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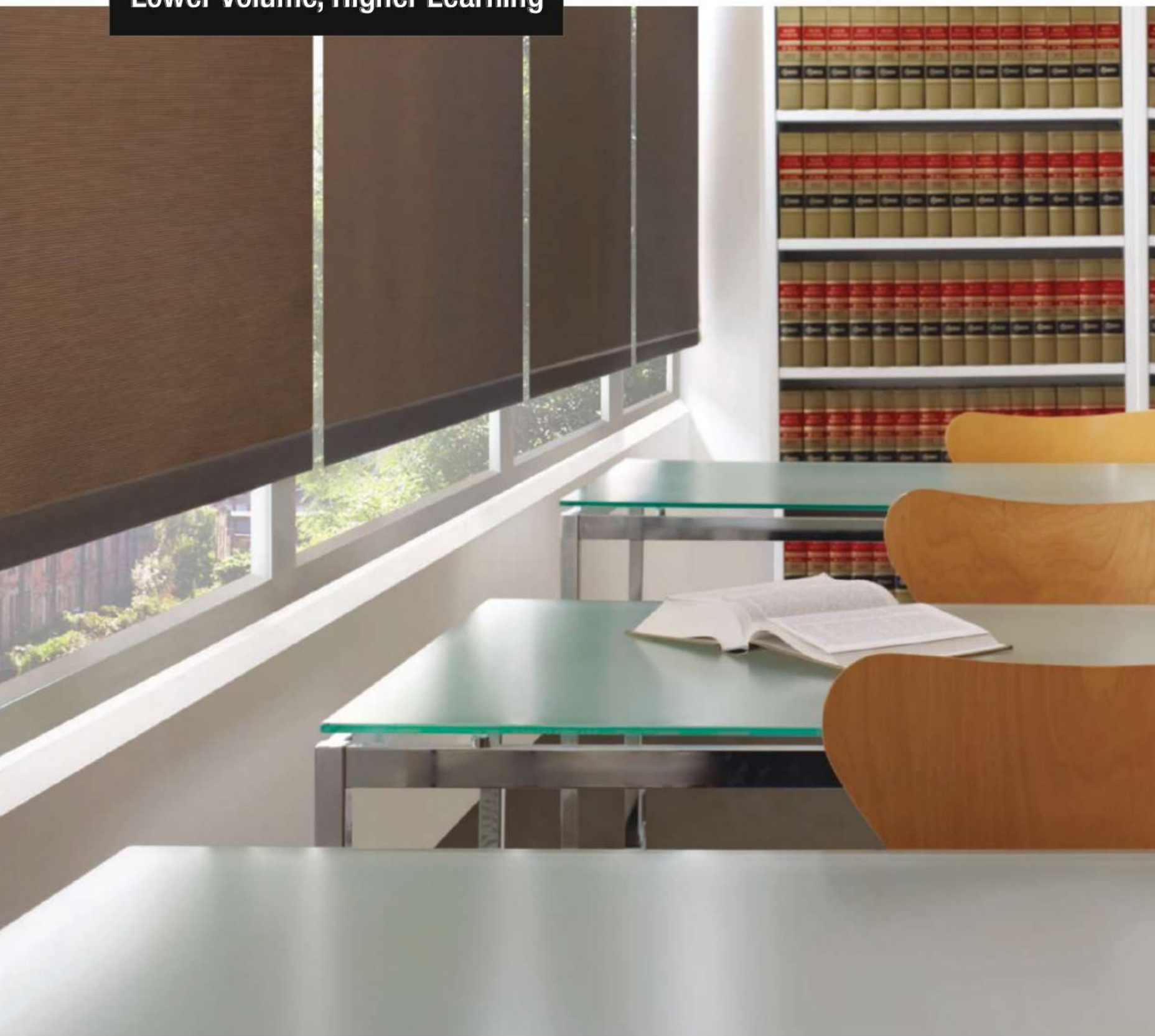
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**ON THE COVER:** Villa Vals, Switzerland, by SeARCH and Christian Müller Architects (CMA). Photograph © Iwan Baan.

This month on our Web site, take **video tours** of Morphosis's new building for Cooper Union with **Thom Mayne**, and one of our Record Houses with **Rick Joy**. We also speak with the curators of an exhibition of **Palladio drawings** and visit this year's **imm Cologne** furniture fair.



[ HOUSE OF THE MONTH ]

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1 | RECORD TV  
Thom Mayne of Morphosis takes us on a tour of his firm's recently completed 41 Cooper Square. Plus, Rick Joy walks us through his Woodstock Farm house.

2 | EXHIBITIONS

Read an interview with the curators of *Palladio and His Legacy: A Transatlantic Journey*, and view dozens of images from the exhibition.



[ READER'S FORUM ]

"I agree that 'Middle America deserves good design, too.' There seems to be a growing trend among young, unlicensed architects—who want to work during a time when firms are laying off—to seek out unconventional ways to express themselves. These young designers are changing the way that architecture is practiced."

— Anonymous, on "Putting Yourself Out There" in our *Recession and Recovery* section.

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RECORD NEWS  
Daily coverage of everything from new projects (such as the prefab Libeskind house above) to the economy.



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3 | TRADE SHOWS

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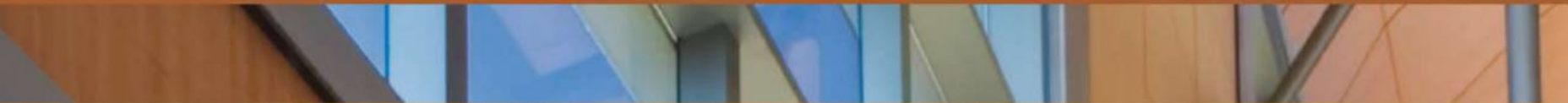
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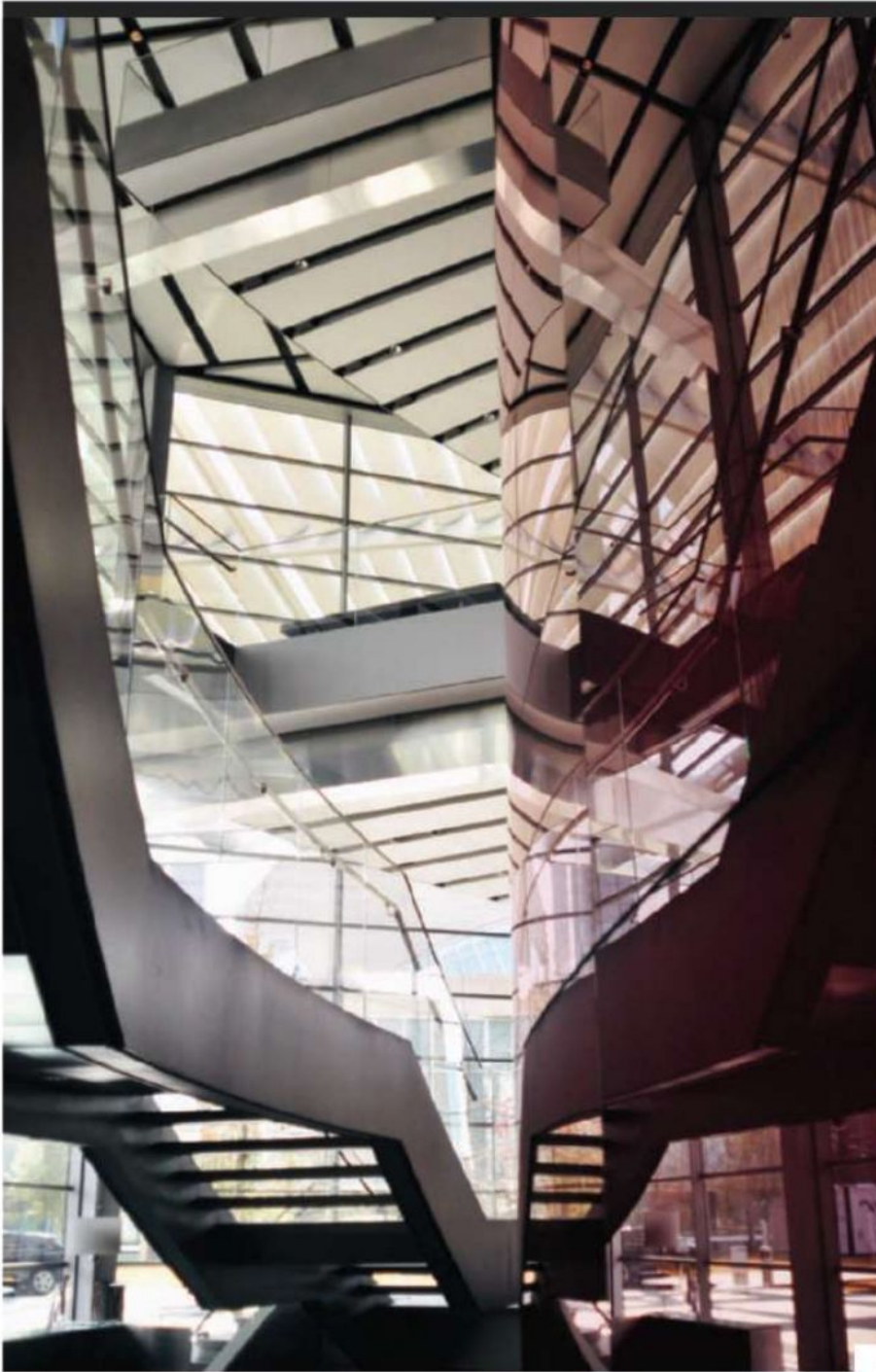
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Every month, our online readers vote for their favorite images from our Web galleries.

The top three photos appear on this page. To vote for photos and to share your own, visit [architecturalrecord.com](http://architecturalrecord.com) and click on Community.



1. The Winspear Opera House in Dallas, designed by Foster + Partners. Photo submitted by "photo\_tect."



2. The Norveg Coast Cultural Center in Rørvik, Norway, designed by Gudmundur Jonsson Architect. Photo submitted by "gjonsson."

3. St. Luigi Orione Church in Lviv, Ukraine, designed by Mykola Rybenchuk/Symmetry Architectural Studio. Photo submitted by "symmetry."

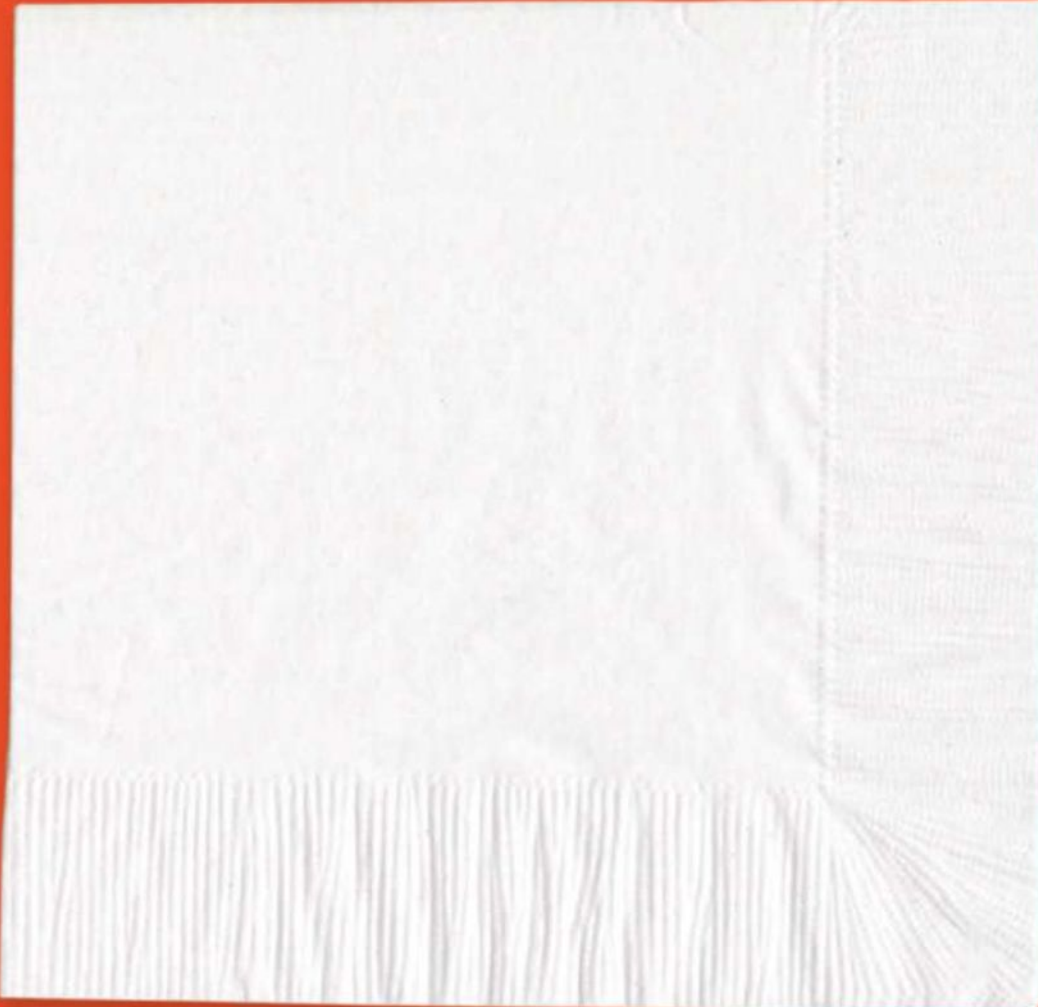
# Announcing the ARCHITECTURAL RECORD Cocktail Napkin Sketch Contest



Architects have long been known to grab a cocktail napkin and start sketching when explaining or working out a design concept. Stories abound about famous works of architecture resulting from this seemingly effortless gesture. In this increasingly digital age, ARCHITECTURAL RECORD hopes to encourage such spontaneous creativity with its own cocktail napkin sketch contest.



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## Call for Entries

If you are a practicing architect in the United States (or trained as one), you can enter this remarkable contest. All you need is a white cocktail napkin and a pen to demonstrate that the art of the sketch is still alive. The winning submission will be published in the August 2010 issue of ARCHITECTURAL RECORD and online. (In addition, the winner will receive a box of cocktail napkins with the winning sketch printed on them!) Contest runners-up will be included in the online Cocktail Napkin Sketch Gallery. Judges for this contest are ARCHITECTURAL RECORD editors.

All materials must be postmarked no later than Monday, June 21, 2010.

### HOW TO ENTER:

- Create a sketch on a 5-inch-by-5-inch white paper cocktail napkin.
- Please use ink or ballpoint pen.
- Include the registration form available at [architecturalrecord.com/call4entries](http://architecturalrecord.com/call4entries).
- Send all submissions in one envelope to: Cocktail Napkin Sketch Contest, Architectural Record, Two Penn Plaza, 9th Floor, New York, N.Y. 10121-2298.
- Sketches are to be drawn specifically for this competition.
- You may submit up to 6 cocktail napkin sketches, but each one should be numbered on the back.
- No digital entries and no digital files are accepted!
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See registration form for additional information. Go to [architecturalrecord.com/call4entries](http://architecturalrecord.com/call4entries).



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## Biomania

### Architecture goes back to nature

BY ROBERT IVY, FAIA

**BIOPHILIA, BIOMIMICRY, BIONIC ARCHITECTURE:** In searching for a meaningful theory, a conceptual framework on which to construct our architecture, three little letters have sprouted like fresh spring grass – all hail, the prefix *bio*. Today, in the age of biodiversity, it seems that every other architect has clipped a portion of the Greek root word for life, *bios*, and attached it, like a philosophical lifeline, to projects. Call the current fascination *biomania*.

Fashionable “isms,” in this case using nature as referent, sometimes suffer from the self-absorption and arrogance of the arriviste: What could possibly have interested us prior to the enunciation of these critical principles? Yet popular new theories often have roots that go back in time. Such is the case with today’s bioarchitecture.

Much of the new architectural bioterminology owes a debt to the American organic tradition, including the theories of Louis Sullivan and Frank Lloyd Wright. Wright built upon Sullivan’s legacy, investing the term *organic architecture* with new meaning. Although Wright never fully or adequately described *organic*, he said a great deal about the term. At its core, Wright described a unified architecture, in which all elements interrelate, and though explicitly human-made, respond to nature. He frequently referred to the whole/part relationship, in which small details and large systems have an affinity. Ultimately, in Wright’s world, entire buildings relate to their natural environment (“a house should not be on but of a hill”): The human-made world and the natural order conjoin.

If Wright’s own organic work describes a kind of pairing with nature, today’s architectural theorists have come up with a specialized-sounding term, *biophilia*, with its own distinct set of meanings. Perhaps less daunting than it sounds (while etymologically pure, the term nevertheless unfortunately conjures up something ultra-scientific or even, perish the thought, parasitic), *biophilia* is attracting broader attention, primarily through the sustainability movement. Coined by the biologist E.O. Wilson, *biophilia* literally means “love of life or living.” As the writer B.J. Novitski reported in *GreenSource Magazine* (“Courting Nature in Design,” March 2009, page 102), “... we haven’t evolved away from a psychological dependence on the natural world.”

Architectural attributes of biophilic design include attention to basic design elements, such as proximity to daylight, to natural ventilation, and to other living things. Using these principles, architects are designing with a kind of psychological GPS, anchoring a building’s inhabitants safely and comfortably within protected spaces while allowing them a far-reaching perspective onto changing events. When low lighting levels or security requirements preclude the introduction of life-enhancing plants, designers sometimes construct biophilic analogues – such as treelike forms – that produce similar feelings for their users. Biophilic design acknowledges our human roots and responds to our needs.

Biomimicry, a system initially articulated and propounded by scientist and author Janine Benyus, “is the examination of nature, its models, systems, processes, and elements to emulate or take inspiration from ...” In biomimicry, we look to natural systems or processes and examine how they

might have applications for us. Spiders, for instance, spin skeins of silk that approximate the strength of Kevlar, all through natural means. Leaf composition may point the way to structuring more efficient solar cells.

Benyus describes three ways of examining nature: Nature as model (how does nature do it?); nature as measure (what will last?); and nature as mentor (changing our point of view about the larger world). While many biomimetic projects will produce industrial or behavioral applications, another, more explicitly architectural, theory takes biomimicry one step further.

Bionic architecture, a theory formulated by two Spanish architects, María R. Cervera and Javier Pioz, suggests a new architectural and engineering language whose framework is derived from nature. Rather than imitating natural forms, their architecture takes cues from nature’s inherent or underlying principles, then translates those systems into new forms. How does the bone structure of a bird wing create maximum strength with minimal mass? The results are less literal and more inspired by nature – a new organicism, if you will.

The architects’ Vertical City has been generating controversy within the academic world for a decade. It is a mixed-use “biostructure” that will hold 100,000 persons, save vast areas of land, and reach a height of 4,029 feet. If once thought fantastic, the Vertical City seems attainable in light of the Burj Khalifa. Cervera and Pioz have been developing their plans for a potential location in Asia, possibly Shanghai.

Biomovements are widely dispersed globally. In Japan, the HTA Association and the publisher Shinkenjiku recently published books on “honeycomb architecture,” reminiscent of the ideas and work of Buckminster Fuller. The authors claim to have developed a hyperefficient system, derived from “close observation of the cells of the beeswax membranes” that “inspired the development of precast prestressed concrete honeycomb tube architecture.” Hexagonal forms, repeated, stacked, and bent into curvilinear forms, offer maximum structural capacity with minimal framework (literally, less material required for construction), a sustainable architecture derived from natural models.

Whether stacked, folded, or curved, imitating nature or derived from its principles, the work of today’s architects and the ideas of architectural theorists are sometimes returning to nature for inspiration. After a period that emphasized pure form, we welcome theories that attempt to relate the human being to the larger, natural order, whether biophilic, biomimetic, or bionic – including honeycombs. In all three cases, the ultimate source of the terminology and of the ideas affirms life and offers a new organicism for a technological age. They simply deserve better names.

# LETTERS

## Lessons learned from Haiti

It seems it is only through natural catastrophes or acts of terrorism that we learn our weaknesses. The earthquake in Haiti [February 2010, "Aftershock," page 15] should be the last straw on the camel's back that pushes us to consider enforcing building codes internationally. Some believe that third-world countries do not have sufficient jurisdiction to develop codes and requirements as sophisticated as those of "developed countries." Perhaps if an international authority creates a system of implementing codes in all countries, it may aid in preventing the chaos that happened in Haiti.

*Manish Kalantri*  
New York City

The lessons drawn by Robert Ivy from the Haiti quake – essentially, that Haiti should become more like the U.S., with more transportation infrastructure and building codes – are unrealistic and unnecessarily

narrow in scope. The quake had its destructive effects multiplied primarily by Haiti's poverty. As architects in the U.S., we can help both by providing economic and professional support through organizations such as Partners in Health or Architecture for Humanity, but we can also contribute to longer-term solutions. The majority of death and suffering has and will be borne by the poorest sectors of the population, driven out of the countryside by policies explicitly designed to leverage and increase Haiti's "comparative advantage" – cheap urban labor – at the expense of its "uncompetitive" local industries, which were underdeveloped to favor foreign, largely U.S. imports instead. These policies, partners to the numerous military interventions that we've imposed on Haiti, emanated out of Washington, and have resulted in net transfers of wealth to the affluent sectors of both Haiti and the U.S. As architects and

planners, we are trained to consider the Big Picture when designing; in this case, we should not ignore the role that our economic and political policies have played in increasing Haitian vulnerability, making any solutions constrained within the traditional fields of architecture or urbanism hopelessly inadequate. We can propose all the building codes we want, but so long as they apply to people packed onto unstable hillsides subsisting on meager wages, they're unlikely to have much effect.

*Erik Mar, AIA*  
Santa Monica, Calif.

## Opera critic

I have been to several performances at the Winspear, Foster + Partners' handsome Opera House addition to the Dallas Arts District [February 2010, page 52]. There are several aspects that are troubling that your article fails to note. First, the lobby is too shallow. Crowds of theatergoers are funneled through

a narrow point on entry, and again upon exit. Apparently, the desire to maximize the outdoor overhang experience took precedence over crowd-control issues. This appears also to have influenced the design of the monumental staircase, which squeezes the space and impairs the flow of traffic from east to west. Furthermore, the splendor of the opera house is diminished by the golden glitz on the balcony fronts – audience members are constantly aware of the multiple embracing arms of the balconies.

*Bernard Bortnick, FAIA*  
Dallas

## Corrections

Our December 2009 story about the Jane and Arthur Stieren Center for Exhibitions [page 96] was mistakenly identified as the Jean and Arthur Stieren Center for Exhibitions. We apologize for the error.

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

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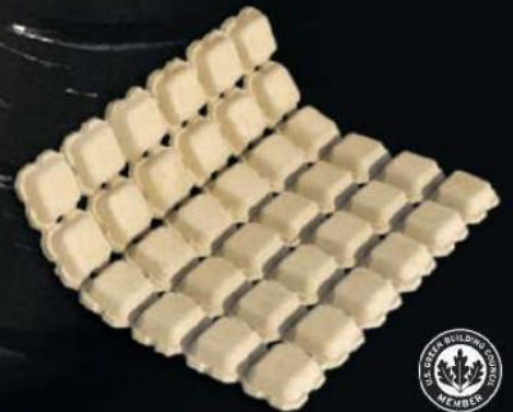
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[ CHINA DISPATCH ]

## Fire-Ravaged TVCC Will Be Repaired

**CHINA'S MAIN TELEVISION BROADCASTER,** CCTV, has begun major repairs on a 44-story tower at its OMA-designed Beijing headquarters, more than a year after a severe fire gutted the building and fanned controversy about the long-delayed project.

