt the pinch for some time. The Architectural Billings Index, a key indicator of design activity, took a negative turn one year ago and has continued its descent. In January, it hit 33.3, the lowest score in its 13-year history.

When firms lose work, people lose jobs. Kermit Baker, chief economist for the American Institute of Architects, said during a recent conference that architecture firms have cut 17,000 positions in the past five months. Reports of layoffs keep coming: Just as this issue was going to press, Foster + Partners, which has 15 offices worldwide, revealed it was letting go of between 300 to 350 employees – about 25 percent of its staff.

It seems that no firm is immune to the downturn, even those with work overseas. Announcements about projects in far-flung locales came at a clip in the first half of 2008, but petered out by late fall as the U.S. financial crisis spread across the globe. Today, there are few, if any, areas of refuge.

In this special feature, we present stories aimed at helping our readers understand and weather this economic storm. While times are tough, there are glimmers of hope. Roughly 16 percent of the \$787 billion economic stimulus package is earmarked for construction-related spending. Plus, a look at downturns in recent decades reminds us that this recession won't last forever. "It's very hard," one veteran architect told us, "but you have to rise up on your tiptoes and look past it." In the end, a survival strategy can't succeed without a measure of optimism. *Jenna M. McKnight*

SPECIAL REPORT

"WHILE IN TRANSITION, MY COMMITMENT IS TO MENTOR AS MANY PEOPLE AS I CAN."\*

"I'M BEING ACTIVE AND GETTING MY FACE OUT THERE AS MUCH AS POSSIBLE."\*

"BEING LET GO WAS KIND OF A BLESSING IN DISGUISE, ACTUALLY."\*

\* Read profiles of architects currently coping with the troubled economy at [architecturalrecord.com](http://architecturalrecord.com).



# THE ARCHITECT'S SURVIVAL GUIDE

By Jenna M. McKnight

**F**inding employment was relatively easy when Angelina Pinto, 27, graduated in 2006 with a B.Arch. from the University of Texas at Austin. Now she's spending up to 10 hours a day hunting for a position after getting laid off in December from a leading firm in New York. "I'm contacting every single person I know, looking through the AIA directory, looking at every single firm," she says. "There are fewer and fewer jobs."

Indeed, times are bleak. The national unemployment rate is steadily climbing: In January, it hit 7.6 percent, with the architecture and engineering sector shedding some 9,600 jobs. As credit remains frozen, and work dries up in the U.S. and abroad, firms large and small are cutting staff. Nobody is immune. For those who have lost their job, or fear losing it, the near future does not look promising. There are strategies, however, for ensuring longevity in the profession.

**GET READY:** Susan Heathfield, a Michigan-based human resources consultant, says she always tells people to "live your life as if it's the last day you are going to be employed." Even those who feel secure should take proactive measures—such as updating résumés, lining up references, and joining social-networking Web sites like *LinkedIn*—to equip themselves for a job search. Also, architects should collect all material they need from the office, from e-mail addresses to sketchbooks, given that pink-slipped employees often are not given ample time to clean out their desks or computers.

## With layoffs sweeping the profession, architects of all stripes should prepare for the worst

**THE PINK SLIP:** Those who do get laid off should try negotiating their severance packages, whether that means requesting extended health-insurance coverage or more severance pay. Also, they should ask for the firm's "cooperation in finding a new position," says Michael Strogoff, AIA, a California-based management consultant. Request referrals, a letter of recommendation, or use of a work space, and treat the exit interview as a way to solicit constructive feedback on performance. Also, inquire about opportunities to continue working for the firm as a part-time employee or consultant. "I think it's entirely appropriate to have a conversation and leave on good terms, smarter terms," Strogoff says.

**WHAT NEXT:** Jobless architects should remember that "first and foremost, it's the market, not you," says Billy Clark, director of Jack Kelly & Partners, a recruitment agency for the design industry. While architects may need to take a few days—or weeks or months—to muster the energy and confidence needed for the job hunt, Clark says they should assemble their portfolio and résumé immediately. The longer one waits, the more difficult the task becomes.

When the market is fierce, a standout résumé is vital. It should list projects and clearly describe the architect's role in them. Dana Byrne, a senior human-resources manager at RMJM, offers these additional tips: target the résumé to the receiver, use graphics sparingly, and proofread fastidiously. Also, ensure all correspondence is professional—and drop names. "We're in a no-holds-barred situation here," she says. "You need to separate yourself from the pack."

**NETWORK:** Reach out to everyone you know: friends, former coworkers, old classmates, contractors, consultants. That's what Michael Murno, AIA—who has worked largely on institutional projects during his 40-year career—has been doing since he was laid off in December from a firm in New York. In addition to calling hospitals and school associations to see if they need a consultant, he's contacting Pratt Insti-

**ANGELINA PINTO**  
"I'M CONTACTING EVERY SINGLE PERSON I KNOW."



PHOTOGRAPHY: © DANIELLE AUSTEN (THIS PAGE AND OPPOSITE)

tute, where he previously taught construction courses. Murno has slugged through prior economic downturns—he hung wallpaper in the 1970s, when construction in the U.S. was at a standstill—but he feels this recession might be worse. “I never thought I would ever, ever go through this again,” he says.

**WHERE TO LOOK:** Is anyone hiring? “I’m getting many more requests on the civil-engineering side,” says Carol Metzner of Metzner Group, a recruitment agency for architects, engineers, and planners. Designers with résumés she would have “once drooled over” are now looking at other types of jobs; she just placed one candidate, for instance, at an architecture firm looking for a director of federal programs.

Indeed, there seems to be a smattering of openings at firms with government commissions. Firms focused on institutional work, particularly health care, have advertised openings, although even that sector is now taking a hit. For architects able to relocate, there are reportedly



**MICHAEL J. MURNO**  
 “I NEVER THOUGHT I  
 WOULD EVER,  
 EVER GO THROUGH  
 THIS AGAIN.”

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While it won't pay the bills, volunteering is a way to stay active in the profession. We present various opportunities.
- ✓ **START YOUR OWN STUDIO?**  
We talk to architects about the pros and cons of self-employment.

opportunities in Qatar, Kuwait, and Saudi Arabia. And of course, many are optimistic that President Barack Obama’s \$787 billion stimulus plan will pump life into the design and construction industries.

**OTHER OPTIONS:** The reality is that even top candidates might not be able to land a job right now. How do they ride out the recession? “You have to get creative as to what type of work you’re willing to do,” Clark says. While few industries are recession-proof, architects might find work in fields such as graphic design, computer modeling, store branding, facility management, surveying, and product sales.

Facing a grim market after graduating last year from the Bartlett School of Architecture, Alastair Stokes, in London, chose to try his hand at project management. He’s working for a charity that is moving to larger quarters and is overseeing all aspects of the project: finding a site, dealing with an architect and contractor, helping raise funds. “I have found this to be a very useful job coming out of university, going from a world where really anything is possible if you can imagine it,” he says, “to one where there are serious budgets and people

at the end of the phone. It has been intense and often painful training.”

Architects who have to take a non-professional job should align it with their design interests. Those with a proclivity for hospitality projects, for instance, could get a job at a hotel. It’s not the most uplifting solution, but when the recession ends—and it will—they’ll have experience in their area of design expertise, rather than a résumé gap. “You really have to focus on connecting the dots for people,” Clark says. “Weave the story so it makes sense.”

**STAY INVOLVED:** Ben Robbins, a Denver architect, has hardly sat idle since he was let go from a small firm in October. In addition to completing his licensing exams, and becoming a registered architect in January, he’s kept busy sprucing up his résumé, combing the Internet for job posts, and networking. He is also volunteering at the local art institute. “What I’ve really gotten into is doing student juries,” he says. “It’s a way to stay fresh and keep my skills polished.”

For jobless architects who want to stick with the profession—and keep their spirits elevated—staying active is crucial. This could mean taking continuing-education courses, preparing for exams, serving on community boards, organizing city tours, or volunteering at local schools or civic organizations. It could also mean embarking on a more personal endeavor, such as building furniture or starting a blog. Alec Heehs, a 48-year-old designer in Manhattan who was laid off last fall, says he’s preparing to take the licensing exams while also helping a local nonprofit manage its Web site. “It’s nice to be in a bustling office environment,” he says.

Heehs is also attending “Not Business As Usual” workshops at New York’s Center for Architecture, where topics include advocacy work, résumé building, and improving presentation skills. Sherida Paulsen, FAIA, principal of PKSB Architects and president of AIA New York, says the local chapter wasn’t proactive enough in past downturns, when architects fled the profession. “This time, we’re trying to be prepared,” she says. “We’re trying to keep people engaged, trying to keep people involved in design and construction.” ■

# FIRMS ADAPT TO TOUGH TIMES

By Suzanne Stephens

Layoffs. Each week the numbers of layoffs grow as architects frantically attempt to curtail the fallout from the current recession, when projects are killed, postponed, or don't materialize. Few firms want to shed their trusted, well-trained architects, and few firms want to talk about it with the not-so-trusted members of the press. As Andrew Bartle, AIA, puts it (nicely), if the press sticks to its current role as harbingers of doom, won't it only exacerbate the problem by keeping clients ultra-nervous? In spite of such suspicions, Bartle—whose firm, ABA Studio, is known for private schools and residences—and other architects talked candidly (up to a point) to *RECORD*. All agree that sharing information is better than avoidance. "In the 1990s recession," notes David Piscuskas, FAIA, principal in the New York firm 1100 Architect, "no one discussed layoffs or pay freezes as openly. But now with the expansion of work overseas, and the global flow of money, we're all hit."

For small and midsize firms, any loss of personnel is serious. 1100 Architect, which is known for its private schools, libraries, and interiors, recently laid off 20 percent of its office, reducing it from 40 to 32. Bartle's smaller firm numbered 10 until a few months ago; now it's seven. But large firms are affected severely as well, even if the percentages are lower. Robert Buford, AIA, managing partner of Robert A.M. Stern Architects, had to let go an estimated 5 percent of the firm in the past few months. While the office numbered 325 in the summer of 2007 (including summer

## Architects discuss strategies for staying alive

interns), it is now 275, and Buford says it feels like the most dramatic recession since the 1970s—only more global.

Some architects confronted the looming recession early: Scott Johnson, FAIA, of Johnson Fain in Los Angeles, reports that the firm laid off 18 people in September when private sponsors began getting slammed in the credit crunch. "We had strong relationships with the architects we laid off, so we hated letting them go," says Johnson. But, he emphasizes, the firm, which now numbers 66 people, made sure those affected got decent severance packages. He and partner William Fain, FAIA, and others made calls, wrote recommendations, and have tried to keep up lines of communication—actions other architects speaking to *RECORD* have claimed as well.

Bradford Perkins, FAIA, of Perkins Eastman in New York, says the firm had to eliminate 80 positions in the last months of 2008—10 percent of the firm's 800 employees. Since there is a backlog of work (the firm specializes in schools, health care, and senior housing), and since it has commissions overseas, he hopes "we can shoot our way out of this."

**ALTERNATIVES TO LAYOFFS:** Some firms are choosing four-day work weeks to avoid losing staff. Gruzen Samton Architects, with a New York office of just under 100, has opted for the shorter work week to deal with the shrinkage in private sector jobs, particularly large-scale apartment and hotel projects. "We've always had a flexible office, without having people specialize in a particular building type," says Jordan Gruzen, FAIA, "so we can shift architects around for institutional and public sector projects." And, as partner Peter Samton, FAIA, points out, the four-day-week personnel are eligible for unemployment for the fifth day. (But the partners are not.)

Duane Sohl, AIA, president of De Stefano and Partners in Chicago, says his firm has taken a slightly different tack. It cut 16 positions in early December, but to avoid losing more, the 110-person firm agreed to a 10 percent reduction in salaries. "It saved 10 jobs," Sohl says. "We found the four-day work week difficult, since clients expect you to be on the job site or in the office all week."

Some firms have encountered resistance in the past to the four-day work week (which too often means the same amount of time at 80 percent of a not-very-large salary). 1100 Architects tried it in the early 1990s. "It still might be necessary to go to the four-day week in order not to lose people we've invested so much in," says Piscuskas. If he and his partner, Juergen Riehm, FAIA, try it again, they are thinking of ways to make it palatable—say, by giving paid time off later. Meanwhile, 1100 is pursuing residential development jobs in Germany by keeping an office in Frankfurt, headed by associate partner Sabina Wallwey.

John Lahey, AIA, chairman and principal in charge of design at Solomon Cordwell Buenz (SCB), in Chicago, says that after having been through the recessions of the 1980s and 1990s, he finds it better to lay off architects than offer a four-day work week. "People who are raring to go don't like working four days a week," he says. When SCB, known for its privately sponsored residential construction, was affected, "We reduced the staff, even though painful," says Lahey. Its head count now totals 130 after losing between 25 to 30 people to layoffs.

**WHERE THE JOBS ARE:** Like other architects, SCB is turning in new directions for work: “We decided a year and a half ago we would look for planning jobs in the Middle East,” says Lahey. Currently, his office has a master plan for Abu Dhabi Capital City on the boards, and closer to these shores, another one for Bratislava, Slovakia. Large-scale projects in the Middle East and Asia have long attracted other firms as well. In Johnson Fain’s case, William Fain is director of urban design and planning, while Scott Johnson is director of design. Accordingly, the firm has lined up urban projects in Beijing and Shanghai, among others, to supplement its architecture work, such as the renovation and expansion of the Dodger Stadium in Los Angeles and the American Indian Culture Center and Museum in Oklahoma City (with Hornbeek Blatt Architects and Hargreaves Associates).

While Perkins Eastman has been carrying out urban-planning studies in China and is doing a master plan for Hanoi, Brad Perkins notices that work there and in Korea and Japan is slowing down. Viable markets, he notes, are still found in India, and in some parts of the Middle East, such as Abu Dhabi, Qatar, and Saudi Arabia. Jaquelin Robertson, FAIA, partner of Cooper Robertson, a New York firm with a long-standing reputation for master planning, agrees that while Dubai seems to be in trouble, “Abu Dhabi is looking interesting, and Qatar still has money, so it’s awash with foreigners.”

No matter how hopeful these

**WILLIAM FAIN, FAIA, AND  
SCOTT JOHNSON, FAIA  
JOHNSON FAIN, Los Angeles**

“BECAUSE OF STRONG RELATIONSHIPS, WE HATE LETTING PEOPLE GO. BUT WE WANT TO KEEP THE FIVE-DAY WORK WEEK AND THE SALARIES INTACT.”



architects are about work in far-flung places, they know that what seems promising today could dry up tomorrow. In the mid-1970s recession, at least, big firms looked to the OPEC countries of the Middle East. Robertson, who spearheaded the master plan for Shahestan Palavi, the new center of Tehran, while working for the firm of Llewellyn-Davies, found it a terrific experience. "Shahestan used sustainable design principles, including solar power and wind chimneys," he says. "We learned from vernacular low-rise buildings that responded to the climate, and saw what we were doing

wrong at home." Architects also encountered different political and cultural mindsets, some of which were disturbingly unexpected. Gruzen and Samton, who had commissions in the Middle East, also have fond memories of the vodka and caviar served at the architects' favorite gathering spot, the Tehran Hilton. But they found that getting paid could be dicey at the end. "When the Shah of Iran was ousted in 1979, we were doing a new town for Bell Helicopter," says Samton. "We were worried about money, so two partners hung outside the office of the general

firm. "Marketing is one activity that hasn't slowed down," he adds.

Nevertheless, architects are cutting back on traveling business class to seek work, among other lifestyle measures. "Lunches with partners are now box lunches," says Buford. And the Stern office trimmed its 700-person Christmas party list by almost 30 percent this past December. Architects are not signing up for high-priced events and conferences with the same alacrity, though many are still keeping up memberships in professional organizations, such as the American

Institute of Architects. "The AIA is very important now in helping us to figure out what to do," says Gruzen.

And then, of course, there is the federally sponsored stimulus package. Generally, the feeling is that it will be a while before architects feel its benefits. As Bartle puts it, "If the money goes to the state, presumably it will take 16 months to two years to get a commission. Then, when you win it, you wait six months before the project gets going. So this looks grim."

Back in the 1970s, a whole slew of architects drew, wrote, and taught, but didn't build. As Diana Agrest, FAIA, of the New York firm Agrest Gandelsonas, puts it, "The recession is not so bad for the brain." Agrest is currently producing and directing a documentary on Peter Eisenman, FAIA's legendary Institute for Architecture and Urban Studies (IAUS), which thrived as an intellectual force in those years. Agrest, who was a fellow of the IAUS, remembers the high-octane professionals who had time to attend its lectures and symposia for "more reflection, less consumption."

Now Sohl says that the DeStefano office has told its architects, if they want to take a leave to travel or study for a couple of months, the firm could accommodate them. Lahey of SCB concurs: "This is a stressful time. But it's also the time to do research. Each recession you feel you are never going to build again, and then..." ■



**JOHN LAHEY**  
**SOLOMON CORDWELL BUENZ,**  
Chicago

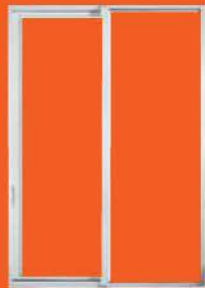
**"I'M AN OPTIMIST, BUT I'M NOT CRAZY. THIS IS GOING TO BE STRESSFUL. BUT YOU HAVE TIME TO MAKE NEW RELATIONSHIPS AND DO RESEARCH."**

in charge of the project. We got the check, which cleared two days before the Shah's banks were closed and he went off to Egypt. Then the general was executed."

**ADJUSTMENTS IN APPROACH:** Volatile governments and different cultures can make working at home all the more tempting. Sohl says that the DeStefano office is investigating requests for qualifications for smaller jobs in the U.S. than it had previously looked for. He and his partners try to meet with people who don't automatically know the



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# HOW BAD IS IT?

By Robert A. Murray

**T**he construction industry lost considerable momentum in 2008, and McGraw-Hill Construction reported the value of new construction starts fell 15 percent last year, to \$547 billion. It was the second straight decline after the 7 percent pullback in 2007. Single-family housing continued its descent last year and was joined by a steeper downturn for multifamily housing as weakness for commercial building emerged. The institutional structure types, such as schools and health-care facilities, managed to hold up fairly well, but such factors as eroding state and local finances have raised concern about the prospects for the institutional categories going forward.

The U.S. economy is in the midst of an extended and deep recession. Real GDP in the fourth quarter of 2008 dropped 3.8 percent, and further declines are anticipated through at least the first half of this year. The employment statistics show that a steady loss of jobs took place over the course of 2008, with the number of payroll jobs falling by 2.6 million, and the early 2009 layoff announcements don't bode well for the near term. Despite the substantial efforts undertaken to thaw frozen credit markets, including the \$700 billion financial bailout package implemented last fall, there have been only faint signs that lending standards are beginning to ease. According to the Federal Reserve's January 2009 survey of bank lending officers, a full 79 percent of the respondents indicated they had tightened

*Robert A. Murray is the vice president of economic affairs for McGraw-Hill Construction.*

## The latest forecast from McGraw-Hill Construction spells it out

standards on commercial real estate loans during the fourth quarter of 2008, not much less than the 87 percent reading for the third quarter. In addition, the weak economy is depressing the fiscal health of state and local governments, so more construction projects are being placed on hold.

**President Obama's stimulus package** should help cushion some of the construction downturn expected for 2009. While a large share of the approximately \$120 billion in construction-related spending is directed at infrastructure work, there's also funding directed at buildings. Energy-efficiency upgrades for federal buildings were provided \$4.5 billion, and Veterans Administration hospitals and other medical facilities were given \$1.2 billion. Spending would also be directed at the repair and construction of public housing units, as well as home weatherization efforts. While specific allocations for school construction

were removed from the stimulus bill at the conference committee stage, additional funds were directed at shoring up the fiscal health of states, and some of this money could be used for school modernization projects. This will help counter to a small degree the steep correction for the commercial structure types expected for 2009 and in all likelihood 2010.

Given the weak environment, total construction starts in 2009 are forecast to slide another 11 percent, with double-digit declines for multifamily housing and commercial building, but a relatively modest retreat for the institutional structure types. The following are some of the patterns revealed by major construction sectors during 2008, and what's expected for 2009.

**Multifamily housing in 2009** is forecast to drop 22 percent, in both dollar terms and units. While a substantial reduction, it's not quite as severe as what occurred during 2008 (down 37 percent in dollars and 33 percent in units). The steep correction to the condominium boom has been under way now for a couple of years, pulling down the number of large-scale multifamily projects that have reached the construction start stage. At the height of the condo boom in 2005, the construction start statistics show that there were a total of 61 multifamily projects valued at \$100 million or greater that reached ground breaking, most of them condo towers. By 2008, the number of large-scale multifamily projects had fallen to 25, most of which were apartment towers. The tough lending climate has recently played a larger role in the multifamily downturn, with the most visible case being the 150-story Chicago Spire in downtown Chicago, reported as a construction start in 2007 by McGraw-Hill Construction. This project was put on hold in October 2008, because its developer could not get funds to continue construction.

In 2008, the leading market for multifamily construction was New York, which experienced a relatively modest 6 percent drop in the number of dwelling units started from the previous year. This compares to more severe 2008 declines in such markets as Washington, D.C. (down

**22%**  
PROJECTED  
DROP IN  
MULTIFAMILY  
HOUSING UNITS



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23 percent), Atlanta (down 24 percent), Los Angeles (down 40 percent), Las Vegas (down 61 percent), Miami (down 60 percent), and Chicago (down 62 percent). In 2009, the New York market will see greater retrenchment, affected by the upheaval in its financial sector and declines in financial services jobs. For the U.S. as a whole, the tight lending environment will restrain development of both apartments and condominiums. It is expected that secondary markets will see a more moderate retreat this year, and public housing projects may be lifted by funding from the stimulus package.

**Commercial building in 2009** is forecast to decline 21 percent in dollars and 26 percent in square feet. This is on top of what took place during 2008—down 17 percent in dollars and 27 percent in square feet. The extent of the 2009 slide will depend on the effectiveness of new efforts to help the banking system regain its footing, including returning to the original premise of the bailout bill in which troubled mortgage-backed assets are removed from bank portfolios. It is not expected that the stimulus package will provide immediate benefit to the commercial sector, although gains in employment and a more moderate recession will be a plus in a year or so.

**Construction of stores** and shopping centers most directly showed the impact of the weak economy during 2008, with a 34 percent decline to 207 million square feet. This followed record high levels during 2005–07, in which construction exceeded 300 million square feet per year. That strength reflected the expansion efforts of major retailers, as well as the push for new store formats such as open-air shopping centers or “lifestyle centers.” But as the economy lost momentum in 2008, retail sales slipped, causing several retail chains to declare bankruptcy. The weakness of the retail sector in early 2009 was highlighted by the bankruptcy and liquidation of Circuit City, and more store closings will take place this year. Retail sales will stay weak for most of 2009,

providing little impetus to add new store space. For 2009, store construction will drop an additional 27 percent to 150 million square feet.

This decade’s rise in office construction was more restrained than in the past, as activity reached 218 million square feet in 2008, well below the prior peak of 298 million square feet in 2000. These conditions allowed vacancy rates to stay within the relatively healthy range of 10 percent for downtown markets and 14 percent for suburban markets.

The tougher lending climate in 2008 dampened construction, as activity fell 25 percent, to 164 million square feet, yet there were a few markets, such as New York (up 100 percent) and Houston (up 48 percent), that saw large percentage gains. The New York market in particular was lifted by the start of World Trade Center Towers 2, 3, and 4 in Lower Manhattan, with a combined office space in excess of 6 million square feet. But it was announced in January that, for the near term, these buildings would likely be built either to grade or as two- to six-story structures (compared to the planned 79 and 71 stories). The originally conceived high-rise towers would have to wait. And the weak employment picture is contributing to a rise in office vacancies. CB Richard Ellis reported that in fourth quarter 2008, downtown office vacancies rose to 11.7 percent, while suburban office vacancies reached 16.3 percent. For 2009, office construction will decline another 24 percent, to 125 million square feet.

**The institutional structure** types in 2009 are forecast to retreat more gradually than commercial building, with contracting down 6 percent in dollars and 10 percent in square feet. In part this reflects the less volatile behavior shown by this sector, which responds to state and local fiscal conditions with a lag, and in part it reflects funding support coming from the stimulus bill.

**The educational building** category in 2008 registered a 1 percent gain, to 222 million square feet, combined with an 8 percent gain in dollar volume. Growth was particularly strong for high schools, which climbed 10 percent in square feet. College and university construction edged up 1 percent, exceeding the enhanced pace achieved in 2007. Yet the tight credit environment will dampen construction in 2009, as contracting slips 8 percent, to 205 million square feet.

There is anecdotal evidence that projects are being deferred, as local governments and institutions focus on trying to meet operational expenses. The decline in the size of university endowments is another constraint. At the same time, numerous school-construction bond measures have passed recently, especially in California and Texas, and some of this funding should still have an impact at the construction site in 2009. Furthermore, the stimulus bill has the potential to support more school renovation projects, which lifts the dollar volume of construction starts (although not the square feet). This support will limit the decline for the educational category in dollar terms to 6 percent in 2009.