In a newly issued report, a joint committee under China's State Council affirms the structural soundness of the Television Cultural Center, or TVCC, a concrete-and-steel tower shaped like a boot that will house a 241-room hotel, a theater, and TV studios. The February 2009 blaze, sparked by errant fireworks set off at the site during Lunar New Year celebrations, led to the death of one firefighter and damages estimated to be worth 160 million yuan (\$23.4 million).

The announcement came shortly before Ole Scheeren, director of OMA's Beijing office and co-architect of the project with Rem Koolhaas, revealed that he would be leaving the firm to start his own studio and to teach.

Built at an estimated cost of \$732 million, the TVCC building was set to open last May. The fire not only delayed its completion, but also the debut of the neighboring CCTV tower, slated to open last October. Although the CCTV building wasn't damaged by the blaze, an investigation into the incident rocked the company, slowing construction at the site and drawing scrutiny to the project.

While the government's official report has not been made public, Scheeren told the Associated Press in October that the building's concrete structure was sound, with major fire damage limited to the glass-and-metal exterior. Accounts indicate that the blaze easily spread due to the lack of functioning fire-suppression equipment and the presence of a roofing membrane made of ethylene-propylene-diene-monomer (EPDM), which can be combustible. A similar material was reported to be a primary agent in a May fire that struck a Zaha Hadid–designed opera house still under construction in Guangzhou.

CCTV officials would not comment on the reconstruction, nor would OMA or the engineers (Arup and the Chinese firm ECADI). Sally de Souza, a Mandarin Oriental spokeswoman, said her company still plans to honor its long-term contract to manage the building's luxury hotel "once construction is fully completed," but she gave no timetable.

Though the new report settles some speculation over TVCC's future, it has not quelled rumors across Beijing about the building's structural integrity and reputation. "From a commercial point of view, people hold a hostile attitude toward a badly damaged building. It is devalued at least by 70 percent in my opinion," Lin Bo, a curator of Beijing's Architectural Biennial, told the *Global Times*. An unnamed architecture professor at Tsinghua University who has held governmental positions told RECORD that he was surprised by the decision to reconstruct. "What official would be willing to risk his reputation on salvaging a building that has suffered that kind of damage?" *Alex Pasternack*

[ RESIGNATION ]

## Scheeren Departs OMA



**OLE SCHEEREN**, director of OMA's Beijing office, is leaving to start his own

studio. He has also accepted a visiting professor position at Hong Kong University. "My collaboration with Rem Koolhaas and OMA has been an extraordinary experience," Scheeren, 39, stated. "The time has now come for me to pursue new opportunities, and I am very excited about

this next phase of my work."

Born in Germany, Scheeren graduated from London's Architectural Association. In 1995, he joined OMA and was named a partner in 2002. He oversaw the firm's work for Prada before helming its Asian operations.

Koolhaas said Scheeren "has played a significant role" in

developing OMA's Beijing office. He added: "After 15 years of collaboration, we have now decided to work independently. I am personally looking forward to furthering OMA's activities in Asia." David Gianotten, general manager of OMA Asia, will now oversee the firm's Beijing and Hong Kong offices. *Alex Pasternack*

### INSIDE THE NEWS

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Daily updates and expanded stories online at [architecturalrecord.com/news](http://architecturalrecord.com/news).



[ RESIDENTIAL ]

## What Will the Neighbors Think?

**DANIEL LIBESKIND HAS ADDED** an unusual building type to his design résumé: high-end, green prefab housing. The New York-based architect has teamed up with the German builder Proportion to produce a limited-edition series of 5,500-square-foot dwellings dubbed “Villa Libeskind.” A pro-

tototype (pictured) was unveiled last October in Datteln, Germany, on the campus of Rheinzink, the zinc panel manufacturer.

“This is the first small, intimate house that I have designed for an individual or a family, which really reaches into the depths of a new experience of living and architecture,” says Libeskind, who calls the residence a “walk-in sculpture.” Sheathed in pre-weathered zinc panels affixed to a structural wood frame, the two-level residence features Libeskind’s trademark sharp angles and asymmetry. It also includes all of the amenities befitting a luxury home: a fireplace, fitness room, wine cellar, and sauna. For the



interior design, buyers have a choice between the “Casual style,” described as warm and natural, or the “Libeskind style,” characterized as cool and sculptural. (Libeskind designed both options.)

Proportion aims to construct 30 Villa Libeskinds around the globe, although no city will have more than one. Each house is projected to cost between \$2 million and \$3.5 million.

Libeskind’s wife, Nina, chief operating officer of Studio Daniel Libeskind, notes that this is not your standard prefabricated home: “Daniel wanted to show that you could do something with the notion of a prefab that was still architecturally ambitious and distinctive while using the latest technologies.”

The house’s components will be made in Germany and then shipped to the building site, where construction should take four to five months. Sustainability is central to the design: The house will contain a geothermal heat-pump system, underfloor heating, and a rainwater collection system, among other green features. The villa is projected to use less than 40 kilowatt-hours of thermal energy per square meter each year. *Tony Illia*

[ NOTABLE HOUSES ]

## For Sale

### A SELLER’S MARKET

this is not. The Frank Lloyd Wright-designed Ennis House is still for sale 10 months after it was listed for \$15 million. In February, the price was dropped to \$10.5 million.

Built in 1924 for Charles and Mabel Ennis on a Los Angeles hilltop, the 6,000-square-foot Ennis House is the largest of Wright’s four textile-block-style dwellings. The house, which is listed on the National Register of Historic Places, has been a popular



location for movies, music videos, and photo shoots.

The Ennis House Foundation, which owns the landmark, has spent \$6.5 million on repairs due to earthquake and rain damage. Still, the house requires \$6 million worth of work. To prevent demolition, the foundation has put a conservation easement on the property. *Alanna Malone*

## Saving History



**A TWO-YEAR-OLD** organization dedicated to preserving Modernist architecture on Cape Cod has had its first success.

This month, the Cape Cod Modern House Trust will welcome visitors to the Kugel/Gips House, which it restored with the help of

volunteers including Fox Diehl Architects. Nestled on a small hillside, the 2,200-square-foot dwelling was designed by Charles Zehnder, one of the most prolific Modernist architects on the Cape during the 1960s and ’70s. The trust, led by designer Peter McMahon, plans to rent the house to summer vacationers and launch a residency program for artists and scholars.

Kugel/Gips is one of seven dwellings in the Cape Cod National Seashore that the group aims to restore. *David Sokol*

## Hope Floats

### CREATED FOR ACTOR

Brad Pitt’s organization Make It Right, the Float House is 1,000-square-foot, a single-family dwelling conceived by Morphosis Architects for New Orleans. The firm worked with UCLA graduate students to design and build the submersible chassis, which was shipped to the Lower Ninth Ward and assembled on-site.

Secured to the ground by two guideposts, the house has a prefabricated base made of polystyrene foam coated in glass-fiber-



reinforced concrete; this buoyant module lifts the entire structure in case of flood and also contains all power, water, and ventilation systems. The dwelling also features structural insulated panels, rooftop photovoltaics, a rainwater collection system, and energy-efficient appliances. *David Sokol*

IMAGES: © FRANK MARBURGER (TOP LEFT); JOHN VINCENTI (TOP RIGHT); COURTESY STUDIO DANIEL LIBESKIND (BOTTOM LEFT); MAKE IT RIGHT (BOTTOM RIGHT); CAPE COD MODERN HOUSE TRUST (CENTER RIGHT)

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## KieranTimberlake Wins Embassy Competition

**AS PART OF ITS** ongoing effort to fortify and modernize embassies worldwide, the U.S. State Department unveiled plans for its highest-profile project yet, awarding the New London Embassy to KieranTimberlake on February 23.

With a concept that seeks to blend iconic design with the State Department's demand for a highly secure and sustainable facility, the firm has earned equal parts praise from its client and derision from some critics.

At a cost of \$1 billion, according to *The Times* of London, the 500,000-square-foot facility would be the most expensive embassy ever built. Ground breaking is scheduled for 2013 with completion in 2017. The embassy will be built on a nearly 5-acre site on the south bank of the Thames River.

Stephen Kieran, AIA, says his firm saw the project as an opportunity to rethink the relationship between symbolic intent and security. The Philadelphia-based firm partnered heavily with consultants early in the process, including Sako & Associates for technical security. "Clearly this is a new architectural problem for all of us," Kieran said. "In the past, security has been handled as an 'add-on.' We think we've balanced the two in a new way."



While security features are mostly classified, the architect pointed to certain elements apparent on the exterior. For instance, rather than using fortress-like perimeter walls and fences, the embassy will be centered in a park. Spiraling walkways will create natural barriers, as will a large pond that some have dubbed "the moat."

For the chancery building, the architects propose a transparent, crystalline cube atop a colonnade. The building will be skinned with an ethylene-tetrafluoroethylene (ETFE) scrim that helps reduce solar gain while also transforming it into energy via a thin film of photovoltaics in the ETFE foils. Moreover, the skin is blast-resistant.

Kieran notes that the concept exceeded State Department goals for sustainability and is designed to meet LEED Platinum standards, with the potential to achieve carbon neutrality. "The intent is that no one will ever be able to know where aesthetics ends and performance begins," he says.

Although the design beat out concepts from Morphosis Architects, Pei Cobb Freed & Partners, and Richard Meier & Partners, it hasn't won praise from some key critics. Nicolai Ouroussoff of *The New York Times* called it bland with "all the glamour of a corporate office block." Bloomberg's James S. Russell wrote that because of the heavy focus on sustainability and security, the design "does not coalesce into a persuasive statement about America." And Jay Merrick of the U.K.'s *The Independent* acknowledged that the design likely has technical and operational merits but wasn't the most intriguing of the finalists.

Kieran says he won't be distracted by the controversy. "We have very positive views of the project, and we're going to go forward with that in mind," he said. "We understand and are aware of criticism, but it just comes with the turf." *Bruce Buckley*

[ HELP WANTED ]

## GSA Looking for a Green Chief

**OFTEN LOOKED AT AS** the federal government's "landlord," the General Services Administration has chosen to lead by example when it comes to sustainability. On February 22, the agency announced the creation of a new post: Chief Greening Officer.

The job will be part of the agency's Public Buildings Service division, helmed by Robert A. Peck, AIA. "We're going through a change, trying to figure out the best 'greening' bang for the buck," says Commissioner Peck. "And we have the opportunity to test some real measures to inform ourselves and the building industry about what works. We need one person to bring it all together."

The CGO will be responsible for incorporating green practices into the entire GSA inventory,

both owned and leased buildings. The officer will have a small staff and coordinate with officials in each of the GSA's 11 regions. Scott Conner, director of the Denver Federal Center for GSA's Rocky Mountain Region, will temporarily fill the role while the GSA searches for a permanent candidate. A hiring is expected this spring.

"The right person could be an architect, engineer, or a music major, a current government employee, or someone from the outside," Peck says. "They need to have hands-on experience with green-building work, either in property management or design/construction, and a track record of making green things happen." *Alanna Malone*

[ CAPITOL HILL ]

## An AOC Nominee, At Last



**THE MAN WHO HAS HEADED** the Architect of the Capitol (AOC) agency on a temporary basis since 2007 is a step closer to becoming its permanent leader.

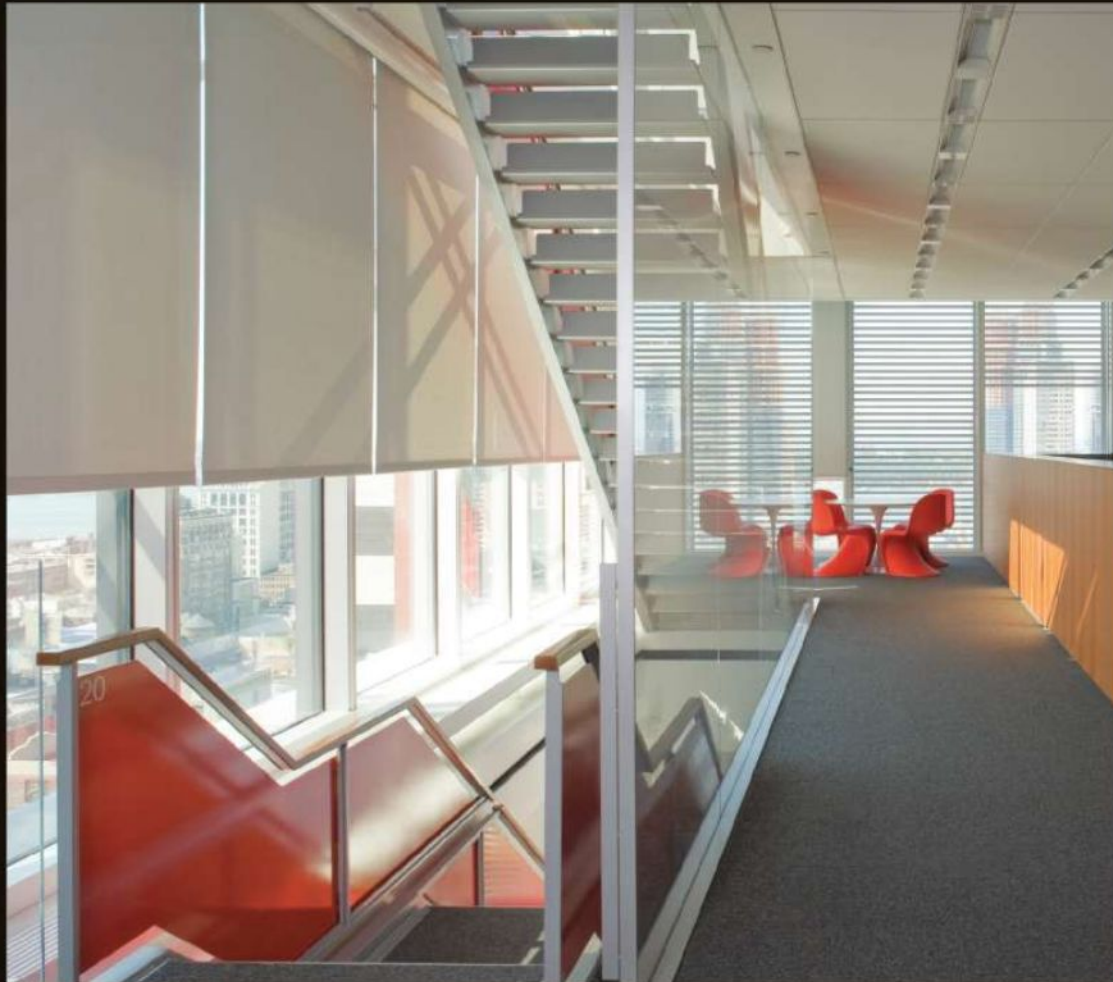
On February 24, President Obama officially nominated Stephen Ayers, AIA, for the job. His nomination now goes to the full Senate for confirmation.

The AOC is responsible for the upkeep of the U.S. Capitol complex, including the Capitol and the Supreme Court building. Ayers has served as head of the AOC since February 2007, when his predecessor, Alan Hantman, stepped down after a 10-year term. *C.J. Hughes*

[Read the full story online.](#)



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[ CELEBRATING DESIGN ]

## For Architecture Fans, a Not-to-Miss Event

**ON A 2003 TRIP TO TORONTO** with her husband, Sharon Efenbein of Denver picked up a copy of *The Toronto Star* and came across an insert about "Doors Open Toronto." Started in 2000, the two-day event offers architecture lovers the opportunity to explore buildings that are either closed to the public or normally charge an entrance fee. (This year's event will be held May 29 and 30.) Newspaper guide in hand, the Efenbeins decided to spend a day visiting some of Toronto's architectural treasures.

"We saw some very interesting buildings," Sharon Efenbein says. "And on the way back home, we thought, Why not do this in Denver?" Efenbein, who had just retired from her position as an aide to a Denver city councilwoman, convinced Mayor John Hickenlooper to get on board, and in April of 2005, Doors Open Denver (DOD) was launched.

Five years later, it has become a popular two-day event. On the morning of the first day, hundreds of participants line up outside of historic Union Station, event headquarters, to get free tickets for various walking tours, often led by architects. (Tours are optional; most buildings are open to anyone who wants to walk in.) Last year, even a powerful spring blizzard failed to dampen the enthusiasm of devotees.

The theme for this year's DOD, scheduled for April 17 and 18, is "Denver Redux/ Denver Redo: Buildings With a Second Life." Among the 80 sites are a car dealership turned architecture firm and a paint warehouse turned loft space. Efenbein, now chairwoman of the DOD Leadership Council, says the event provides a great opportunity to showcase Denver and "to make people proud of what is here."

A number of cities around the world now offer Doors Open days. The idea seems to have started in France in the 1980s and then spread to other European locations such as Glasgow and London. Lowell, Massachusetts, claims to be the first U.S. city to launch a Doors Open event, in 2002. (This year's will be May 14 through 16.) Like Denver's, it was inspired by Doors Open Toronto.

The biggest in the United States appears to be Open House New York (OHNY), started in 2003 and held one weekend every October, with other activities scheduled throughout the year. In 2009, according to Executive Director Renee Schacht, more than 185,000 people visited 192 sites in all five boroughs of New York. With three full-time employees and a \$300,000 annual budget, OHNY is the envy of Denver's officials, who hope to expand DOD to include year-round events.

That will take more funding, however, which isn't easy in the current economy. Sponsored by the Denver Architectural Foundation, DOD's \$100,000 budget comes from various sources, including the City of Denver and the National Endowment for the Arts. Dennis Humphries, principal of Humphries Poli Architects, leads the fundraising efforts, while DOD's one full-time employee, Project Manager Carol Hiller, handles logistics. She also spends a fair amount of time talking to officials from other cities intrigued by the Doors Open concept. "More and more cities want to learn how to do this," she says, "and they come to us to see how it's done." *David Hill*

**ABOVE: TAXI 2, a mixed-use project by Will Bruder, is one of 80 venues open to the public during Doors Open Denver.**

[ OBITUARIES ]

### Raimund Abraham, 76

Raimund J. Abraham, an Austrian-born architect and educator, remembered as an unflinchingly independent thinker, died in a traffic accident on March 4. The early-morning collision between the car he was driving and a city bus came after the dinner following a lecture he'd given at SCI-Arc, where he was currently visiting faculty.

Known for his bladelike Austrian Cultural Forum building [RECORD, August 2002] in New York City, and his forceful, deeply textured, often visionary hand-drawings, Abraham was most of all a passionate and influential teacher. Closely allied with John Hejduk's leadership at the Cooper Union, he taught there – for three decades beginning in 1971 – and also at schools including the Pratt Institute, Harvard, and Yale. A familiar figure with his fedora and shaggy mustache, Abraham had a legendary personality, ranging from cantankerous to warm and inspiring. With classic Abraham idealism, rousing his students to pursue alternative paths, his final lecture concluded with: "You don't have to become a slave in a corporate office or a groupie of a celebrity architect. All you need is a piece of paper, a pencil, and the desire to make architecture." *Sarah Amelar*



### Herb McKim, 82

Herbert (Herb) Pope McKim, FAIA, died March 3 at his home in Wilmington, North Carolina. He was a founding partner at Ballard, McKim & Sawyer Architects (now BMH Architects), where he worked for 45 years. McKim was lead architect on several notable projects in his home state, including

chemistry buildings at North Carolina State University and at the University of North Carolina–Chapel Hill. He served for a decade on the North Carolina Board of Registration, and in 2001, received his state AIA chapter's highest annual honor, the F. Carter Williams Gold Medal. *Tom Sawyer*

### Eduardo Catalano, 92

Eduardo Catalano, an inventive Argentine architect and longtime professor, died on January 28 in Cambridge, Massachusetts.

Born in Buenos Aires, Catalano studied architecture at the University of Pennsylvania and Harvard. He is best known for the Raleigh House (1954), a glass pavilion topped by a 4,000-square-foot hyperbolic paraboloid roof. The three-bedroom dwelling, which Catalano designed for himself while living and teaching in North Carolina, was named "House of the Decade" by *House and Home Magazine*. It was demolished in 2001 after years of neglect.

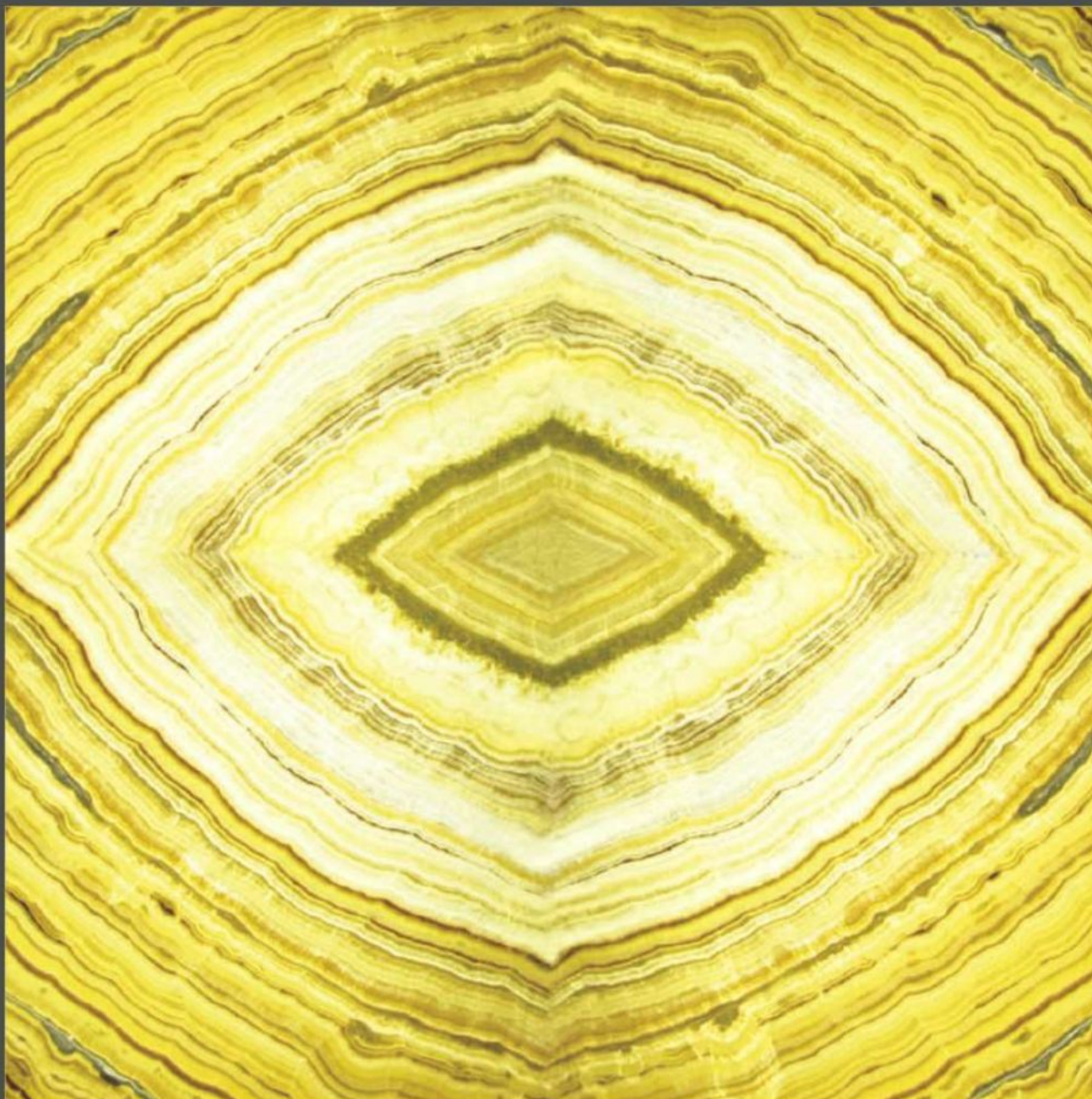
Catalano's other projects include the Juilliard School of Music in New York City (1969), with Pietro Belluschi, and MIT's Stratton Student Center in Cambridge (1965). He taught at MIT from 1956 to 1977. *Jenna M. McKnight*



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CIRCLE 15

## RECORD NEWS

[ WTC REBUILDING ]

### Spielberg Focuses on Ground Zero

**A FILM LEGEND** who has taken on D-Day, slave revolts, and the Holocaust is aiming his cameras at the site of a solemn modern-day event.

Steven Spielberg is serving as executive producer of *Rebuilding Ground Zero*, a six-part television documentary about the construction efforts at the former World Trade Center. The show, which began shooting in mid-February in Lower Manhattan, is set to air on the Science Channel in fall 2011, in time for the 10th anniversary of the September 11 terrorist attacks.

Conceived by Brooklyn-based architect Danny Forster, who will provide narration, and Jonathan Hock, who will direct, the show will largely celebrate architectural and engineering accomplishments at the site. An entire episode will be dedicated to One World Trade Center, the 1,776-foot office tower by David Childs, FAIA, of



Skidmore, Owings & Merrill, which is one of four towers planned for the 16-acre site. (In early February, Spielberg paid his first visit to the site and signed a beam that will end up on the skyscraper's 20th floor.) A transit hub by Santiago Calatrava, FAIA, will be profiled in a separate episode, and the site's memorial, designed by Michael Arad, AIA, will be featured in a third.

The show will also weave in stories about the workers constructing the new buildings, some

of whom also helped rebuild the original World Trade Center after it was bombed in 1993.

What won't likely be seen are shots of the Twin Towers collapsing. The show also won't dwell on the infamous delays that have stemmed from squabbles over design requirements and financing. "This show is about looking forward," says Forster, who currently hosts *Build It Bigger*, a three-year-old architecture-themed program also on the Science Channel. *C.J. Hughes*

## ON THE BOARDS

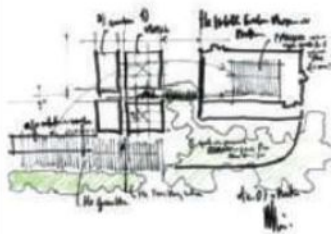


### Korean Cultural Center

LOCATION **New York City**

ARCHITECT **SAMOO**

In March, the Korean Cultural Service of New York selected SAMOO Architects and Engineers to design a 33,000-square-foot, eight-story cultural center that will accommodate exhibitions and performances. Suspended within a glass box, three volumes clad in polished ceramic, rough terra-cotta, and milled wood will hold much of the program, their form and material "representing Heaven, Earth, and Humanity." Construction is slated to begin at the end of 2010.



### Gardner Museum Extension

LOCATION **Boston**

ARCHITECT **Renzo Piano**

For the Isabella Stewart Gardner Museum, a 108-year-old private museum designed to resemble the Venetian Palazzo Barbaro, Renzo Piano Building Workshop will place a new addition 50 feet away from the existing structure. The 70,000-square-foot wing – a series of glass and copper volumes – will double the Gardner's floor space. The program includes an expanded entrance, performance hall, special gallery, classrooms, conservation labs, and artist-in-residence dwellings.



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CIRCLE 16



## AIA Fellows Announced

**THE AIA HAS ELEVATED** 134 association members to its College of Fellows, an honor that recognizes architects who have made notable contributions to the profession and society. Fewer than 2,900 of the association's 83,000 members are fellows. The AIA also has announced its 2010 Honorary Fellows, a distinction bestowed on foreign architects. This year, 11 architects, representing Australia, Denmark, Ireland (2), Korea, South Africa, Spain (4), and the United Kingdom, earned the distinction. To see the names of all new AIA fellows, visit us online. *Jenna M. McKnight*

## Free Data Exchange Tools

**IN AN EFFORT TO EASE** the exchange of structural information, software developer Bentley Systems has released two free applications: Structural Synchronizer V8i and Structural Dashboard V8i. The tools provide a host of features, including a shared repository for structural model data, the ability to pass data back and forth among several applications (including those created by other vendors), and the capability to track revisions. The tools support a workflow management process that Bentley has dubbed Integrated Structural Modeling, or ISM. *Joann Gonchar, AIA, and Tom Sawyer*



## Rising Currents at MoMA

**AN EXHIBITION THAT PRESENTS** "soft" infrastructure solutions to rising sea levels around New York is now on view at the Museum of Modern Art in New York City.

*Rising Currents: Projects for New York's Waterfront* features drawings and models conceived by five multi-disciplinary teams, led by designers from Architecture Research Office, LTL Architects, Matthew Baird Architect, nARCHITECTS, and SCAPE. The teams developed their concepts during an 8-week architects-in-residence program at the P.S.1 Contemporary Art Center, in Queens.

The inspiration for *Rising Currents*, according to the organizers, was a report on urban flooding produced by the 2007 Latrobe Prize team. The exhibition runs through October 11. Visit us online to read more. *Alanna Malone*

## Architectural Billings

In February, the Billings Index hit 44.8, up two points from January's 42.5. The inquiries score was 52.0. In terms of regional scores, the Midwest came out on top, with 49.4, while the South registered the lowest (40.7). Building type scores hovered in the 40s: residential, 47.3; institutional, 44.2; mixed, 43.3; and commercial, 43.2.



Read the full stories, along with daily headlines from media sources around the world, at [architecturalrecord.com/news](http://architecturalrecord.com/news).

IMAGE: ARO AND DLANDSTUDIO (CENTER)

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# The emerging architect

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**Forte, Gimenes & Marcondes Ferraz Arquitetos**



**PRINCIPALS:** Fernando Forte, Lourenço Gimenes, Rodrigo Marcondes Ferraz

**LOCATION:** São Paulo, Brazil

**FOUNDED:** 1999

**DESIGN STAFF:** 18

**SELECT WORK HISTORY:**

Forte: Academic – Universidade de São Paulo, São Paulo, Brazil, 2007–09; Gimenes:

Jean Nouvel, Paris, 2000–01; Cabinet Alliaume, Paris, 2000; Academic – Instituto Europeo di Design, São Paulo, 2006–09; Universidade Paulista, Sorocaba, Brazil, 2004–07; Universidade de São Paulo (PAE), 2003–06; Marcondes Ferraz: Zanettini Arquitetura, São Paulo, 1998–99; Academic – Universidade Paulista, 2006–07

**KEY PROJECTS:** 2009: Kaze Building Paulista, São Paulo; Natura Houses, São Paulo; 2008: FDE School, São Paulo; Faber-Castell Industry, São Carlos

**KEY CURRENT PROJECTS:**

2011: Zarcos Natingui, São Paulo; 2013: Coral Beach Condominium, Ceará, Brazil

**WEB SITE:** [www.fgmf.com.br](http://www.fgmf.com.br)

**WHEN BRAZILIANS FERNANDO FORTE,** Lourenço Gimenes, and Rodrigo Marcondes Ferraz met at the Universidade de São Paulo's School of Architecture and Urban Planning, they were pretty confident they would each change the world with their individual design acumen. It wasn't until the year they were to graduate that they realized they all had very similar philosophies about how the perfect architecture practice would operate. "We all agreed on what an architecture office should be," says Forte, "but an alignment in our design philosophies came later. We started the firm even before graduation, and our office together was, at the beginning, like a second school where the construction sites were our teachers."

Now in its 10th year, Forte, Gimenes & Marcondes Ferraz (FGMF) has grown from three to 18 employees, and the three founders have indeed made an impression on the built environment in Brazil. From their first project of a small restaurant in the woods of São Paulo, built for a friend, to a small store in a mall, an apartment, their current roster of large-scale condominiums, a flagship auto showroom, and a polo complex, as well as houses and a complicated urban-renovation project in downtown Rio de Janeiro, the three architects have never lost their individuality as designers, or their ambition to grow the firm. Libraries, museums, airports, stadiums – these are the kinds of projects FGMF is currently competing for. "We'd like bigger assignments, but we'll never stop loving to design houses," says Forte. "Houses are where we can really explore new concepts."

According to Gimenes, architectural innovation in Brazil these days isn't as simple as it might seem, given the rich architectural tradition the country is known for. "We certainly have had some fantastic architects dating back to the 1940s and '50s," he says. "And architects such as Oscar Niemeyer, Vilanova Artigas, and Paulo Mendes da Rocha have had a strong influence on the newer generations. Because of that, I feel like we have some reticence about innovation in Brazil – it is too hard to break with our traditions, too painful to question it. Our 'vanguard' is too conservative."



1. In a very humid area in São Paulo, the Grid House is suspended above ground. The bridge structure may be crossed from the rooftop garden, from another garden below, or through the house across an external covered area.

2. The FDE Public School, in São Paulo, integrates public and semipublic spaces, with a central public plaza and recreation space for the community.

Forte agrees. "We had and still have great architects in Brazil," he says. "Unfortunately, the 1970s and '80s were terrible for architecture here (dictatorship, a polarization between left- and right-wing architects, and other problems). This has led to the majority of new construction being mediocre and makes investigative architects struggle to find work."

Divided into two volumes, this small office building in São Paulo, called Zarvos Natingui and scheduled for completion in 2011, will have a lower-level group of offices with double-height ceilings, and upper level offices with extensive balconies and access to a rooftop garden.



Gimenes goes on to say that FGMF's goal is to create something new, without denying good traditions. "We have a commitment to try to think differently on every new project: We want every one of them to be a threshold in our development, but also a question mark in our architectural environment."

The three agree that some of their colleagues appreciate the freedom of FGMF's work, but also note that some find they lack a "style" or consistency. Forte says that is just great. "That's the way we want to work forever," he says. "We want every project to look different from our last. Every time I open a good architectural magazine, it's like an inspirational punch in the face. There are so many possibilities, so much to keep us enthusiastic." *Ingrid Spencer*

work

University of Colorado Design Build



FROM ITS TWO SOLAR DECATHLON wins to its innovative TrailerWrap projects to its current work with Habitat for Humanity, the University of Colorado's (CU) College of Architecture and Planning design-build program on campuses in Boulder and Denver has been educating students for 11 years with small-scale, hands-on projects that provide architectural solutions focusing on community outreach and service learning. The projects, and programs, have lasting effects on both the students and the community, as demonstrated by CU's latest completed project for Urban Hens.

Urban Hens, developed in Boulder, was the brainchild of Wynn Martens and Jeanne McDonald, of CU's Children, Youth, and Environments Center for Research and Design. They came to CU architecture professor Rob Pyatt, Assoc. AIA, and asked him to help them build a modern, urban hen house. The idea was to use raising chickens as a way to promote healthy living, community building, and environmental sustainability. Pyatt, with assistant professor of architecture Matt Jelacic and associate chair of CU's architecture department Rick Sommerfeld as advisers, took on the project as an independent study program with six environmental-design students (15 additional students were involved in the construction). "The Urban Hens project has been great fun," says Pyatt. "Many of my colleagues laughed at me for taking it on, but I loved the simplicity of it and the fact that to really design an urban coop you needed to understand the complex systems at work. We spent a lot of time diagramming and discussing the larger food issues, the slow-foods movement, dynamics of poverty and food, and how it all fits into our local culture. Climate issues and the durability of materials, hen health and maintenance, predator protection, the human-hen interface, the garden and compost – and

**PROGRAM AND LOCATION:** Design Build at the University of Colorado, College of Architecture and Planning, Division of Environmental Design, in Denver and Boulder

**FOUNDED:** 1999

**LEADERS:** Rick Sommerfeld, associate chair of architecture department; Rob Pyatt, professor of architecture; Matt Jelacic, assistant professor of architecture

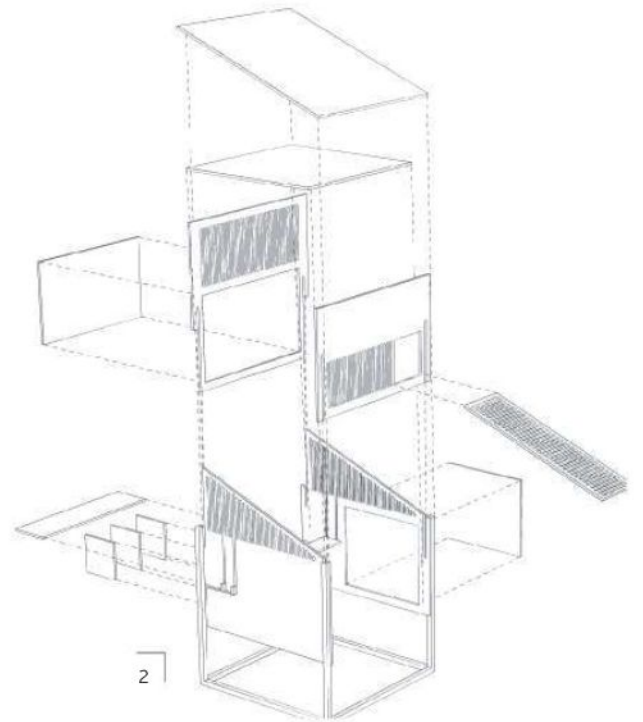
**KEY PROJECTS:** 2010: Columbia Cemetery Design Build; 2009: Boulder Museum of Contemporary Art; Ongoing: Boulder Community Center; Urban Hens; Habitat for Humanity; Growing Gardens Agricultural Education and Community Center

**WEB SITE:** [ucdenver.edu/academics/colleges/architectureplanning](http://ucdenver.edu/academics/colleges/architectureplanning)



1. Students build a prototype coop at the Boulder Museum of Contemporary Art.

2. Jeffrey Troutman and Dustin Black, students with the Urban Hens project, worked with students at CU's Leeds School of Business to develop a business plan to design and market a flat-pack coop.



linking that to the kitchen – all became part of the project." Says Sommerfeld, "This project wouldn't have been successful if we couldn't have made it affordable. Rather than a single structure where all materials are donated, it solves the problem of how a human can interact with a sustainable food source in an affordable, repeatable project."

Designed to house four to six chickens and withstand 139-mile-per-hour winds and Colorado snow loads, the coops, based on quonset huts, are constructed of an enclosed, arched, 9-foot-tall, corrugated-metal structure. Horizontal wood slats provide shade and ventilation, and a sand floor enables easy cleaning. Three coops were constructed, one in a community garden, one in an assisted living home, and one in Pyatt's backyard. The project didn't end there, though. Two students, Jeffrey Troutman and Dustin Buck, have taken the coops to the next level, designing a sleek, prefabricated version that can come in a flat pack and be sold at farmer's markets. The prototype was featured in a recent exhibition at the Boulder Museum of Contemporary Art, and six of the flat-pack coops are being produced in the next month. "We want these projects to encourage architecture students to go on to do more than just be good architects," says Jelacic. "We want them to be business leaders as well." *Ingrid Spencer*



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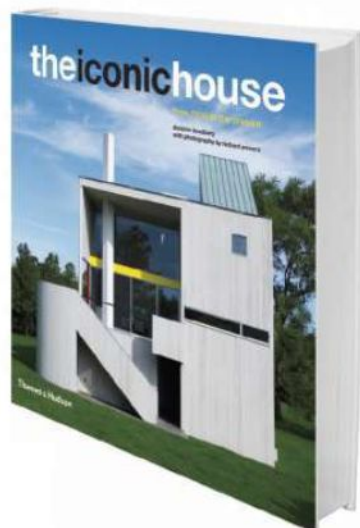


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## Looking Homeward



**The Iconic House: Architectural Masterworks Since 1900,** by Dominic Bradbury and Richard Powers. Thames & Hudson, 2009, 352 pages, \$65.

What sets this hefty coffee-table book apart from so many other books that could just as easily have been titled *Loosely Connected*

*Pictures of Houses the Author Quite Likes* is that it stunningly conveys a sense of the momentum of the past century of architectural history while exploring the idea of canon and iconicity. It begins with the Arts and Crafts Blackwell House of 1900 by MacKay Hugh Baillie Scott and ends with Horden, Haack & Höpfner's Micro Compact House, a prefab deliverable from the back of a truck and buildable in multiple configurations.

While there are the unsurprising highlights and hits – the Vanna Venturi House, the Farnsworth House, Richard Meier's brilliant Douglas House, and the Villa Savoye – there are just as many subtle surprises. The canonical Louis Kahn makes an appearance through the Esherick House that, despite its small size, exemplifies all the architectural grandiosities that made his later work, like the Salk Institute, so transformative. Or take Swiss giants Herzog & de Meuron, designers of the 1997 Rudin

House in France, a pitch-perfect concrete iteration of a child's drawing of a house, but elevated onto a pedestal, and so conceptual. Some of Bradbury's choices here for the 1990s are similarly unexpected – a Future Systems country cottage, a spectacular Australian sheep farm by Denton Corker Marshall – and it's thrilling to read about what may very well be the beginnings of the next canon.

The 100-or-so houses are packed together so tightly on these pages that it is as if they explode onto the reader's consciousness, while the fluid continuity between ultra-famous and just-under-the-radar lends a sense of pace.

Just as the Gwathmey House that illustrates the front cover plays with the idea of form and execution, so too does Bradbury's volume. These may be buildings that Bradbury quite likes, but their connections aren't so loose, after all. *Eva Hagberg*

**Five Houses, Ten Details,** by Edward R. Ford. Princeton Architectural Press, 2009, 255 pages, \$40.

To clarify, *Five Houses, Ten Details* is not about houses. The author's five designs for his own house are included, but they each revolve around approaches to detailing (following his seminal *The Details of Modern Architecture*, MIT Press). Spatial and programmatic concerns are absent, and the formally similar schemes are variations on a zoning envelope. This focus allows Ford to pursue a methodological and personal exploration through his chosen subject.

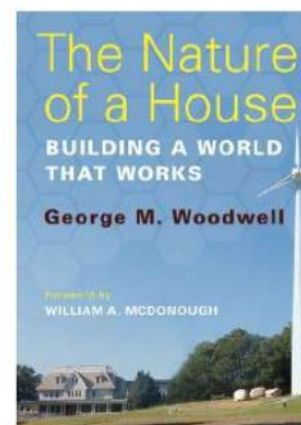
Each of Ford's five schemes leads him in a different direction. He examines, in order, the abstraction of details, the expression of

materials, ways to indicate structure, methods of creating the joint, and inconsistencies of scale. Perhaps unsurprisingly, his designs can be faulted for missing the forest for the trees. His legacy, however, is as a scholar of architectural detail, and his introspective prose is always eloquent, self-critical, and satisfying. A typical passage displays his continual questioning of Modernism's abstraction of detail: "We spend endless quantities of time concealing, suppressing, and minimizing large quantities of information, and on the odd occasion overdesigning the seemingly insignificant joint to demonstrate the straightforwardness of our construction. Why all this schizophrenia?"

Ford doesn't answer this or any other question in a simple way.



Instead, he provides multiple suggestions, knowing that the stubborn and difficult art of detailing a building is always dependent on contingencies. Any page or chapter of this book can lead to an interesting and valid solution. The volume's overarching lesson, though, is that a single answer is just that, and that the best details resist explanation. *Aleksandr Bierig*



**The Nature of a House: Building a World That Works,** by George M. Woodwell. Island Press, 2009, 160 pages, \$25.

More than a decade ago, when it became necessary to relocate the Woods Hole Research Center on Cape Cod, Massachusetts, to a new campus, those involved in the effort saw it as a perfect opportunity to build a new "house" that would not endanger life on this fragile planet, long the focus of the center's research efforts. George Woodwell, the scientist who founded the center, writes here with great intelligence (and with great heart) about the center's work with architect William McDonough (who penned the book's foreword). This is the story of a journey from design to construction of what Woodwell describes as the "state of the shelf" in sustainable architecture. Woodwell and his associates chose the sustainable route of retrofitting an 1877 mansion on the grounds of the new campus as the home of the center.

The middle of this book has Woodwell's account of dealing with architects, consultants, building codes, and inspectors, and it rivals the stinging realizations, frustrations, and humiliations of the fictional Jim Blandings building his dream house. But the Woods Hole Research Center today has a building that produces 30 percent of its own power, uses sustainable materials, and is a model for others. *Michael J. Crosbie*



THE **GOLDEN GATE BRIDGE** FINDS A NEW HOME.

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CIRCLE 21

## To Tweet or Not to Tweet?

Increasingly, architects are tapping into social media to connect with peers and promote their work.

BY JESSICA SHERIDAN, ASSOC. AIA

**IT SEEMS LIKE EVERYONE THESE** days is constantly plugged into their technological devices, tweeting their whereabouts, Facebooking their statuses, and publicizing anything and everything about themselves. Companies

are even engaged in the phenomenon, using social media tools to market their products and services. But for architects, do these online pursuits pay off?

Design firms that have integrated social media into their practices report a spike in interest in their work – particularly from journalists, publishers, and other architects. However, few can say their efforts have directly led to new projects ... yet. Social media is so new to the profession that it may take a few years before the benefits can be measured, but some firms are investing now with high hopes for future rewards.

**THE DEFINITION OF** *social media* is nebulous. While it can be characterized as an online tool that allows users to interact – and generally is free or low-cost – new forms of social media are continuously being introduced. Social media has existed since the dawn of the Internet, when news groups such as Usenet (1979) were developed to track server-to-server news feeds, and became more prominent with the debut of blogging in 1997. In recent years, it has become even more multifaceted and ubiquitous, with sites such as LinkedIn (2003), YouTube (2005), Facebook (which went mainstream in 2006), and Twitter (2006) redefining the online experience. How

social media will evolve is difficult to predict, but no doubt it is changing how people do business.

Recently, the AIA New York Chapter's marketing and public relations committee presented a series of discussions dubbed "Why to Blog, Text, and Tweet." By inviting panelists in the design industry who are engaged in social media, the committee hoped to encourage other architects to try it, explains Tami Hausman, president of the public relations firm Hausman and one of the event organizers. "While the design community may not be using social media as a tool," she says, "other companies, especially those that produce consumer goods, are using it effectively." She adds, however, that architecture is a business based in service, which is often a more difficult sell. "In general, firms are sticking with what they know, and what they know works, particularly in this difficult economy."

For her part, Hausman is a social media proponent. "The problem with social media is that people see it as a 'thing,' when it is actually more of a tool," she says. "Instead, it needs to be integrated into current marketing efforts, not separate from them."

**BY FAR THE** most active adopter of social media at a firmwide scale is HOK. With the launch of Life at HOK ([hoklife.com](http://hoklife.com)) in October 2008,



the firm made public the people and process behind the projects. The Web site – a supplement to the company's main site, HOK, at [hok.com](http://hok.com) – is essentially a blog where approximately 35 employees around the country post an assortment of musings, from opinions on current events to features on firm leaders. Included are links to YouTube videos, Facebook profiles, Delicious bookmarks, and Flickr images, among other Web pages.

As opposed to traditional firms where public relations is controlled

by principals and marketing professionals, HOK has staff members at all experience levels publicizing the company. "Traditional media is mostly produced from the top down, whereas social media is the opposite," according to Mike Plotnick, HOK's media relations manager. "Because it is produced from the bottom, it depends on and encourages feedback and interplay among people. It really broadens our ability to reach out and talk about ourselves and be a part of the dialogue about design and architecture." Life at HOK

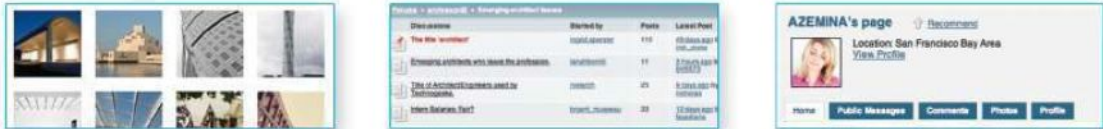
## PRACTICE MATTERS

is also fulfilling its original intent: to aid in job recruitment. "Recently, we have filled three principal-level positions," Plotnick says, "and all of the new employees said that our blog was a significant way they researched HOK and learned about its culture, to see if it's the place for them."