**Hospital construction** in 2008 had a record year, climbing to 110 million square feet as the result of a 25 percent surge for new hospital projects that more than offset a 7 percent decline for other health-treatment clinics and nursing homes. This maintained one of the current decade’s trends: the substantial rise in the number of large-scale hospitals under construction. However, this year’s weak economic climate will cause more health-care projects to be deferred.

Toward the end of 2008, large hospital chains witnessed a decline in their financial performance, and financially strapped states may face greater difficulty in quickly meeting Medicaid obligations. On the plus side is the added funding provided for Veterans Administration facilities. Overall, the health-care facilities category in 2009 is forecast to retreat 13 percent, to 97 million square feet. ■

**27%**  
SQUARE-FOOT  
DECLINE IN  
NEW STORE  
CONSTRUCTION

**24%**  
SQUARE-FOOT  
DECLINE  
IN OFFICE  
CONSTRUCTION

# MAJOR TRENDS AND INDICATORS

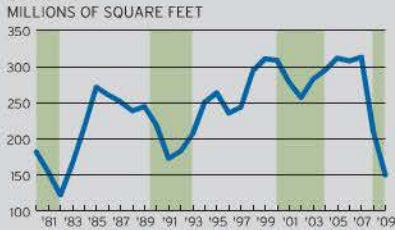
The vertical green bars indicate periods of recession. Usually, architects who do developer work – multifamily, hospitality, retail, and offices – have been hit quickly and severely. In the past, institutional construction continued to rise even after a downturn started. This recession bucks the trend.

## Historic Values for Key Building Types

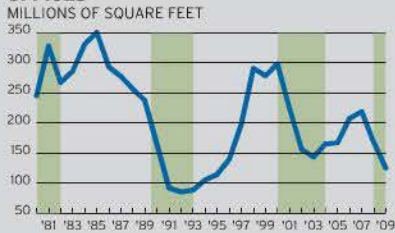
### MULTIFAMILY HOUSES



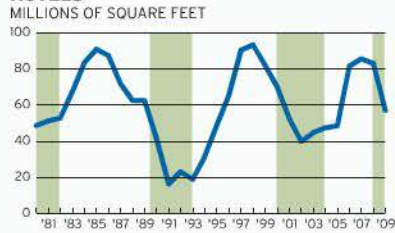
### STORES



### OFFICES



### HOTELS



### EDUCATIONAL BUILDINGS



### HEALTH-CARE FACILITIES



PERIODS OF RECESSION

## U.S. Construction Market Indicators

### MULTIFAMILY HOUSES CONSTRUCTION STARTS



### CONSTRUCTION PUT IN PLACE



### CONSTRUCTION EMPLOYMENT



### COMMERCIAL REAL ESTATE LOANS

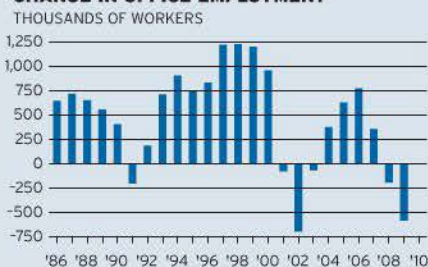


**2009 COMMERCIAL BUILDING SQUARE FOOTAGE EXPECTED TO DECLINE 26 PERCENT**

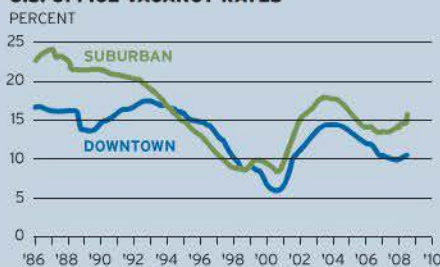
These charts show how downturns ripple through the economy. Layoffs translate into higher vacancy rates as well as decreases in office remodeling.

## Market Snapshot: Office Buildings

### CHANGE IN OFFICE EMPLOYMENT



### U.S. OFFICE VACANCY RATES



### OFFICE BUILDING ALTERATIONS



Sources: McGraw-Hill Construction

# TAPPING INTO THE STIMULUS PACKAGE

By Bruce Buckley

**W**ith the economic stimulus package expected to provide a near-term spike in government work, firms with little to no experience in the public sector are eyeing opportunities to get in the game. But landing government contracts can be daunting for the uninitiated. Requirements are significant, as agencies are generally more risk averse than private developers.

"Essentially, you're in the game or not in the game," says Gerald Hines, a Maryland-based architect and chair of the Public Architects Committee for the American Institute of Architects. "If you're not, that's a problem. It can be very frustrating, and a lot of people give up. But if you do your homework and make smart decisions, you can get in and find it very valuable."

As federal projects quickly ramp up, firms that already work in the public sector could be forced to reach out to others for support. "Our attitude is, we don't want to add staff just for the near-term," says Carl Roeling, president and C.E.O. of SmithGroup. With that in mind, firms that are new to federal contracting should look for partnering opportunities, says Anthony Bell, chief of small business programs at the U.S. Army Corps of Engineers. Bell notes that on average, it takes small busi-

## Want to land a government contract? Do your homework

nesses 18 months to land their first prime contract. While everyone wants to be a prime contractor rather than a "bridesmaid," Bell says being a sub is a great learning process. "Let someone else navigate the structure while you sit back and learn," he says.

Whether you're looking to land a contract as a prime or a sub, the government's clearinghouse for information on federal contracts is FedBizOpps ([www.fbo.gov](http://www.fbo.gov)). Firms can search for new jobs on the site and also track the firms that have won contracts and may be looking for subs, says Tamela Riggs, deputy assistant commissioner for the U.S. General Services Administration's Office

of Acquisition Management. In addition, contract holders can be found through the GSA's online schedules program.

For first-time bidders, getting up to speed on federal procurement standards and processes is vital. Agencies offer varying degrees of support, including contracting agents assigned to answer questions. Also, it's important to know how your firm's strengths fit with an agency's needs. "You need to make clear how you differentiate yourself from others and can meet very specific project goals," Hines says.

Emerging delivery methods could increase prospects for federal work. In recent years, public agencies have been increasingly open to design-build and other integrated delivery devices. With the federal government under pressure to move projects quickly, agencies are likely to draw on such methods even more, says James Wright, principal at Page Southerland Page. "What that speaks to is the need to have solid relationships with a builder," he says.

"If (the builder) is the prime contractor pursuing the job, that's an excellent opportunity for a (design) firm."

Small businesses or firms that are minority-owned, women-owned, or service-disabled veteran-owned could also find themselves in a strong position in the coming months.

All federal projects contain set-aside goals for contracting such firms, and agencies often struggle to meet these obligations.

For firms taking a longer view of federal opportunities, Hines recommends pursuing indefinite delivery/indefinite quantity contracts. "IDIQ essentially prequalifies you and puts you on a preferred list so that you can be in place on projects within a matter of a few months," he says. Even if firms can't get in the game fast enough to take advantage of the looming stimulus funding, Hines notes that public projects will continue to move forward in the coming years. "For the long haul," he says, "it's better to get off the dime and get through the process now." ■

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Besides earmarking funds for construction, what are other ways the federal government can help architects get back to work?



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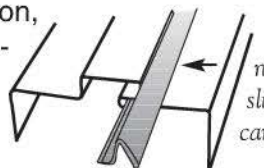
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# ARCHITECTS HURTING AROUND THE GLOBE

**BRAZIL** After growing by 5.3 percent in 2008, Brazil's GDP will increase just 2.7 percent this year, according to the Economist Intelligence Unit. Seen from the U.S., that number looks pretty good. In Brazil, economic instability and its aftereffects are no novelty, and most people have perfected the art of dealing with crises and moving on. Local architects report some recent setbacks on projects, but no sense of paralysis. "Even though we've had to make some adjustments, we've managed to keep our team working," says Roberto Aflalo Filho, a partner of Aflalo & Gasperini, a São Paulo firm with almost 100 architects on staff.

Jorge Konigsberger, a partner at K&V Architects, another prominent São Paulo office, notes that "the cascade effect that will follow this interruption in new projects will reach the market only in the second half of 2009." K&V and Aflalo & Gasperini are betting on a joint venture project in Dubai, and are working for international investors in Brazil.

Small and midsize firms, which are less involved in commercial projects, are doing okay. For example, Fernanda Barbara, a partner at UNA Arquitetos is relying on institutional work; his Bandeirantes Metro Station in São Paulo is set to start construction soon. *Ruth Verde Zein*

**CHINA** Despite hopes that the casino business would weather the economic storm, almost all building sites in Macao have gone quiet—a stark reminder that not even China is immune to the impact of a global recession. "We look at this crisis with shock and horror," says Keith Griffiths,

Asia and Middle East chairman of Aedas, which recently saw construction halt on a 50-million-square-foot development on Macao's Cotai Strip. The firm has laid off 30 of its 800 Hong Kong-based employees and contemplated salary cuts. Some firms with offices in Hong Kong and China have laid off 25 percent of their staff.

On the mainland, the economy has slowed down, too, but the nation's GDP is expected to grow 6 percent in 2009. To keep the economy humming, the government announced in November a \$586 billion stimulus package. As a result, foreign firms are leaning on China more than ever, seeking everything from renovation and interior jobs to public projects. For instance, while the Berlin office of von Gerkan Marg and Partner has taken a serious hit, work has remained stable at its Chinese branches, thanks to a raft of public projects, including a new train station in Shenzhen and a 22,000-seat aquatic center in Shanghai.

Though construction has ceased on Skidmore, Owings & Merrill's "zero energy" Pearl River Tower in Guangzhou and the firm is laying off people in the U.S., it hopes to find more work in China. Its Shanghai office had planned to add office space, but is now merely holding steady. Says Silas Chiow, SOM's China director, "The next six months are going to be very, very uncomfortable." *Alex Pasternack*

**GERMANY** It takes 12 hours to fly from Frankfurt to Hanoi, and Bernhard Franken is getting to know the route very well. Franken has a half-dozen projects

in Vietnam. If his struggling Frankfurt practice has an angel looking out for it, she comes from the East. With startling speed, the German economy has turned sluggish and dyspeptic. Architects from Berlin to Bonn say small practices are shutting down or on life support. Larger ones are shedding staff, and Foster + Partners just closed its Berlin office. "We can't survive by working in Germany alone," Franken says. "Practices have to be more specialized and globalized at the same time." Even a very young, two-person interior shop like KaiserSchönlein, based in Berlin and Hamburg, is branching out, looking to break into furniture design.

Based in Osnabrück, Peter Kuczia works alone and with the firm agn Gruppe and specializes in green architecture, for which demand is still strong. The Gruppe is landing more school and state-sponsored projects, and Kuczia, who is from Poland, is picking up residential work there. For her part, multidisciplinary Berlin designer Karin Ocker is doing theater set design and falling back on teaching, and she has a special silver lining: The slowdown turns out to be a great time to have a baby. *Michael Dumiak*



**INDIA** In the past five years, as India's hunger for glass-encased IT parks and marble-swathed gated communities appeared insatiable, architects designed supersize projects dreamed up by Indian developers. But now that the global economic crisis has snowballed, the country's banks have turned skittish. "The first to get hit are large projects," says Mohit Gujral, whose firm, Design Plus, does lots of big projects and has laid off a quarter of its 140 employees.

The Survam Knowledge Park, a 15-acre site in the tech suburb of Gurgaon, is an example of a "new India" project bowing to newer realities. Excavation began months ago on the \$115 million project, but work has now paused. "They are revisiting the project," said Anil Rawat, India managing director for Canada's B+H Architects, which worked on the design.

Smaller firms that work directly with users have been less affected. "They're still fitting out the same square footage, but at a reduced budget," said Rahoul Singh, whose firm, Rahoul Singh Design Associates, counts on residences funded by private wealth for half its workload.

Morphogenesis's Manit Rastogi was optimistic about making up for lost work in areas that still face a shortfall. The midsize firm is designing a university of 2.5 million square feet in a Delhi suburb. "There are real projects to be delivered," he said. "India is a developing country. We still have a shortage of housing. We have a shortage of true office space. We have a shortage of just about everything." *Tripti Lahiri*

**JAPAN** Architects are feeling the chill of an economic recession and the effects of the U.S. subprime crisis. Despite an estimated 2.2 percent drop in GDP in 2008 and a reluctance on the part of banks to lend, design firms are hoping to wait out the storm. Due to its dependence on foreign financing, speculative housing has been particularly hard hit, falling 5.8 percent in December from the year before. As a result, developers are going bankrupt and projects are dying. But other sectors have slowed without coming to a complete stop. "Sometimes a break is good, since it gives us a chance to take another look at the design and maybe make it better," says Michel Weenick, president

of the Tokyo firm PAE Design and Facility Management. After a six-month hiatus, PAE is moving forward on an auction facility for trucks and construction equipment.

Across the board, location is key. Private homes as well as large developments in central Tokyo, like Mitsubishi Estate's redevelopment of the city's Marunouchi District, are continuing at a steady clip. But in regional cities, lending and new construction are practically at a standstill. This is a sharp contrast to the 1990s, when public works in the hinterlands sustained many firms after Japan's economic bubble burst. Today, designers are branching out into interiors and renovations—jobs they might have passed on a year ago. *Naomi Pollock, AIA*

**SPAIN** Burdened by a meltdown in its overheated real estate market, Spain has been severely affected by the world financial crisis, and its architects are feeling the pinch. According to the Madrid College of Architects, a professional association, permits for new construction virtually came to a halt in 2008. As Barcelona architect Carlos Ferrater reports, "Most developers

1. Prosperitas Building in São Paulo, by Afialo & Gasperini.
2. North Satellite terminal in Hong Kong, by Aedas.
3. Tan Lab Green City in Vietnam, by Bernhard Franken.
4. Survam Knowledge Park in India, by B+H Architects.
5. Tokyo Zeal in Tokyo, by PAE Design and Facility Management.
6. Smart City complex in Bucharest, by La+Hoz Arquitectos.



have come to a full stop. We've gone from euphoria to ruin in three months."

Spain's investments in infrastructure over the past 30 years have turned the public sector into a major source of commissions. But overspending has stretched local governments to the limit. Ferrater notes, "Municipalities like Madrid and Valencia are heavily indebted, and can't even handle projects already under way."

In response, President José Luis Rodríguez Zapatero announced a \$10.6 billion program to finance municipal works in 2009. The funds will permit Madrid to revive Álvaro Siza's modernization of the spaces around the Prado Museum. The city plans 269 projects, including 20 new child-care centers. Barcelona will spend \$375 million on public spaces and social services.

Architects report slowdowns in roughly 20 percent of their current work. Rafael de La-Hoz, head of La-Hoz Arquitectos, one of Madrid's largest studios, has found some relief in international commissions. His newest clients are in Eastern Europe (including one in Bucharest); they look to Spain as a model for integration

in the European Union. Like many architects, Ferrater balances design work with teaching, which allows him to take a long view on the crisis. "You've got to take a positive attitude, looking ahead, instead of behind you." *David Cohn*

**U.A.E.** In recent years, architects descended on Dubai, eager to capitalize on its feverish building boom. While the sprawling skyline is still dotted with cranes, the market here has fizzled. In total, property values are expected to drop roughly 60 percent in 2009.

Initially, some thought this desert metropolis in the United Arab Emirates could skirt the global economic crisis. By October, however, foreign investors were vanishing, local lenders were retrenching, and oil prices were taking a dive. As of February, more than \$75 billion worth of real estate projects were on hold or canceled, from the 4,593-foot-tall Nakheel Tower by Woods Bagot to the Hydropolis, an underwater resort. Local newspapers are now peppered with reports of mass layoffs.

Some architects remain optimistic. Wayne Tardif, an American who in 2007 cofounded POSIT Studio in Dubai, predicts a rebound in 16 to 18 months. He doesn't foresee a forgotten city full of empty towers, and claims, "Dubai has too much pride for that." Still, many firms are shifting their focus to Abu Dhabi, while Steven Miller, FAIA, director of FXFOWLE's Dubai office, has cast his net even farther out. "Saudi Arabia is off the charts right now," he says. "We're very busy there." *Jenna M. McKnight*

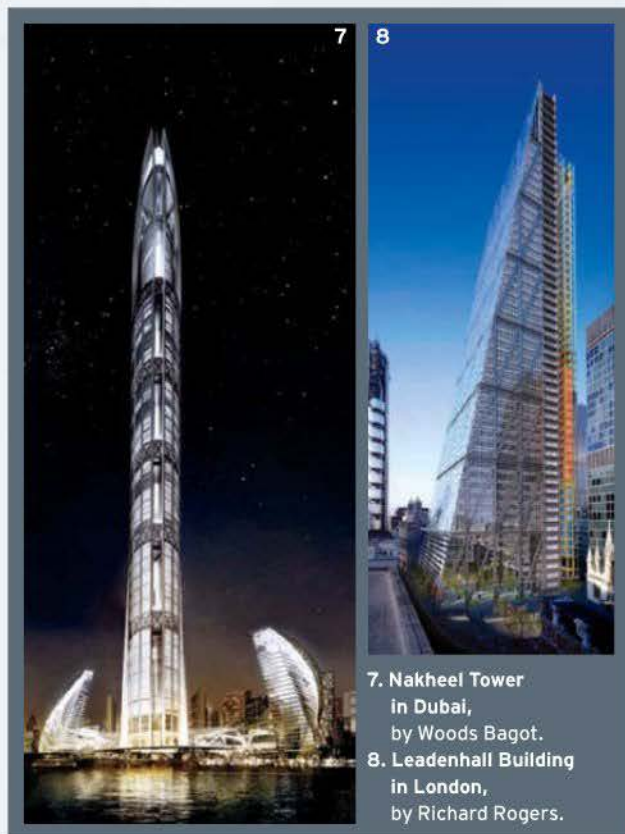
**U.K.** With its economy expected to shrink nearly 3 percent this year, Britain is facing the most severe recession in the developed world. And with troubled banks unwilling to lend,

building projects are at a standstill and architects are hurting. "Every firm, regardless of size, is affected," says John McAslan, chairman of London-based John McAslan & Partners, whose 100-person practice downsized by about 10 percent over the past six months.

Projects by some of the biggest names are among the first casualties. In August, British Land put on hold its 47-story-tall, Richard Rogers–designed Leadenhall Building, known as the Cheesegrater. In November, Dutch bank ING pulled the plug on Frank Gehry's \$433 million waterfront development in Brighton.

Data from Britain's Office for National Statistics reveals that architects are joining the ranks of the unemployed at a faster rate than any other occupation. Some 870 architects signed up for unemployment benefits in the last quarter of 2008, compared to just 135 in the same period the year before. During the last recession in the early 1990s, about 40 percent of British architects lost their jobs. But because the current recession is global, "we believe this one will be worse," says Sunand Prasad, president of the Royal Institute of British Architects. Practices focusing mainly on residential and commercial projects are suffering the most. "We have three months of paid work ahead of us," says Gianni Botsford, founder of Gianni Botsford Architects, a small, mainly residential practice of four in London.

For bigger firms, such as London-based Llewelyn Davies Yeang, which gets half its revenue from outside of Britain, international projects have helped offset the slowdown. But these days, the firm needs to go farther afield to find them, admits managing director Stephen Featherstone. Recent commissions have taken the firm to countries ranging from Uzbekistan to Vietnam and Libya. In Britain, the main opportunity is in the public sector. The government is pumping billions into public-sector projects, ranging from infrastructure to the \$66 billion Building Schools for the Future program. Another area offering opportunity is green design and planning. "A lot of people feared the sustainability agenda would collapse in the face of recession," Featherstone says. "Instead, it is ramping up with legislation emerging on both sides of the Atlantic." *Kerry Capell*



7. Nakheel Tower in Dubai, by Woods Bagot.  
8. Leadenhall Building in London, by Richard Rogers.



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# THE SILVER LINING IS... **WE'VE BEEN HERE BEFORE**

By Charles Linn, FAIA

**T**he U.S. construction industry is so intertwined with the well-being of the economy as a whole that even a hiccup in one can quickly cause nausea in the other. Consider that in 2006 there were \$689 billion worth of construction starts. By the end of last year, that number dropped by \$133 billion. When so much money is pulled off the table, the repercussions bounce around the globe. Architects make up a tiny part of this massive food chain, but that doesn't matter if you have been laid off, are laying people off, or know people who are.

But one could think of today's recession and the three that preceded it (1980–82, 1989–93, and 2000–02) as descendents of the slowdown of 1973–75, kicked off when OPEC's embargo quadrupled oil prices. All share familial characteristics. By parsing their DNA and finding the traits they share, one may be surprised to find there are reasons to be optimistic now.

## A glance at past recessions gives us good reasons to be optimistic today

**Interest rates, inflation, commodity** and fuel prices are very low right now. These indicators usually track together. The recession of the early 1980s is the classic example of how high inflation and interest rates can bring the economy to its knees. In an attempt to stop inflation, which was over 10 percent for three years running, in 1981 the Federal Reserve took the radical, unprecedented step of raising interest rates to over 19 percent. As inflation quickly dropped to near 6.5 percent in 1982, and measures such as tax cuts and deregulation occurred, the economy began to come

back. Today's low interest rates and low inflation will help construction spring back when the current credit crunch eases. Similarly, the run-up of building material and fuel costs in the years prior to the current recession were already a drag on construction. Their collapse will help make recovery construction affordable.

**The government is intervening** (for better or worse). Although the Treasury Department has never bought worthless mortgages or stock in investment banks before, we do know a few things that don't work. Wage and price controls don't work. Deregulation, which allowed the savings-and-loan industry to invest in risky and downright fraudulent development deals in the 1980s, does not work. The idea that companies will police themselves because it is in their best interest to do so was proved to be incorrect both in recent years and when the thrifts were blowing themselves up in the 1980s. Government-funded public projects greatly helped architects and contractors in the 1930s, and seem like one of the best options available today.

**Operation Iraqi Freedom may be** winding down. Conflict hurts the domestic economy. The Iran-Iraq War, Iraq's invasion of Kuwait, and the aftereffects of the destruction of the World Trade Center all made bad economic conditions worse, creating oil-price spikes, and damaging consumer confidence. Money that could have been used to fund public projects on American soil during the last

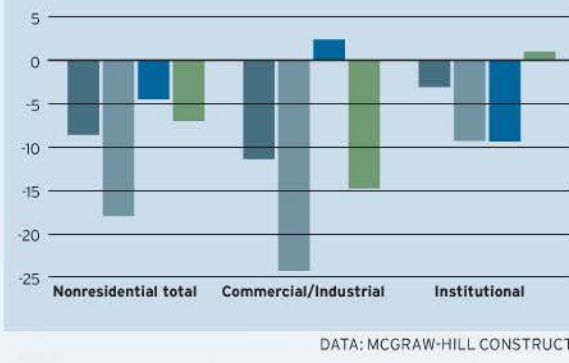
### THIS DOWNTURN IS STARTING OUT COMPARABLE TO PREVIOUS NONRESIDENTIAL RECESSIONS

TOTAL PERCENT DECLINES IN CONSTRUCTION STARTS FROM PEAK TO THREE QUARTERS AFTER PEAK



### BY STANDARDS OF PREVIOUS CYCLES, CURRENT NON-RESIDENTIAL DOWNTURN STILL HAS A DISTANCE TO GO

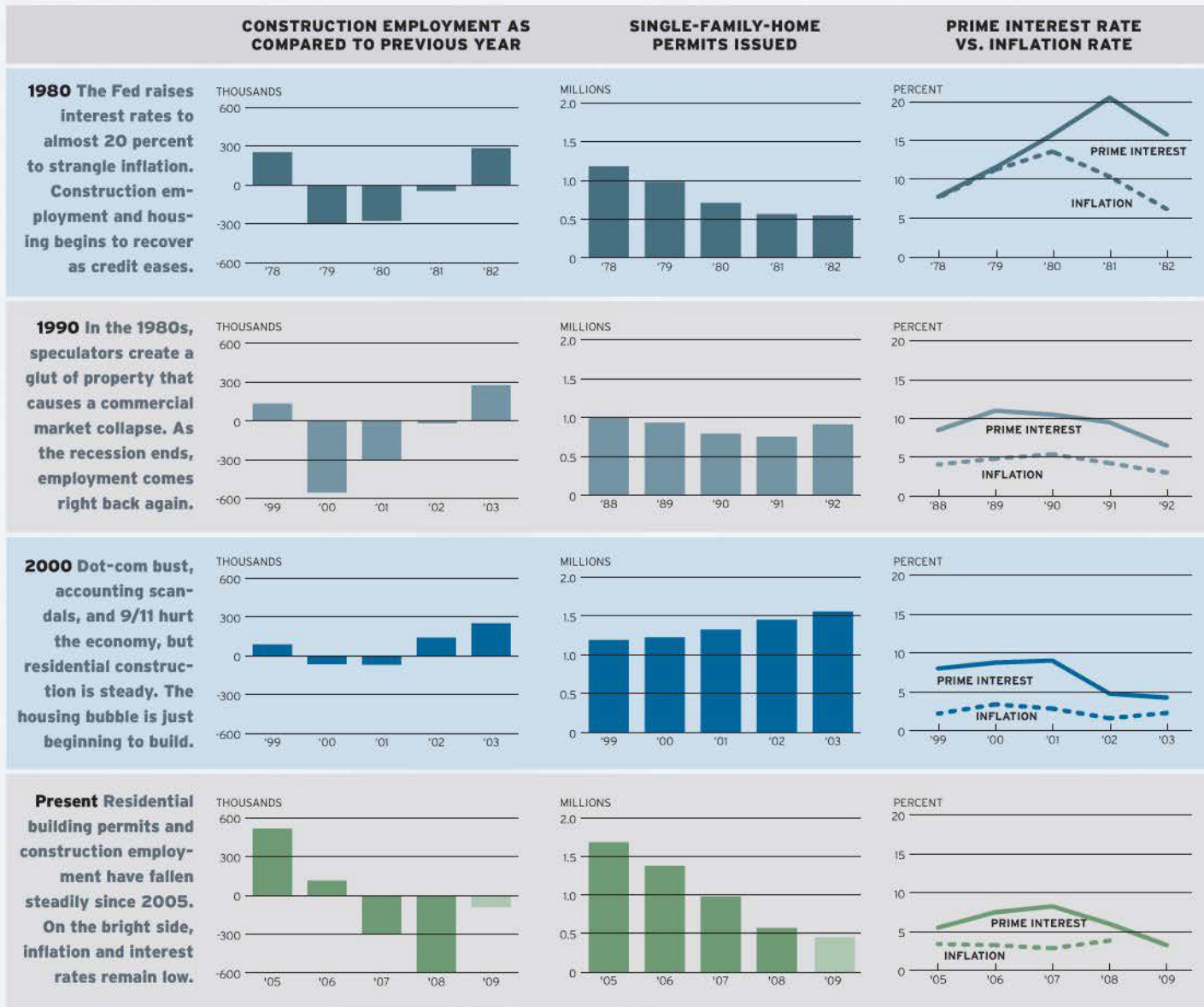
PERCENT CHANGE IN CONSTRUCTION STARTS—CONSTANT= YEAR 2000 DOLLARS



**A look back at how bad previous recessions were in relation to this one shows that even if markets continue their current slide, they still have much farther to descend before this becomes the worst slowdown ever.**

DATA: MCGRAW-HILL CONSTRUCTION

# KEY FIGURES FROM PAST RECESSIONS



DATA: MCGRAW-HILL CONSTRUCTION; U.S. BUREAU OF LABOR STATISTICS; U.S. BUREAU OF THE CENSUS

two wars with Iraq went overseas. The current war is estimated to have cost \$600 billion so far and contributed greatly to our deficit spending. Funding for the recovery will still have to be borrowed, but what is loaned to us will be spent at home.