**ALTHOUGH THE NUMBER** of social media sites continues to grow, one of the latest additions was created specifically for architects. Architizer (www.architizer.com) was launched in November 2009 and within three months grew to include more than 5,000 personal profiles, 3,500 projects, and 1,000 firm bios. Nicknamed "Facebook for Architecture," the site was developed to provide exposure and networking opportunities for designers. "People don't know where to go to find architects other than the Yellow Pages," states Marc Kushner, site founder and principal of the emerging firm HWKN. "We need to carve out space and get architecture into the game. Potential clients are surfing the Internet, and we need to sit at the table, too."

Moreover, the Architizer team – four founders and two full-time staff members – actively promotes

### Join Our Network: RECORD offers a suite of online social media tools



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Register at [architecturalrecord.com/community](http://architecturalrecord.com/community)

the site's content. For example, when one of their contributing editors posted a blog about kids' play spaces, Architizer e-mailed, tweeted, and Facebooked the link to contacts in the "Mommy blog world." Consequently, a number of bloggers and Twitterers linked to the story, helping create buzz about the projects. "Architects have a tendency to speak to each other about architecture rather than to those who would be interested in it," says Kushner.

**SOCIAL MEDIA IS NOT** without its pitfalls. In addition to information overload, it can be tough to

know when to clock out. "The line between my personal life and work are so blurred these days," says Kimberly Dowdell, one of HOK's bloggers, who splits her time between an HOK-issued iPhone and a personal BlackBerry. Many architects are turned off by the energy required to keep current on social media sites. Some see it as time taken away from billable hours for an effort that has yet to generate monetary results. "Online there is so much information, I don't think people completely trust what they read," says Jing Liu, principal of Brooklyn-based Solid Objectives-Idenburg Liu (SO-IL). "They need

to get to know you personally before they give you a project."

That's not to say the firm isn't benefiting from social media tools. Liu and partner Florian Idenburg are able to update their site (www.so-il.org) regularly because it runs off of the free, easy-to-use blog software WordPress. "We didn't want anyone who is checking our site to be presented with a static image," Liu says. Moreover, WordPress automatically sets up an RSS (Really Simple Syndication) feed, allowing individuals to subscribe and receive SO-IL news alerts. "There is a freshness to the site," Liu says, "and that is why people find it interesting, why they are believing in what we do, and, hopefully, how we will affect the profession."

Liu thinks social media will gain momentum over time, noting that "the younger people who are in their 20s are very much in touch with the technology." For now, the bottom line is that social media helps connect architects with the public and can lead to new collaborations and clients. Yet the jury is still out on whether it generates real, billable projects. "It has opened a whole new world for me," affirms Plotnick. "A year from now, I hope we will have tangible evidence that social media has put us in the position to get more work." Stay logged on. ■

*Jessica Sheridan is an architectural designer and editor in chief of AIA New York's e-Oculus.*

## A Social Media Primer

**BLOGS:** Firms can use blogs to regularly deliver information about projects, personnel changes, publications, and other news. Posts can include photos and videos. Dialogue is further enhanced through readers' comments.

**MICROBLOGS:** Sites such as [Twitter](#), [Tumblr](#), and [Plurk](#) allow architects to network and quickly communicate bits of information. A Twitterer sets up an

account and publishes "tweets" (posts of 140 characters or less) that are broadcast to followers. A few firms have Twitter accounts, including Gensler (700 followers) and LPA (2,280 followers).

**SOCIAL NETWORKING SITES:** While interaction is always the goal, the various social networking sites have different purposes. At [LinkedIn](#), for instance, members set up profiles that

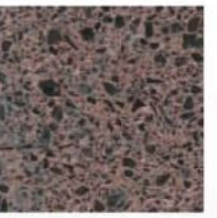
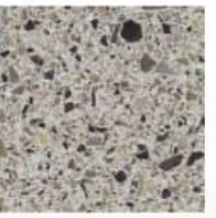
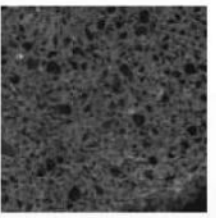
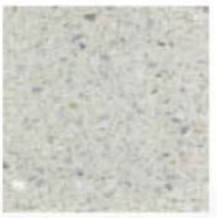
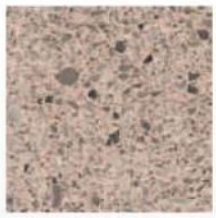
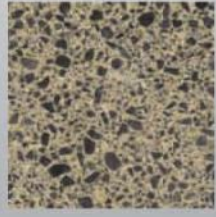
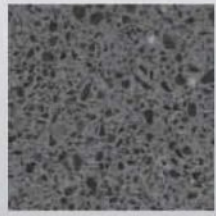
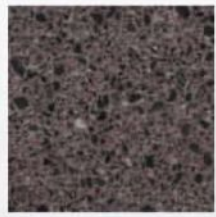
resemble résumés, link to other professionals, and join discussion groups. [Facebook](#) is more casual. These types of sites can help architects gain exposure and connect with their peers and the public.

**SOCIAL BOOKMARKING SITES:** [Digg](#), [Stumbleupon](#), and [Delicious](#) are among the sites that allow users to temporarily "store" bookmarked Web pages. The links may be tagged,

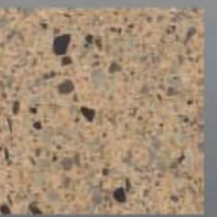
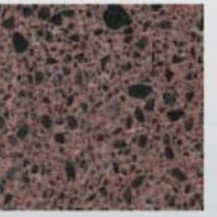
saved, managed, and shared with others.

**VIDEO- AND PHOTO-SHARING SITES:** These sites are tailor-made for a profession focused on visuals. Through posting images and videos on sites like [Flickr](#) and [YouTube](#), architects can showcase their work – whether it's in progress or completed – to a large audience for free. Some firms also post interviews with principals, employees, and clients.





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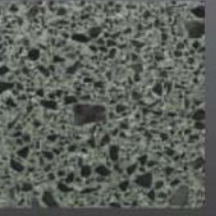
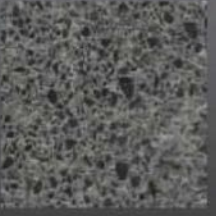
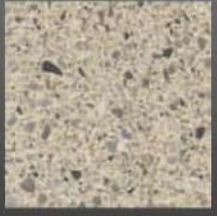
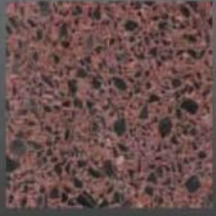
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CIRCLE 22



# A Lesson in Architecture



Shenandoah University Historical and Tourism Center, Winchester, VA | Bartzen + Ball Architects | Russell Roofing Company, Inc. | H & W Construction Company, Inc. | PAC-CLAD panels in Weathered Zinc and Colonial Red

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# Waste Not, Want Not

Today, saving water not only means using less but sometimes reusing more.

BY RITA CATINELLA ORRELL

**KNOWN FOR ITS HIGH-END BATHROOM** fittings and fixtures, Hansgrohe will soon make a new name for itself in the U.S. – if everything goes as planned. Scheduled to be available for U.S. projects in about a year and a half, the AquaCycle 2500 system, developed by the company's Pontos division, turns bath and shower wastewater into hygienically clean gray water.

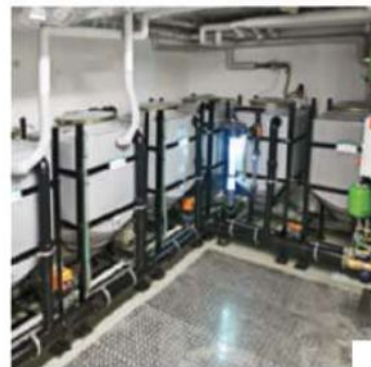
"The holdup right now is that the codes in each state are different regarding gray water, and it would be very challenging to bring this product to market at this point," says Nicolas Grohe, director of marketing and product development for Hansgrohe North America. While U.S. code authorities determine how clean recycled water needs to be, "There are no standards or codes in the U.S. now for what is gray water," says Lars Christensen, Hansgrohe senior product manager. In the meantime, interested U.S. architects can specify the system for their European projects.

So how does the Pontos AquaCycle 2500 work? The fully automatic system uses a biomechanical treatment method, without any chemical additives, to transfer water that usually goes down the drain into water that can be reused for toilet flushing, cleaning buildings, or irrigation. First, a filter removes coarse particles from the incoming gray water, then the water undergoes a two-stage biological treatment, where a supply of atmospheric oxygen and microorganisms degrade contaminants in the water, such as soap and shampoo. The water is then disinfected through the use of a UV lamp and stored in the process water tank until reuse. Sediments generated during the biological treatment are automatically removed and conducted into the drains. If insufficient process water is available, the tank is initially filled with rainwater, and only

when there is no rainwater available is it filled with drinking water. If too much water is generated, it is fed via an overflow pipe into the wastewater drain to prevent an overflow of the system. According to Grohe, it takes approximately four to eight hours for the wastewater to become reusable gray water.

The 2500 model, the latest in the line, is a combination of several other systems the company has been manufacturing since 2001. The system has been enhanced by the addition of a rainwater-harvesting system that helps supply water in case wastewater supply is low, and an advanced heat-recovery system that uses the gray water's thermal energy to preheat incoming clean water, saving energy and expense. While Grohe says hotels, high-rise condominiums, and schools are the main markets, he sees potential in any project with enough showers, lavatories, and toilets. He cites one inspired application where a public pool in Yerres, France, recycles shower wastewater to supply water for the city's street-cleaning trucks.

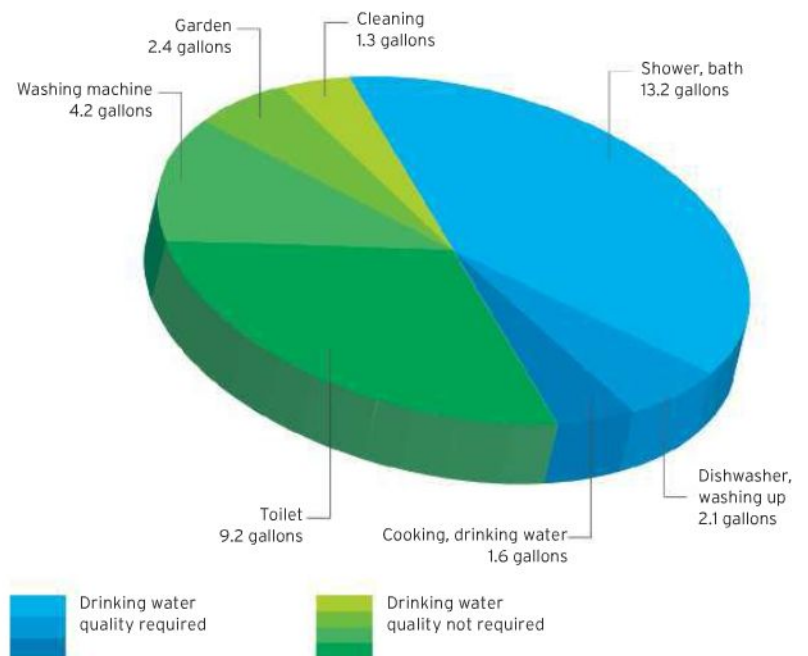
According to Grohe, AquaCycle is not intended to be a money-maker for the company, but it is something they felt compelled to invest in. "Although the product is not offered [yet in the U.S.], we want to talk about it and generate interest because we believe it's the right thing to do." Hansgrohe, Alpharetta, Ga. [www.pontos-aquacycle.com](http://www.pontos-aquacycle.com) **CIRCLE 200**



1. A rendering of the Pontos AquaCycle 2500, showing the unit's three 200-gallon tanks made of high-grade polyethylene.  
2. The system comes in a range of model sizes that can be adapted to meet almost any demand, from 600 to 15,000 gallons per day.

How much drinking water do we really need?

The green segments in the chart below illustrate activities where drinking water quality is not strictly necessary, and gray water could be utilized.



SOURCE: HANSGROHE

1 | PRODUCT **HydroRight Dual Flush Converter**  
 MANUFACTURER **MJSI**  
 gomjsi.com

Invented by a plumber, the HydroRight dual-flush converter is designed to simply drop-in and attach to the existing flush valve without the use of tools, reducing installation time and effort. HydroRight can reduce water usage by up to 70% with its Quick Flush option, saving a family of four more than 10,000 gallons of water per year by selecting from a full or reduced flush. **CIRCLE 201**



3 | PRODUCT **Sydney Smart**  
 MANUFACTURER **Caroma**  
 caromausa.com

The Sydney Smart is one of the first high-efficiency back-outlet toilets to be WaterSense labeled. The dual-flush toilet uses 1.28 gallons per flush for solid waste and 0.8 gpf for liquid waste and toilet paper, saving a family of four from 5,000 to 19,000 gallons per year, depending on their current model. **CIRCLE 203**



6, 7 | PRODUCT **High Efficiency Urinal & Gyrostream Bodysprays**  
 MANUFACTURER **Toto**  
 totousa.com

Toto's 1.28-gallons-per-flush High Efficiency Toilets, 0.5-gpf High Efficiency Urinals (left), and EcoPower 1.28- and .5-gpf sensor-flush valves can achieve a 30% reduction over baseline water use in commercial buildings in the LEED program. While body sprays aren't equated with water savings, Toto claims its new Gyrostream body sprays (right) are "luxury products with a social conscience," consuming 1.0 gallons per minute, or 53% to 60% less water than common body sprays. **CIRCLE 205**



2 | PRODUCT **ShowHouse Lavatory Faucets**  
 MANUFACTURER **ShowHouse by Moen**  
 shfaucets.com

Last year, ShowHouse by Moen certified its entire ShowHouse lavatory faucet collection to meet WaterSense labeling criteria. All faucets now feature 1.5-gallons-per-minute flow rate versus the industry standard of 2.2 gpm, resulting in water conservation of up to 32%. Included in the line is Destiny (shown), the brand's first hands-free electronic faucet designed exclusively for the powder room. **CIRCLE 202**

4, 5 | PRODUCT **Bardon Urinal & Catalyst Showerhead**  
 MANUFACTURER **Kohler**  
 kohler.com

Chosen as the EPA's WaterSense Partner of the Year for two years in a row, Kohler has several new products designed to optimize water savings. For applications where a waterless urinal might not be appropriate, the Bardon 1/8-gallons-per-flush urinal can help both new construction and renovated commercial projects earn LEED points in the Water Efficiency category. Also new, Kohler's Catalyst showerhead features an optimized spray face to minimize wasteful overspray, a new internal waterway design, and an innovative air-induction system that gets the most out of every drop. **CIRCLE 204**



8 | PRODUCT **Tapmaster Euro**  
 MANUFACTURER **Tapmaster**  
 tapmaster.ca/us

Tapmaster, a Calgary-based manufacturer of hands-free faucet controllers, offers the Euro foot-activated model that utilizes water pressure in existing water lines as the method of activation. Besides offering a battery-free and hands-free solution, the control allows users to quickly and hygienically turn on the tap at the temperature and flow rate they've set, saving energy and water. **CIRCLE 206**





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## PRODUCTS IN BRIEF



### 1 | PRODUCT **PeepHole Viewer**

MANUFACTURER **Brinno**

brinno.com

Ideal for residential or hospitality applications, the digital PeepHole Viewer from Brinno replaces traditional door peepholes with a vivid digital image to provide added security and privacy from unwanted visitors. Running off two AA batteries, the PeepHole Viewer uses a 2½" LCD panel that transforms the regular peephole view into a large, bright, digital image that can help children, the elderly, or the visually impaired to safely view visitors. **CIRCLE 207**



### 2 | PRODUCT **Solachrome**

MANUFACTURER **L.M. Scofield Company**

scofield.com

Solachrome Integral Coloring Treatment for High-Solar Reflectance Index (SRI) Concrete is the first patent-pending color additive specifically formulated to reduce the urban heat island effect. Solachrome's 44 new colors have a unique formulation that provides an SRI that exceeds LEED requirements.

**CIRCLE 208**



### 3 | PRODUCT **The No Leak Skylight**

MANUFACTURER **Velux**

**America**

veluxusa.com

Velux has redesigned its product line to include deck-mounted skylights with an industry-first no-leak installation warranty. This "No Leak Skylight" includes three layers of water protection – including a new gasket that seals to the roof deck – as well as advanced LoE3 glass for better energy efficiency, higher visible light transmittance, and improved solar heat gain performance.

**CIRCLE 209**



### 4 | PRODUCT **PRC Block**

MANUFACTURER **Atlas Block**

atlasblock.com

Ontario-based Atlas Block will now incorporate postconsumer recycled (PCR) content in its entire line of concrete products, including landscape products, masonry units, and masonry veneer. While Atlas Block continues to include postindustrial water in all its products, the introduction of up to 30% PCR content reduces consumer landfill waste and increases eligibility for LEED Recycled Material credits. **CIRCLE 210**

5 |



### 5 | PRODUCT **Parallam Plus PSL**

MANUFACTURER **iLevel by Weyerhaeuser**

ilevel.com

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CIRCLE 24

## Marcel Breuer, Connecticut

1. Marcel Breuer's second house in suburban New Canaan, Connecticut (1951), combined a Modernist box with heavy fieldstone walls, some of which extend past the boundary of the house. The design recalls the sliding planes of

Mies van der Rohe's 1929 Barcelona Pavilion. 2. Toshiko Mori's addition, placed where Herbert Beckhard's 1981 expansion once stood, answers Breuer's stone with a series of syncopated glass panels of varying

transparency, separated by thin steel fins. The two volumes that extend from the Breuer portion contain staircases that connect the top and bottom of the addition, as well as providing a link to the existing structure.

3. The back of the house faces down a slope into dense forest. Mori's addition cantilevers 18 feet from its central core, and its new windows mirror the existing sliding glass doors of Breuer's original.







# Recounting Modernism

Houses by three Modernist masters – Breuer, Neutra, and Schindler – present different challenges to new architects.

BY ALEKSANDR BIERIG



**NEW WORK ON AN OLD HOUSE** necessarily follows the original text. An archaeological site, original door-knobs and windows, floorboards and foundations become artifacts, embodying history. Every building, made up of thousands of parts, demands thousands of decisions. Whose decisions were they originally? Which ones are worth keeping? When an existing house – in this case, by the notable Modernists Marcel Breuer, Richard Neutra, and Rudolph Schindler – speaks louder than its new designers can, each step forward encounters a host of potential problems. These three forceful architects inspire different approaches to renovation.

## BREUER IN CONNECTICUT

If houses are laboratories for architects' ideas, then an architect's own house can be even more experimental – permitting the designer to take chances without the threat of reproach. Marcel Breuer's two homes in New Canaan, Connecticut, provided him with the opportunity to conduct such experiments.

The first house, finished in 1947, was a floating, cantilevered box using American balloon-frame construction. Pursuing the Modernist project, Breuer hoped to create an exemplary solution that could be replicated. The October 1948 issue of *RECORD* noted that "the irresistible appeal of the cantilever" was achieved with "ordinary boards and rough lumber." But the vision was too ambitious: Before moving out, Breuer had to place a fieldstone wall underneath the house's overextended porch, which was failing structurally.

On his second try in New Canaan, in 1951, Breuer decided to commit himself firmly to the ground. Fieldstone walls defined the street facade – mas-

## Marcel Breuer, Connecticut

1. Mori placed a covered patio beneath the cantilever of her rectangular addition.

2. Breuer's original low ceilings can be seen in this spread, from the 1981 Record Houses coverage of the previous

addition by Herbert Beckhard.

3. While Mori kept Breuer's whitewashed brick fireplace and bluestone floor, she changed the space dramatically by raising the ceiling 3 feet.



1



2



3

sive, serene surfaces that gave monumentality to a modest floor plan. A cypress-clad ceiling and bluestone floor framed the interior in a similarly heavy fashion. The back wall – a series of glass doors opened to the forest behind the house – balanced the composition. While Breuer was a proponent of much of European Modernism (beginning with his time at the Bauhaus, where he studied and taught), he saw that much of its output had become thin and flimsy – a series of insubstantial boxes. Breuer's answer was to reassert the weight of material, but employed as a Modern counterpoint – a concrete mass meeting a thin pane of glass, or a wood structure complementing a heavy stone wall.

The 1951 house was very modestly sized for Breuer's family. "Though he was a famous architect at the time, he didn't think he should live in a grand way," says Robert Gatje, longtime Breuer associate and author of *Marcel Breuer: A Memoir* (2000). Such modesty, adds Gatje, comes in part from the ethos of efficiency promoted at the Bauhaus.

Breuer lived in the house until 1976, when he sold it to granite contractor Gerald Bratti, who

soon started a series of additions and renovations. Designed by longtime Breuer associate Herbert Beckhard, the project was published as a 1981 Record House. He copied Breuer's language, extending the stone walls in multiple directions.

By 2005, the house was threatened when a developer purchased it, planning to build a larger residence on the wooded site. A middle-aged New Canaan couple, who sensed that the house was part of their town's cultural heritage, boldly stepped in and bought it. Their three children, still in high school and college, suggested a more varied lifestyle that was not quite satisfied by Breuer's modest footprint and low ceilings.

The clients soon selected Toshiko Mori, who has worked on a number of renovations and additions to significant Modernist structures, to design an expansion. The Beckhard structures were in poor shape and were demolished. Mori placed her addition in the same spot, adding three bedrooms, a garage, and a living room that doubled the size of the house to about 6,000 square feet.

Mori recalls that the existing Breuer portion

was in utter disrepair. The foundations were crumbling, there was significant water damage, the copper radiant heat pipes were shot, and more dangerously, some of the columns lacked footings. The house would have to be taken apart, piece by piece, before it could be rebuilt.

In her addition, Mori followed Breuer's spirit of contrast, albeit questioning and even correcting his initial attempts. For the new addition, she created a glass volume that floats above the heavy mass of the original house. On all sides, the upper floor cantilevers over a bluestone-clad base – a form that echoes Breuer's first house in New Canaan. But in Mori's addition, the steel frame is strong enough to support the cantilever, achieving what Breuer couldn't. Opposing Breuer's stone walls, the addition is wrapped in glass, whose slight green tint and gray mullions cause the volume, at times, to disappear into the surrounding trees. Mori has created an ethereal backdrop to Breuer's hulking figure.

Two strange, angled volumes, each enclosing a flight of stairs, connect the Mori addition and the Breuer original. To get from the ground floor of the

## Richard Neutra, California

1. A historic 1934 photo shows the Sten-Frenke House looking out over the Pacific Ocean on its originally isolated site.

2. The dining room, after the 2005 Pentagram renovations, featured new redwood wainscoting. As the photography by the legendary Julius Shulman

shows, Pentagram also installed a light fixture that Neutra designed, but did not fabricate, for the original structure.

3. The entrance path on the east side of the house passes by Neutra's semicircular "winter garden" living room, which has a terrace on its roof.



addition, which contains a garage and living room, to the second floor's three bedrooms, the owners must take these stairs, and pass through the Breuer house – continually circulating between new and old. While appearing almost jarring from some viewpoints, the diagonal staircase volumes serve to lengthen the connection, slowing the transition between the structures. They also accentuate the difference between the approaches. Where Breuer was composed, Mori is informal.

Within the existing Breuer house, Mori reconsidered the existing low ceiling. Breuer's version (as seen in the 1981 RECORD images, opposite) attempted to bring light in through a band of clerestory windows. Mori decided that the design actually needed two bands. She replaced Breuer's wooden columns with an identically proportioned set of thin steel posts, raising the ceiling more than 3 feet. In one sense, this surgical insertion maintains the smooth exterior composition. But it also changes the character of the Breuer scheme: Pulling apart the solemn, heavy interior, Mori creates a light-filled, spacious volume.

Through these tactics, Mori's alterations maintain the spirit of Breuer's work, even as she abandoned his initial language. In a way, this too follows Breuer, who was never a doctrinaire Modernist and was open to change in his buildings. A few years before the New Canaan houses, he designed a house for Bert and Phyllis Geller on Long Island. He returned a year later to find "every ashtray exactly where he had put it," writes Gatje, in his biography of Breuer. "I've never been so insulted in my life!" Breuer told them. "I designed this house for you to *live* in, not to keep as some sort of shrine!"

Mori's project – heavy and light, the Breuer of the stone wall and the Breuer of the crisp cantilever – has it both ways. In doing so, she follows Breuer's path, without simply copying it.

### NEUTRA BY THE SEA

Rudolph Schindler and Richard Neutra were "Southern California's favorite architectural couple," writes historian Barbara Mac Lamprecht, "Schindler playing id to Neutra's superego; Neutra's

Apollo to Schindler's Dionysus; the former the verbose go-getter, the latter an articulate hippie." Two houses recently renovated in California – the 1934 Sten-Frenke House in Santa Monica by Neutra, and a 1940 spec house in Inglewood by Schindler – both seem inexorably to follow the legacy, or the idea of the legacy, of their separate creators.

Both Viennese, the architects met when Schindler, five years older, was finishing his studies with Adolf Loos. Neutra's path to Los Angeles followed Schindler's: Both would pass through Chicago and work alongside Frank Lloyd Wright. When Neutra arrived in California in 1926, the two lived and worked together at Schindler's Kings Road House. Rough concrete slabs and untreated wood trim define its raw aesthetic, and interlocking wings suggest a communal, utopian setting.

That arrangement would not last. In the end, Neutra would prove to be more professionally adroit and would go on to earn international fame and appreciation. Schindler, eternally contrarian, toiled away in relative anonymity. By 1932, the two men were no longer speaking.

## Richard Neutra, California

1. The pergola, initially only one bay, was extended during the 2005 Pentagram renovations according to an axonometric drawing by Neutra.

2.,3. The walls in the luminous stairwell as well as the bookshelf and wainscoting in the living room were clad in redwood veneer.

Designer Mark Haddawy, currently renovating the house, demolished the two additional bays of the pergola and is in the process of replacing the wood throughout the house according to Neutra's original specifications.



Neutra's 1934 Sten-Frenke House was his first major commission outside the shadow of Schindler. Anna Sten was a Ukrainian silent film actress, discovered in Berlin. She was first called the "Russian Garbo," but with the advent of the talkie (her English was wanting), she was known as "Goldwyn's Folly." On her arrival in Los Angeles, her husband, Dr. Eugene Frenke, a Russian film producer, immediately commissioned fellow-émigré Neutra to design a house in Santa Monica.

On a sloping site close to the Pacific, the house was practically isolated when first built. Today, it is hemmed in on all sides by a lush tropical landscape, a row of other opulent properties, and a gigantic apartment building that looms above its rear facade. Its 2,400 square feet contain living, dining, and kitchen space on the ground floor, with two bedrooms and a guest room above. Throughout, the walls were wrapped in plywood wainscoting that turns and steps down (in Loosian fashion) to become bookshelves, benches, or bedding. A second-floor terrace and ground-floor patio take advantage of the benevolent climate outside.

In other places, Neutra's hand was less clear, owing to opposition from Sten, who was less enthusiastic about Modern architecture than her husband. Her predilection for pink-and-green-tiled bathrooms prevailed over the smooth panes of gray glass Neutra preferred.

Overall, Neutra's serene and elegant composition, a collection of clean, white volumes, easily slips into the label "International Style," but as a very skilled example of that movement. Ribbon windows, well-proportioned volumes, and an asymmetric plan define the house's machine aesthetic.

Also like much of Modernism, that image is deceptive. The ribbon windows indicate a "free facade" – following Le Corbusier's "five points," in which the facade and plan of a building are both liberated by the use of a recessed steel or concrete structure. Sten and Frenke could not afford a steel or concrete structure, so Neutra (like Breuer after him) made do with the American balloon frame. He used thin structural wooden posts around the load-bearing exterior, but hid them, making them look like window mullions.

"This house isn't honest and pure; it's accommodating and expedient," says James Biber of Pentagram Architects in New York. In 2002, Biber began renovating the structure, working with Los Angeles-based Marmol Radziner, which acted as local representative and contributed its expertise from other Neutra renovations. The team encountered a structure that was weathered but intact, having had the same owner for several decades.

Biber's approach was to accommodate his client, a film producer, while at the same time considering Neutra's design intentions without abandoning those of the rebellious Sten. The renovation acknowledged not one version of the house, but its many versions, simultaneously. This meant keeping the pink-and-green tile while expanding the small bathrooms to accommodate the new clients' wishes. In other areas, Biber interpreted Neutra's intent, rather than following it literally. Neutra's plywood wainscoting – "It would have been exciting back then, but today it looked cheap," says Biber – was replaced with a darker, more opulent redwood. He added built-in seating



## Rudolph Schindler, California

1. The Schindler 1940 spec house in Inglewood was in deplorable condition after years of neglect.
2. The 2010 renovated house sits directly to the right of another Schindler spec house. The two now share a landscape of water-efficient plants along the street front.
3. In the backyard of the renovated house, Steven Ehrlich has installed a lawn and small vegetable garden for the new owners – his daughter, son-in-law, and their one-year-old son. Ehrlich's design for the galvanized-steel trellis in the foreground evokes Schindler's sleeping porches at the Kings Road Residence in Hollywood.



on the ground floor, and expanded the kitchen. In all, Biber's renovation, like Mori's, interprets, rather than repeats, history.

But Biber couldn't control what would happen next. In 2009, the house was put up for sale again. The new owners hired designer Mark Haddawy, who has restored a series of significant Modernist homes in and around Los Angeles. He says the clients were hoping for a more historically accurate version of the house.

The new design, which will be completed this summer, discards most of Biber's interventions. This process began with replacing Biber's omnipresent redwood veneer with fir plywood, according to Neutra's original specifications. "The redwood was very distracting," says Haddawy. "Going back to the plywood was a better decision aesthetically and historically."

In other places, however, the decisions seem less motivated by accuracy than by preference. The bathrooms, kept by Biber in acknowledgment of Sten, are being refaced in terrazzo, a material Neutra used in other projects.

In all, the new renovation attempts to give the image of history. Salvaged period fixtures – light switches, lamps, plumbing – are being installed throughout the house. Haddawy is replacing a new wooden floor, installed by Biber, with another new wooden floor that attempts to look 70 years old; pre-aged, the planks are willfully uneven, and are covered in a thin black wash that emulates a patina. The new renovation moves unerringly toward the intent of Neutra – or at least a certain tasteful memory of it – which, for the exacting, controlling architect, seems appropriate.

### SCHINDLER IN THE SUBURBS

The story surrounding a 1940 spec house in Inglewood by Rudolph Schindler is less tortuous than that of the Sten-Frenke. To begin with, the circumstances of its construction are basically unknown. The architect built three houses on a typical block in a middle-class section of the town, each with a different layout, reacting to the changing slope of the land. All are modestly sized at about 1,000 square feet, which includes two bedrooms,

a kitchen, and a large common space for living and dining. Each house embraces Southern California's light and climate, opening to its surroundings while maintaining privacy.

The designs attempt to make a suburban tract house into a work of spatial art, built from a wooden frame, stucco, and plaster. There are echoes of Wright and of Loos's *Raumplan*, where each space has several sectional changes, a puzzle of interlocking parts: A partition turns into a bookshelf and then turns down into stairs that are attached to a desk. Schindler's sectional games shift from room to room; a very low ceiling at the entrance becomes much higher as you step down into the living room. In the other direction, that low ceiling is raised in the bedrooms to create clerestory windows for light while maintaining privacy. "Schindler was really a kind of magician," says Steven Ehrlich, the architect for the just-completed renovation of one of the houses. "In this house, he was able to do it with very few ingredients."

Ehrlich was visiting friends in 2009, and after noticing their home's Schindleresque sectional

## Rudolph Schindler, California

1. Interior photos show furniture designed by Schindler, on loan from the MAK Center Kings Road House. The main bedroom features a built-in closet and desk, both from the original Schindler design.

2. Exposed roof beams,

restored by Ehrlich, float above the entrance steps.

3. From the compressed entrance foyer, the floor steps down into the living room, where the rear glass wall opens onto the backyard.



variation, asked if it was, in fact, by Schindler. His intuition was right, and the house next door – the middle of this set of three – was up for sale by probate. In complete shambles, it had suffered years of neglect and was seen as an eyesore on the block. Acting quickly, Ehrlich bought the house. He plans to sell the renovated structure to his daughter and son-in-law on “favorable terms.”

“We didn’t want to change the house; we wanted to keep the flow of it,” says son-in-law Joel Bell, an industrial designer who acted as project manager on the renovation. “But we live in 2010,” adds daughter Ohna Ehrlich, a handbag designer. “We have a baby, and we needed it to be updated to today’s standards.”

Ehrlich’s approach saved what could be saved of the original. While Schindler’s art was bold, his details were often shoddy. The flat roof had suffered massive water damage and needed to be entirely reconstructed. Schindler’s ideal silhouette is now realized, enabled by insulation and waterproofing hidden beneath its smooth stucco skin.

Many interior elements, including much of

the built-in furniture and storage space, were salvaged and restored. In other areas, Ehrlich interpreted Schindler’s precedents. The kitchen and bathroom are both entirely new, but they attempt to continue Schindler’s approach with a handle detail that reflects the existing built-in desks. A new floor and new baseboard also reconstruct the original Schindler details.

In all, the renovations bring the 70-year-old structure up to contemporary standards, and do so in a straightforward, unpretentious manner; the house is meant to be lived in, not simply looked at. Schindler’s original vision, while brilliant spatially, was perhaps overly ambitious from the start. Ehrlich’s interventions compensate for the inadequate construction of the idealistic Schindler, who could privilege the art of space over the resolution of its constituent parts.

All three of these projects, then, have a family resemblance. Each by a European émigré, ambassadors of Continental Modernism, they all carry the weight of that legacy. They also reflect the improvisatory nature of their adopted home,

America, building the image of Modernism with the most expedient construction available. Neutra achieved this better than Schindler or Breuer, but with each, to save the house is to save its *idea*, even when that idea was perhaps unreasonable.

The three also present different approaches to the problem of renovation. Mori was given more freedom and more money than the other two, and the result is a hybrid: a combination of Breuer’s initial structure and Mori’s own formidable approach. For the ongoing changes to Neutra’s Sten-Frenke House, the restorations oscillate in time, trying to approximate a place between Neutra’s powerful design and the desires of a contemporary client. Lastly, Schindler’s modest house has been continued with an equally modest renovation, one that provides a hopeful argument for significant architecture in a conventional setting. For all the projects, their continual negotiations of the past and present indicate that there is no final, definitive reading: Architecture must be constructed over and over and over again, if it is to persist. ■



# The safest two letters in the building.

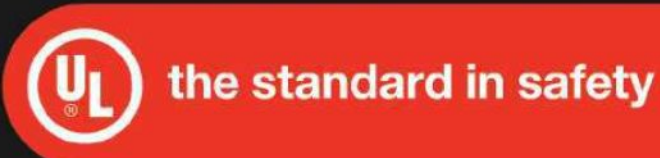
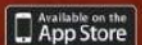
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CIRCLE 26



**HOW DOES RECORD HOUSES** reflect the times we are living in? This year, our criteria included simplicity, modesty, and sustainability, in keeping with today's culture of restraint. Bearing these qualities in mind, the editors sifted through a diverse collection of more than 250 houses, then decided on seven. While most fulfill our criteria, each offers a richness of imaginative and organic design.

Several of the houses portray vernacular building forms with idiosyncratic and innovative strategies. Mount Fuji Architects' Tree House in Tokyo, which transforms the traditional Japanese timber-frame house, takes the form of a tree. While less emphatically radical, Qingyun Ma's Well Hall in rural China is an up-to-date interpretation of the courtyard house, designed for extended families, employing local materials, workers, and methods. Rough stone mined from Lake Champlain clads the ends of the barnlike forms of Rick Joy's house in Woodstock, Vermont, making the walls appear old, while details like windows that turn into skylights and a roof without eaves reveal a contemporary hand. In another project employing stone, Dutch firm SeARCH and Swiss architect Christian Müller designed Villa Vals in Switzerland with an existing livestock barn serving as an entrance. The archi-

BUILDING TYPES STUDY | 899

# Record Houses 2010

tects used local quartzite on the exterior and submerged the building into a hillside of its Alpine village setting.

Other featured residences pay tribute to nature. René Van Zuuk's Project X in Almere, the Netherlands, uses prefabricated cement panels on the facade as a canvas for a branch pattern, bridging the man-made with nature. Atelier Bow-Wow's Mountain House in California resembles a rustic Japanese pavilion in the woods, where one goes to contemplate the landscape under changing conditions – in the sun, rain, wind, and snow.

There's always a house that seems to break the mold – where it is difficult for the editors to find commonalities with the collection – but we can never resist the unexpected. Michael Maltzan's Pittman Dowell Residence in L.A. surprised us, appearing to take cues from John Lautner's Chemosphere (1960) with its circular shape, while responding to a stone-pine tree and an adjacent Neutra house (1952).

Without exception, these structures allow nature to define their character, from the modest and simple to the bold and inventive. In all cases, the houses respond to site and climate with modern and exemplary design strategies. *Jane F. Kolleeny*





VILLA VALS ■ SEARCH AND CMA ■ VALS, SWITZERLAND

# Ace in the Hole

A design team takes an intrepid approach to build a house on a sensitive site in the Swiss Alps. BY BETH BROOME

**IT TAKES A CERTAIN AMOUNT** of chutzpah to move in next door to a building recognized as one of the era's Modern masterpieces. But a team of architects has boldly taken on the challenge, erecting a house in Vals, Switzerland, an Alpine village of about 1,000 inhabitants that sits at 4,100 feet, deep in a narrow valley in the Graubünden canton. At the proverbial end of the road, Vals put its name on the map 14 years ago when the community took over a hotel complex abandoned by a bankrupt developer and brought in Swiss architect Peter Zumthor, who created a new facility for the town's thermal baths. Completed in 1996 and widely hailed as a tour de force, Therme Vals has become a place of pilgrimage, in particular for architecture tourists.

Dutch architect Bjarne Mastenbroek of Amsterdam-based SeARCH visited as one of those tourists in the late 1990s. Taken by the awe-inspiring landscape and surprised to discover that it was possible to build up to three stories on the almost-hallowed ground next to the baths, he began investigating erecting a house there. But to purchase land in the area, which is dominated by traditional timber-and-stone farmhouses, required Swiss citizenship. Mastenbroek partnered with Rotterdam-based architect Christian Müller (who is Swiss by birth), and, while financing the project himself, brought in a group of silent owners.

In keeping with Mastenbroek and Müller's characteristic approach of integrating architecture into the landscape or



The seemingly random arrangement of the windows reflects the various levels inside, and custom cast-concrete icons in the facade serve as vents and flues. An avalanche net also protects against falls.

urban fabric, the team first focused on keeping the view across the valley open, not only for their residence, but also for the baths, which sit catty-corner up the hillside. They envisioned a subterranean building, one with intertwined interior spaces that would fit together like the pieces of puzzle. "We knew we would not be able to build this house in the Swiss style – in a perfectionist way," says Mastenbroek, citing financial constraints and noting that it wouldn't be as compelling a solution. "You can never compete with the thermal baths' perfection – that radical, minimal, pure approach," he says. "So we went for a more experimental, almost industrial building. We developed a kind of nonperfection that was interesting for us, and we collaborated with other designers from the Netherlands to make a Dutch interior."

Though experimental, the house also embraces local building traditions, most notably with its facade, made from split stone recovered from the site – the ubiquitous Valsler quartzite of the thermal baths and Vals rooftops – and by incorporating an existing structure on the site. Originally, the limit of the plot for sale by a local farmer ran right through one of the simple stone-and-wood bi-level livestock barns that are emblematic of the Alpine hillsides. To safeguard the barn, the property line was redrawn and the architects incorporated the building into their plan, shoring it up, pouring a new concrete floor and stair, and using it as a mudroom that connects to the house by way of a 72-foot-long, stepped concrete tunnel.

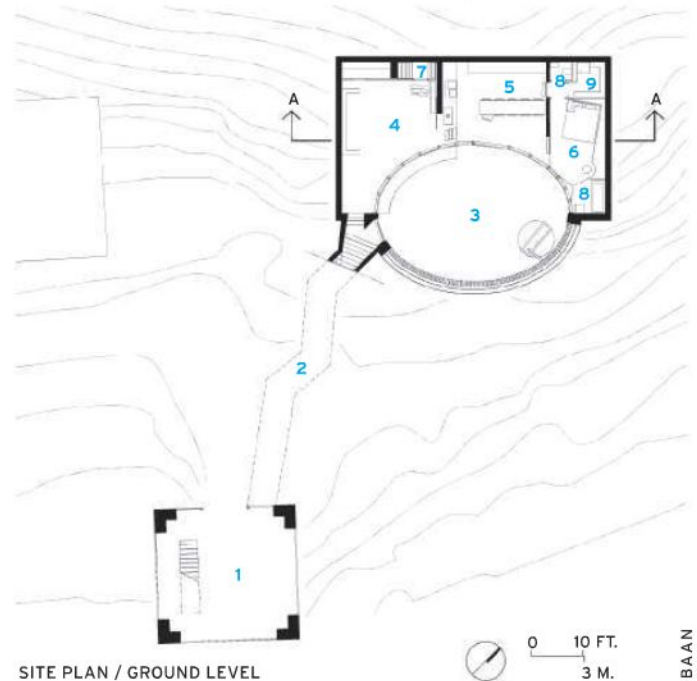
Because building in Switzerland costs so much, the architects determined to make the house self-sufficient. So they created it as a rental property, a move that improves its sustainable value as well, by encouraging continuous use of the site. This decision also reinforced their instinct to create something completely unconventional. "This whole idea of a holiday villa relates to having a special experience – something removed from the daily way of living," says Mastenbroek. Taking an unorthodox approach in a tradition-bound locale had other advantages. At first, Vals's building commission, composed of seven representatives from the village, was skeptical. "But when we explained what we wanted to do," says Mastenbroek, "in terms of keeping the views open for the bath, having privacy, not obstructing the landscape, and using the barn as an entrance, they immediately understood our approach and were very helpful." Furthermore, with logic prevailing, the on-site timber mock-up of the building's volume normally required during the approval process by Swiss planning laws was waived, as was the compulsory pitched roof tiled with the indigenous stone.

To prepare the site, the team of local builders excavated 36 feet into the side of the hill and poured a reinforced-concrete retaining wall. They then built a simple shoe box, 52 feet wide, 26 feet deep, and two-and-a-half stories high, and closed the volume with a concave front. This approach yielded a protected patio and a large facade with ample opportunities for apertures. The seemingly random arrangement of the triple-glazed krypton-gas windows hints at the interior, which is expressed as a collection of nested concrete boxes at various levels.

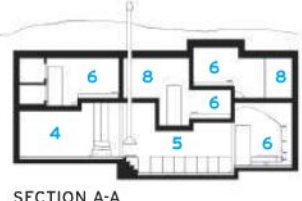
Concrete forms the prevailing material inside, with a restrained use of oak panels and doors providing a warm counterpoint. The limited palette serves as a natural backdrop for furnishings from a panoply of Dutch designers. But a



- 1 Barn
- 2 Tunnel
- 3 Patio
- 4 Living room
- 5 Kitchen/dining
- 6 Bedroom
- 7 Corridor
- 8 Bathroom
- 9 Utility



SITE PLAN / GROUND LEVEL



SECTION A-A

1. Though very private, the house sits on a tight lot on the outskirts of town, just down the hill from Peter Zumthor's Therme Vals.
2. Occupants enter Villa Vals through a traditional bi-level barn which is connected to the house by a long concrete tunnel.
3. The living room, like the rest of the house, showcases the furnishings of Dutch designers (go to [architecturalrecord.com](http://architecturalrecord.com) and click on project portfolio for a complete listing of names), such as the Milkbottle chandelier by Bonne Plat for Leitmotiv.
4. Common areas look out onto the patio and views of the valley beyond.
5. Form ties have been left in place in the 72-foot-long stepped concrete tunnel connecting the house and barn.



1. A long, stepped corridor runs along the retaining wall, connecting bedrooms and common spaces.

2. An antique Japanese step chest bridges the various levels of a bedroom, bathroom, and window seat.

3. Upstairs bedrooms have a protected, cavelike feel.

4. Amsterdam-based Studio JVM created the cardboard bedroom on the ground floor.

OPPOSITE: During excavation, the team discovered an old well and channeled Valsler mineral water into a fountain on the scooped patio, which affords privacy for a Dutchtub by Floris Schoonderbeek.



**Project:** Villa Vals, Vals, Switzerland

**Architects:** SeARCH and Christian Müller Architects (CMA): SeARCH – Bjarne Mastenbroek, principal; Louis Toebosch, Ton Gilissen, Laura Álvarez Rodríguez, Alexandra Schmitz, Michal Palej, Daniel Abraha, Markus Wesselmann, project team; CMA – Christian Müller, principal; Blazej Kazmierski, David Strebicki, project team

**Engineer:** Alex Kilchmann (structural)

**General contractor:** Kurt Schnyder Bauunternehmung

**Consultants:**

A. Gartmann (carpentry); Lippuner (ventilation and heating); Geobrug (avalanche protection)

**SOURCES**

**Windows:** Walch

**Plumbing fixtures:** Catalano; Duravit

**Plumbing fittings:** Similar Kugler; Dornbracht

lot is crammed into the 1,700-square-foot house, and a bit of editing would help to display the singularity of these pieces. While the common spaces and bedroom on the ground floor all open to the patio and are full of light, each of the upper bedrooms, which are accessed at different levels off the long corridor running along the retaining wall, feels like its own cloistered apartment. Subterranean living triggers a particular emotion, notes Mastenbroek, “an almost primal feeling of security,” as well as providing thermal insulation. Additionally, the architects incorporated sustainable mechanical systems, such as a ground-source heat pump,

heat exchanger, and radiant floors. The house also forgoes fossil fuels, using only hydroelectric power generated at the nearby Zervreila Reservoir.

With a single gesture, SeARCH and Christian Müller Architects have creatively addressed the challenges of a sensitive site. And, while conceptually counterintuitive, in fact Villa Vals inserts itself into the fabric of its hillside with great respect. Balancing fantasy with reality, it declares its presence while at the same time deferring to the natural landscape, local vernacular architecture, and the thermal baths just up the hill. ■









WELL HALL ■ MADA S.P.A.M. ■ LANTIAN, CHINA

## Grafting New Roots

Qingyun Ma combines foreign and local elements in building a house in his family's native area. **BY CLARE JACOBSON**

**IN A COUNTRY WHERE HIGH-RISE** development happens at high speed, architect Qingyun Ma is taking the opposite approach on a project you might describe as slow building. Like the slow-food movement, it employs local materials and workers, responds to climatic and seasonal conditions, and addresses issues of sustainability as part of an orchestrated plan to benefit its community.