**Once a recovery begins, construction** employment picks up very quickly. In the two years after the recessions of the early 1980s and 1990s, 650,000 and 570,000 construction workers, respectively, went back to work. One difference is that those recoveries started with home building, which usually picks up before commercial work.

Although there is now a glut of housing in parts of the country, the tax credit for first-time home buyers, if passed, will help. And, as baby boomers turning 30 helped the 1980s recovery, echo boomers started hitting the Big 3-0 last year. As these thirty-somethings move into new housing, they will need all of the civic and service buildings it takes to create communities.

**When recessions pare workforces and** clients want to get more for their money, firms that aggressively adopt ideas and technologies that enable efficiency gain lasting advantages. The IBM PC was intro-

duced late in 1981, for example, and AutoCAD 1.0 was released a year later. In the 1990s recession, CAD stopped being a novelty flaunted by top firms in their marketing brochures and became ubiquitous. This time, architects who adopt integrated project delivery, as well as building information modeling, and who emphasize green design to help clients build sustainably, quickly, and cheaply, will be the winners.

**Mergers, acquisitions, and bankruptcies** also come with every recession. But each one is unique, and what happens this time may surprise us. ■

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**Snøhetta** slices through the landscape with the sharp-edged

**PETTER DASS  
MUSEUM**





The Petter Dass Museum is dramatically set within an artificial cleft formed by 230-foot-long, wire-cut rock walls.

Until his death in 1707, the parson poet Petter Dass wrote prolifically from the medieval church of the small shoreline farming community of Alstahaug—hard by the western slopes of Norway’s dramatic Seven Sisters mountain range. Celebrating the sacred virtues of what inhabitants refer to as “the kingdom of the thousand isles,” Dass paid reverent homage to the people and landscape of northern Norway in his most famous work, *Nordlands Trompet (The Trumpet of Nordland)*:

*It seems that, far out on the edge of the earth  
Old nature has found its good way to give birth  
To rare and splendid abundance.*

Three hundred years later, Dass’s life and work are themselves dramatically celebrated and exhibited in Snøhetta’s Petter Dass Museum in Alstahaug. Addressing the growing tourist and visitor needs of the existing church—now one of only seven such preserved medieval churches in Norway—and an adjacent 18th-century parsonage, the new building’s linear volume is boldly set within an excavated cleft of the site’s dominant granite ridge; its curving, winglike roof form projects out from the ridge to overlook the fjord waters beyond.

Contemporary Norway is a nation still acutely conscious of its natural beauty, and of the relationships between the natural environment and its cultural identity. The strong topography of the near and distant landscape, the presence of the historic church, as well as the animating character of the museum program, posed challenging, intriguing questions of siting, construction, and representation.


An exceptional poet and considered Norway’s greatest

*Peter MacKeith is associate dean of the Sam Fox School of Design & Visual Arts at Washington University in St. Louis.*

writer of his time, Dass has also become the subject of folklore, remembered now as a person who outwitted the devil. “Certainly the history and character of Petter Dass led the initial discussions of how to approach the project,” says Snøhetta partner Craig Dykers, AIA. “The choice of connecting the building to the sea through the nearby ridge was in part a means of releasing the site to the unrestrained character of the waters beyond. The integration of the building with the land allows the site of the past—the historic church—to merge with the undefined nature of the future as found in the sea.” Snøhetta reveals the spiritual and religious aspect of this Christian priest in the building’s geometry. The vertical spire of the medieval church, in combination with the horizontal axiality of the museum, implies a cruciform geometry when perceived together.

The crux of that cross-shaped geometry is in fact the forecourt of the new, 14,500-square-foot building, so that museum visitors are immediately confronted with the complementary forms upon arrival. Yet the boldness of the design’s singular siting gesture unbalances the relationship; the contained volume is set between an artificial cleft created by 230-foot-long, wire-cut rock walls 50 feet apart (the excavation technique is a common one in Norwegian construction, owing to the rugged character of the country’s terrain). The building itself is 37 feet wide within the clearance, providing for 6½-foot-wide passages on either side—a walkway through the ridge, and a stairway to its summit, where a monument to Petter Dass is erected.

The granite walls frame the glass-enclosed ground floor, which is level with that of the medieval church. There is no disputing the hovering, dynamic quality of the museum’s curving form; its zinc-sheathed, steel-framed upper level cantilevers out 23 feet at front and back, arching upward to a



At the rear of the building, the zinc-sheathed upper level cantilevers beyond the granite ridge.



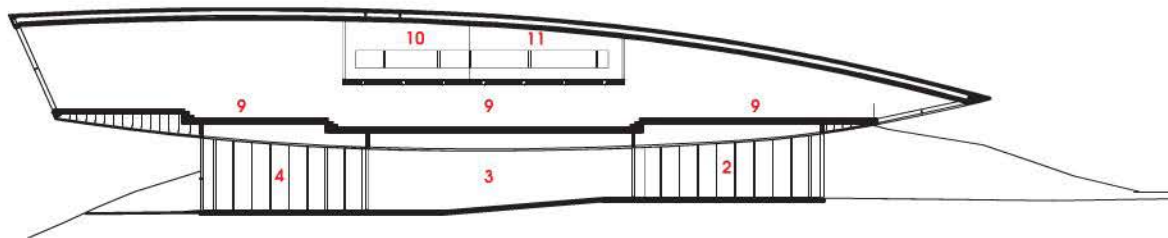
The museum is located beside a medieval church along the shoreline of a remote fjord (above). The rough walls of

the excavated granite ridge serve as a backdrop for the glass-enclosed ground level (top right). Stairs rise above the southern

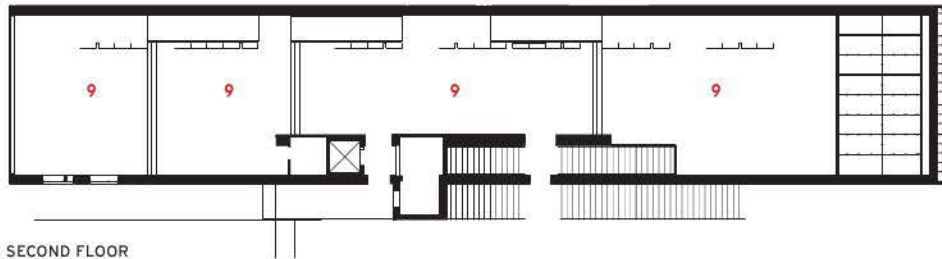
wall's service corridor (above and below right). The roof follows the ridge's curves; its chiseled edge marks the entrance (below).



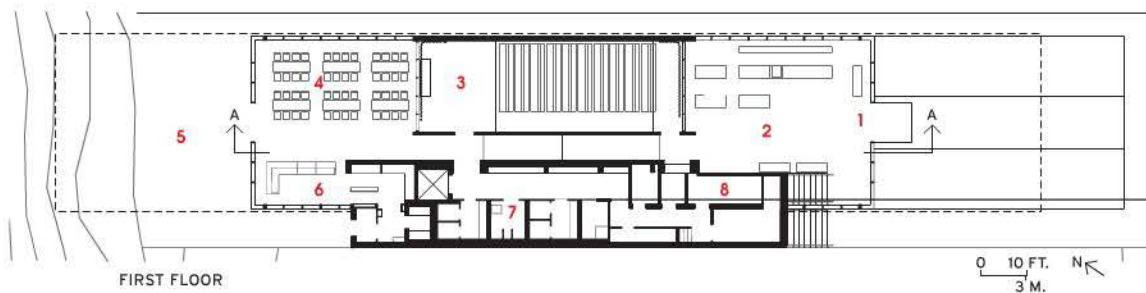




SECTION A-A



SECOND FLOOR



FIRST FLOOR

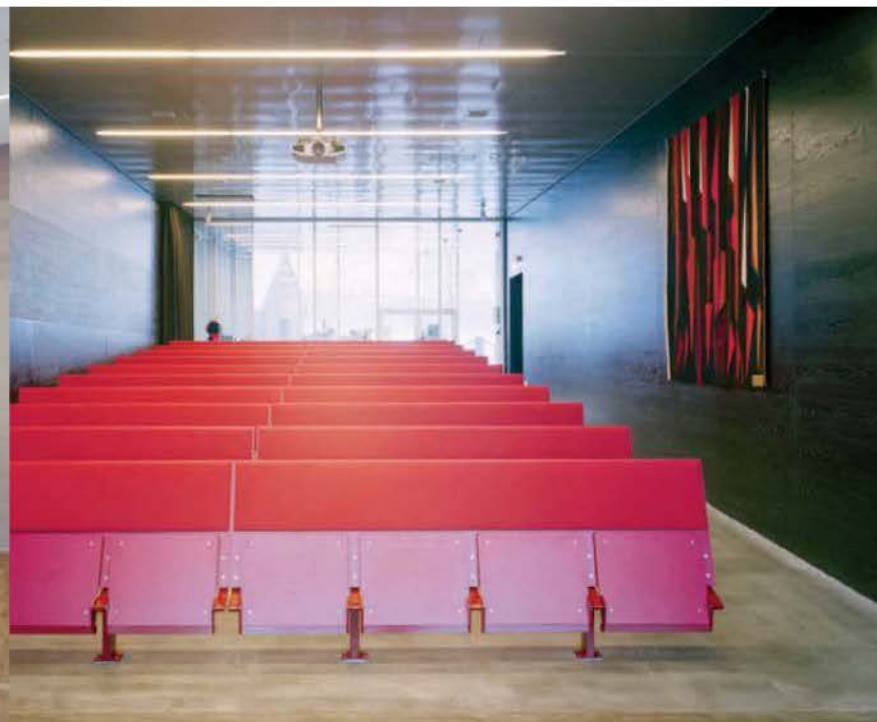
1. Entrance
2. Gift shop
3. Auditorium
4. Café
5. Terrace
6. Kitchen
7. Restrooms
8. Meeting room
9. Exhibition
10. Library
11. Offices

0 10 FT. N  
3 M.

The oak-floored second level (below left) features the permanent exhibition of Petter Dass's life, work, and times, also designed by Snøhetta.

Stacked above it are glass-enclosed offices and a research library. A film about Petter Dass is screened regularly in the auditorium, which occupies

the central, ground-level space (below). The second-floor galleries culminate in a contemplative space with views to the fjord (opposite).





height of 32 feet above grade, in resonance with the curvature of ridge terrain, but clearly rising above it.

Inside, the museum program is transparently organized and presented in both plan and section. A simple three-tier staircase indicates circulation and services organized against the southern wall, leaving the bulk of the rectangular volume for public spaces. A reception and gift-shop area just past the entry doors leads to a glass-enclosed, red-seated auditorium, and through to the café (and outdoor terrace beyond). A polished-and-coated concrete floor throughout further reinforces spatial continuity. The permanent exhibitions of Petter Dass's life, writing, and times, also designed by Snøhetta, occupy the entirety of the oak-floored second level, with a partial third level of glazed office and library spaces stacked above, just under the curvature of the roof. The massing of the program toward the center of the plan balances the cantilever at both ends of the building. Detailing throughout is spare and minimal, although much attention has been paid to the necessities of exterior wall construction, owing to the harshness of the northern climate.

Snøhetta's designs always possess a strong formal, even gestural quality, at any scale—as seen in Oslo, at the new National Opera House [RECORD, August 2008, page 84]—and

here in Alstahaug. Yet, each of the firm's designs contains a hidden, "telltale" moment of experience. The positioning of the museum volume in the cleft granite ridge has produced two compressed passages of movement, between the museum's reflective outer walls and the grained, mossed granite surfaces. These are visceral places, highly tactile, and compelling in their focus through to the shoreline or churchyard and spire, or ascending to the ridgeline and its views over the fjord. On repeated visits over time, Dykers has experienced further subtleties in relation to larger environmental effects: "The building has taken on many more nuances with respect to its reaction to climate. I have been surprised at how differently the building feels when it is wet, covered with snow, or set under direct sunlight. While we imagined some of this, the intensity of these changes was unexpected." In Petter Dass's words, a "rare and splendid abundance" indeed. ■

**Project:** *Petter Dass Museum, Alstahaug, Norway* (structural and geological)

**Architect:** *Snøhetta—Craig Dykers, AIA, Kjetil Thorsen (principals)*

**Engineers:** *Norconsult*

#### **SOURCES**

**Elevators:** *Kone*

**Excavation and foundations:** *Alsten Maskinstasjon*

A super-size soda bottle and floating steel canopy give Route 66 nostalgia a dazzling contemporary twist (this page). Spreading Oklahoma wheat fields make POPS an instant landmark (opposite).



# Elliott + Associates redefines an American icon on Route 66 with Arcadia, Oklahoma's **POPS**



PHOTOGRAPHY: SCOTT McDONALD/© HEDRICH BLESSING

By David Dillon

**O**n the flowing Oklahoma prairie a little height goes a long way. A little light too, especially on deep dark nights when the only illumination comes from stars and fireflies. This is a landscape with no middle distance, only near and far, where a gas station with a big sign stands out like the Eiffel Tower. “It’s so flat here, you can see for two days,” locals joke.

POPS fits right in.

Located on a long, straight stretch of Route 66 in Arcadia, Oklahoma (population 1,618)—where the main attractions are a Washington Irving memorial, a pizza parlor, and a speed trap—this combination gas station, restaurant, and convenience store gives nostalgia a 21st-century spin. The gas pumps, sleek and sculptural as iPods, sit beneath a floating canopy that forms a large outdoor room; the restaurant is a streamlined blend of glass, stainless steel, white walls, and black leather booths; and out front stands a 66-foot-tall, LED-lit pop bottle with a crimped straw that beckons like a neighborly wave. “Give me your tired and your thirsty ...”

This is the “mother road” of John Steinbeck’s *Joads*, and Woody Guthrie—two lanes, hundreds of small towns, and every imaginable sales gimmick to separate travelers from their money. Yet POPS isn’t meant to be kitschy or tongue-in-cheek, says architect Rand Elliott, who grew up

*David Dillon, former architecture critic for The Dallas Morning News, teaches in the University of Massachusetts, Amherst, architecture school.*

POPS's dynamic 110-foot-by-100-foot cantilever is supported by a structural series of massive steel pipes that act like outriggers (this page). The

canopy itself hovers above the rows of gas pumps and creates an outdoor room for car shows, live music, and a farmer's market (bottom).



on Route 66 and designed a museum to celebrate it in Clinton, Oklahoma. "It's about the place and the landscape."

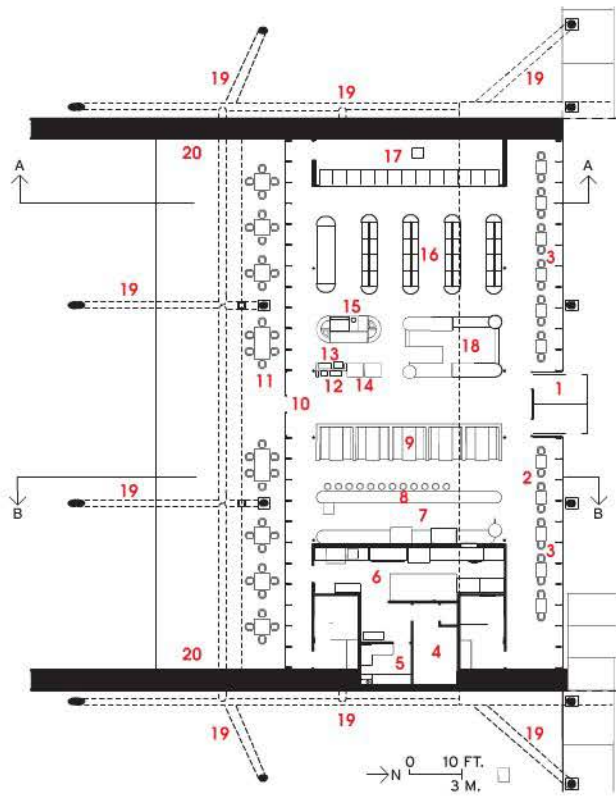
It's also about the romance of the road along with the innocent longing for fast cars, fast food, and a long cool drink that goes with it. POPS sells burgers, milk shakes, ice cream sundaes, and 700 kinds of soda, chosen as much for their bold colors and funky names (Brainwash, Dog Drool, Unknown Dread, and DOA) as for their taste. Its shelves are stocked with key rings, bottle openers, monogrammed golf balls, and other tacky souvenirs. It also sells a bit of beer and wine, but because Arcadia—situated 20 miles northeast of Oklahoma City—has few gathering places, the owners decided to make POPS a family destination. Soda is its most profit-

### **THIS GAS STATION, RESTAURANT, AND CONVENIENCE STORE GIVES NOSTALGIA A 21ST-CENTURY SPIN.**

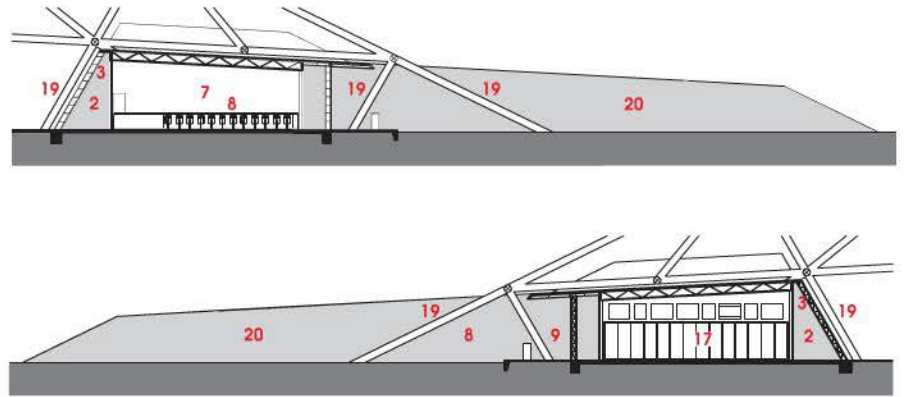
able item, followed by gas and food. In its first year, POPS attracted more than 800,000 customers—remarkable for a tiny backwater town that's miles from the nearest interstate. "It's a phenomenon that I can't explain," says the architect. "It's part architecture, part soda-pop memory, and part roadside attraction."

What Elliott has done is reimagine the gas station, a building type that is rarely designed well, without destroying





- |                        |                          |
|------------------------|--------------------------|
| 1. Main entry          | 11. Patio seating        |
| 2. Table seating       | 12. Digital jukebox      |
| 3. Soda bottle display | 13. Soda kiosk           |
| 4. Mechanical          | 14. Vintage soda coolers |
| 5. Office              | 15. Self-serve counter   |
| 6. Kitchen             | 16. Product gondolas     |
| 7. Soda counter        | 17. Soda coolers         |
| 8. Counter seating     | 18. Checkout counter     |
| 9. Booth seating       | 19. Steel pipes          |
| 10. Patio entry        | 20. Sandstone walls      |





its basic character or enduring romantic appeal. Instead of a scattering of utilitarian elements, POPS is three tightly integrated zones under one big roof.

The pump area, protected by the 110-foot steel cantilever, is mainly a work zone, with cars, motorcycles, and pickups zipping in and out. Yet it is also so spacious that families gather there on busy nights while waiting for a table. Occasionally, the gas pumps are even turned off for events such as car shows, live bands, and a farmer's market—the gas station as community recreation center.

Inside, the restaurant and store form a more relaxed social scene, with a jukebox, a soda counter and booths, historic photos of Route 66, and 10,000 bottles of pop lining the walls and windows. At any time of day it is a blaze of color and refracted light, like the inside of a pinball machine without the bells and whistles.

Out back is a quiet patio with picnic tables, a grassy play area for kids, and long views of an adjacent tree farm, which in a brown tabletop landscape seems like a mirage. Pink sandstone walls extend the sides of the building, anchoring it to the earth, while four massive steel pipes, 16 inches in diameter, act like guy wires to keep the canopy from tipping over or lifting off in a high wind.

But it is the glowing soda bottle out front—a slice of Las Vegas transported to the High Plains—that pushes the project beyond the obvious and the familiar into the realm of metaphor and art. The bottle consists of concentric circles

made of painted steel attached to a central column, plus a sophisticated LED lighting system programmed with thousands of color variations. Initially, the bottle was to be glass or cast resin and the straw set at a 45-degree angle, as straws in bottles usually are. But the first proved too expensive and the second too structurally dicey, so Elliott opted for the steel rings and an upright straw, which at the last minute he crimped at the top.

The end result is both witty and impeccably crafted, an homage to the past using the materials and technology of the future, a part of a dreamscape as well as a landscape. ■

**Project:** POPS, Arcadia, Oklahoma  
**Architect:** Elliott + Associates Architects—Rand Elliott, FAIA, principal in charge; David Poerio, Assoc. AIA, project manager; Sam Moore

**Engineers:** Eudaley Engineers (structural); PSA Engineers (m/e/p)

**Consultants:** Total Environment (landscape); Smith Lighting, Color Kinetics (lighting)

**Contractors:** Smith & Pickel Construction (general); All-Steel Construction (bottle sculpture,

soda wall); Southwestern Roofing & Metal (canopy, roof, metal soffits)

**Fabricators:** W&W Steel (bottle statue, bottle wall); Contemporary Cabinets (furniture, cabinetry)

#### SOURCES

**Glazing:** Knox Glass

**Cladding:** Hanson Masonry

**Metal:** MBCI (canopy, perforated metal soffits)

**Seating:** Vitra (chairs);

JH Carr & Sons (bar stools);

Landscapeforms (patio chairs)

**Upholstery:** Spinneybeck

A quiet patio allows parents to relax while children play (opposite, left). The restaurant is a streamlined collage of colorful soda bottles, stainless steel, and black leather, with family-size booths (opposite right and this page).





The 17,225-square-foot building sits on the same property as a pair of 1939 houses (one seen in photo) and introduces a new architectural vocabulary to the area.





PHOTOGRAPHY: © CRISTOBAL PALMA

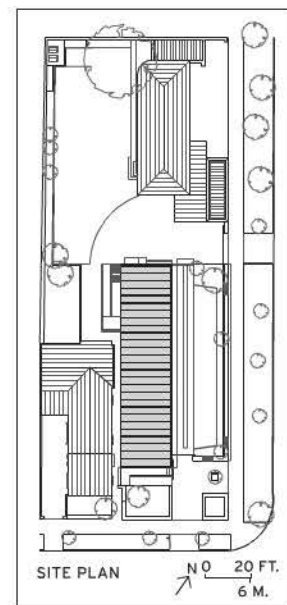
# Alberto Mozó designed an ecofriendly building for **BIP COMPUTERS** that would be easy to erect and easy to take apart

By Jeannette Plaut and Clifford A. Pearson

**N**othing lasts forever, but we usually expect buildings to stick around long enough to become familiar parts of a neighborhood or district. When Alberto Mozó designed a new retail and office building for BIP Computers in Santiago, Chile, however, he knew it might not remain for long. The modest-size, three-story structure sits on a site zoned for a 12-story building, so the economic pressure to erect something bigger began as soon as it opened in 2007. But instead of being discouraged, Mozó took the notion of uncertainty and made it an essential element in his design.

First, he inserted the 17,225-square-foot building between a pair of existing houses on the site, creating the sense that the new structure had merely been slid into place and could just as easily be removed. He retained 80 percent of the two houses, then renovated them for use as computer-assembly space, storage, and customer service. “We wanted to rescue the existing structures as much as possible,” says Nicolás Moens, the owner of BIP Computers, “because they were seen by the community as old country houses in the middle of the city.” While the houses date from 1939 and have tile roofs, Mozó used a very different design vocabulary for his BIP Building to set it apart in terms of time and materiality. Rather than firmly rooting the new building in its context, the architect set it on a concrete podium that separates it from the land and gives it the sense of floating 1½ feet above grade.

He used a single size of laminated pine timbers as the essential element in the building’s structural system, bolting them together for ease of construction and—just as important—ease of dismantling. He selected the size—3½ by 13½ inches—because it reduces the amount of wood waste during cutting and was

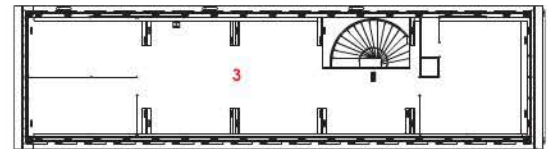


*Jeannette Plaut, an architect and teacher in Santiago, Chile, is the architecture editor of Ambientes magazine.*

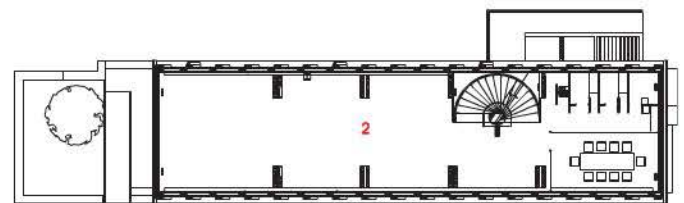


Mozó used the same 3½-by-13½-inch laminated pine timbers for all of the building's structural members on both the exterior (left) and interior (below), as well as the stair (opposite) that serves as a sculptural element connecting each of the three floors. He kept interiors open to accommodate a store (below) and other functions upstairs.

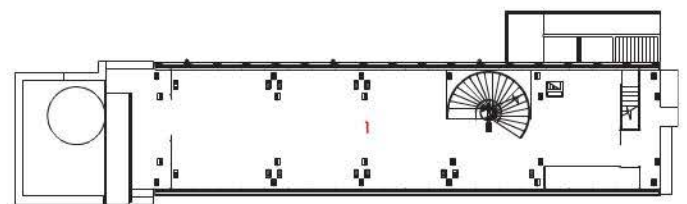
1. Store
2. Office or store
3. Office



THIRD FLOOR



SECOND FLOOR



FIRST FLOOR

0 10 FT.  
3 M.



available from a wood-company catalog. The standardized component—which he used for all of the building’s pillars and beams, as well as a dramatic, curving stair—also provides a great deal of flexibility for reassembling the building on a different site, allowing the structure to take different forms and serve different functions in the future. The design embodies a concept that Mozó calls “transivity,” by which he means the ability to change over time.

The project’s standardized and simplified construction allowed unskilled workers to do much of the labor and to proceed quickly. According to the architect, the building’s two long facades were assembled on-site, then tilted in place in just one day.

“I always make an effort to understand a material’s proper dimensions when I design a building, so I can avoid bluntings or leftovers,” explains Mozó. “The client pays for

## MOZÓ TOOK THE NOTION OF UNCERTAINTY AND MADE IT A KEY ELEMENT IN HIS DESIGN.

the material, but that shouldn’t include waste.” Instead of fitting the materials to the design of the building, he worked the other way around on this project. “Material efficiency was key in conceiving the module of the building itself,” states Mozó. “Developing a project that would be friendly to the environment was important to the client,” he says. Because the client emphasized the need to be environmentally responsible, Mozó sourced the wood from renewable forests in Chile. For about half of the curtain wall, the architect used an innovative type of laminated glass that has a middle layer of *napa*—a fiber used in bedcovers and jackets. The *napa* makes the glass a translucent white, reducing heat and glare at workstations inside and providing some privacy where needed.

To maximize flexibility, Mozó eliminated all interior partitions, leaving only the structure’s crisscrossing columns to imply a certain spatial segmentation. Twenty-inch-square, precast-concrete pavers create a neutral walking surface for all three floors. The concrete provides thermal mass to slow changes in temperature and reduce the energy needed to heat and cool the interiors. BIP uses the ground floor as a store, the third floor as offices, and the second floor as space for expanding either the store or administrative areas. Right now, the second floor serves as a gallery for emerging artists.

Now in his mid-40s and running a five-person studio in Santiago, Mozó is developing an international reputation as an architect whose command of materials and innovative construction complements a strong commitment to sustainable design. ■

**Project:** BIP Computer Building, Santiago, Chile

**Architect:** Mozó & Pontavice Studio—Alberto Mozó, Francisca Cifuentes, Mauricio Leal, design team

**Engineers:** Juan Lopez Ingenieros (structural);

Gastón Villaroel (electrical)  
**General contractor:** Arauco + Constructora

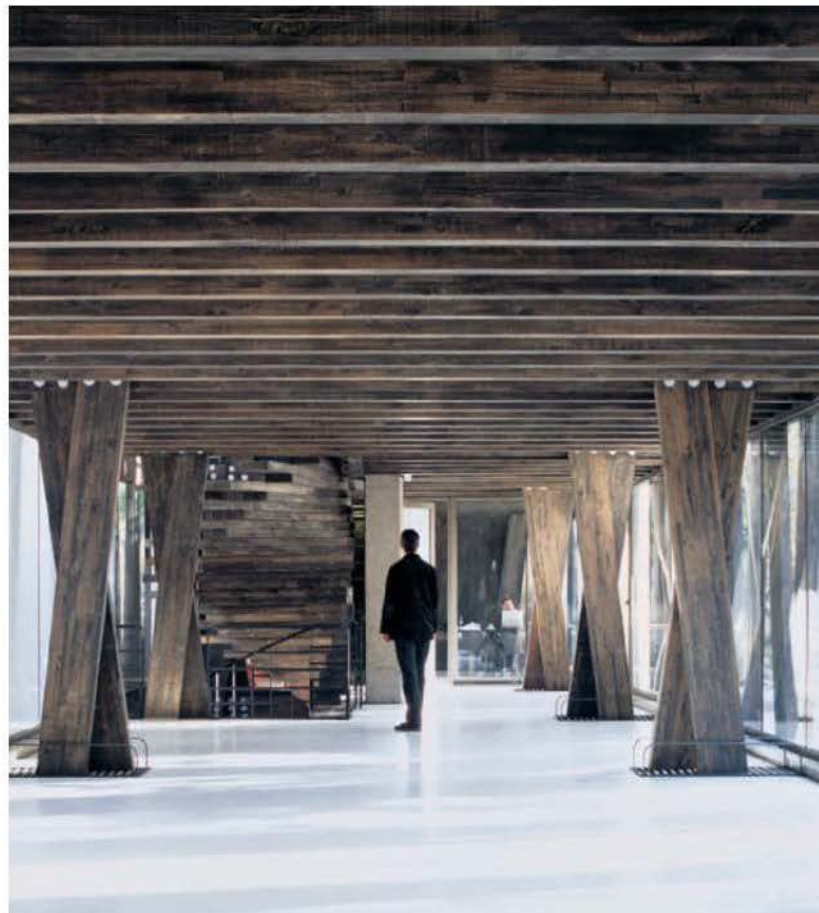
### SOURCES

**Laminated pine timber:** Arauco  
**Glass:** Glasstech



The third floor of the building is used for offices (above) and the second floor (below and opposite) is reserved as swing space that can be used for

an expanded store or more offices. The open plan offers flexibility and has allowed the company to mount art exhibitions on the second floor.





# Thomas Phifer and Partners floats a Modern temple onto a traditional campus with its **RAYMOND AND SUSAN BROCHSTEIN PAVILION**

By Beth Broome

**Y**ou can almost hear the “Pomp and Circumstance March” as you stroll Rice University’s bucolic, 285-acre campus nestled in the heart of Houston, shielded from the hubbub of the city’s six-lane freeways and endless strip development. With its tangles of live oaks shading quads formed primarily by neo-Byzantine academic buildings of rose-colored brick, with clay-tile roofs and ample arcades, the university campus, designed over the past century, with an original plan by Boston architects Cram, Goodhue and Ferguson, exudes “collegiate life.”

Since his appointment in 2004, President David Leebron has continued the university’s longstanding commitment

to architectural patronage through commissions with world-renowned architects, including New York-based Thomas Phifer and Partners, who last spring completed the Raymond and Susan Brochstein Pavilion, a 6,000-square-foot glass box, crowned by a broad white trellis, housing a café and lounge.

In initial meetings with Thomas Phifer, AIA, Leebron expressed his desire to create an informal space for undergraduate and graduate students, faculty, and visitors to meet and share ideas—a center for the campus whose vitality was challenged in part by the school’s nine residential colleges, which hug its physical perimeter, segregating and pushing activity to the university’s edges. In choosing the location for the project,

Phifer has used similar trellis systems on a number of projects. He did extensive sun studies to determine appropriate spacing between the rods to eliminate about 70 percent of direct light.









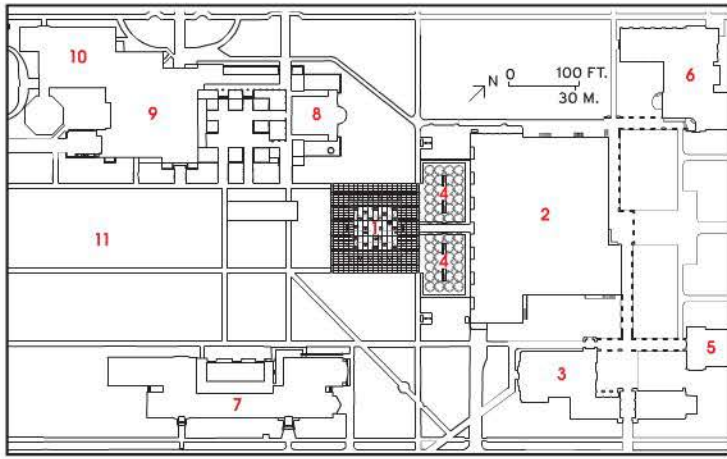
there was another problem that Leebron hoped to solve. Staub and Rather's brick, streamlined Renaissance-style Fondren Library, built in the late 1940s, sits smack in the middle of the main quadrangle, creating a front-yard/backyard tension, and had rendered the eastern Central Quad a dead, underused space. "It was a sidewalk and a couple cow paths," says Barbara White Bryson, Rice's associate vice president for facilities, engineering, and planning. Originally envisioned as a café addition to the library, Leebron hoped the project would breathe life into the neglected quad and also bridge the academic and social realms (goals, says Bryson, of Michael Graves's 2005 50-year master plan). Phifer says that after studying Cram and Goodhue's original plan (which never envisioned a building where the library was constructed) and making a diagram of how the students moved through campus, he decided to pull the café out as a freestanding structure with gardens that would function as connectors to the library's new west entrance.

"Once you move into the middle of the campus, the obligation becomes for a much lighter, more transparent building," says Phifer. "It becomes a garden pavilion at that point—the trees and landscape are just as much a part of the architecture as the buildings." The pavilion exhibits extraordinary restraint, treading lightly, indeed almost floating

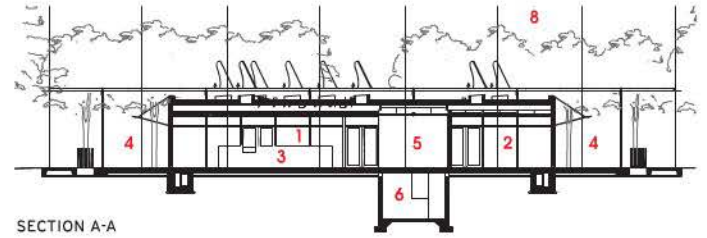
amid the robust masonry edifices while at the same time it acknowledges the traditional architectural environment in its symmetry, overhangs, and porticoes. "I'm from the south, so I call them porches," says Phifer. "I always think of the southern porch as a welcoming gesture, a gesture of generosity that helps you become a part of something." The building's four, column-punctuated sides are almost identical, but all interact with the site in unique ways. The pavilion follows a Classical model without resorting to historicist pastiche. It is a temple, albeit one that evokes a Texan, or southern, vernacular—a similar spirit is captured by Renzo Piano's nearby Menil Collection Museum building, another airy, low-slung volume with light-filtering canopies shading deep verandas.

A square in plan, the pavilion is supported by a steel frame around its perimeter, which holds floor-to-ceiling panes of high-performance glass. The column-free interior is interrupted only by a core that houses restrooms, storage, and the mechanical room a level below, and divides the

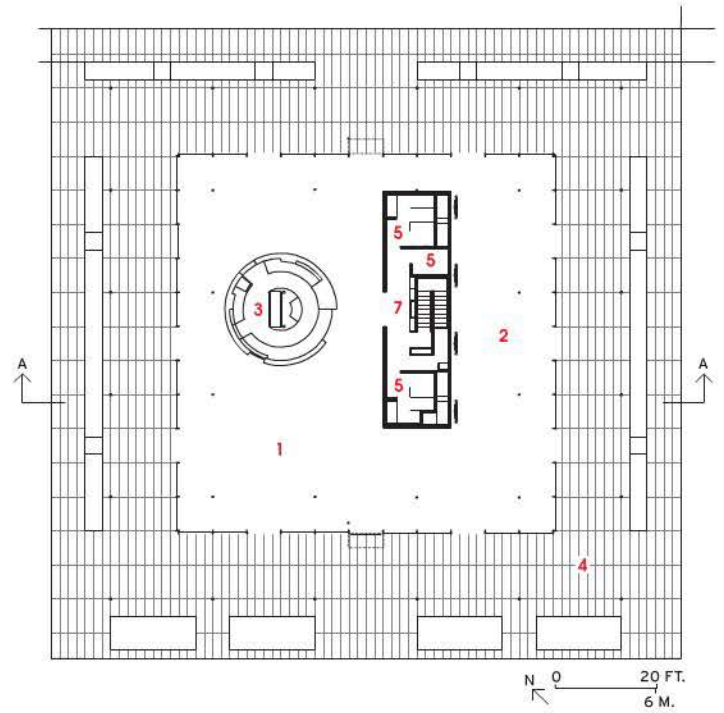
**U-shaped, perforated-aluminum sunshade diffusers (above) temper light passing through skylights and create lyrical patterns inside, much the way the campus's stately live oaks (opposite) cast dappled shadows on the ground.**



- |                        |                         |                         |
|------------------------|-------------------------|-------------------------|
| 1. Brochstein Pavilion | 5. Rayzor Hall          | 9. Rice Memorial Center |
| 2. Fondren Library     | 6. Anderson Hall        | 10. Ley Student Center  |
| 3. Humanities Building | 7. Herring Hall         | 11. Central Quad        |
| 4. Tree grove          | 8. Rice Memorial Chapel |                         |



SECTION A-A



1. Café seating
2. Lounge seating
3. Coffee kiosk
4. Plaza
5. Restrooms/storage/  
janitorial
6. Mechanical basement
7. Basement stair
8. Sunshade diffuser







Light filters through a perforated-metal ceiling system (above) and bounces off the black concrete floor. The pavilion serves as a portal to Fondren Library (its lower wall visible above and opposite, at back).

the 26-foot-wide plaza surrounding the building are shaded by a canopy of steel beams and round aluminum rods supported by slender steel columns. Hanging over the footpaths, the trellis renders the porches active participants in the campus circulation. Taking cues from Cram and Goodhue's neo-Byzantine buildings, with their natural ventilation, thermal mass, and covered arcades, Phifer took a sustainable approach to addressing the hot and humid climate. His hope was that, for much of the school year, the 12 sets of doors would be thrown open, limiting the need for air-conditioning as well as artificial lighting and connecting the interior to James Burnett's surrounding landscape of reflecting pools, live oaks, allée elms, and horsetail reeds. Sadly, on a recent sunny,

space into a café area dominated by a white circular coffee bar on the north side and a lounge with TVs to the south. Daylight filters through sunshade diffusers marching across the pavilion's flat roof and is further deflected by a perforated-metal ceiling system that integrates fluorescent lighting and sprinklers. The facades and

75-degree day—as students stopped in for their caffeine fix and professors conversed—all doors were closed with the air blasting, and lights were fully illuminated.

As the new campus crossroads, the Brochstein Pavilion, with a deft immaterialism, bridges the physical and metaphoric outside and inside, encouraging movement through and around the library and connecting the new residential colleges rising on the south with the science facilities emerging to the north. Though a diminutive building that serves nothing more than coffee and snacks, the pavilion has become emblematic of Rice University's mission. "It is at the very core of what we are about," Leebron told the press at the pavilion's dedication. "It is a place to exchange ideas and be inspired by your surroundings." ■

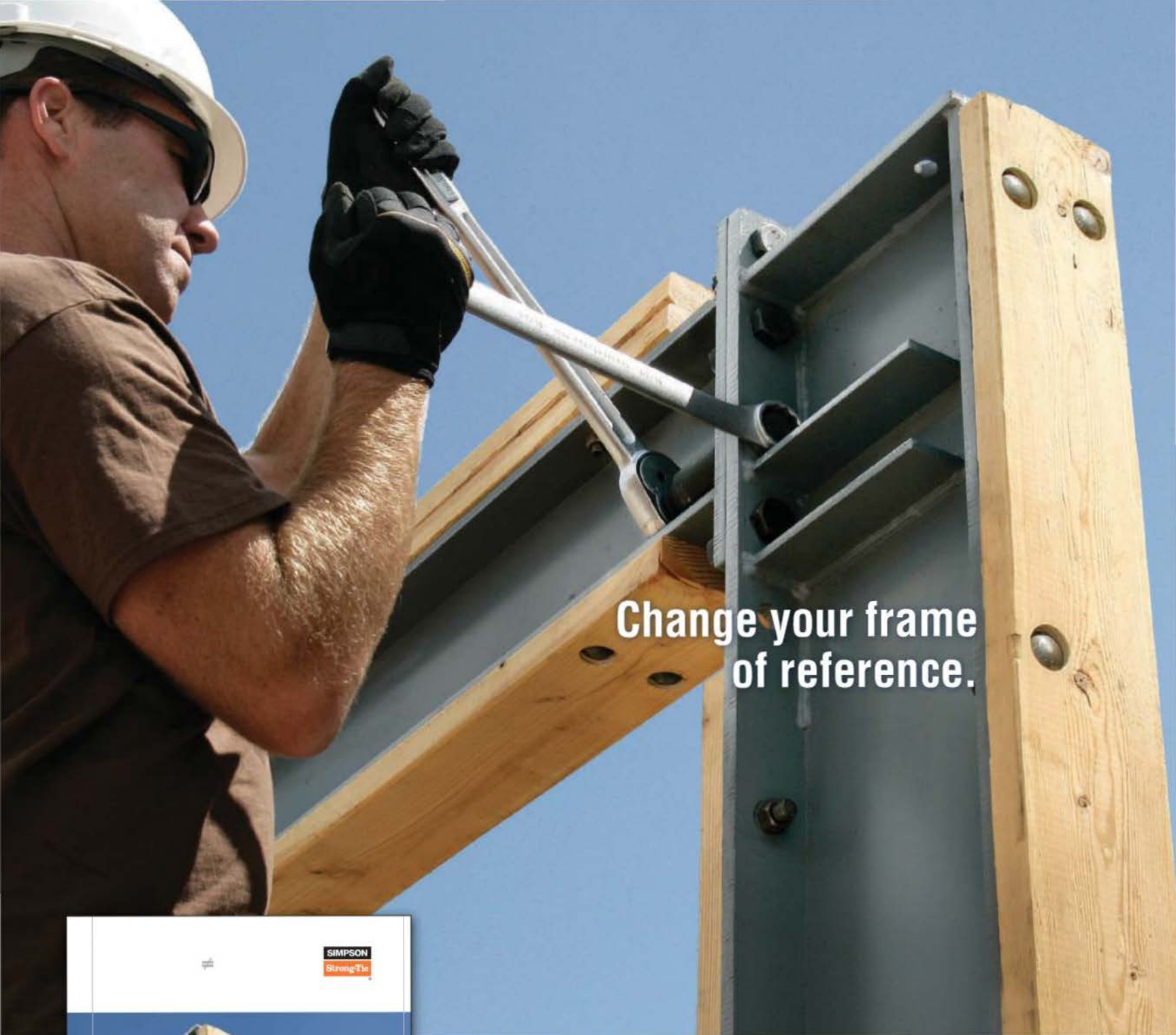
**Project:** Raymond and Susan Brochstein Pavilion, Houston

**Architect:** Thomas Phifer and Partners—Thomas Phifer, AIA, principal; Don Cox, AIA, managing partner; Eric Richey, project architect; Ryan Indovina, project designer

**Landscape:** James Burnett

**SOURCES**

**Glass:** PPG (Viracon)  
**Metal ceilings:** Lindner USA  
**Paint:** Benjamin Moore  
**Ceiling panel fabric:** Mechoshade  
**Furniture:** Fritz Hansen



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# Beyond the Bland Box

Manufacturing operations and industrial processes need not be cloaked within nondescript containers, as three projects in very different settings with varied programs illustrate.



## **BODEGAS PROTOS** Peñafiel, Spain

London firm Rogers Stirk Harbour + Partners provides a venerable wine producer with state-of-the-art facilities under a set of curved and floating roofs.



## **NEWTOWN CREEK WASTEWATER CONTROL PLANT** Brooklyn, New York

Polshek Partnership Architects tackles a highly specialized expansion and upgrade project as an urban design problem.



## **PAYKAR BONYAN PANEL FACTORY** Parand Industrial City, Iran

Architectural Research and Design, based in Tehran, encloses offices and production space for a building-materials manufacturer within a simple but striking envelope.

By Joann Gonchar, AIA

At least since Le Corbusier published *Vers une Architecture* in 1923, which featured photographs of American factories and grain elevators alongside images of the Parthenon and the Pyramids, architects have been infatuated by industrial facilities. And it is no secret that the pared-down, functionalist aesthetic of early-20th-century manufacturing buildings played an important role in the emergence of Modernism.

It is curious then, that in more recent decades, the utilitarian demands of industrial processes and manufacturing operations have only rarely produced inspired architecture. But the projects featured on the pages that follow are three exceptions. These diverse examples from Europe, the U.S., and the Middle East demonstrate that the goals of optimizing output and creating distinctive built form are not mutually exclusive.

For a winery in Spain's Ribera del Duero region, Rogers Stirk Harbour + Partners designed a characteristically articulated structure of five barrel vaults. These roofs, which echo the form of wine barrels, shelter processes such as fermentation, aging, and bottling, and create a facility that could also accommodate the growing business of wine tourism. The building's configuration is carefully conceived to take advantage of passive climate-control strategies that help meet the client's stringent requirements for maintaining temperature and humidity levels.

In New York City, Polshek Partnership Architects devised a kit-of-parts system to organize the steps that make up a complex and specialized program for treating wastewater, and provide a framework that will permit change over time. In so doing, the firm created a highly visible public sculpture from urban infrastructure. This approach is all the more surprising given that the function of the facility—transforming effluent from sewers into water clean enough to discharge into the city's surrounding waterways—is one that many people would prefer not to contemplate, let alone celebrate.

For the final example, a wall-panel factory outside Tehran, Architecture Research and Design deployed a system of repetitive and alternating geometry, to create a building with a rhythmic exterior and a daylight-filled interior. The project was completed within tight budget and schedule constraints, showing that notable architecture and pragmatic solutions can come in the same package—one that is more than an anonymous box. ■

# One: Bodegas Protos

## Peñafiel, Spain

Rogers Stirk Harbour + Partners applies lessons of the past to bring a traditional winery into the 21st century.

By David Cohn

**Architect:** Rogers Stirk Harbour + Partners—Raquel Borrás, Maxine Campbell, Mike Fairbrass, Silvia Fukuoka, Russell Gilchrist, Lennart Grut, Jan Guell, Juan Laguna, Ronald Lammerts Van Beuren, Tim Mason, Jack Newton, Tamiko Onozawa, Susana Ribes, Richard Rogers, Graham Stirk, Patricia Vázquez, Martin White, Neil Wormsley, Andrew Yek, project team

**Co-architect:** Alonso Balaguer y Arquitectos Asociados

**Client:** Bodegas Protos

**Consultants:** Arup/BOMA/Agroindus (structural); BDSP Partnership/Grupo JG/Agroindus (building services); Biosca & Botey (lighting)

**General contractor:** Fomento de Construcciones y Contratas

**Size:** 215,000 square feet

**Cost:** \$31 million

**Completion date:** October 2008

### SOURCES

**Timber structure:** Holtza

**Precast concrete:** Prefabricados Pujol

**Limestone:** Marmolera Vallisoletana

**Terra-cotta tiles:** Saint Gobain Terreal España

**Glass facades and internal partitions:** Bellapart

**Glass balustrades:** Cricursa

**ONLINE:** Rate this project and access additional sources at [architecturalrecord.com/bts/](http://architecturalrecord.com/bts/).