Ma and his Shanghai-based firm, MADA s.p.a.m., have been working on the development, Jade Valley Wine & Resort, for 10 years, creating a series of small structures in a rural part of central China where he grew up. Located in Shanxi Province, it is a stone's throw from the historic sites of Lantian Man (the million-year-old fossils of a subspecies of *Homo erectus*) and about 30 miles from the city of Xian. Ma's work there began with a house for his father and the conversion of a flour mill into a winery and exhibition space. And now, after eight years of design and construction, he has added a guesthouse, Well Hall, as a prototype for housing at the site.

The layout of Well Hall follows that of Chinese courtyard housing, or *siheyuan*, which has historically been shared by multiple generations of one family. Visitors enter the house on the south through a doorway that leads immediately to a narrow courtyard with the eponymous well in the center.

This courtyard provides direct access to bedrooms on the east and west and a kitchen-and-dining wing on the north. A walled patio with a pool extends to the north. As a guesthouse, Well Hall follows a traditional domestic model while recognizing that Chinese families are becoming less traditional. As Ma puts it, "The building is the stabilizing thing, while the family is an ever-evolving concept." The house can be shared by one extended family, by groups of friends, or even by strangers.

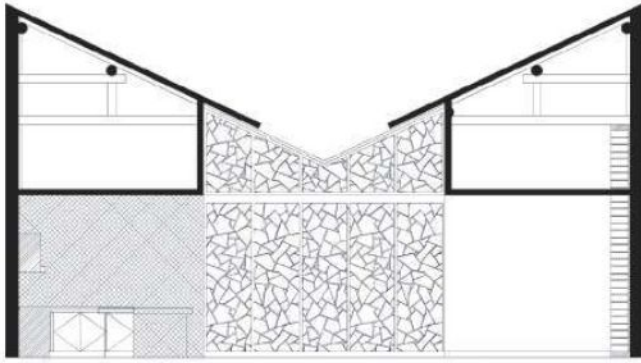
Ma served as both architect and developer of the project, budgeting time, materials, and design into his own schedule and that of its craftsmen. His builders spend most of the year farming but are free during the winter for construction work. Well Hall's bricks are made in a nearby village, so Ma bought them as needed by the basketful rather than the truckload. This allowed him to build in stages and to change the design as his ideas evolved. In fact, Ma used sketches rather than construction documents to convey his design to the workers. He scaled the building according to the size of a brick, as it made better sense to specify a wall of a certain number of bricks than to break some to fit an idealized measurement.

The design strategy behind Well Hall drew on Ma's familiarity with Jade Valley, where he spent his childhood. But he came to the design of this house as both an insider and an



**OPPOSITE: An entry court provides access to bedroom suites on either side.**

- 1. The house sits in a rural part of China and reinterprets local building forms.**
- 2. A pool anchors the court on the north side of the house.**



SECTION A-A

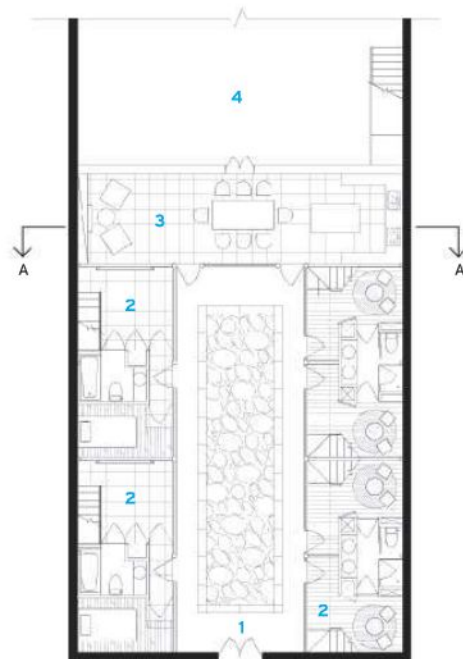
- 1 Entry court
- 2 Guest suite
- 3 Living/dining
- 4 Pool court
- 5 Sleeping loft



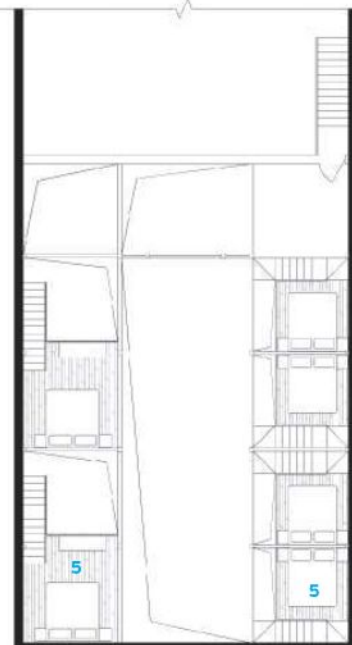
2



1



GROUND FLOOR 0 10 FT. 3 M.



SECOND FLOOR

**Project:** Well Hall, Lantian, Shanxi Province, China

**Architect:** MADA s.p.a.m. – Qingyun Ma, design principal

**General contractor:** Local craftsmen led by Qingcai Zhang and Jingtan Zhou

**SOURCES**

**All materials:** Locally produced and sourced

outsider, having left China to study in the West and then again to become dean of architecture at USC, even as he continues his practice in China. He says his distance from Jade Valley allows him to reinterpret not the form but the character of Well Hall, creating a “violation of tradition within tradition.”

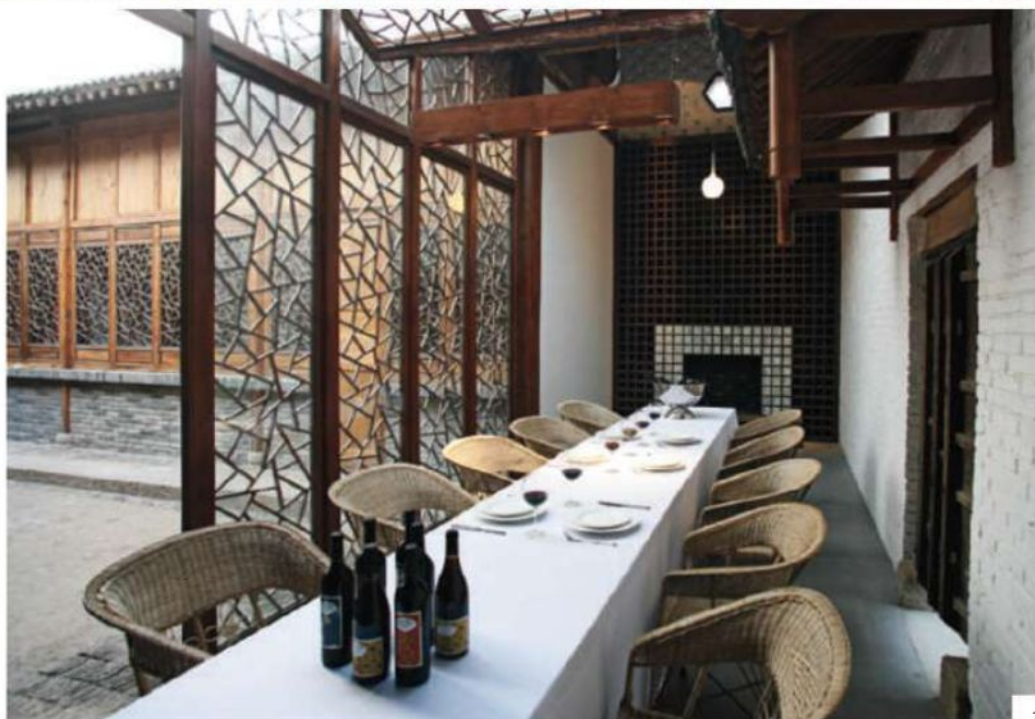
You might say Ma brings an insider’s approach to the outside of Well Hall, and an outsider’s approach to the inside. With its brick walls and clay-tile roof, the exterior is typical of the area. High solid walls and M-shaped roofs in this part of China have historically served dual purposes: collecting water into a central well and deterring thieves from the nearby mountains. The M shape also allowed for two short end beams instead of one long one, an economical way to build in poor villages. Still, the brick walls do not duplicate those of nearby buildings. Ma had local bricklayers alternate red and black bricks to form a unique diagonal pattern in the facade.

The interior reflects Ma’s Western influences. He added a second story to provide loft spaces in the bedrooms, for example, and used elements not typically found in Jade Valley, such as metal-and-glass banisters, a glass skylight, and a wall with angled mullions. And he surfaced some walls and floors with Lantian stone, which comes from a nearby quarry but is usually discarded once the prized jade core is extracted.

Ma filled Well Hall with local art, both old and new, and landscaped the site with hitching posts and millstones collected from the valley. He ornamented the house’s entrance with traditional Chinese tile work and a carved lintel reading *Jing Yu* (Well Hall). In the bedrooms, he installed antique furniture and contemporary painted chests. In the bathrooms, he carved sinks out of rocks brought up from the nearby river.

Ma hopes Jade Valley Wine & Resort can help bring economic sustainability to the region, employing local residents as builders, grape growers, and wine producers. Granted, wine making is new to Jade Valley. “This is the first wine production in the area since Lantian man,” jokes the architect. But the business connects to Shanxi’s agricultural heritage; it’s “not making plastic shoes,” he says. Ma’s plans for the development call for dozens of buildings. If the pace of Well Hall is any indication, constructing these new structures will not happen quickly. Beyond Jade Valley, fast-paced development will continue to fill China with outstanding (and outlandish) pieces of architecture. Well Hall shows that sometimes slow is good. ■

Clare Jacobson is a Shanghai-based writer and editor.



1. By alternating gray and red bricks, Ma gave a new twist to a local material.


2. In sleeping lofts, the architect mixed old and new furnishings.

TOP: Traditional clay roof tiles and notched-wood construction speak to vernacular building

methods, even as two-story guest suites bring the building into a new global age.

3. A living and dining wing separates the north and south courts.

4. Bathroom sinks are made from carved stones pulled from a local river.



PROJECT X ■ RENÉ VAN ZUUK ■ ALMERE, THE NETHERLANDS

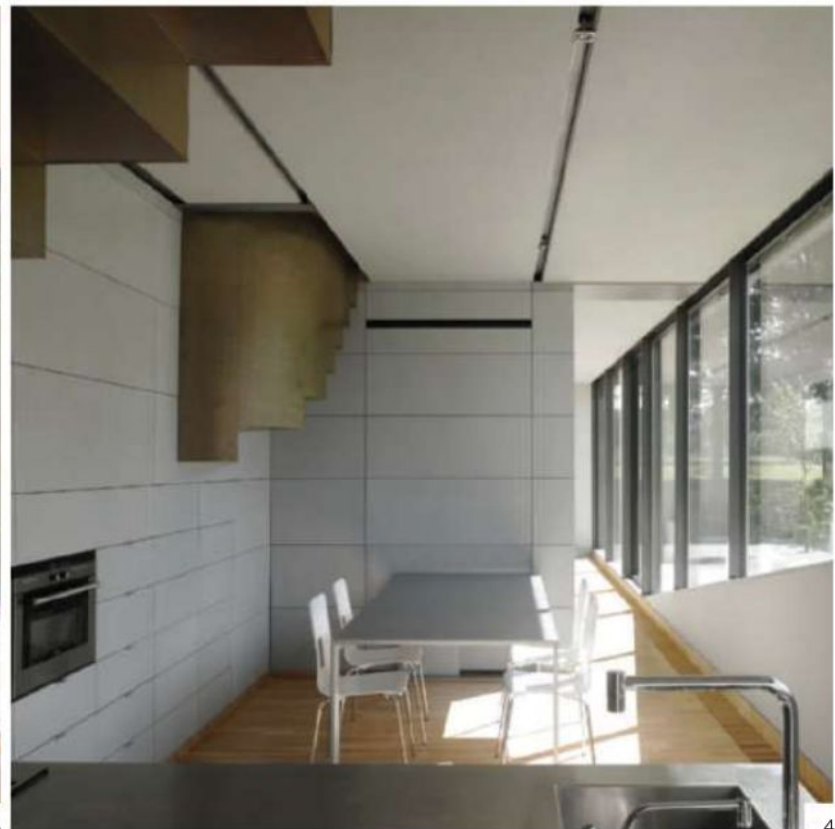
# Living on a Canal

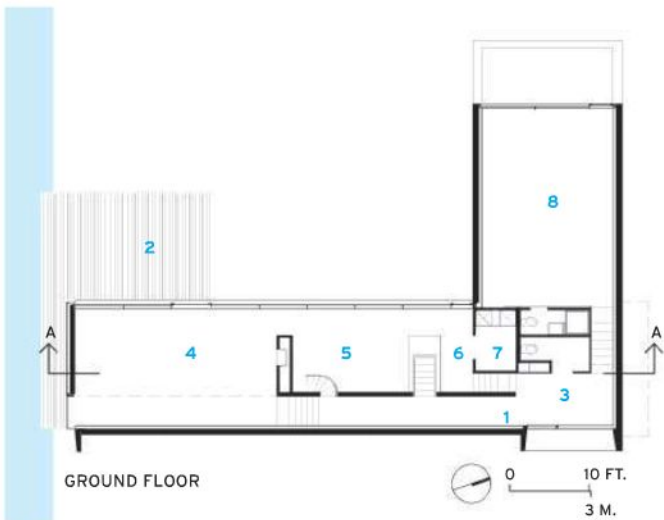
A delicate Art Nouveau leaf pattern softens the mass of Project X's signature opaque volume. BY JANE F. KOLLEENY

**THE DENSEST AREA IN THE NETHERLANDS** includes Amsterdam, Rotterdam, The Hague, and everything in between. Referred to as the "Randstad," or "urban conglomeration," the region is plagued by enormous population pressures, and housing is constantly under development. The Randstad is also a place where new municipalities such as Almere have been created on land reclaimed from the sea. Seeking to bring attention to this greener, cheaper suburb established in 1984, the city set aside 10 plots of land in 1993 as part of an experimental housing competition called "Fantasy." A little-known Dutch architect, René Van Zuuk, was among the winners for his design of Villa Psyche, his first project, subsequently built on one of the sites. While modest in number, Van Zuuk's designs are striking and highly diverse in char-

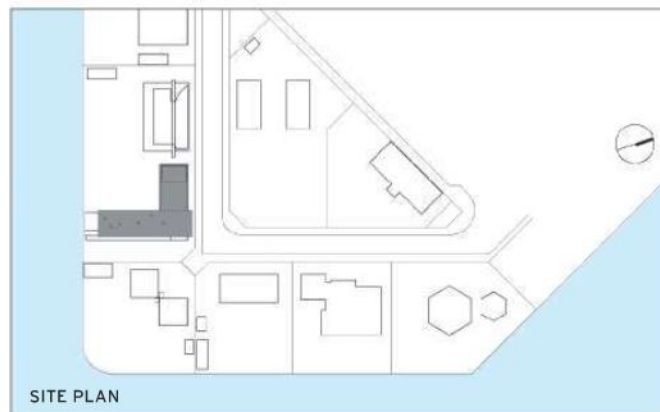
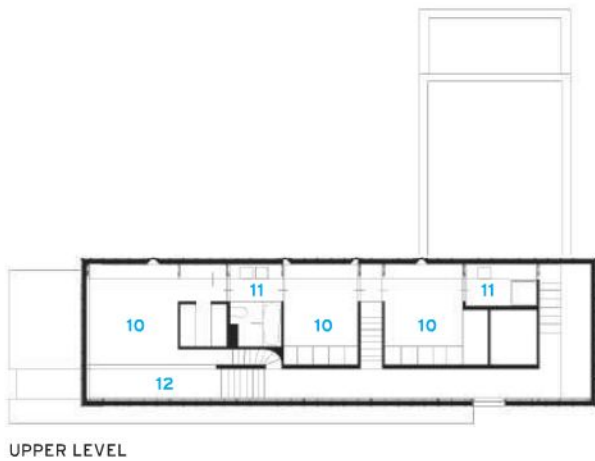
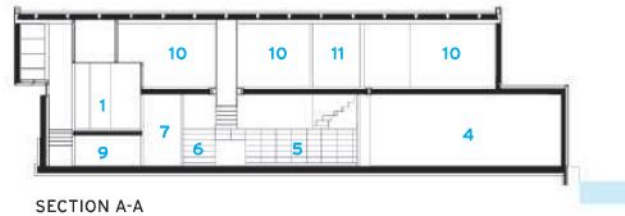


At dusk, window slots on the second floor of Project X emit a glow that lights up the volume like the eyes of a jack-o'-lantern.





- |               |             |
|---------------|-------------|
| 1 Entrance    | 7 Pantry    |
| 2 Terrace     | 8 Studio    |
| 3 Hall        | 9 Storage   |
| 4 Living room | 10 Bedroom  |
| 5 Dining room | 11 Bathroom |
| 6 Kitchen     | 12 Open     |



acter [see RECORD, December 2002, page 102]. *Expressive* aptly describes his body of work, which includes the eye-catching Amsterdam Center for Architecture (ARCAM), completed in 2003 on the harbor behind the city's central station.

The architect lived in Villa Psyche for years, but a growing family and the availability of an adjoining parcel of land compelled him to build a new residence, called Project X. Completed in 2009, the 2,300-square-foot residence complements Villa Psyche and completes a small garden compound along a canal. The three-bedroom, split-level residence features an office studio on the lower level; living room and kitchen and dining area on the main level; and bedrooms upstairs. On one side, large glazed walls in the kitchen and the living and dining area open to the canal, a deck, and the yard, enhancing views and admitting abundant light into these public spaces. While skylights illuminate the upstairs sleeping quarters, narrow glass slots modulate glare and maintain visual privacy from neighboring houses while also preserving the integrity of the solid form. Two long stairway corridors provide circulation in the house – one proceeds upstairs from the front entrance and the other continues on the main level to the back of the house and the canal. Inexpensive oak covers the floors and walls in these passageways, a testament to

the architect's modest budget and use of natural materials. Van Zuuk's family of four lives here, while his small office staff is accommodated in the former residence, Villa Psyche.

Although Van Zuuk thought about the two buildings as an ensemble, Project X looks little like Villa Psyche. "We didn't want to have a project next door compete for attention. Project X had to be a background structure," he explains. Nevertheless, the new house is distinctive, consisting of two rectilinear forms stacked on top of each other. An opaque second-floor volume hovers above a base expansively glazed on one side and closed on the side abutting the neighbors.

Van Zuuk's design process unfolds like a math puzzle. At the Technical University of Eindhoven, where he studied building production technology, he became intrigued by inventive manufacturing systems and mass production. In this project, he experiments with new materials and processes, using fiber-cement board panels on the facade of the second-floor volume, and etching a repeating Art Nouveau tree-branch shape into the panels' surface. "In my youth, I encountered the mathematical work of M.C. Escher. I always wanted to use [his ideas] in a project, a continuous pattern that runs around the building where one cannot tell where it starts or where it ends," says Van Zuuk. For Project X, the

1. The entry consists of a full-height glazed door. Clerestory windows line the front and west-facing sides of the house, and a retaining wall parallels the road.

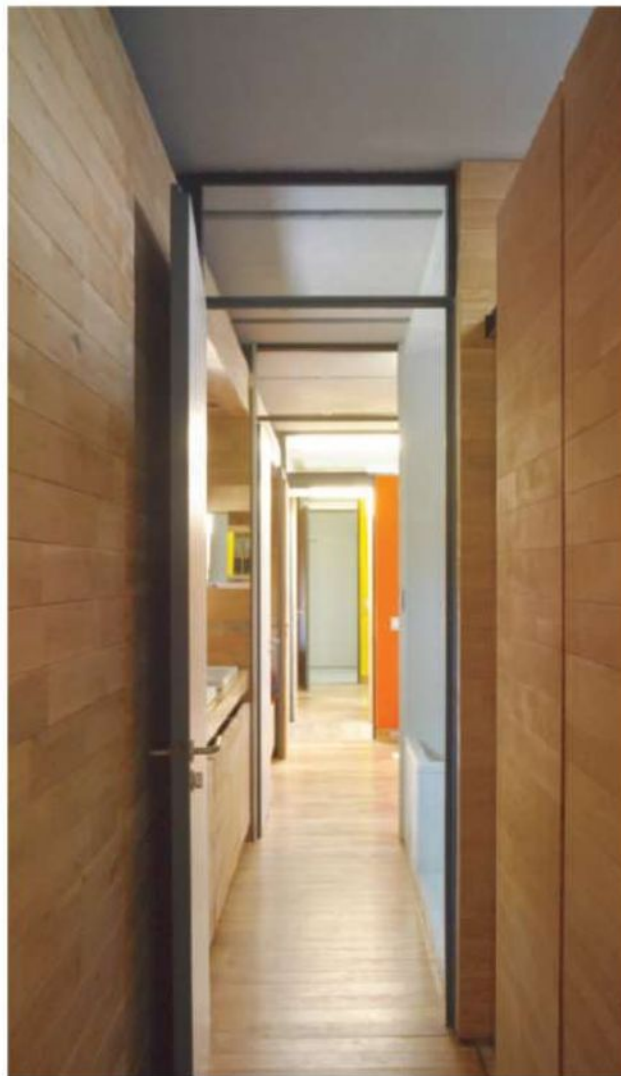
2. Van Zuuk's son Art poses on the stairway corridor that proceeds from the entry sequence to the living room and canal.

3. Full-height windows in the living room offer pleasant views of the canal and park beyond.

4. In the light-filled kitchen and dining area, the lead-clad underside of the upper-floor stairs is visible on the ceiling.

THIS PAGE: A long hallway extends end to end on the second floor.

OPPOSITE: Project X serves as a companion to the 17-year-old Villa Psyche, which the architect built as his home through a design competition. The older building now serves as an office for his small studio. Together, they form a compound abutting a canal, with a garden and deck between them.



**Project:** Project X, Almere, the Netherlands

**Architect:** René Van Zuuk Architekten

**Structural engineer:** Leon Mevis – Constructie bureau van de Laar

#### SOURCES

**Walls:** Rockwool; Alvon; Rigips; Calduran; Cembonit

**Floors:** Unidek

**Roof:** Dow Corning; Hertalan

**Ventilation:** Stork

**Plumbing:** Duravit

design team made stencils from engineered wood and milled the branch-shaped grooves manually onto the panels. The stencils run perfectly true, repeating 10 times on the surface of the 50-meter (164-foot) perimeter of the facade.

The branches continuously wrap around and beneath the corners, appearing on the underside of the boxlike form to make a perfectly symmetrical statement. Van Zuuk specially ordered the fiber-cement facade material, then sanded and milled it. The overall effect of the repeated pattern softens the volume's rigid form, connects the man-made designs to nature, and becomes the signature statement of the house.

Everything built in the Randstad must take into account the limits imposed by the area's density, size constraints, and proximity to water. You would not easily guess that Project X is not only small but tightly packed on its 16,000-square-foot urban plot; in photographs, the house gives the illusion of being large and located in the country. While finishes and materials in the house may appear pricey, the project team went to great lengths to keep costs down with inexpensive materials and fabrication strategies. In his live/work compound, Van Zuuk responds with tasteful restraint to the limitations that temper design in Almere, transforming them into instruments of inspiration. ■







PITTMAN DOWELL RESIDENCE ■  
MICHAEL MALTZAN ■ LA CRESCENTA, CALIFORNIA

# Breaking Conventions

Michael Maltzan designs a house for a nontraditional household.

BY CLIFFORD A. PEARSON

**“AS A SAME-SEX COUPLE, WE FELT** that the old nomenclature of residential space didn’t apply to us,” states Lari Pittman, who, with his partner, Roy Dowell, challenged Michael Maltzan, FAIA, to explore the architectural ramifications of nontraditional relationships. For example, they wanted no doors or partitions between rooms. Instead, they asked Maltzan to “disrupt and dismantle the hierarchy of spaces” found in other houses and rethink conventions of privacy.