Traditional wineries in Peñafiel, in the heart of Spain's Ribera del Duero, sound like something out of a fairy tale, at least in the telling: Under the medieval castle that presides over the town from a steep hillock, vintners have carved a labyrinth of tunnels, seeking the optimum temperature and humidity for aging wine. With their new facility for the Bodegas Protos, London-based architect Rogers Stirk Harbour + Partners (formerly Richard Rogers Partnership) has drawn one of the region's oldest producers out of its caves and into the 21st century, but not without taking note of what the subterranean galleries have to offer.

### Program

Founded in 1927, Protos has grown steadily over the years, accumulating 1.2 miles of underground galleries. But the need for modern production facilities and storage areas made the switch to a freestanding building the only practical option for its latest addition. With the growth of wine tourism, the building also had to play a marketing role, attracting visitors and accommodating tours, a function poorly served by the winery's tiny shop and maze of dark tunnels.

For the 215,000-square-foot expansion, Protos acquired an undeveloped block across the street from its existing facilities, permitting an underground connection between

David Cohn is ARCHITECTURAL RECORD's Madrid-based correspondent.



The new winery provides an 80-year-old operation with modern facilities sheltered by five tile-clad barrel vaults.

of wine barrels and tunnels, the vaults allow the introduction of daylight into these

them. The new building has 42 temperature-controlled, stainless-steel tanks that can process 264,200 gallons of wine. Its lower level aging area has a capacity of 5,000 barrels and 3.5 million bottles.

### Solution

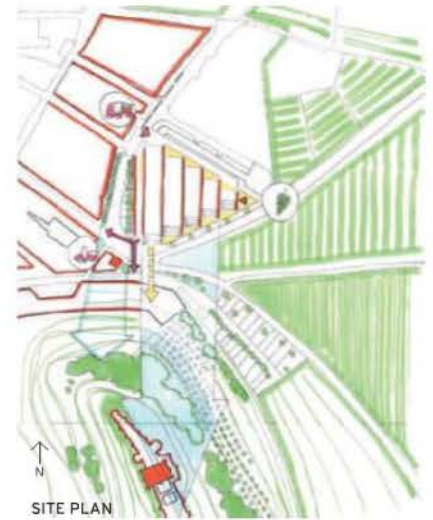
Rogers Stirk Harbour's design draws on the firm's scheme for the enlargement of Madrid's Barajas Airport [ARCHITECTURAL RECORD, October 2005, page 150]. But at Protos, the architects translated the airport's undulating roofs into the more traditional form of five parallel barrel vaults and used warmer materials, such as wood structural elements and terra-cotta roof tiles. They incorporated principles of sustainable design, not only to conserve resources, but also to meet the winery's strict climate-control requirements.

The building is set into the sloping site, taking advantage of the surrounding earth's thermal inertia. The vaults cover a semiburied upper level containing areas for production, shipping, and bottling, separated by glazed walls. Echoing the forms

areas, while long overhangs protect them from solar gain. As in Barajas, heat accumulates in the vaults' upper sections, and the spaces are cooled in the summer by the night air.

For the underground level dedicated to wine aging, the mass of the concrete structure, necessary for supporting the fermentation tanks above, also helps stabilize temperatures. Grilles in the local limestone walls surrounding the building function like the ventilation chimneys used in traditional caves to control temperature and humidity.

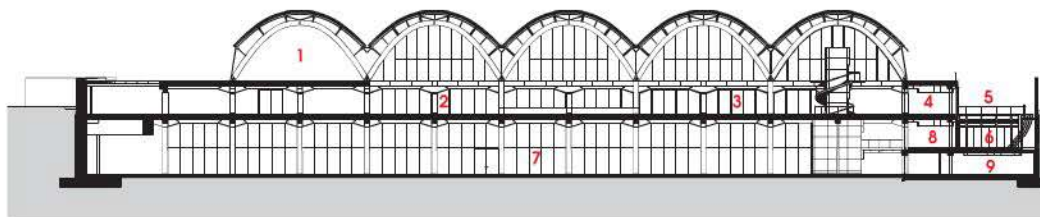
Offices and visitors' spaces are located in a series of intermediate levels on the building's western flank, where a lozenge-shaped courtyard brings daylight to lower levels. Visitors enter at the top of the site under the first bay of the vaults. Here, a large mezzanine, soon to be equipped with sales and receiving areas, offers views over the upper floor. A spiral stair and cylindrical elevator connect this mezzanine to the main level, where offices are located, and to another mezzanine below, which contains spaces for receptions and wine-tasting. A library



The building sits opposite the original winery carved out from under a medieval castle (above left). Visitors enter the new building under the westernmost bay of barrel vaults (below).







SECTION A-A

0 20 FT.  
6 M.

1. Grape processing
2. Fermentation
3. Bottling/packing
4. Offices
5. Event space
6. Garden
7. Wine aging
8. Wine tasting
9. Library/museum

A system of metal struts and parabolic glue-laminated arches support the roof vaults (top). A spiral stair and circular elevator (above right and top right spread) connect the entry mezzanine to the main level, where production and offices are located. The lowest level's precast-concrete components (right) support fermentation tanks (opposite, bottom) on the floor above.

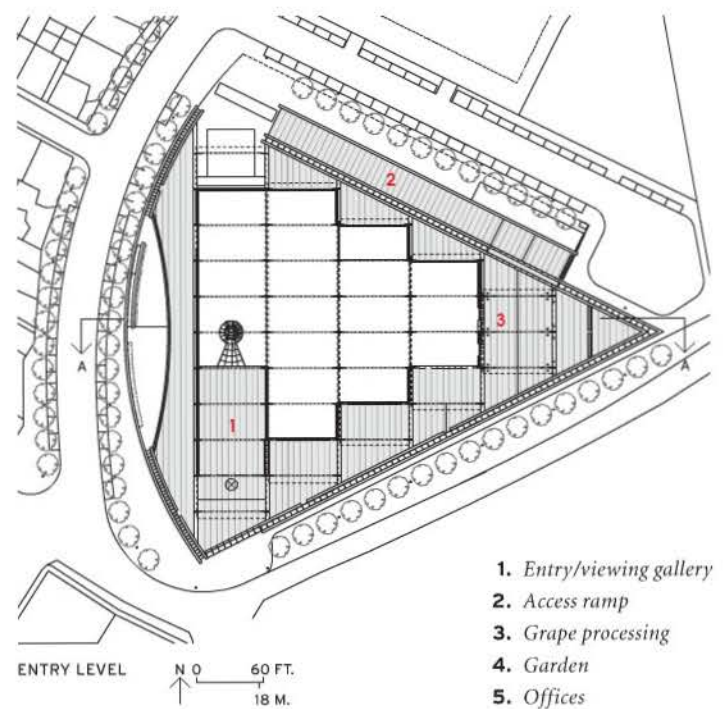


and museum will be installed on the lowest level under the light court.

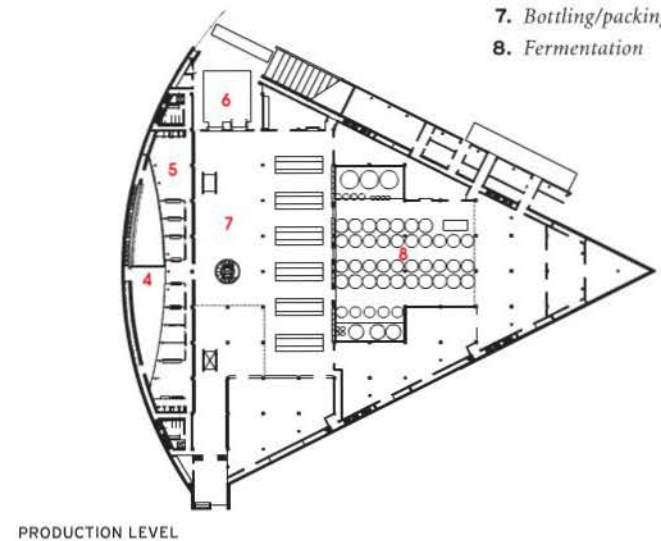
The structural elements were prefabricated and then assembled on-site like a kit of parts, says Jan Guell, project architect. These include the glue-laminated Douglas fir arches that support the roof and the lower level's precast-concrete components. For the arches, instead of circular forms the architects chose parabolic shapes because of their structural efficiency – their lower horizontal thrust made smaller cross sections possible. Short metal struts lift the vaults off the arches, a strategy that Guell defends as “a way to celebrate the structure.” They also make the vaults appear to float, he adds.

### Commentary

When one thinks of the work of Richard Rogers and his associates, articulated structures in steel and glass usually come to mind. At Protos, the use of warmer and more traditional materials domesticates the futuristic imagery of the earlier work, although in this context, the separation of the vaults from their supporting arches seems a rather awkward insistence on the kit-of-parts concept. But as a whole, the building is a welcome addition to the surrounding landscape, standing out amid the town's dilapidated center and graceless new neighborhoods, which look back to the days when the agribusiness of wine making was accommodated in less generous and less thoughtfully conceived quarters. ■



1. Entry/viewing gallery
2. Access ramp
3. Grape processing
4. Garden
5. Offices
6. Loading dock
7. Bottling/packing
8. Fermentation



PRODUCTION LEVEL

# Two: Newtown Creek Water Pollution Control Plant

## Brooklyn, New York

Polshek Partnership Architects transforms utilitarian infrastructure into an urban asset.

By Joann Gonchar, AIA

**Architect:** Polshek Partnership Architects—Richard M. Olcott, FAIA, James S. Polshek, FAIA, Timothy P. Hartung, FAIA, Greg Clawson, AIA, Wm. Jack T. Phillips, AIA, design team

**Engineers:** Greeley and Hansen; Hazen & Sawyer; Malcom Pirnie

**Consultants:** Quennell Rothschild & Partners (landscape); L'Observatoire International (lighting)

**Prime equipment and structure contractors:** Silverite Construction; A.J. Pegno/Tully Construction; John P. Picone/McCullagh Construction; Skanska/John P. Picone/McCullagh Construction/Perini Construction

**Client:** New York City Department of Environmental Protection

**Size:** 53 acres

**Cost:** \$4.5 billion

**Completion date:** 2014

### SOURCES

**Glazed brick and tile:** Stark Ceramics; Elgin Butler

**Metal Panels:** UAD; Pioneer; Jordan Panel Systems

**Digester egg cladding:** Overly Manufacturing

**Glazing:** Viracon

**Doors:** Long Island Fire Door; Acme Door

**ONLINE:** Rate this project and access additional sources at [architecturalrecord.com/bts/](http://architecturalrecord.com/bts/).

It is a wonder that there aren't even more traffic jams on the congested stretch of the Long Island Expressway leading to and from Midtown Manhattan. Just to the south of the elevated highway, on the edge of Brooklyn's gritty industrial waterfront, eight bulbous towers, each 130 feet tall and 80 feet in diameter, come into drivers' views. The objects appear especially otherworldly at night, when their curved, stainless-steel-clad surfaces are bathed in an almost eerie blue light cast from below, and their interconnecting glass-enclosed aerial walkways glow from within.

The towers look like they might be an apartment complex for visitors from another planet. However, they serve a much more prosaic function: They process sludge removed from New York City wastewater, anaerobically transforming organic matter into a stable substance.

### Program

The recently completed tanks, which are egg-shaped digesters, or "ESDs," as they are known in wastewater lingo, are just one (albeit the most conspicuous) piece of an expansion and upgrade of the Newtown Creek Water Pollution Control Plant. The facility serves a 25-square-mile area in three New York City boroughs, treating 310 million gallons of wastewater each day. The still-under-way \$4.5 billion project will bring the 42-year-old plant into compliance with federal standards and provide relief to nearby neighborhoods from

odors that emanate from its aeration and thickening tanks. The scope also includes community amenities, such as a waterfront nature walk designed by installation artist George Trakas, and a visitors center with an indoor-outdoor fountain by Vito Acconci.

The shape of the digesters was predetermined by engineering efficiency, but Polshek Partnership Architects (PPA), New York City, designed their skin and the bridgelike maintenance walkways. And they designed the containers that house the many other necessary steps in the wastewater treatment process. The architects also performed another, arguably more important role, helping devise a logic for the 53-acre development.

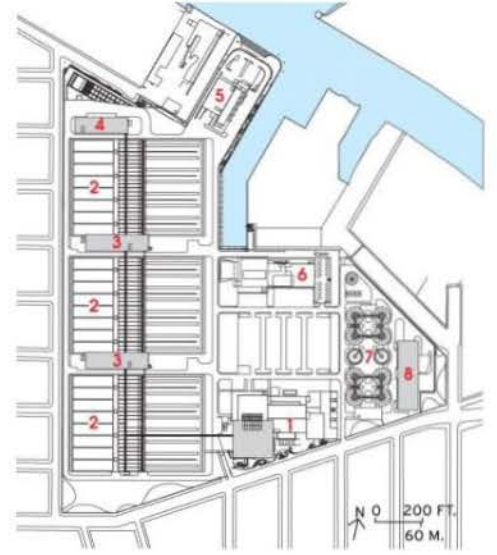
Even though PPA served as the project's master planners, contractually they are consultants to a joint venture of three environmental engineers: local firm Hazen & Sawyer, White Plains; New York-based Malcom Pirnie; and Chicago-based Greeley and Hansen. "We were a small tail wagging a very big dog," says PPA senior design counsel, James Polshek, FAIA.

A requirement that the existing plant never go offline magnified the difficulty of their planning problem. Like a giant game of musical chairs, each component of the expansion

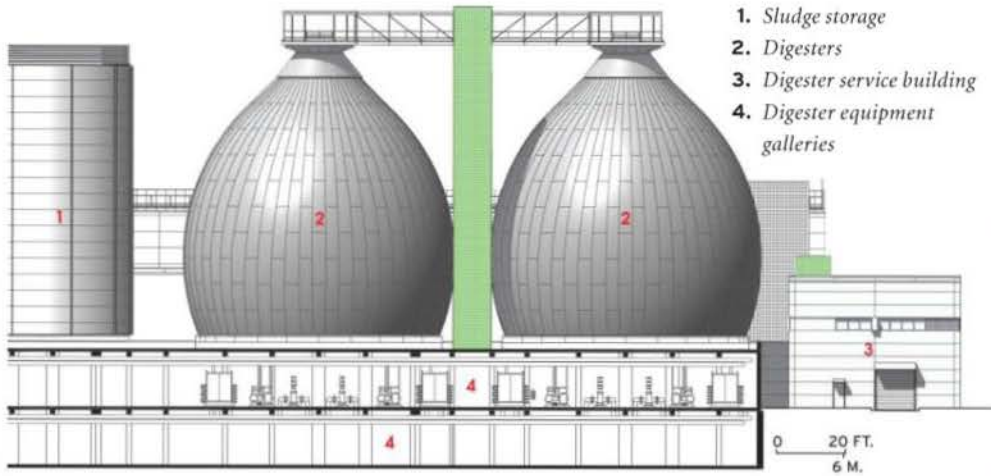
**The 130-foot-tall, egg-shaped digesters are a dramatic addition to New York City's skyline (opposite, top). They are especially spectacular at night when illuminated from below (right).**



PHOTOGRAPHY: © JEFF GOLDBERG/ESTO, EXCEPT AS NOTED; WALTER DUFRESNE (BOTTOM SPREAD)



1. Main building and visitors center
2. Treatment tanks
3. Control buildings
4. Disinfection building
5. Administration
6. Residuals handling
7. Digesters
8. Centrifuge building



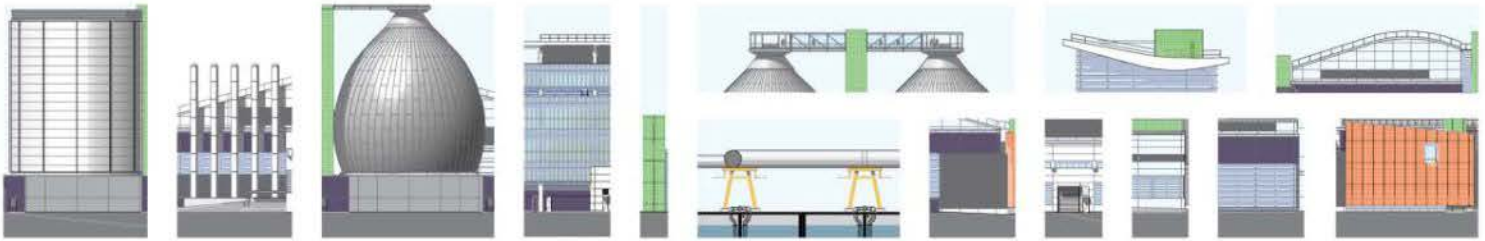
DIGESTERS - PARTIAL WEST ELEVATION



A glass-enclosed maintenance walkway (opposite, both photos) connects the eggs and is one of many elements in a

kit of parts (diagram, below) developed by the architects. The system also includes components such as roof shapes, louvers,

exhaust stacks, and glazing elements that can be combined in various ways in order to satisfy different needs.



KIT-OF-PARTS DIAGRAM

needed to be complete and operational before its predecessor could be torn down. Further complicating the design process was the evolving nature of the treatment technology. When PPA started work on the project in 1996, the city's Department of Environmental Protection (DEP) was still exploring three different treatment options, each requiring unique infrastructure.

### Solution

So that construction could move forward before a treatment technology had been selected, PPA worked with the engineering team to identify facilities common in each of the three scenarios, helping position them on the site. And they worked to maintain the urban street grid within the complex and create view sheds through the site to the Manhattan skyline. In addition, the architects devised an ordering system, or kit of parts, that could adapt to any water treatment technology. This system consists of a palette of durable and corrosion-resistant materials, such as stainless steel and glazed ceramic tile, and a set of building components, including louvers, walkways, and curved roof shapes, that could be combined in various ways to satisfy different needs. They developed a rationale for applying color to enclosures, with green used to designate vertical circulation elements, blue for high bay equipment, and orange for accent buildings, such as the visitors center.

As the last of the plant's original facilities are replaced over the next

PPA developed a rationale for applying color to enclosures, with green for vertical circulation (bottom) and orange on accent buildings, such as the visitors center (right).

five years, the principles established by the architects will continue to be deployed, explains Richard Olcott, FAIA, PPA partner. "Our role was to develop the ground rules," he says.

### Commentary

Although the Newtown Creek complex is still an active construction site, cluttered with cranes and excavation equipment, PPA's logic is already visible. The kit-of-parts approach is not only evident in the stunning digesters, but also in the many other less-conspicuous structures that house pump stations, transformers, centrifuges, and disinfection facilities. These enclosures are crisp and bold. They are colorful while still being dignified. In short, they seem well-suited for their industrial environs.

However, the final results of PPA's strategy will not be evident for quite some time, perhaps not until decades after the last of the planned replacement facilities is complete. If the architects have been successful, the DEP should be able to deploy the same strategy to adapt the plant as technology evolves and new regulations are adopted. This process of continuous change is unavoidable, says Olcott, who compares Newtown Creek's upgrade to painting the Golden Gate Bridge. "Once it's done, you have to start all over again." ■



# Three: Paykar Bonyan Panel Factory

## Parand Industrial City, Iran

Architectural Research and Design delivers both form and function for a manufacturing plant near Tehran.

By Ali Kermanian

**Architect:** Architectural Research and Design (ARAD)—Bahram Kalantari, Kouroush Dabbagh, senior partners; Niloofar Niksar, project architect; Madjid Pazhuhi, Mehdi Holakoe, Anoushiravan Kharrazi, Mona Haddadi, technical team

**Consultants:** Behrang Baniadam (structural); Melkon Sarezians (mechanical); Ara Khecho (landscape); Vahid Ghasemi (lighting)

**Client:** Pakyar Bonyan

**General contractor:** Afarinesh

**Size:** 56,500 square feet

**Cost:** \$1.8 million

**Completion date:** October 2007

### SOURCES

**Aluminum panels:** Mammut

**Glass curtain wall:** Dural

**Glazing:** Tehran Glass

**Doors:** Achilan; Dural;

Abzar Nama Chub

**Lighting:** Fan Pardaz (interior);

Arm (exterior)

Parand Industrial City, a 680-acre manufacturing zone just 20 miles to the south of Iran's capital, resembles one large construction site, much like Tehran itself. About a third of the lots in the approximately eight-year-old development have buildings under construction while another third are already occupied.

Most of the factories here are similar to those found elsewhere in the country: large sheds with slightly pitched roofs, clad primarily in brick and supported by pre-engineered portal frames. However, just inside the gates of the industrial park is one that stands out – the Paykar Bonyan Panel Factory, designed by Tehran-based Architectural Research and Design (ARAD). The white building has a glass and aluminum checkered main facade and a simple but striking geometry.

### Program

The factory produces a building material comprising polystyrene panels between galvanized steel mesh. At the construction site, contractors spray the prefabricated panels with concrete to create load-bearing walls and other components. Mostafa Mahmoudi, Paykar Bonyan president, imported the technology from Italy to offer an alternative to the on-site intensive methods typically used by Iranian builders and to respond to growing

*Ali Kermanian is a practicing architect, educator, and critic. He is principal of Tehran-based Kermanian & Associates.*



The panel factory scheme is based on a repetitive and alternating geometry.

demand for construction materials in this rapidly urbanizing country.

Given that the product manufactured inside the building is intended to transform construction processes, it is not surprising that Mahmoudi hoped that his factory would also make use of innovative methods and bear little resemblance to typical industrial buildings. At the same time, like any industrial client, he wanted a structure that would, within a limited budget, accommodate the functional requirements of the production process, and be completed as quickly as possible.

### Solution

The architects responded with a scheme based on 24-by-157-foot-long “strips” supported by a steel structure and clad in pre-painted aluminum sandwich panels. The unit is repeated 12 times to create the 56,500-square-foot factory. This modularity helped Bahram Kalantari and Kouroush Dabbagh, ARAD senior

partners, meet the project's time and budget constraints: Paykar Bonyan was designed and built in less than a year for about \$32 per square foot.

Although based on a repetitive unit, the approach permits flexibility. The designers combined 9 modules to create the 33,000-square-foot factory floor (almost completely open except for the row of columns marching down its center). Two strips are devoted to administrative and support areas, with a gap between the volume that houses the most public functions, such as the showroom, and the one containing employee-only spaces, such as the technical offices. A glass-enclosed

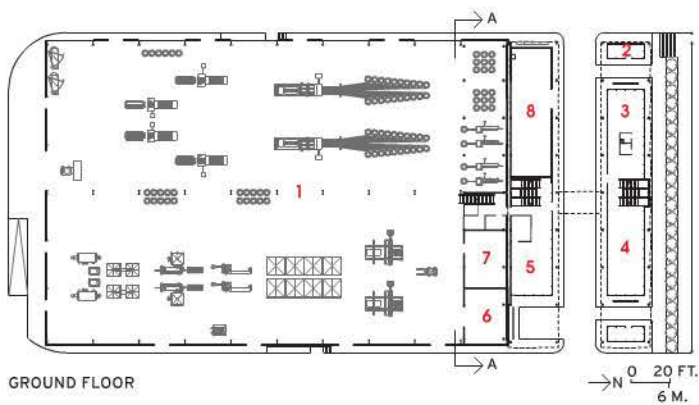


**ONLINE:** Rate this project and access additional sources at [architecturalrecord.com/bts/](http://architecturalrecord.com/bts/).

The factory's sloped roofs and canted perimeter walls create a sculptural rhythm and make for a lively play of light and shadow.

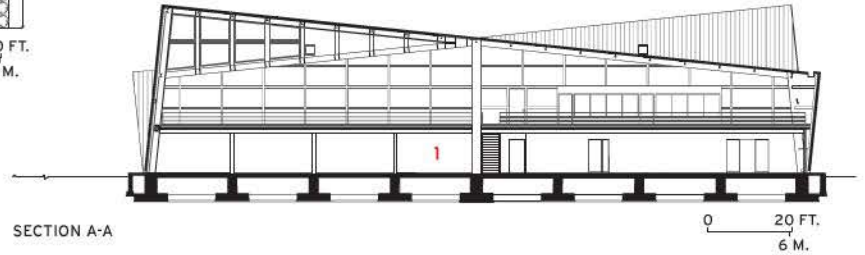






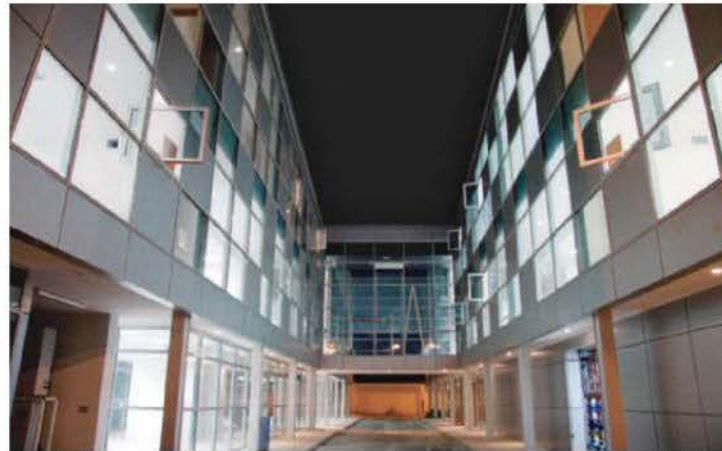
GROUND FLOOR

- |                     |                    |
|---------------------|--------------------|
| 1. Production plant | 5. Server room     |
| 2. Security         | 6. Electrical room |
| 3. Accounting       | 7. Storage         |
| 4. Showroom         | 8. Mechanical room |



SECTION A-A

A glass-enclosed bridge (below left and right) spans a car-drop-off area and connects two modules containing administrative and support spaces. The factory floor (bottom) depends primarily on daylight for illumination.



bridge connects the two and spans a drop-off area for those arriving by car.

In addition to fulfilling the functional requirements, the strategy also satisfied the owner's desire for distinctive architecture. Each of the strips have roofs with alternating slopes and perimeter walls that cant in opposite directions, creating a sculptural rhythm and making for a lively play of light and shadow on the building's exterior.

The arrangement helps create a comfortable interior environment. The alternating geometry provides even daylighting for the main production space through north-facing clerestory windows while mitigating heat gain – an important consideration in a climate where summer temperatures often climb above 100 degrees. Sliding gates on the west and east elevations provide natural ventilation.



### Commentary

Though skillfully executed, the building does have minor flaws, such as the central row of columns that somewhat awkwardly bisects the main workshop. But by designing the structure in this way, the architects avoided the expense of longer spans. And, in spite of the visually disruptive elements, Paykar Bonyan still responds well to the requirements of the manufacturing process. At the same time, through an ingenious system based on a repetitive geometry, the architects created a delightfully contemporary object and a rare example of distinctive industrial architecture. ■

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**INTEREDGE  
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**CIRCLE 33**

# Not-So-Pedestrian Footbridges

A PORTFOLIO OF PROJECTS DEMONSTRATES THAT THERE IS MORE TO CREATING SIGNATURE SPANS THAN CONNECTING POINT A TO POINT B

By Joann Gonchar, AIA

At least on the surface, few design problems could be as straightforward as that for a pedestrian bridge: The main objective is simply to provide passage for people on foot over relatively small obstacles, such as streams, narrow rivers, or dangerous roadways. But architects and engineers who work on such bridges say that the most ambitious projects are rarely solely focused on moving people from point A to point B, and that well-designed pedestrian spans become destinations in and of themselves, as well as gathering places and vantage points from which to take in the surroundings.

Such were the goals for the combination bridge and building designed by Zaha Hadid Architects that served as the entry pavilion to this past summer's Zaragoza Expo, in Zaragoza, Spain. The London-based firm was selected through a competition in mid-2005 and proposed a more than 900-foot-long, curvaceous structure, providing both exhibition space and a pedestrian crossing over the Ebro River. The organic and flowing geometry was not a formal response to the client's competition brief, insists Manuela Gatto, project architect. Instead, its configuration is "contextual," she says. "It is intended to provide multiple ways to appreciate the river."

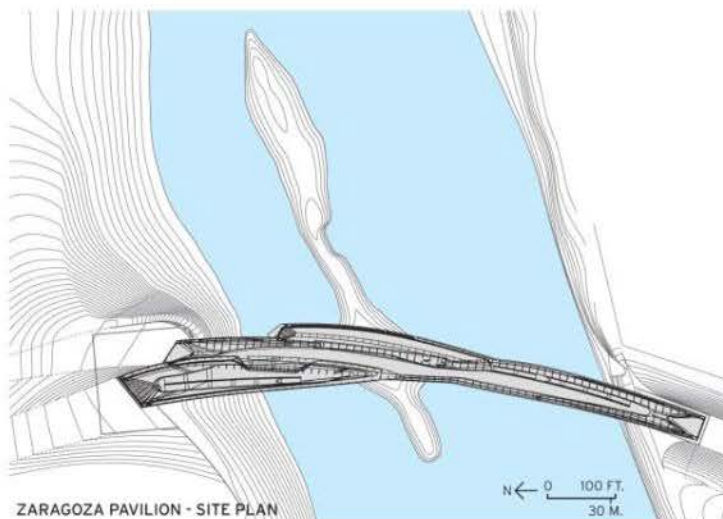
The steel bridge spans the Ebro in two sections—one that is about 400 feet long, and another approximately 500 feet long, separated by an island. The shorter section, on the river's north bank, is made up of three triangular tube trusses, or "pods," that merge into one toward the opposite bank. Each is a truss that includes a hexagonal box beam at its crown serving as a top chord, and a ship-hull-like deck structure of steel plate serving as the bottom chord. Between the two are parallel ribs connected by orthogonal diagonal members. These "diagrids" resist shear forces and form the substructure for glass-reinforced-concrete facade panels. "It is an interpretation of a traditional timber-covered bridge," says Kevin Acosta, a civil engineer with Arup, which provided all engineering services on the project.

The pavilion's hybrid nature added a level of difficulty to the geometrically complex project. For example, it needed to be designed to deflect less under gravity and lateral loads than a typical bridge would. And it included other elements atypical for bridges, such as fireproof-

## THE ZARAGOZA PAVILION'S ORGANIC AND FLOWING GEOMETRY IS INTENDED TO PROVIDE MULTIPLE WAYS TO APPRECIATE THE RIVER.

ing, interior finishes, and mechanical systems. Finding the best places to locate service corridors within the structure for lighting, air-conditioning, and other systems was especially challenging, says Acosta. "These openings reduce the stiffness of the structure and most times require reinforcement around them, adding to the construction complications."

Contractors started foundation work in early 2006, extending piles more than 230 feet deep, because of the poor bearing capacity of



the karstic ground below the pavilion. The steel superstructure components, begun about a year later, were fabricated in Spain's Basque region, in sections as large as road transportation limits would allow. Even so, on-site assembly and erection was labor intensive. "The asymmetric structure was a challenge to put in place," says Gatto.

For the shorter span, contractors temporarily filled in the river between the island and the north bank, erecting the components on falsework. The second span, which weighed more than 2,200 tons, was completely assembled on the south bank and painstakingly "launched" into position on cables over about two months in late 2007. After structural completion the following January, contractors raced to complete



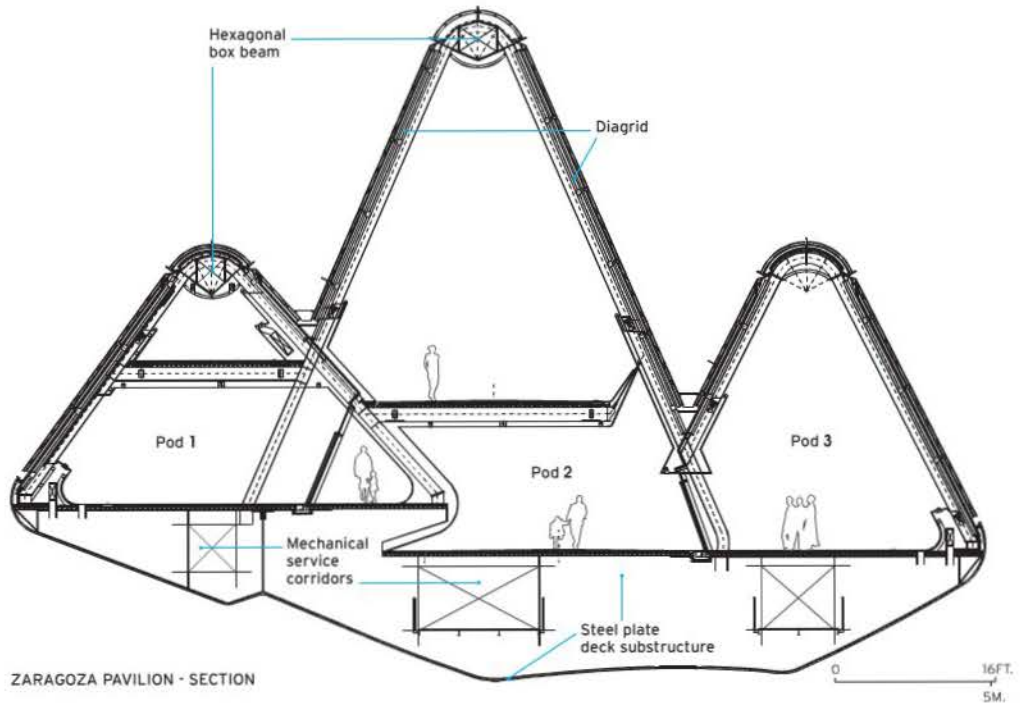
### CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To earn one AIA learning unit, including one hour of health, safety, and welfare credit, turn to page 110 and follow the instructions.

### LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Discuss the design objectives for the four pedestrian bridges presented in this article.
2. Describe the structural components of each example.
3. Explain the fabrication and construction methods deployed.



ZARAGOZA PAVILION - SECTION

Zaha Hadid's Zaragoza Pavilion provided exhibition space and a pedestrian route (above left) over the

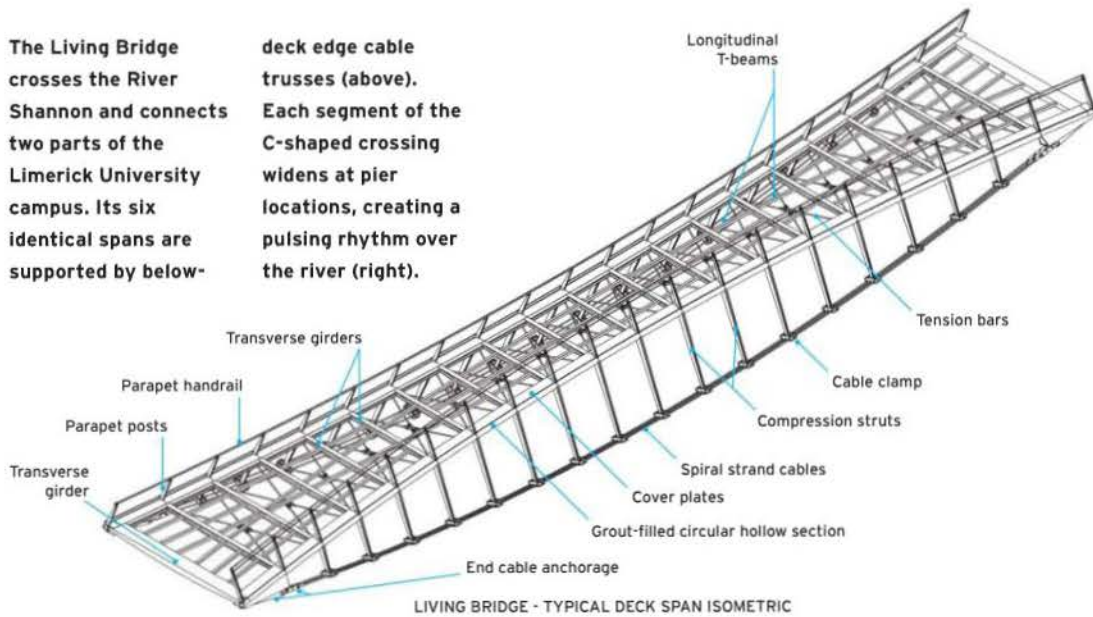
Ebro River. It consists of three triangular tube trusses (diagram, above), or "pods," that merge into one (top). A

2,200-ton section of the bridge was assembled on land and launched into place over the river with cables (left).



The Living Bridge crosses the River Shannon and connects two parts of the Limerick University campus. Its six identical spans are supported by below-

deck edge cable trusses (above). Each segment of the C-shaped crossing widens at pier locations, creating a pulsing rhythm over the river (right).



installation of cladding, mechanical systems, and finishes just in time for the June 2008 expo opening.

### Landmark in the landscape

Most pedestrian bridges are not as programmatically complex, or as geometrically idiosyncratic, as Hadid's pavilion. But many do share the Zaragoza project's contextual goals. "Bridges should be particular to their place," says Keith Brownlie, a director of Wilkinson Eyre Architects. The London-based firm has designed a number of pedestrian bridges, including one it completed in late 2007 called "the Living Bridge." It crosses Ireland's River Shannon and connects two parts of the Limerick University campus.



The \$15.4 million bridge, C-shaped in plan, comprises a string of six independent and identical, 144-foot-long spans. The decks widen from 5 feet at midspan to 10 feet at the five supporting piers,

each of which emerge from a naturally occurring island. "It is like a snake that has swallowed several ostrich eggs," says Brownlie.

The configuration provides multiple vantage points for viewing the surrounding riparian landscape and serves as a gathering place for students, says the architect. If the goal were simply to transport people from one side of the river to the other as quickly as possible, the bridge would not have a curved plan, which makes it longer, and arguably more expensive, points out Conor Lavery, an associate director in Dublin for Arup, the project's structural engineer.

For pedestrians, according to Brownlie, the experience of traveling between the islands is like traversing a clapper bridge—a primitive type of river or stream crossing constructed by placing large slabs of rock across stone piers. But the structure of the Living Bridge is much different from that of its ancient counterpart. The primary load-bearing system for the Wilkinson Eyre bridge is a pair of inclined edge cable trusses below each span. The truss has a top compression member at deck level, made of a grout-filled circular hollow section, and a tensile lower chord of three spiral strand cables. Steel compression struts, 7 feet on center, transfer the loads applied to the deck to the lower chord.

The "underflung" cable, as Brownlie refers to the below-deck structure, allows unimpeded views of the surrounding landscape. Use of the unusual system, with the bottom of the truss only 14 feet above the surface of the water, was possible only because this section of the Shannon is not navigable and has a dam upstream. Therefore, the designers did not need to worry about the clearance necessary for boat traffic or potential damage to the structure from flooding.

Because the river provides habitat for several species of fish and other wildlife, the project team planned the construction to limit site disturbance. The steel components were fabricated in France and transported in modules to Limerick. Crews assembled the spans in two compounds on the river's banks,



The main span of the pedestrian bridge at Seattle's Museum of Flight is made of pipe bent into pure circles but has

an elliptical section (above). Fabricators completed assembly in Tacoma (left) and transported it to the site in one piece.



MUSEUM OF FLIGHT BRIDGE - EXPLODED AXONOMETRIC





Santiago Calatrava's Ponte della Costituzione in Venice is an interpretation of the city's traditional stone arched bridges in modern materials. It has a sculptural steel skeleton (right) and a glass deck (above) that becomes a carpet of light at night.



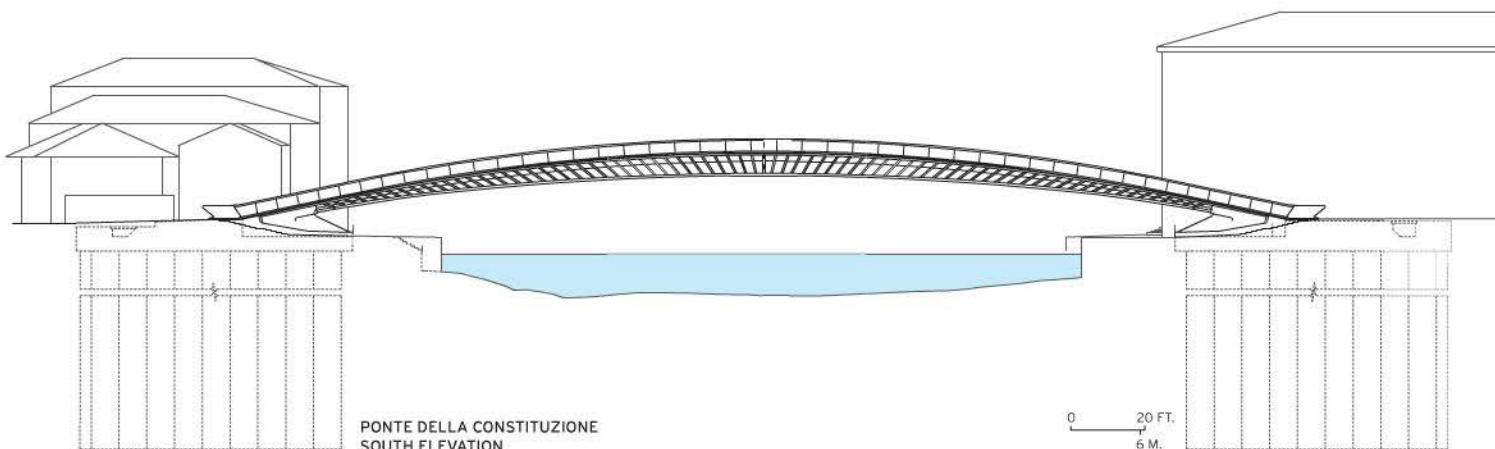
The bridge's primary span is a 200-foot-long tube truss, about 17 feet in diameter, tapering to about 12 feet at the ends. SRG had originally hoped to make it out of pipe sections bent into ellipses. But working with structural engineers, Magnusson Klemencic Associates (MKA), in Seattle, and fabricator, Jesse Engineering, of Tacoma, Washington, the architect came up with a more cost-effective and constructible alternative: The webs are made up of two sets of 5-inch-diameter pipes bent into pure circles. These bent elements, which total more than 300 pieces, all with unique profiles, are inclined in opposite directions so that they overlap. Set inside the hooped exterior elements are four straight, 10-inch-diameter pipes serving as top and bottom chords. This crisscrossing gives the bridge an elliptical section even though its individual elements have a simpler geometry. The configuration reinforces the flight metaphor and creates the illusion that the bridge is floating, says Zieve.

but in areas not considered ecologically sensitive. The in-river work, such as the construction of piles and the erection of spans, was performed in only two and a half months from a temporary bridge built on gabions. "It is a tall task to push a civil-engineering structure through a natural landscape, but we came up with a minimal-impact solution," says Brownlie.

#### Seattle span

Although they were working in an urban environment, rather than a fragile natural landscape, project team members for a recently completed pedestrian span in an industrial section of Seattle were also concerned about the disruption associated with construction. Their scheme for installing the bridge connecting the Museum of Flight's main campus with an extension involved closing a busy roadway below the new crossing for only a day.

The accomplishment is all the more noteworthy given the \$6.4 million bridge's unusual design, which was inspired by the





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CIRCLE 34



In general, individual truss components can be smaller, and the overall structure lighter, if the top and bottom chords are farther apart, explains Jay Taylor, MKA principal. But at the Museum of Flight, the bridge depth was limited by the need for adequate clearance below the overhead high-voltage lines and above the roadway. Finding that “sweet spot” between component size and depth was challenging, he says.

The utilities also complicated installation. Jesse fabricated the main span in Tacoma, along with a less complex, 165-foot-long, trapezoid-shaped section. Crews transported the two fully assembled pieces to the site primarily by barge and then a short distance by truck, carefully lifting them into place under the power line by crane in only a few hours. “It was like threading a needle,” says Zieve.

### Contextual crossing

Architect-engineer Santiago Calatrava deployed a similar strategy for the fabrication and installation of his Ponte della Costituzione completed last fall in Venice. The 266-foot-long span, which crosses the Grand Canal and connects the city’s railway station with the Piazzale Roma, was fabricated in three pieces in nearby Marghera and brought to the city by barge. Structurally, however, Calatrava’s design is very differ-

ent from the Museum of Flight bridge, crossing the canal with a shallow arch. The 266-foot-long span extends from stone-clad reinforced-concrete abutments and consists of a gently curved steel tube that defines the bridge’s central spine and serves as the main torsion-resisting component. This central component is tied via a sculptural steel skeleton painted a bold red to an upper and lower pair of arched chords.

The bridge widens from about 18 feet where it meets the Canal quays to 20 feet at midspan, creating a platform for taking in the sites of the city, explains Calatrava. The crossing becomes especially dramatic at night, when the laminated-glass deck is illuminated from below, transforming it into “a carpet of light,” he says.

The project has been plagued by controversy surrounding its reported \$15.5 million price tag, construction delays, and other issues. Nevertheless, it is a graceful interpretation of an ancient typology indigenous to Venice in the modern materials of steel and glass. “The city has more than 400 bridges, almost all of them arches,” says Calatrava. “There was no reason to do anything differently.” ■

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



## AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

### INSTRUCTIONS

- Read the article “Not-So-Pedestrian Footbridges” using the learning objectives provided.
- Complete the questions below, then fill in your answers on the next page.
- Fill out and submit the AIA/CES education reporting form on the next page or take the test online at [continuingeducation.construction.com/](http://continuingeducation.construction.com/) to receive one AIA learning unit.

### QUESTIONS

- The Zaragoza Pavilion is an interpretation of which?
  - the contrail of a jet
  - traditional covered bridges
  - ancient clapper bridges
  - the arched bridges of Venice
- The design for the Zaragoza Pavilion included which elements atypical for bridges?
  - low limits for deflection
  - fireproofing
  - air-conditioning
  - all of the above
- The earth below the Zaragoza Pavilion is which type?
  - sand
  - clay
  - karst
  - silt
- Which of the following is true regarding the Zaragoza Pavilion?
  - its design was intended as a formal response to the competition brief
  - it is described by its architect as a snake that has swallowed several ostrich eggs
  - it has a below-deck structure of parallel ribs connected by orthogonal members
  - it is intended to provide multiple ways to enjoy the river
- All of the following are true regarding the Living Bridge edge cable trusses except which?
  - their bottom chords are in compression
  - their bottom chords are in tension
  - they permit unobstructed views from the bridge deck
  - their below-deck configuration was possible because the river is not prone to flooding
- In order to construct the Living Bridge, workers did which?
  - filled in the river between islands
  - built a temporary bridge on gabions
  - launched the individual spans into place with cables
  - none of the above
- Assembly of the Museum of Flight bridge took place mostly where?
  - in a parking lot near the site
  - in a fabrication shop
  - on falsework over the roadway
  - none of the above
- All of the following are true regarding the Museum of Flight bridge except which?
  - the bridge has an elliptical section
  - truss webs are made of pipe bent into pure circles
  - truss webs are made of pipe bent into ellipses
  - truss chords are made of straight sections of pipe
- Which of the following would have allowed designers to make individual components of the Museum of Flight Bridge smaller?
  - increasing the distance between the truss top and bottom chords
  - decreasing the distance between the truss top and bottom chords
  - increasing the width of the bridge deck
  - decreasing the width of the bridge deck
- The shallow, gently curved steel tube that runs down the spine of the Ponte della Costituzione serves as which?
  - the main torsion-resisting component
  - the main gravity-load-resisting component
  - the main lateral-load-resisting component
  - the main shear-resisting component



039EDIT1

### AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

Program title: "Not-So-Pedestrian Footbridges," ARCHITECTURAL RECORD (03/09, page 104).

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Cove lighting blurs the line between floor and wall (right). White displays feature artful signage (below). Offices line the east corridor (opposite).



# Interiors

## TRANSITIONS

- 112 **Bernhardt Design Showroom**  
Rottet Studio
- 117 **DirectTV**  
Huntsman Architectural Group
- 121 **Yoga Deva**  
Blank Studio
- 125 **Interiors Products**

*The success of an interior design is often determined by an architect's ability to define and facilitate a transition – spatial, visual, historical, even conceptual. In the case of the Bernhardt Design Showroom, Rottet Studio eased a shift to a downsized area, creating an artful gallerylike venue. At DirectTV's Washington, D.C., office, Huntsman Architectural Group created a flexible space that balanced the cutting-edge nature of the business with the city's Neoclassical tradition. And for Yoga Deva, Blank Studio concealed the harsh reality of its Arizona locale, crafting a cool, soothing, energizing setting. Unique in approach, each firm met the client's needs via spatial arrangements, materials, and light.* Linda C. Lentz

## Rottet Studio scales down the **Bernhardt Design Showroom** with infinite serenity

By David Sokol

**L**ike a fortress, the Merchandise Mart Chicago looms calmly over the city's namesake river. The world's largest commercial building, it is also its largest wholesale design center and can evoke an ant farm as hyperactive as it is labyrinthine. This is especially true during NeoCon, the annual mid-June industry event when manufacturers, buyers, designers, and architects converge to share ideas and see thousands of the latest interiors furnishings.

Within this context, it's essential that a showroom be designed to create excitement. So when Bernhardt Design—a producer of contract case goods, seating, and textiles—was muscled out of a third-floor space boasting an expansive river vista, it was the merchandise that motivated the first design decision of Lauren Rottet, FAIA, when her firm was asked to shape the company's smaller, 7,000-square-foot new home. "With showrooms and retail in general, the attitude is, 'Look at the product,'" Rottet says. While she notes that Bernhardt Design creative director Jerry Helling would have been happy with only one piece of product in a beautiful space, the NeoCon throngs have taught her to highlight the newest furniture without distractions.