Pittman and Dowell, both respected painters and teachers, lived in a 1,200-square-foot Richard Neutra–designed house on the northern edge of Los Angeles and needed more space. Although small, their 1952 house – designed for Neutra’s secretary, Dorothy Serulnic, and her husband, George – sits on a 6-acre site that Neutra planned so it could be subdivided into three parcels. Since purchasing the entire property in 1997, Pittman and Dowell had built a small pavilion and cactus garden on the second parcel and saw how the site’s various pieces all worked together. So instead of just building a bigger house on the third parcel and using the Serulnic residence as a guesthouse, they approached the new building as an integral part of a larger composition.

Maltzan responded with a design that at first blush seems to contradict Neutra’s – introverted and opaque rather than outward-looking and transparent, polygonal rather than orthogonal. But the more you get to know his house, the more you see how it picks up Neutra’s ideas and gives them a new





spin. While Maltzan certainly uses contrast as one means of relating the new to the old, his strategy is more sophisticated than simply doing the opposite of what Neutra did.

"The new house had to work with the entire environment, not just the Neutra house," explains Maltzan. A driveway winds its way up the site with the existing home at the top, so he used that processional element to help generate an asymmetrical, spiraling geometry connecting the new building to both the cactus garden and the old residence. To anchor the dynamic composition, the architect focused certain elements – such as an internal courtyard and an oval skylight in the master bathroom – on an imposing stone-pine tree in the Neutra house's backyard. And since the old residence looks down onto its new sibling, Maltzan designed the roof of his building as an additional facade that clearly expresses the floor plan inside.

Neutra layered space in his house, taking visitors from a relatively enclosed entry to an open living room that flows directly onto a backyard overlooking a valley and the city beyond. Maltzan reinterprets this concept, layering spaces, but in a pinwheel manner that opens each room onto the next and the jagged court in the center. Instead of unfolding in a linear progression, his plan takes visitors on a spiraling journey that offers surprising views through the house, into the court, and out to the valley. "I thought of the house as a perspective machine generating views across and through

OPPOSITE: **Seen from the Serulnic residence, the roof of the new house expresses the floor plan and serves as an additional facade.**

1. **A carport and parking surface emphasize the "otherness" of the new house, which uses mostly blank facades in this direction to create an aura of mystery.**
2. **The 1952 Serulnic house sits on a hill 30 feet above its new sibling.**
3. **Maltzan specified partially mirrored glass for the entry door (shown here) and a back door so the building's context is "applied" onto its surface. (The woman on the right in the photo is reflected on the door, while the man on the left is inside the house on the balcony.)**



SITE PLAN/GROUND FLOOR

- 1 Living
- 2 Dining
- 3 Kitchen
- 4 Office
- 5 Library
- 6 Bedroom
- 7 Bath
- 8 Courtyard
- 9 Carport
- 10 Serulnic house

the building,” says the architect. Indeed, the house presents visitors with an almost cinematic experience, as it frames a series of shots both outside and in and offers a number of unexpected moments – such as the view of the stone pine through the oval-shaped skylight in the bathroom, and the way a wall in the library turns into a bladelikey edge as you turn the corner into the bedroom.

By slicing and dissecting his seven-sided structure into a series of triangles and polygons, Maltzan creates a geometry that challenges conventional notions of household order. As soon as you enter, you can look into the master bathroom on one side or to the living room in front. From the living room, you can walk out to a covered balcony overlooking the valley or up one step to the courtyard. The bedroom on the other side of the court faces the living room with floor-to-ceiling glass (though shades can be pulled down). A galley kitchen occupies an interstitial space between the dining room and a library. Noting that the Serulnic house broke many rules when it was built, Pittman says that living in it for many years “radicalized us.”

Built on a concrete slab with hidden steel columns and laminated-wood beams, the new, 2,500-square-foot house cost \$1.5 million. A conventional structural system and simple materials (plaster exterior, concrete pavers in the courtyard, and Scandinavian oak floorboards) kept expenses down. Although green-design strategies didn’t play a major role in the project, Maltzan carefully oriented the house to catch prevailing breezes and specified double-layered, UV-protected glass to reduce solar loads.

On paper, Maltzan’s design seems a bit like a mathematical conceit and an odd response to the Neutra house. But in person, it feels remarkably comfortable – more sunlit and extroverted than you might imagine, and more connected to California’s heritage of Modern architecture than it appears at first. For all its radical notions of subverting residential norms, it has an easy charm, welcoming to many types of people. Maltzan, who lives with his wife and two children in a 1920s bungalow and has never built a house for himself, says that for the first time in his career he could imagine taking up residence in one of his designs. ■



1. Maltzan treated the bathroom as a set of sculptural objects with no doors separating it from other parts of the house.
2. As visitors turn the corner in the library, the wall separating it from the courtyard and the bedroom becomes a bladelike edge.
3. From the living room, people can take one step up to the central court or walk out to the balcony on the other side.
4. The narrow portion of the court points to a majestic stone-pine tree near the Serulnic house.

LEFT: The library offers views to the court on one side and up the hill to the stone-pine tree on the other.

**Project:** Pittman Dowell Residence, La Crescenta, California

**Architect:** Michael Maltzan Architecture – Michael Maltzan, FAIA, Tim Williams, Steven Hsun Lee, Hiroshi Tokumaru, Will Carson, David Freeland, Nadine Quimbach, Christopher Norman, Yan Wang, Tal Schori, Stacie Escario, project team

**Engineers:** B.W. Smith (structural); The J Byer Group (geotechnical)

**General contractor:** Asterisk Builders

#### SOURCES

**Glazing:** Solar Ban

**Skylights:** Glas Pro

**Bathroom tiles:**

Ann Sacks Paris

Penny Round

**Ambient lights:** Selux

WOODSTOCK FARM ■  
RICK JOY ARCHITECTS ■ WOODSTOCK, VERMONT

# Rooted Modernism

Rick Joy Architects turns to a  
Northeast vernacular in a new house.

BY SUZANNE STEPHENS

**"I DON'T WANT TO BE** known as the rammed-earth guy," says Rick Joy, AIA.

Joy is referring to the low-slung, thick-walled houses (and his own office enclave) that he started building in and around Tucson in the 1990s. Rammed earth appeals to those living in dry, hot climates, where the mix of packed soil, a little cement, and water creates an architecture that fits in well with the desert landscape while offering occupants passive cooling and heating features. Joy, who hates architectural typecasting, has also explored thin steel-plate construction inspired by Arizona's industrial sheds, as witnessed by his rusty cubiform Desert Nomad House [RECORD, April 2005, page 146].

Nevertheless, now that Joy has completed a shingle-and-stone house and barn in Woodstock, Vermont, he could be called the "gable guy." The commission to build a 3,890-square-foot, four-bedroom house and a 5,625-square-foot barn in a picturesque town among the Green Mountains has taken Joy to another vernacular entirely – that of the rural northeast. Actually, his shift is not so unusual if you consider that Joy grew up in Maine. There he studied music in college and worked as a carpenter before going to architecture school at the University of Arizona.

Joy's Vermont client, Paul Palandjian, a young Boston real estate investor with a strong interest in art, searched through a trove of books for an architect for his rural, 210-acre





Rick Joy sited the 152-foot-long house and the two-story barn to embrace an open area near the spring-fed pond of the 210-acre farm in Vermont's Green Mountains.

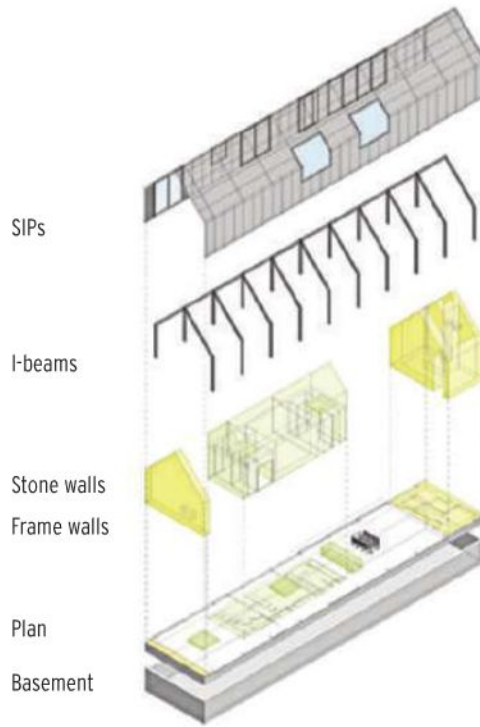




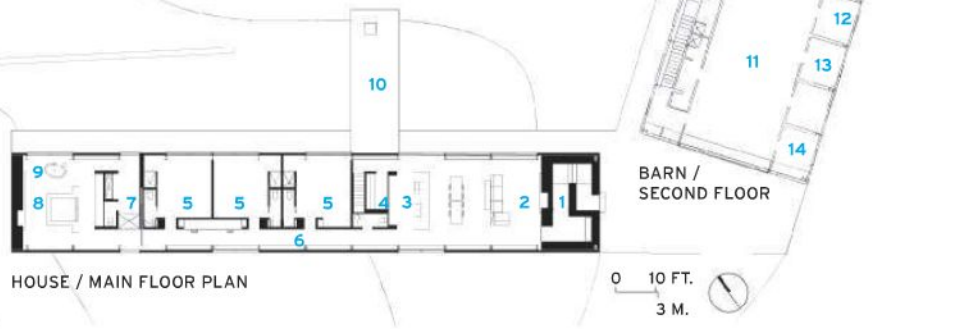


2

3



EXPLODED AXONIMETRIC



HOUSE / MAIN FLOOR PLAN

- |                  |                       |
|------------------|-----------------------|
| 1 Entrance       | 10 Terrace            |
| 2 Living         | 11 Loft hall          |
| 3 Kitchen        | 12 Guest suite        |
| 4 Pantry         | 13 Bunk room          |
| 5 Bedroom        | 14 Studio/office      |
| 6 Gallery        | 15 Ball court (below) |
| 7 Master shower  | 16 Dock (projected)   |
| 8 Master bedroom |                       |
| 9 Master tub     |                       |

homestead. When he came across Joy's work, Palandjian was immediately hooked by the architect's inventiveness. He wanted to see how Joy's creative instincts would play out in a New England landscape.

Joy claims, "I didn't have an overall form in mind." But what about that gable? It would strike many a Modernist architect as slightly heretical to incorporate a gable roof rather than a flat or single-pitched roof into a design. Joy simply replies, "That's what you do here."

Initially, Palandjian wanted to locate the new house at the top of a hill, where it would command views of the surrounding woods and pastures. But Joy felt that the main focus of family activity would probably end up being down by the spring-fed pond, close to the road. This alternate location would also mean that the house would be easier to reach in snowy weather. While a small old cottage had to be torn down for the new, larger structures, Joy's elegantly elongated gable house with massive stone end walls and cedar cladding on the roof and side walls – and the cedar-shingle barn – make the ensemble seem as if it has always been there.

It is only when you look closely at significant details that you notice Modernist interventions. For example, there are no eaves: "With no eaves, there are no icicles," says Joy,

1. Joy placed the entrance to the house in the stone wall at the southeast end, where it is near the barn (with garage) and a parking area.

2. The entrance opens onto a stone vestibule, which in turn leads into the living room.

3. In the living area, a fireplace is contained in the second stone wall of the entrance vestibule.

**BOTTOM: Bedrock from Lake Champlain forms the end walls of the house. Windows penetrating the cedar-shingle-clad walls continue onto the shingled roof to provide skylights.**



1. **White spruce boards clad floor, walls, and ceilings. Pendant lamps are designed by Ingo Maurer; the dining table by Jean Nouvel.**

OPPOSITE: **A stone wall with fireplace encloses the master bedroom (and freestanding bathtub) at the north end of the house.**

3. **A window/skylight enlarges the sense of space in the master bathroom, which is sheathed in ceramic tile and drywall covered with a wax finish.**

since water backing up inside the warm roof on a long eave can create dams of ice. "Sometimes you have to rethink traditional construction details," he says. For this reason, Joy also located the main entrance at one stone end of the house, rather than on a long side, so that snow accumulating on the roof wouldn't fall on those going in. Other contemporary "corrections" include 4-foot-wide, 6-foot-high windows that wrap up over the roof to become 10-foot-long skylights, framing dramatic views for the spaces within.

Joy describes the plan for the main house as "a loaf of bread," with the stone-walled entrance opening onto a living-dining area and kitchen, followed by bedrooms for the children, and finally, at the other (stone-walled) end, the master bedroom suite. The end walls of bedrock dredged from the bottom of Lake Champlain and laid with recessed mortar are doubled at the entrance to enclose a vestibule.

In devising the structure for the 152-foot-long house, Joy opted for post-and-beam steel bents, 12 feet on center, so that ceilings could go up as high as 22 feet and allow open spans where desired. Between the steel bents there are structural insulated panels (SIPs) covered with cedar shingles outside and spruce paneling within. The fact that the steel frame and panels were manufactured off-site kept the construction costs (undisclosed) below budget, says Palandjian, and enabled the house to be finished in 13

months. (Nevertheless, such moves as the perfect alignment of the boards and shingles of the various planes speak of a close attention to craft.)

Joy placed the long, low house, which has a basement equipped with a synthetic ice floor for indoor hockey practice, at an angle to the barn, which also functions partially as a sports facility for the seriously athletic family. In addition to garage, storage, and second-level guest quarters, Joy designed an indoor basketball court that opens onto a basketball court outdoors. Beyond it is the pond, now being enlarged and fitted with a deck connecting to the barn.

To save energy, the team is investigating installing a small hydroelectric plant to take advantage of the pond as an energy resource and to supplement the geothermal system already in place.

Palandjian loves the "purity" of the setting that fosters the relaxed environment reminiscent of his own childhood summers. For their part, some Modernist architects might still find Joy's turn to a straightforward gable too reminiscent of houses of the 1970s and '80s, when the gable was madly embraced by Postmodernist architects. But Joy (along with avant-garde peers Herzog & de Meuron and Sou Fujimoto) no longer views the gable as *retardataire*. The irony is that such a simple gesture now reads as an iconoclastic statement. And Modernism still lies in the details. ■



3

**Project:** Woodstock Farm, Woodstock, Vermont

**Architect:** Rick Joy Architects – Rick Joy, principal; Dale Rush, project architect; Nicolas Norero, Madeline Gradillas, Philipp Neher, Claudia Valent, team

**Engineers:** Harris Engineering (structural)

**Consultants:** Michael Boucher (landscape architecture); Kai Piippo Ljusarkitektur P+O (lighting)

**General contractor:** Colby & Tobiason

#### SOURCES

**Steel bents:** Barker Steel

**SIPS panels:** FOARD

**Sliding doors:** Duratherm

**Cedar shingles:** Bethel Mills

**Lighting:** Lutron (Homeworks)

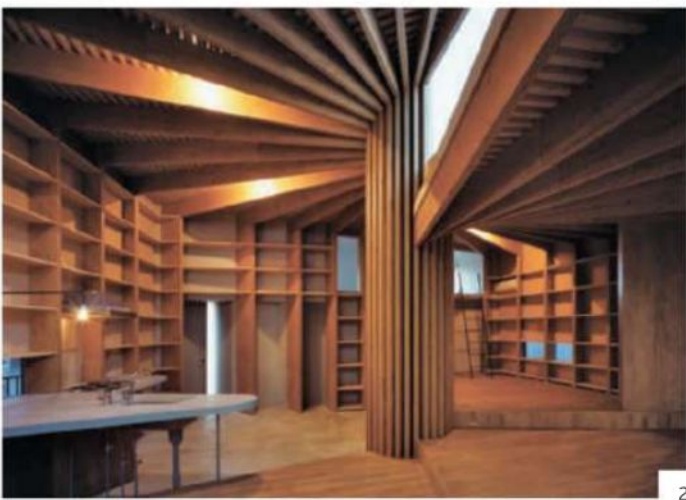




TREE HOUSE ■ MOUNT FUJI ARCHITECTS ■ TOKYO

## Grounded in Nature

Metaphor defines a well-crafted home in Tokyo. BY NAOMI R. POLLOCK, AIA



**INSPIRED BY THAT MAGICAL** space sheltered beneath leafy, deciduous branches, Tree House, designed by Mount Fuji Architects Studio [RECORD, December 2009, page 60], revolves around a single column measuring 4 feet in diameter that supports frames (aka “branches”) of engineered wood. While these “boughs,” which radiate outward, hold up the structure’s spiraling roof, the trunklike pillar firmly roots the rustic one-room dwelling to the ground.

Maintaining a connection to the earth was essential to the clients, a husband and wife with a green thumb. Yet their flagpole-shaped parcel amid a Tokyo suburb was not ideal for plant cultivation. Hemmed in by existing buildings on all four sides, the “flag” portion of the property hardly had enough room – or sunshine – for a garden. And the 49-foot-long “pole” tethering it to the street was not much help since it acts as emergency vehicle access. But the 1,744-square-foot plot’s separation from the busy road appealed to the architects, who saw its dark, cramped condition as an opportunity for invention.

“Usually we put the house on the north and the garden on the south,” explains Mount Fuji principal Masahiro Harada. “But that arrangement doesn’t work on flagpole sites.” So he and his design (and marriage) partner, Mao Harada, saved a small strip of land along the property’s south edge for a modest deck and an existing persimmon tree, then concentrated the majority of the outdoor space on

**OPPOSITE: The four main living areas of the open floor plan flow around a massive 4-foot-wide column (or trunk) and look out onto a small deck.**

1. Accessed by an exterior stair, the roof swoops up over the clerestory window.
2. The concrete floor of the entry/kitchen transitions to wood in the raised dining, living, and sleeping rooms.
3. Full-height open shelves – some backed by narrow windows, and some doubling as lateral braces – line the interior perimeter walls of the house.



the fully accessible roof. This strategy provides an herb garden on top of the house and maximum living space within it.

Following the gradual slope of the site, up 5 feet between the middle of the “pole” and the rear of the “flag,” the architects devised a tiered, tradition-inspired floor plan. From the front door, which is placed at a diagonal to the access road, the plan resembles the historic *ta no ji* layout, shaped like the Chinese character for “rice paddy.” It is divided in fourths by the column – serving as a *daikokubashira*, or main pillar – at the intersection. Each quadrant steps up 8 inches as it winds around this central point and corresponds to one of the home’s four main domestic functions: cooking, dining, living, and sleeping. The floor is made of concrete (the area of the traditional *doma*, usually composed of compacted earth) in the busy kitchen/entrance area. It then transitions to oak on the raised surfaces where wear is less of a factor. A second-floor study loft sits atop the bath and storage areas – the only places concealed by doors.

Indoors, the column’s position and the level-shifts around it distinguish the physical character of the individual spaces. The architects located the column off-center, in response to utilitarian and structural requirements, and made its core out of a hollow paper tube normally used for concrete formwork. Assembled from laminated veneer lumber beams connected with hidden steel pins, it has 32 rectilinear frames covering its outer surface. Though uniformly spaced, these frames vary in length to accommodate the building’s wedge-shaped footprint, and in height to support the roof’s incline. In most places where the frames abut the unfinished wood walls, they support open shelves, some of which double as lateral braces. “Normally we use a Cartesian structural grid, but this system is much stronger against earthquakes since it counters forces from multiple directions,” explains Harada.

Bridging the gap between the highest and lowest frames, an operable clerestory window marks the starting point of the roof’s ascendant, spinning shape. Visible from inside, the roof conceptually connects the indoor and outdoor realms, according to the architects. Accessed by an exterior stair and an interior ladder leading to a narrow loft in front of the clerestory, the continuously curving plane wraps around the opening created by the column, incorporating the herb garden planted on its north side en route.

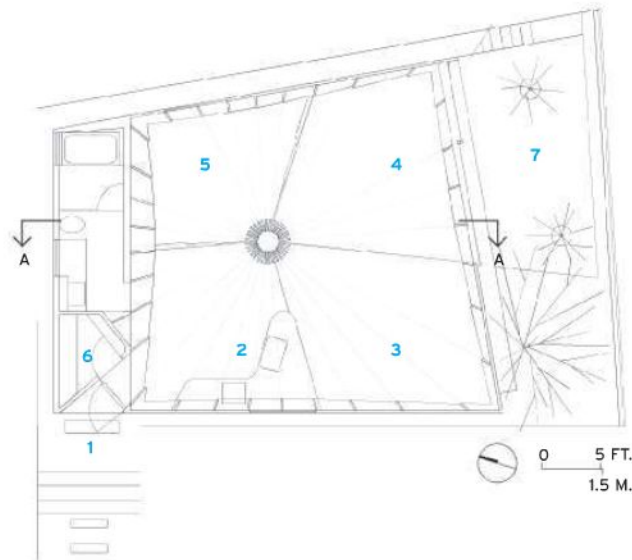
Located in the middle of the roof, the column acts as a funnel. Secured by foam insulation, a downspout inside the column directs rainwater to an underground drainpipe. Forming a smooth, impenetrable, waterproof surface, polyurethane gum covers the entire roof, including the top of the column. Applied as a liquid, the rubbery coating seals any joints and easily accommodates the complex geometry.

Like the roof, most of the outer walls are painted with gritty paint whose rough texture is reminiscent of sandstone. In terms of architectural expression, though, interior and exterior could not be more different. In deference to the neighbors, the color of the house is a neutral tan that quietly blends with the scenery. But this humble wrapping conceals a remarkably dynamic interior. Japan’s traditional, timber-frame houses may have incorporated nature, but Tree House resurrects it as architecture. ■

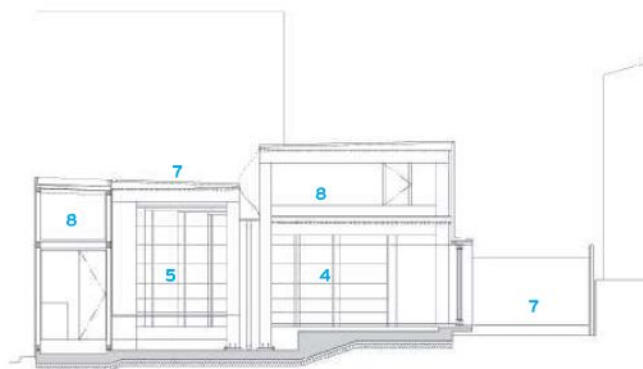
Naomi R. Pollock, AIA, is a Tokyo-based special international correspondent for ARCHITECTURAL RECORD.



SITE PLAN



FIRST FLOOR



SECTION A-A

- |                |           |
|----------------|-----------|
| 1 Entrance     | 5 Bedroom |
| 2 Kitchen/doma | 6 Storage |
| 3 Dining area  | 7 Terrace |
| 4 Living room  | 8 Loft    |

PHOTOGRAPHY: © SHINKENCHIKU-SHA (RIGHT)



**ABOVE:** The home's angled entrance is positioned midway up a narrow path from the street.

**LEFT:** Sliding glass doors and an operable clerestory window provide natural ventilation and access to the lower deck and roof garden, respectively.