*David Sokol is a contributing editor at RECORD and author of The Modern Architecture Pop-Up Book.*



Rottet's goal for the showroom, now located in the building's northeast corner, with half the square footage of the former space and a cheek-by-jowl view of neighboring buildings, was to hide the unappealing outdoor scene while at the same time making it feel larger than its actual footprint. The architect, who founded Rottet Studio after stints at firms like Skidmore, Owings & Merrill and DMJM, admits to claustrophobia. "I started out doing base buildings," she says of her early career at SOM. "And being outside is so free. Inside, without landscaping or the movement of the sun, things become static. So my philosophy on interiors is to make a space feel as kinetic as the exterior."

To achieve this, she divided the showroom's rectilinear plan into thirds. These long corridors—housing furniture vignettes and back-of-house office functions—run north to south, and are connected by passageways on either end; a band of white resin demarcates the perimeter. Upon entering the showroom, one's eyes immediately focus on the recently introduced chairs, tables, and case goods installed at the end of the western corridor. Here, two consecutive bays—framed by three-quarter-height partitions mounted on debossed, sliverlike plinths—conceal other inventory. Opposite, the party wall cants outward to reveal the glow of integral lighting, which imparts a near-spiritual feel to the journey from front door to product on display.

An accent wall draws attention to the display at the showroom's northern end. The surface comprises 15 white, powder-coated, 59-by-106-inch aluminum panels animated by random square perforations and backed with fabric scrim. This element conceals 11 dingy windows and a bleak cityscape beyond, with only daylight punctuating the diffuser. "You get the feeling of the change from night to day and rain to sun," Rottet says, adding, "I find that when people cannot orient themselves to the outside, it's disconcerting." Two rows of T5 fluorescent lamps ceiling-mounted between the panels and windows amplify the daylight, lending the holes the appearance of constellations. In the reflection of the white-resin edge, the pinpoints double in number.

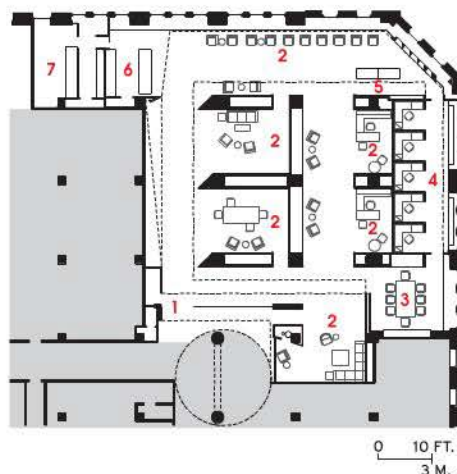
The architects continued this sense of infinity throughout the project. Ceilings suspend from steel cables that are barely visible through the black-painted plenum. LED strip lighting tucked amid plinths and partitions blur the distinction between floor and wall. Knife-edged partitions, though large enough to contain closets, appear weightless. These asymmetrical, tapered corners repeat on the ceiling planes, as well as the edge of the solid surface and Siberian marble coffee bar, located in a niche in the room's northwest corner.

Such continuity, combined with a pale color palette, creates what Rottet calls a "relaxed museum" environment. "Instead of pounding the person with product, the showroom invites someone to come in, enjoy the space, have a glass of water." Bernhardt Design's limited product displays—including Shift, a Rottet-designed office system—reinforce the claim, and should help make the place a welcome refuge for overwhelmed NeoCon attendees. ■



**The accent wall reappears in a conference room vignette at the showroom's southeast corner (top). The middle corridor displays office systems (above).**

1. Entrance
2. Displays
3. Conference room
4. Workstations
5. Sample display
6. Coffee bar
7. Storage



**Project:** Bernhardt Design

Showroom, Chicago

**Architect:** Rottet Studio—Lauren

Rottet, FAIA, principal in charge;

Kelie Mayfield, principal/lead designer;

Chris Evans, project architect.

**Architect of record:**

Austin AECOM—Les Okunowski

**General contractor:** Bear Construction

**SOURCES**

**Paint:** Sherwin Williams

**Surface materials:** Pionite (plastic laminate); Corian (solid surface)

**Stone:** Coverings Etc.

**Lighting:** Fawoo (LED light panels); Lithonia (behind accent wall); Nippo (base cove); Lucifer (task/downlights)

**Carpet:** Bloomsburg

**Furniture/custom millwork:** Bernhardt Design



The window display and conference room vignette are situated east of the entrance (above left). A marble-clad coffee bar is tucked to one side of

the northern accent wall (above). Furniture is displayed along the illuminated wall, with a binder/sample display adjacent to it (below).



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## Huntsman Architectural Group creates a comfortable base for **DirecTV** in Washington, D.C.



By Linda C. Lentz

**L**ocated in the Penn Quarter neighborhood of downtown Washington, D.C., the new office for DirecTV's lobbyists in many ways reflects this satellite-service provider's image in a tradition-bound city. It occupies 3,952 square feet on the sixth floor of a 21st-century building but looks south onto a skylit atrium it shares with an adjacent brick Masonic Temple built in 1869. On the north, it also enjoys expansive views of the National Portrait Gallery, an important Greek Revival landmark building dating back to 1842.

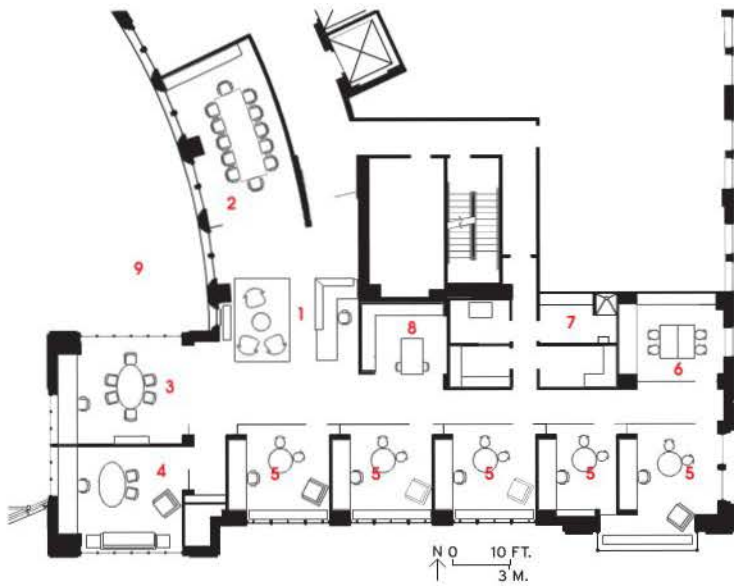
Previously, the company housed its small lobbying group in cramped, inadequate quarters. So when a corporate shift required the team of six to relocate, Susan Eid, senior vice president of government and regulatory affairs, tapped Huntsman Architectural Group to craft a more suitable environment. According to the director of design, Mark Harbick, his firm was asked to provide private spaces for intensive study and meetings, areas for staff collaboration and interaction, and flexible settings for gatherings and for showcasing DirecTV technology.

"We wanted to break down the typical barrier of office design and provide spaces that were more comfortable and inviting, less static and hierarchical," Harbick explains. To do this, the architects devised

**Open-weave drapes and pivoting walls ease the flow of the boardroom (above) into the reception/ lounge area (right).**

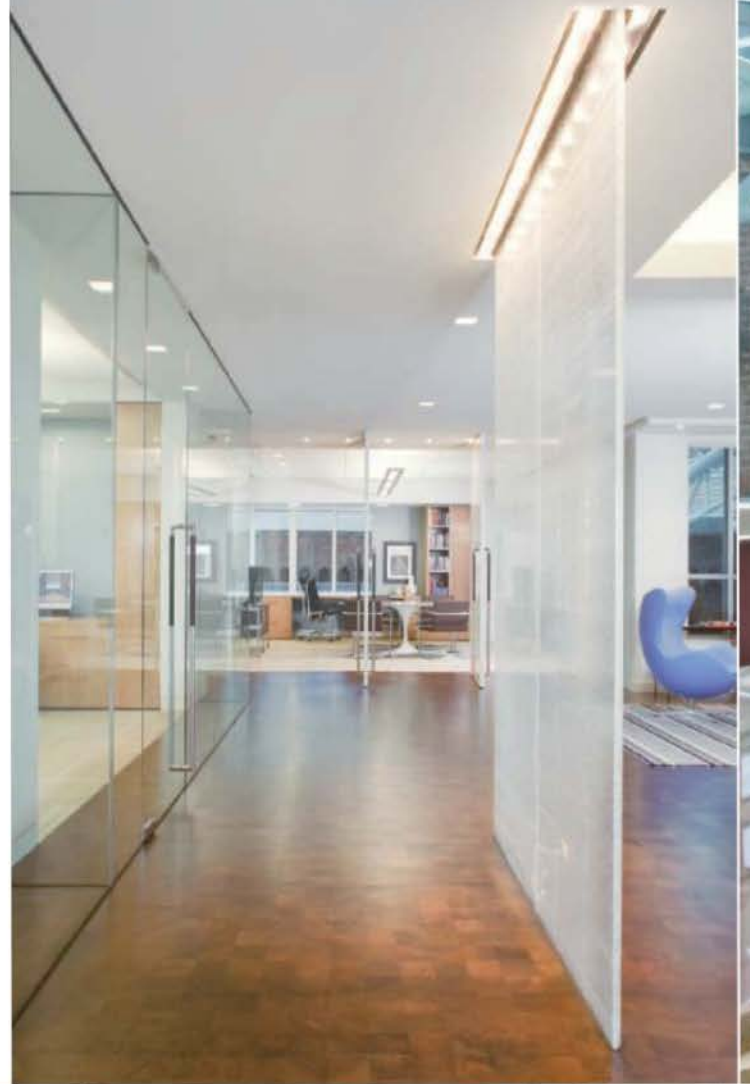






1. Reception
2. Boardroom
3. Conference room
4. Director's office
5. Office
6. Workroom
7. Shower room
8. Kitchen/coffee bar
9. Atrium

A translucent acrylic screen borders public and private zones (right). The multipurpose conference room overlooks an atrium (opposite). Individual offices have a residential feel (below).





an open plan featuring two distinct functional zones with clearly defined yet transparent boundaries: a public area that wraps around the atrium and a private office area on the north.

The entrance, a stainless-steel portal, directs visitors into the gracious reception lounge, the center of the public zone. Behind its stone-and-quartz desk, the architects created a graphic media wall to establish brand identity straightaway. Outfitted with a pair of flat-panel monitors, it is patterned with composite images of the bright blue DirecTV logo. To the west and south, respectively, of this main area, a boardroom and multipurpose conference room—both with pivoting walls—can be closed for privacy or left open for events and presentations. The former, set in a space between the curved atrium window bank and corresponding inner wall, features sweeping, open-weave drapes that flow into the lounge. The latter doubles as a “huddle room” for in-house powwows and an extra office for visiting company executives.

A light-refracting, clear acrylic screen signals one’s passage into the private zone that runs along the north windows. Here, hand-somely appointed glass-fronted offices foster social interaction and allow daylight and views to be shared with adjacent spaces. An elegant, glass-tiled shower room in this wing lets staff prepare for evening functions. A well-equipped open pantry (backing up to the reception area and facing the offices across a wide corridor) bridges the two main zones and serves as a casual coffee bar and staging area for caterers.

According to project designer Suraj Bhatia, “We took a resi-

dential approach, so transitions are softer.” Reclaimed oak flooring flows beyond doorways, then segues into carpeting. A mix of 20th-century classic furnishings, in relaxed, eclectic groupings, balances Modern and traditional styles—a nod to the divergent worlds of a high-tech company and Capitol Hill. Ceiling planes vary, dropped to hide mechanical equipment and lighting, then canted up toward the northern exterior to clear the full-height windows and direct daylight inside. Aside from an inviting pendant in the pantry and Italian floor fixtures in the offices, the lighting is integrated into the architecture.

Ultimately, the Huntsman team created a fluid, contemporary office in touch with its work—and historic locale. “It is important to remind visitors that they are in the nation’s capital,” notes Harbick. “And that the business being conducted here is of national importance.” ■

**Project:** DirecTV, Washington, D.C.

**Architect:** Huntsman Architectural Group—Mark Harbick, AIA, design principal; Alan Vartabedian, principal in charge; Carlos Macias, project manager; Suraj Bhatia, project designer; Fred Rieber, AIA; Jade Duong, project architects

**Engineers:** Syska Hennessy Group

**General contractor:** HITT

#### SOURCES

**Ceilings:** Armstrong; Decoustics  
**Custom furniture:** Washington Woodworking Company; DFM  
**Acrylic screen:** Sensitile Systems  
**Wood flooring:** Kaswell & Company  
**Area rug:** Lama Concept  
**Surfacing:** DuPont Zodiaq; Linca Marble (reception desk)  
**Drapes:** Larsen



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CIRCLE 37

In the 40-by-37-foot yoga room, full-spectrum fluorescent lamps are concealed in a billowing ceiling made of drywall.



## Blank Studio breathes life and tranquility into an office shell for Gilbert, Arizona's **Yoga Deva**

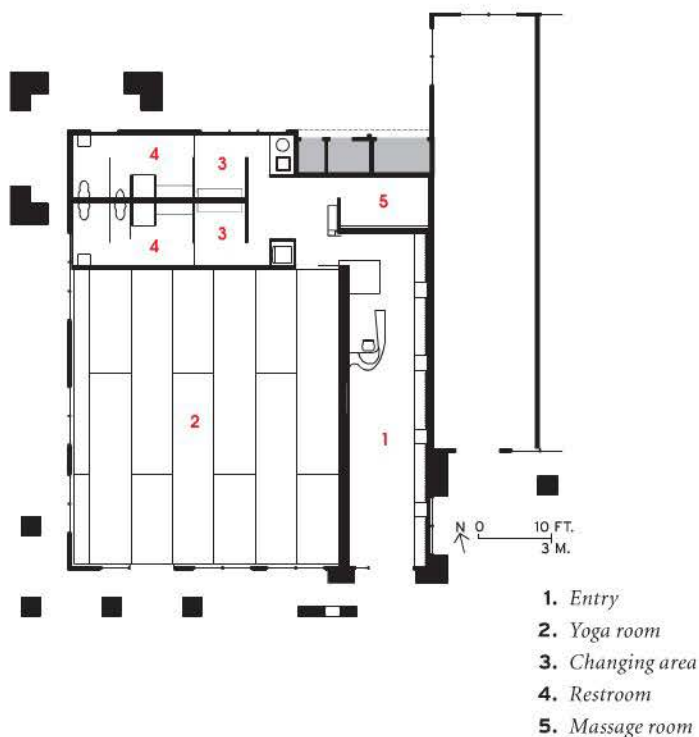
By Jenna M. McKnight

**B**illy and Shosh Vergara had a clear vision when it came to the design of their first yoga studio, Yoga Deva. They wanted an uncluttered and uplifting space where students could step in, take a deep breath, and “let the layers melt away.”

Seems like a simple enough request, until one considers the studio's milieu: Its location is Building No. 8, Suite 143 in a commercial park in Gilbert, a fast-growing suburb of Phoenix. The 22-acre complex, which contains mostly medical offices, is sandwiched between a strip mall and a tract-housing development—all of which lie a few blocks from a new highway.

To transform their office condo into a “healing oasis,” the owners hired Blank Studio, a Phoenix-based firm whose work they had spotted in a design magazine. Firm principal Matthew Trzebiatowski, AIA, says he had one major goal for the 2,800-square-foot shell: “We didn't want any memory of the exterior.” Dividing the space into five sections, he also wanted to ensure the entire composition played like a “series of events.”

Quotidian thoughts certainly fade the moment one walks through the door. Visitors step out of the harsh desert sun and into a dim, slender reception area. “The idea was to give you a complete contrast,” Trzebiatowski notes. While some sunlight pours in through the tinted-glass front door, the space is largely illuminated





by two light coves—one high, one low—that line opposite sides of the 45-foot-long room.

Yoga practitioners often have to break through a mental wall, Shosh Vergara says, and she wanted to ensure her studio helped “eliminate the clutter from people’s experience.” Paying heed, the architect used a Minimalist palette of materials. In the entry space, the room’s east wall is sheathed in walnut veneer, the same material used for a storage bench that spans the room. The west wall and adjoining reception desk feature aluminum gilding, painstakingly applied over three weeks by the owners themselves.

In an attempt to draw visitors deeper into the facility, the Vergaras painted the back of the lobby ultramarine, a hue Shosh Vergara says has a “transformational” quality. Visually, it also assists in the transition from one chamber to the next: In the small room around the corner, a blue, iridescent tile mosaic covers one wall. This room, at the center of the facility, connects to the men’s and women’s changing areas, an unfinished massage room, and the yoga studio, which, at 1,500 square feet, accounts for more than half of the project’s total area.

Lined with mirrors and filled with bright light, the studio calls to mind a glass of cool water. Overhead, full-spectrum fluorescent lamps are tucked into the folds of a billowing, dropped drywall ceiling,

featuring three inverted vaults that hide mechanical devices, such as a heating system employed for Hot Yoga classes. To diffuse the light coming through the windows on the south and west walls, and to block views of the parking lot, the architect installed opalescent polycarbonate panels, a material often used in greenhouses. These 5/8-inch-thick panels also add to the room’s ethereal quality.

Throughout the project, the strategy was to be logical and cost-effective, says Trzebiatowski, and to create a pared-down aesthetic devoid of “pomp and circumstance.” Mission accomplished, the clients say, noting that the quiet space induces the process of “unwinding and getting present.” In an unlikely spot for a yoga center—a suburban office park—it seems Blank Studio has achieved architectural nirvana. ■

**Project:** *Yoga Deva, Gilbert, Arizona*

**Architect:** *Blank Studio—Matthew G. Trzebiatowski, AIA*

**Engineers:** *Don Witt Engineering (electrical); Kunka Engineering (mechanical and plumbing)*

**General contractor:** *Stokum Construction*

**SOURCES**

**Polycarbonate panels:** *CO-EX Corp.*

**Custom woodwork:** *Dominic Ferrara*

**Lighting:** *Lithonia (cove)*

**Flooring:** *Lonseal (yoga room)*

**Floor and wall tile:** *Daltile*

**Hardware:** *CR Laurance*



Two light covers span the lobby (opposite two), where the walls are covered in aluminum leaf and walnut veneer. A glass door leads into the light-filled yoga room (right), which features ecofriendly, blue vinyl sports flooring.

# CITIES GROWING GREEN BY GROWING UP

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This proposed project brings a farm into the city, squeezing more than an acre of agriculture, native plants, and bird habitat into a building. The result is a city that grows upward instead of outward and brings urban dwellers closer to the source of their food.

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# Interiors Products

Just prior to **Design Miami**, America learned it had endured a yearlong recession. The news didn't faze the show's 23 participating galleries, with several dealers **optimistic that buyers would** respond well to the upscale limited editions on display. *David Sokol*



▲ **Arabian chic** Just as his Villa Moda chain of department stores brought Western high fashion to the Middle East, Sheikh Majed Al-Sabah plans to promote European design as well as regional artisanship through the Al-Sabah Art & Design Collection. Scheduled to open in Dubai in March, Al-Sabah showed its first collection in Miami. As part of the collection, Lebanese design studio Bokja reupholstered mid-20th-century furniture pieces in local embroideries. Al-Sabah Art & Design Collection, Dubai. [www.alsabahcollection.com](http://www.alsabahcollection.com) **CIRCLE 200**



◀ **Curious cabinet** The Dutch contemporary art and design gallery Priveekollektie promotes young natives like Wouter Scheublin, whose Cabinet of Chests comprises a reconfigurable stack of walnut volumes with fronts held in place by a bank-safelike combination of wooden hinges and clamps. Each of the eight chests in the series is handmade by the designer. Priveekollektie, Heusden aan de Maas, the Netherlands. [www.priveekollektie.com](http://www.priveekollektie.com) **CIRCLE 201**



◀ **Farmer's market** Continuing its longtime support for Dutch phenom Studio Job, Moss feted Job Smeets and Nynke Tynagel's new Bavaria series of marquetry pieces, displaying it with highly recognizable pieces by the Campana brothers. The five Indian rosewood furnishings – each of which is produced in a limited edition of six – feature book-matched scenes of farm life in laser-cut inlays. The collection includes a cabinet (shown closed and open), mirror, table, screen, and bench. Moss, New York City. [www.mossoonline.com](http://www.mossoonline.com) **CIRCLE 202**



► **Strike a pose** Off-site of the main venue, even Charles & Marie – a producer typically affiliated with small-scale gift items – jumped on the bandwagon of limited-edition furniture, releasing Lucas Massen's Sitting Chairs/Yoga Chairs in triplicate. One can discern various downward-dog, sun-salutation, and other yoga positions rendered in white oak, upholstery, and marble in this five-piece series. Charles & Marie, San Francisco. [www.charlesandmarie.com](http://www.charlesandmarie.com) **CIRCLE 203**



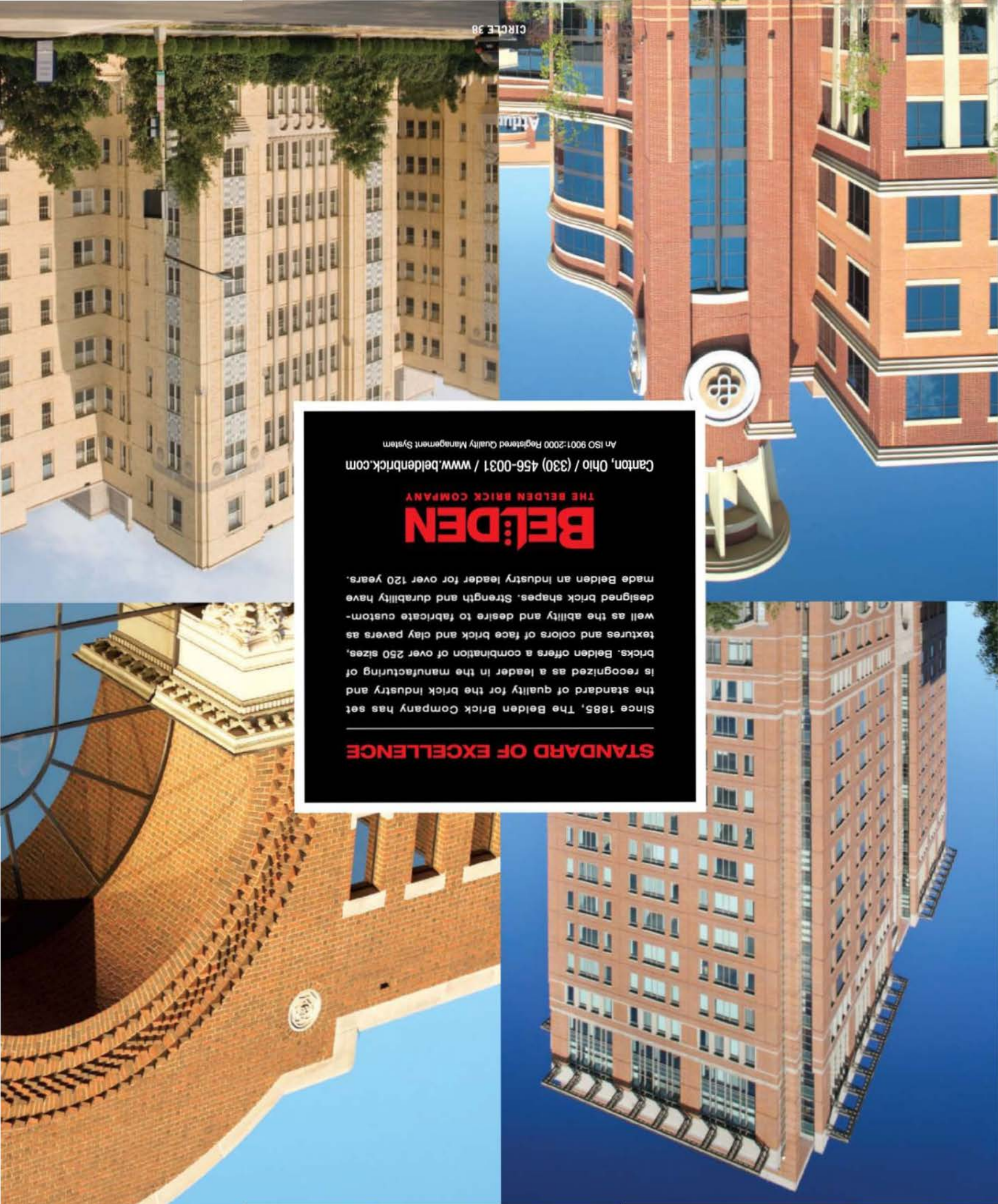
◀ **Metacenter** Meta introduced four special editions for its Miami debut. Like its first collection launched at Salone del Mobile last April, these pieces are conceived by contemporary designers and fabricated by master craftsmen. Acanthus, a table lamp designed by Patrick Blanchard in an edition of 10, is one example. A combination of lime wood and sycamore, the luminaire features veneer-thin acanthus leaves balancing on a staff of twisting reeds. Meta, London, [www.madebymeta.com](http://www.madebymeta.com) **CIRCLE 204**



PHOTOGRAPHY: © ROBERT KOT, BRUSSELS (BAVARIA CABINET)

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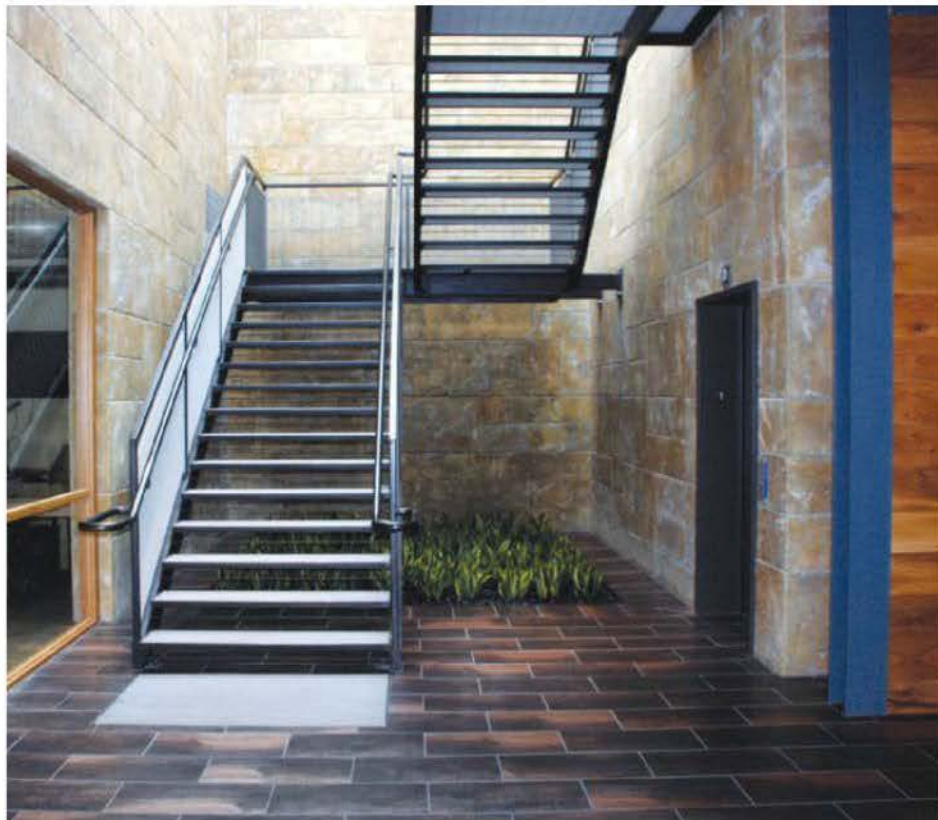
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# Product Focus Stone & Concrete

The latest concrete and masonry options include **greener concrete mixes**, an easier-to-install stone facing system, a line of stone planks finished to look like exotic wood, and **artisan concrete** options from the U.S. and U.K. *Rita Catinella Orrell*



Clockwise from top left: Custom concrete sink and tiles; a central stair features custom hand-cast concrete wall panels and floor tile; a custom aluminum grille is set in a field of the stairwell's wall panels.

## Construction firm's New Jersey headquarters is a showcase for artisan concrete

The new, 50,000-square-foot Rockaway, New Jersey, headquarters for Mackenzie Keck Construction – a provider of contracting, construction management, and consulting services for upscale retailers and other companies – is an adaptive reuse of an ice-cream distribution facility. The New York City–based design/architecture firm Pompei A.D. designed the building's exterior and consulted on the interior of the project, which is intended to serve as a showroom for the craftsmanship, detailing, and custom design work for which Mackenzie Keck is renowned. As part of that goal, the headquarters features custom handcrafted concrete by Concrete Design Studios

(CDS), an affiliated company.

Custom concrete was applied in the project both decoratively and structurally. For the headquarters' lobby, CDS replicated approximately 200 versions of a 2' x 12' stone slab in order to create the walls for the building's central stairwell. "The beauty was that I was able to do that for a third of what natural stone costs," says Dan Keck, C.E.O. of Mackenzie Keck.

An exterior wood-curtain-wall system constructed from European Oak timbers (a prototype being tested for future distribution in North America through Mackenzie Keck) sits on custom-fabricated concrete sill stones cantilevered over the adjacent structure. Other features by CDS

include leatherlike concrete panels that frame the entrance and lobby, concrete bathroom sinks and tiles, and a table inspired by the ice-cream machines that once occupied the space.

As part of CDS's sustainable practices, fresh water is used only for batching the concrete, while the polishing and cleaning of mixers is done with water recycled on-site, a technique that cuts down water consumption by 95 percent. All of the sand and gravel used to make the concrete is obtained in quarries within 70 miles of the new headquarters, and fly ash and silica fume are used as cement replacement. The resulting product is a lightweight, yet highly durable concrete (ranging from 12,000 to 45,000 psi) that can

be used in locations where heavier fabrications are not an option. CDS can also mix concrete in 54,000 different colors and store these recipes in its computerized system for future use.

While Keck says the company is in better shape than most, 2009 appears to be the first year since the company was founded in 1990 that it will not have done more business than the previous year. "The reality is, we are seeing about a 15 to 18 percent slowdown in volume." Mackenzie Keck/Concrete Design Studios, Rockaway, N.J. [www.mackenziekeck.com](http://www.mackenziekeck.com) **CIRCLE 210**

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## Products Stone & Concrete



▲ **Creative concrete** Formtique, from London-based Formsquare, is a line of concrete panels and surfaces made from glass-fiber-reinforced concrete (GFC). GFC products can be formed into sections as thin as .3" and used for slab work applications such as kitchen work tops, bathrooms, reception desks, and retail counters. A range of standard patterns and colors (samples of the Priori range, above) as well as custom designs are available. Formsquare, London. [www.formsquare.com](http://www.formsquare.com) **CIRCLE 211**



◀ **Woodlike stone** New to the U.S., Stonewood is made of real stone that offers the look of exotic hardwood. Available through Chicago-based Maestro Mosaics by Granite & Marble Resources, the stone planks can be applied in spaces where the look of hardwood is desired but where moisture control, durability, and maintenance are an issue, such as bathrooms. Stonewood is available in seven colors in four sizes: 4" x 18", 4" x 24", 4" x 30", and 4" x 36". Maestro Mosaics by Granite & Marble Resources, Chicago. [www.maestromosaics.com](http://www.maestromosaics.com) **CIRCLE 213**

▼ **First 100 years** Customized high-performance concrete mixes from iCrete are now available in North America and the Middle East. iCrete's newest highly durable concrete mixes feature a minimum 100-year design life that can also substantially reduce the price, greenhouse-gas emissions, and carbon footprint of concrete by as much as 40 percent. The mixes will be available in Latin America, Central Asia, and Europe in the second quarter of 2009. iCrete, Los Angeles. [www.icrete.com](http://www.icrete.com) **CIRCLE 215**



▼ **Stone puzzle** New World Stoneworks' natural stone facing system uses water and sand to naturally shape each stone according to an architect's design. Each numbered stone is delivered to the job site ready to install with detailed installation instructions. A home in Chatham, Massachusetts (below) features 700 square feet of square and rectangular Southbay Quartzite, dry fit into a curved wall with all natural caps and stairs. New World Stoneworks, Uxbridge, Mass. [www.newworldstoneworks.com](http://www.newworldstoneworks.com) **CIRCLE 212**



▼ **Nice to see you again** Ekocrete has developed a new concrete that uses 90 percent recycled and by-product materials without compromising strength or durability or increasing costs. Ekocrete utilizes only 10 percent Portland cement along with crushed recycled concrete for aggregate, fly-ash waste from coal mills, nanofibers for crack reduction, and nanoparticles for surface density to reduce water penetration. Ekocrete, Santa Rosa, Calif. [www.ekocrete.com](http://www.ekocrete.com) **CIRCLE 214**



◀ **Fast color** Available in 20 colors, Scofield's new Formula One is a penetrating, translucent liquid dye concentrate designed for use in the production of colored, ground, and polished interior architectural concrete. Developed as a fast-track alternative to existing conventional dyes on the market, Formula One includes both the dye and the extender solvent. After it is mixed with acetone at the job site, it is used in conjunction with a lithium densifier and finish coat. Scofield, Douglasville, Ga. [www.scofield.com](http://www.scofield.com) **CIRCLE 216**

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# Product Briefs



▲ **Stride's right** The Stride furniture system is made of an integrated kit of parts that creates both open-plan or private office spaces with traditional panel-based or light-scale deskings. Equally suited for reception, customer-service, or executive-suite areas, Stride features storage units in a choice of painted wood (above). The system is made up of 46 percent recycled material, is over 90 percent recyclable, and meets Cradle to Cradle certification. Allsteel, Chicago. [www.allsteeloffice.com](http://www.allsteeloffice.com) **CIRCLE 217**



◀ **Grate designs** Iron Age Designs has introduced a line of decorative register covers based on its popular grate patterns. Made of recycled cast iron with an environmentally friendly oil finish or a choice of powder-coated colors, the register grates come with drill points for easy drilling and attachment to walls or ceilings. The grates are available in two sizes: 5½" x 12" (fits a 4" x 10" opening) or 5½" x 14" (fits a 4" x 12" opening). Iron Age Designs, Burien, Wash. [www.ironagegrates.com](http://www.ironagegrates.com) **CIRCLE 219**



▲ **Jute fiber substrate** Tierra ceiling panels feature an exclusive BioAcoustic substrate made from jute, a natural fiber that grows from seed to harvest in 90 days. Tierra is recyclable, has the highest rapidly renewable content in the industry at 45 percent, a high postconsumer recycled content of 23 percent, and contributes to LEED credits. The panels also have an NRC of 0.85 and a Light Reflectance value of 0.88. Armstrong World Industries, Lancaster, Pa. [www.armstrong.com](http://www.armstrong.com) **CIRCLE 221**

▼ **Brick facade** Performance Brick is a panelized facade product that is made of up to 60 percent recycled gypsum and is reinforced with high-density polymer materials. The moisture-resistant panels are suitable for interior and exterior applications. Overlapping and interlocking panels of Performance Brick are connected with a patented Fast Track system that provides up to a ¾" airspace behind each panel to allow for airflow and water drainage should any moisture infiltrate the panels. Performance Brick, Darlington, Pa. [www.performancebuildingproducts.net](http://www.performancebuildingproducts.net) **CIRCLE 218**



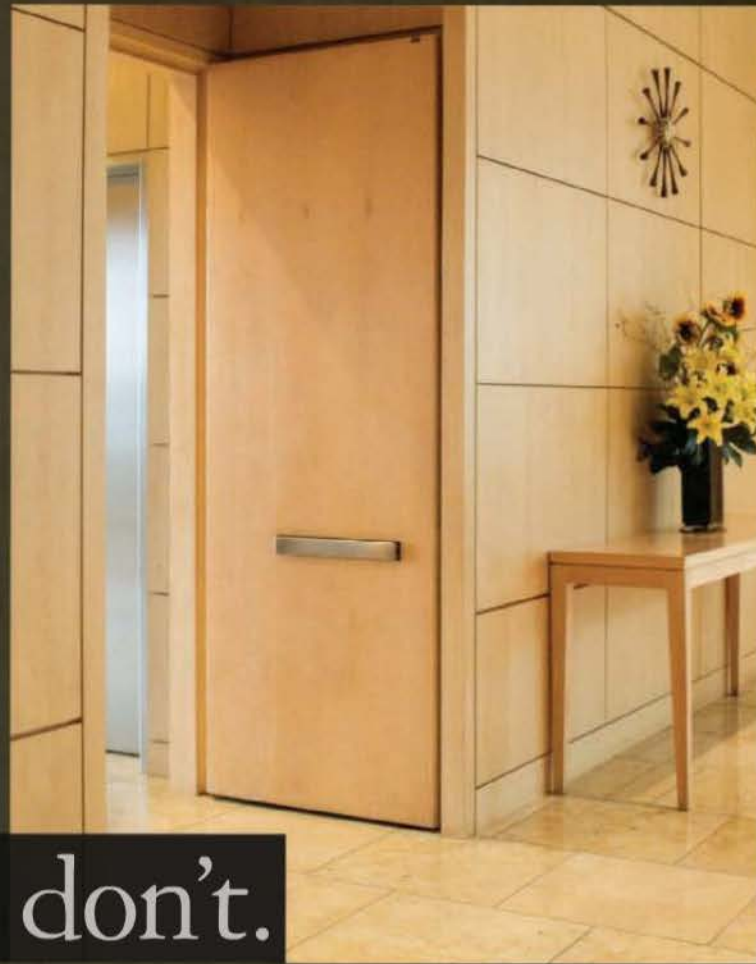
◀ **Built like a tank** The Marathon nonmetallic thermal storage tank from Rheem is designed to provide high efficiency and low operating costs, whether used with solar water heating, a geothermal heat pump, or an indirect water-heating (hydronic) application. The seamless inner tank is insulated with 2½" of polyurethane foam, and is wrapped in fiberglass, making it impervious to rust and corrosion. Rheem Water Heating, Montgomery, Ala. [www.rheem.com](http://www.rheem.com) **CIRCLE 220**

► **More colorful green paint** Unlike competing products, Benjamin Moore's Natura zero-VOC interior acrylic latex paint is available in thousands of hues and a range of sheens. The VOC level of Natura is unaffected by the addition of colorant, because the paint is based on the manufacturer's patented waterborne colorant system. The range includes a primer plus flat, eggshell, and semigloss sheens in nearly 3,500 colors. Benjamin Moore & Co., Montvale, N.J. [www.benjaminmoore.com](http://www.benjaminmoore.com) **CIRCLE 222**



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#### 2009 Open Architecture Challenge: Classroom

*Registration Deadline: May 1, 2009*

*Entry Deadline: June 1, 2009*

The Open Architecture Challenge invites the global design and construction community to collaborate with primary and secondary school teachers and students to create safer, healthier, and smarter learning environments. It is the first large-scale initiative to improve the design of classrooms around the world. For more information, visit [www.openarchitecturechallenge.org](http://www.openarchitecturechallenge.org).

#### The ASLA 2009 Student Awards

*Entry Deadline: May 29, 2009*

The American Society of Landscape Architects (ASLA) awards program honors the best in landscape architecture from around the world, while the student awards program provides a glimpse at the future of the profession. For more information, visit [www.asla.org](http://www.asla.org).

#### Women In Design Network (WID) Annual Exhibit and Awards Program

*Exhibition entries and award nominations details will be available on June 1.*

Built, unbuilt, and student work in all design disciplines are invited; the design team must include a woman designer, planner, engineer, project manager, researcher, artist, or student. Visit [www.architects.org/wid](http://www.architects.org/wid).

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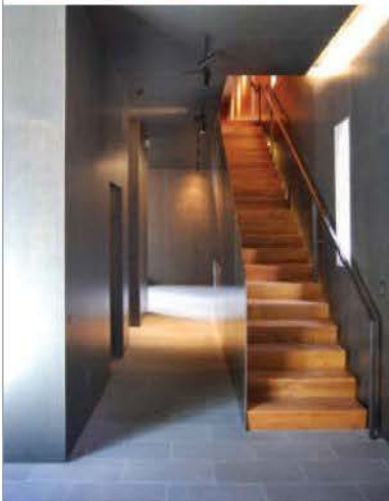


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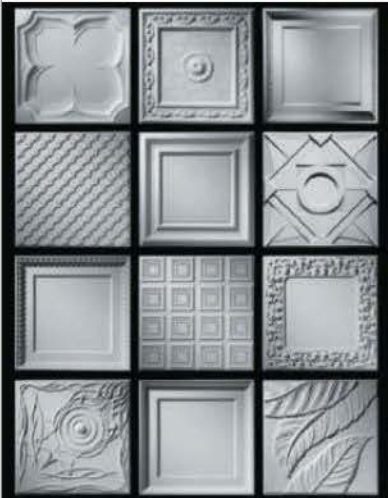
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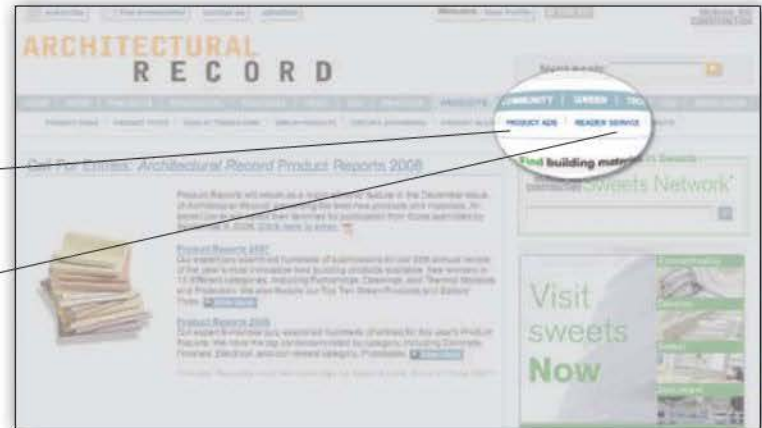
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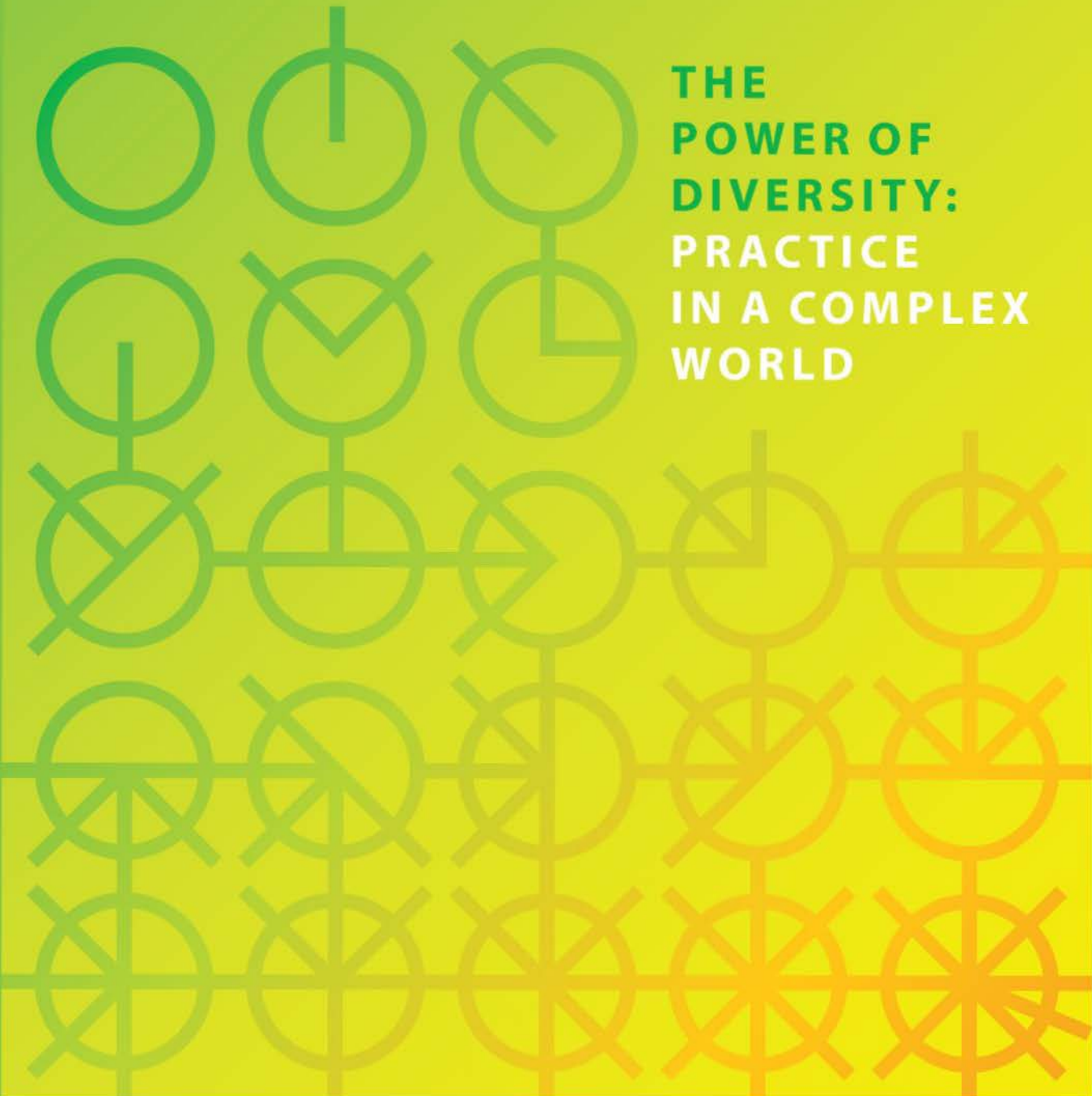


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# Kitchen & Bath Portfolio

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The editors of ARCHITECTURAL RECORD are calling for entries for the **2009 Kitchen & Bath Portfolio**. Entry is open to any registered architect who has recently completed an innovative residential kitchen and/or bath project. We are looking for projects that feature unexpected materials, address unique client needs, or are designed in a manner that allows these utilitarian spaces to be functional, sustainable, and beautiful. Selected entries will be featured in the July 2009 issue.

**Mail submissions to:**

Rita Catinella Orrell

Architectural Record

Two Penn Plaza, 9th Floor

New York, NY 10121

Questions can be directed to

Rita Catinella Orrell at

[rita\\_catinella@mcgraw-hill.com](mailto:rita_catinella@mcgraw-hill.com)

**There is no fee.** Submissions should include images (color prints or high-res digital images on a CD or flash drive along with a labeled color printout), a brief project description, and a complete credit and product source list. No e-mailed submissions please. Projects must have been completed within the past two years.

*All materials must be postmarked by Friday, April 3rd.*

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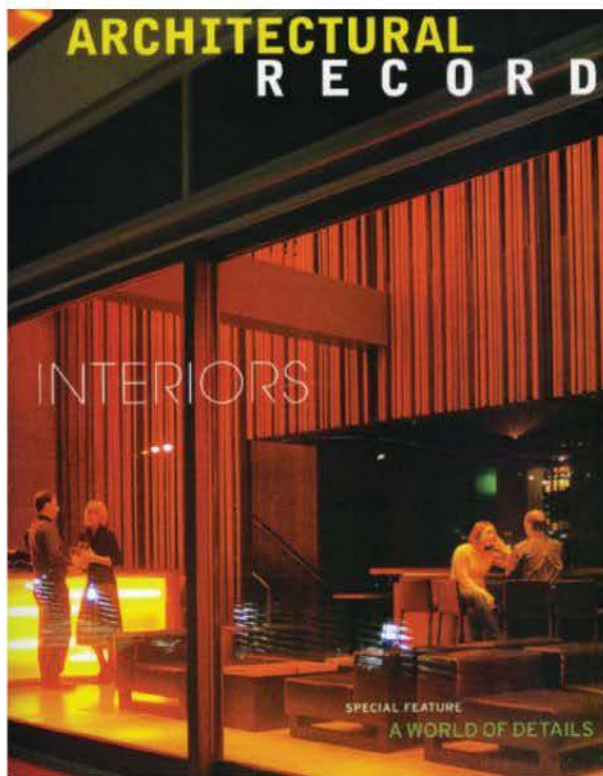
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For more information and an entry form, go to [archrecord.construction.com/features/bwarAwards/](http://archrecord.construction.com/features/bwarAwards/).

**Entries must be postmarked no later than April 15, 2009.**

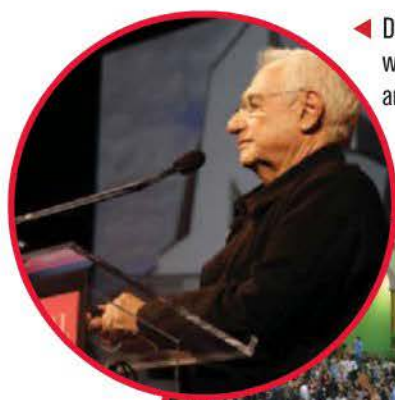


The editors of ARCHITECTURAL RECORD announce the **2009 Record Interiors** awards program. Entry is open to any architect registered in the U.S. or abroad. Projects must have been completed within the past 18 months, built, and interiors-only—not part of a new building by the firm submitting the entry. Of particular interest are interior projects that incorporate innovation in program, building technology, form, sustainability and/or materials. The fee is \$65 per submission.

## 2009 Record Interiors

For instructions and to download the entry form visit [architecturalrecord.com/call4entries](http://architecturalrecord.com/call4entries). Submissions must be postmarked no later than April 30, 2009.

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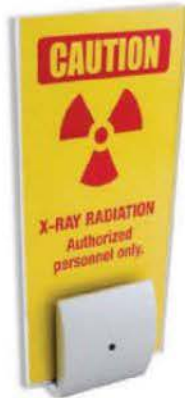
CIRCLE 41

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# Reader's Gallery

To submit images to our galleries, visit [architecturalrecord.com](http://architecturalrecord.com) and click on Community.



**Asli Aydin** shot this photograph of Jean Nouvel's Musée du Quai Branly abutting a more traditional Paris facade and shared it in RECORD's online galleries. An Istanbul-based architect, Aydin holds an M.Arch. from Istanbul Technical University and currently works at Tabanlıoğlu Architecture. She photographed the buildings to accentuate the black buffer that separates them, which, she says, plays up the tension between the two structures while at the same time binding them and softening the transition between the facades. "The straight vertical line of the green foliage, the black strip, and the stone facade form a harmony out of contrast," says Aydin.

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