**Project:** Tree House, Tokyo

**Architect:** Masahiro Harada + MAO/Mount Fuji Architects Studio – Masahiro Harada, Mao Harada, principals

**Architect of record:** Naoto Ishii

**Engineer:** Jun Sato (structural)

**Contractor:** Shin-ei

#### SOURCES

**Cladding:** Fujikawa Kenzai Kogyo (mortar); Daito Giken (paint)

**Roof:** AGC (waterproof membrane)

**Laminated veneer lumber:** Key Tec (column, beams)

**Flooring:** Muku Flooring (oak)

**Medium density fiberboard:** Hokushin (wall)

**Windows:** Kyoka (steel); Tostem (aluminum)

**Glazing:** Nippon Sheet Glass Company

MOUNTAIN HOUSE ■ ATELIER BOW-WOW ■ CALIFORNIA

# Rising From Ruin

A small house treads softly on a ravaged landscape.  
BY JOSEPHINE MINUTILLO

**ATELIER BOW-WOW EARNED A REPUTATION** over the past decade for designing intelligent but extremely compact houses. In many cases, tiny Tokyo lots have dictated building size. For their first built project in the United States, the Japanese architects had acres of breathing room. Located in the foothills of the Sierra Nevada, in a part of California known as the Mother Lode, the stark terrain is a lingering reminder of the devastating environmental effects wreaked by gold mining more than 150 years ago. To leave as light a footprint as possible on the still-recovering site, Bow-Wow designed a weekend retreat whose scale equals that of its Japanese residences, but with one extraordinary element meant to take in the hauntingly beautiful landscape.

Hovering like an umbrella over the 1,240-square-foot cabin, a curiously angled roof shelters a terrace equal in size and importance to the interior space underneath it. The terrace was originally conceived as a partially enclosed meditation room, but it was eventually opened up completely to offer panoramic views of the property, which includes a pond just below the house.

"The first design was gorgeous," says the client, a Los Angeles-based film director who was introduced to Bow-Wow's work through frequent travel to Japan and a mutual friend, Takashi Homma, who photographs the firm's built work. "But I didn't want anything too sharp or sleek, as if a UFO landed on the hill. Instead of a beautiful spaceship, I wanted a tugboat."

That attitude guided much of the house's design, which Yoshiharu Tsukamoto and Momoyo Kaijima, the husband-and-wife founders of Atelier Bow-Wow, developed over several visits to the site and countless models. The pair also consulted with local builder and carpenter Ken Meffan, whose own nearby house — made with the same rough-sawn wood and

THIS SPREAD: Hydraulic-gold-mine tailings created the stark landscape upon which Atelier Bow-Wow's Mountain House sits.







1  
2



- 1 Living area
- 2 Bedroom
- 3 Laundry/storage
- 4 Reading/sleeping cubby
- 5 Deck

GROUND FLOOR 0 5 FT.  
1.5 M.





1. The house appears extremely modest from the front entrance, whose simple facade features screened-in openings and a seating nook over a narrow wood deck. Like those on many local buildings, the roof is covered with corrugated metal; its bonderized steel has a dull, gray patina.
2. The roof slopes up to form a covered terrace. Sliding cedar screens over apertures keep animals out when the house is empty.
3. Barn tracks allow oversize, glazed doors on both sides of the main living space to slide completely open. Wood accents add color to the interiors, where a seamless concrete floor and homasote walls dominate.

3

**Project:** Mountain House, California

**Architect:** Atelier Bow-Wow – Yoshiharu Tsukamoto, Momoyo Kaijima, principals; Yoichi Tamai, Takahiko Kurabayashi, Yoshiko Iwasaki, project team  
**Consultant:** Ken Meffan

#### SOURCES

**Metal:** Loomis Metals  
**Hardware:** G-U Hardware  
**Salvaged finishings:** Urban Ore

no-frills, custom finishings – inspired many of the details. “The way this house came together really makes you believe in process,” says the owner, who admits to being involved in every aspect of the design. “Directors make horrible clients.”

A winding driveway, sprinkled with crushed mine rock, leads to the house’s low, porticoed entry, where a built-in seating nook replaces the proverbial porch swing. Inside, larger cubbies for sitting, reading, or sleeping are positioned throughout the flowing, single-story dwelling. A seamless concrete floor enhances the space’s continuity and conceals a hydronic underfloor heating system.

Interiors also merge gracefully with exteriors. Inspired by sliding doors commonly found in Japanese homes, the main living area’s long, rectangular space features custom, oversize glass doors at both ends that open completely to the outside. Japanese influences abound. The architects angled the corridor leading to the main bedroom so that views of a large, existing granite boulder – fondly referred to as the “Zen” rock – are possible from the living area.

Though the designers initially toyed with the idea of a house made of straw bale, they settled on a construction that combined structural insulated panels (SIPs) with lumber from local mills. Exposed homasote boards, made from recycled paper, compose all interior walls, giving the space an “organic, rather than a sterile feel,” according to Meffan. The walls also serve as tackboards for pinning up drawings and photographs.

Most of the furniture is secondhand, except for the beds in the sleeping quarters, which are simply assembled on legs made from galvanized steel water pipes and kee clamps. Rooms are lit by basic bulbs hanging from cords. Other finishings required a bit more work. Sinks and bathtubs – including a functioning one outside the house – were found at a salvage yard in Berkeley and installed following some heavy-duty cleaning. The same salvage yard provided the doors. “We had to strip a hundred years of paint off them,” recalls Meffan.

While the antique doors’ shorter, narrower frames lend an odd scale to the 10-foot-high interiors, they fit right in with the house’s laid-back, quirky character – which is carried over



**ABOVE: Multidirectional ponderosa pine rafters animate the triangulated roof over the terrace, which frames panoramic views.**

**LEFT: Bookshelves surround the largest cubby, just to the side of the main living space. Cedar planks conceal storage space beneath the daybed.**

to the loggia above, whose skewed roof can appear off-kilter. But its multidirectional rafters and crisscrossing supports create an outdoor terrace space that is both dynamic and serene. The roof shape also responds to sun and wind patterns to ensure the terrace – a spot where the residents can meditate and guests can gather for meals around a built-in eating area – is comfortable during the dry, hot summers.

The house's humble construction recalls the vernacular architecture of the area's old mining towns, and its use of local and natural materials pays respect to the area and its scarred earth. But Atelier Bow-Wow's deftly arranged spaces and offbeat massing have this tugboat pushing architectural experimentation forward. ■



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# Testing Timber's Limits

Designers push a traditional material to create longer spans, reach new heights, and find unconventional applications.

By Joann Gonchar, AIA

**THERE WAS PLENTY OF EXCITEMENT** at the long-track speed-skating events during this winter's 2010 Vancouver Olympic Games. And television cameras caught it all, including the shocking disqualification of Dutch competitor Sven Kramer from the 10,000-meter event after he followed the instructions of his coach and illegally changed lanes, and the German women's stunning win of the team pursuit, even though one of their skaters stumbled and fell right before the finish line. But in between shots of these surprising moments, viewers at home could catch occasional glimpses of another kind of drama at the Richmond Olympic Oval – that provided by the \$173 million arena's vaulted timber roof.

The 512,000-square-foot building's impressive structure includes massive poured-in-place concrete buttresses from which spring 15 curved beams of steel and glue-laminated Douglas fir, each 7 feet deep and 328 feet long. The arches are the longest-spanning composite members in the world, according to the project team, which includes architects from the local office of Cannon Design, and two Vancouver-based structural engineering firms – Glotman Simpson, for the concrete base structure, and Fast + Epp, for the timber roof.

Spanning the 47 feet between arches is a secondary system made from dimensional lumber, primarily from pine-beetle-infested trees. Here, sophisticated analysis and computer numerically controlled (CNC) milling have been deployed to transform a material normally used only in stud-wall construction into 450 wavelike ceiling panels with acoustic and structural properties.

Before beginning the project, the team toured other Olympic speed-skating venues. They found that almost all had exposed ducts. "These diminished the quality of the space," says Paul Fast, Fast + Epp principal. To get rid of such visual clutter, designers configured both primary and secondary structural systems to conceal building services. The arches, V-shaped to prevent buckling, house air distribution within their hollow cores, while voids within the ceiling panels hide sprinklers and conduit.

**1. The Vancouver Olympic Oval's largely wood-framed roof encloses more than 6 acres and springs**

**from reinforced-concrete buttresses. 2. Mechanical services are hidden within the oval's roof structure.**

PHOTOGRAPHY: © ANDREW DORAN (1); HUBERT KANG (2)



## Continuing Education

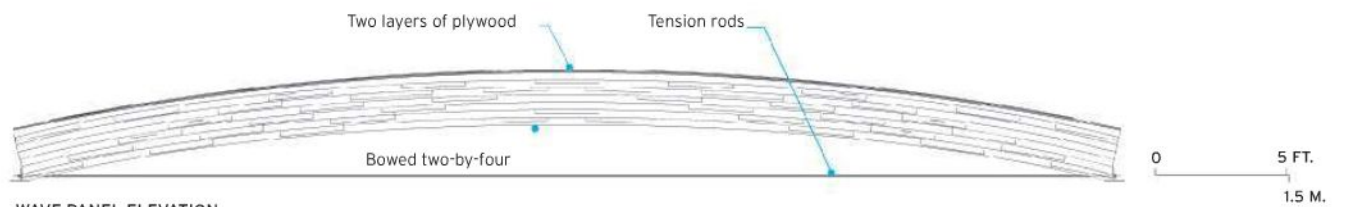
Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To earn one AIA learning unit, including one hour of health, safety, and welfare/sustainable design (HSW/SD) credit, turn to page 99 and follow the instructions. Another opportunity to receive AIA/CES credit begins on page 101.

### Learning Objectives

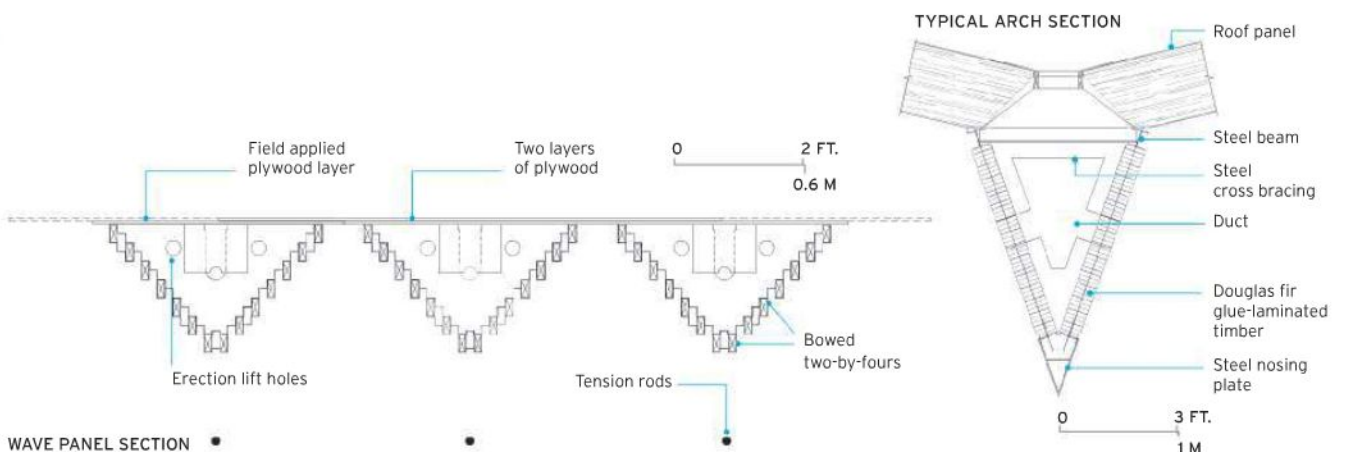
- 1 Explain how wood components sequester carbon.
- 2 Describe how wood can be used in long spans and tall structures.
- 3 Discuss engineering challenges involved in using wood in such structures.
- 4 Discuss code-compliance issues that relate to using wood in such structures.



PHOTOGRAPHY: ©



WAVE PANEL ELEVATION



2 WAVE PANEL SECTION



1. The oval's V-shaped arches are constructed of two slabs of glue-laminated Douglas fir connected by a steel blade at the bottom and steel bracing at the top. The secondary roof structure of wavelike dimensional-lumber panels lifts off the arches at the building's north end.
2. During the Olympics, the building housed a 400-meter track and seating for 8,000 spectators. The full basement below the ice level contains parking, offices, and changing rooms.
3. The oval's 450 ceiling panels were fabricated off-site and installed at a rate of about 30 per day.

The oval, with its long, clear spans, inventive use of dimensional lumber, and clever integration of building services, is part of a group of recent larger institutional and commercial projects that deploy timber as a significant structural element, where steel or concrete might have seemed the more obvious choice.

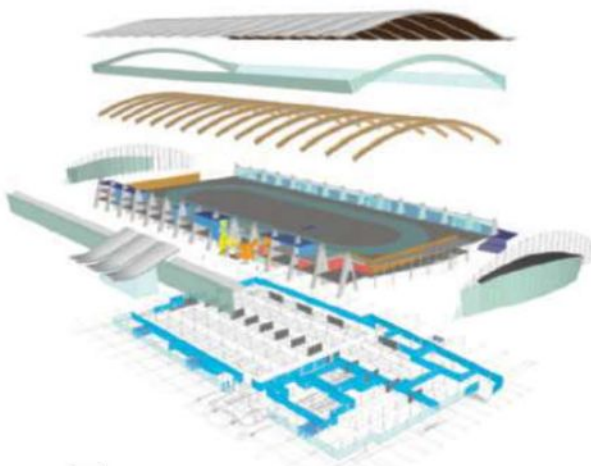
Designers and clients cite a variety of reasons for incorporating wood. In the case of the oval, the timber – about a million board feet each of dimensional lumber and glue-laminated stock lumber – is the project team's response to a requirement that the building act as a showcase for products from British Columbia, where the timber industry is an important sector of the economy. The designers suggested using the pine-beetle wood as a way of drawing attention to the infestation, which by some estimates has affected two thirds of the province's forests. Although the wood has a slight

blue or "denim" tinge and is often discarded, its structural capacity is undiminished if the tree is harvested soon after it is attacked.

### Warming it up

For some projects, the decision to go with wood is based solely on the material's visual warmth. That is the case for a \$570 million terminal under way at North Carolina's Raleigh-Durham International Airport, which will have 32 gates and accommodate up to 11.4 million passengers per year when the second phase of construction is complete in 2011. The curved metal roofs of the facility's 90-foot-wide concourses and its 160-foot-wide ticketing halls, intended to evoke the silhouette of the surrounding hilly landscape, are supported by hybrid bowstring trusses of steel and glue-laminated Douglas-fir members. "The clients told us they didn't like the industrial look of most airports," says Curtis Fentress, whose eponymous Denver firm is the project's architect. The project team believes Raleigh-Durham is only the second major airport with a roof structure that makes significant use of wood. Another, built in 1998, is at Gardermoen, near Oslo, Norway.

Timber's ability to sequester carbon is cited with increasing frequency as a motivation for using it to replace construction materials with energy-intensive production processes. Forests with healthy ecosystems act as carbon sinks by absorbing carbon dioxide (CO<sub>2</sub>) from the atmosphere. As part of photosynthesis, the trees' trunks, branches, leaves, and root systems store carbon in the form of sugars, while the oxygen is released back into the atmosphere. Eventually,



2 EXPLODED AXONOMETRIC



3

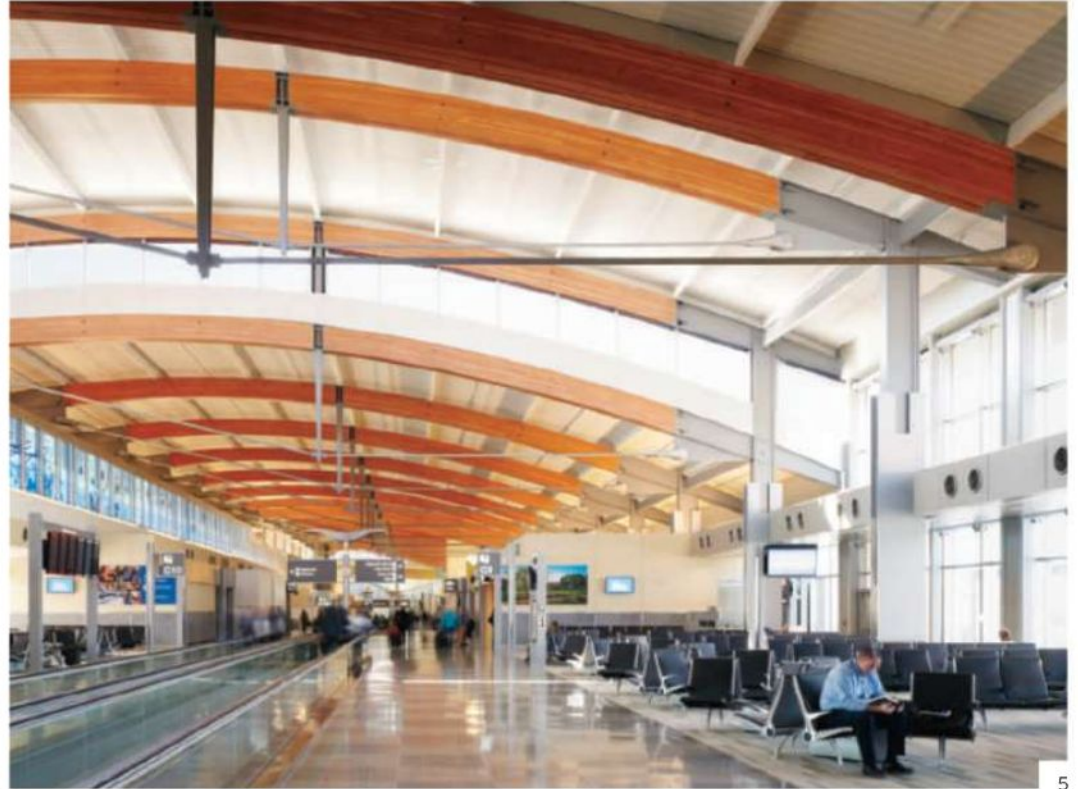




4

4. Raleigh-Durham's new terminal is believed to be only the second large airport facility with a roof structure that makes significant use of wood.

5. Some sections of the terminal are taller, allowing space for clerestories.  
6. The rolling roofs refer to the region's hilly landscape.



5

when the trees die and decompose, or burn, they release the carbon as CO<sub>2</sub>. But if the wood is manufactured into structural components and incorporated into a project, the carbon remains stored for the lifetime of the building.

#### Tall aspirations

It was these storage properties that Andrew Waugh, principal of U.K.-based Waugh Thistleton Architects, was interested in when he proposed the world's tallest timber residential building – a nine-story, 29-unit tower in London's Murray Grove. Above the poured-in-place concrete ground floor, the structure, known as Stadthaus, is constructed almost entirely of cross-laminated timber (CLT) – an engineered wood product made of spruce strips glued under pressure in perpendicular lamellas to form slabs that can be used as load-bearing walls and floors.

While the developer, Telford Homes, was supportive of the architect's environmental goals, its main priority was to ensure that the apartments could compete with units in more typically constructed buildings and so wanted standard interior finishes, such as drywall, that would conceal the unusual frame. "The project is not about the aesthetic value of wood," says Waugh.

The \$5.8 million project, completed early last year, relies on a platform configuration. Each level's CLTs, prefabricated by supplier KLH in its Austrian factory, are arranged in a cellular fashion to define rooms, as well as stair and elevator cores, and to support the floor above. This timber, almost 12,000 cubic yards in all, stores 205 tons of carbon after subtracting the emissions

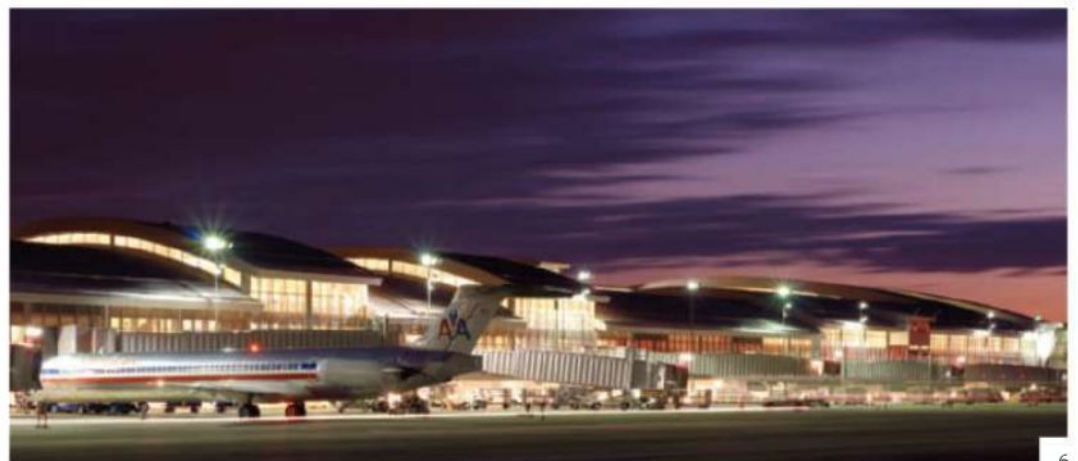
produced during the material's transportation, according to the project team's estimates. The sequestered carbon, together with emissions avoided by not building entirely out of reinforced concrete, results in a savings of about 330 tons of carbon, roughly the amount the building is projected to emit during 21 years of operation. This calculation was key, says Waugh, in convincing building officials to waive a U.K. carbon-reduction requirement for new construction generally satisfied by adding on-site renewable energy.

#### Extra effort

Whether the reasons are environmental or aesthetic, using timber where steel or concrete are the more proven solutions can involve extra structural modeling or testing of full-scale mock-ups. The Raleigh-Durham team, for instance, load tested

prototypes of the terminal's roof trusses in a facility at North Carolina State University. One particular area of study was the connection between the roof trusses' timber top chords and the steel-cable bottom chords. "We wanted the connections to articulate a sense of craftsmanship, but we also wanted them to be minimal and lean," says Daniel Brodtkin, a principal in the New York City office of Arup, the terminal project's structural engineer. The trusses are configured so that the lines of the axial forces in each chord (compression for the wood and tension for the cable) intersect at the centerline of the supporting column. "This is the most structurally efficient," explains Brodtkin.

At the Olympic oval, engineers relied on computer simulation to optimize the structural design of the primary arches, studying their response to certain conditions, such as unbalanced snow



6

1. At London's Stadthaus, each level's load-bearing CLT walls and floors support the floor above. The panels, arranged in a cellular fashion, are installed by the panel supplier's own crew of workers using a mobile crane.
2. The facade material

also contains wood. It is clad in a rain-screen siding of fiber cement and wood pulp.

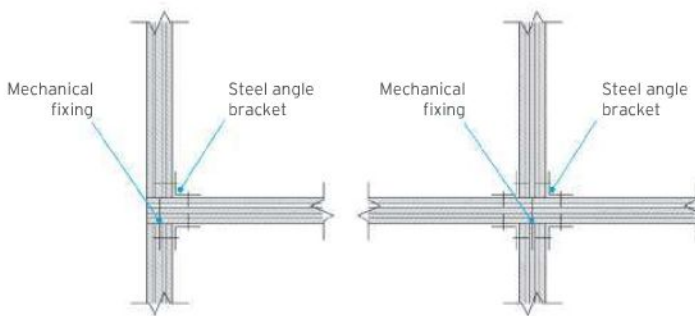
3. At the supplier's factory in Austria, the Stadthaus CLT panels were fabricated and cut to size, with door and window openings included.



loads. But the behavior of the oval's ceiling panels was inherently more difficult to understand with simulation alone since each has a slight camber held in place by tension rods and a stressed plywood upper skin and is assembled from hundreds of stepped and staggered two-by-fours. Because of this complexity, the panels' design-builder, StructureCraft (a company owned by the partners of Fast + Epp) conducted load tests, piling full-scale prototypes with weights equal to several times the design capacity. The engineers monitored deflections and used the results to refine the design and calibrate computer models.

For London's Stadthaus project, structural analysis was relatively straightforward. However, one complicating factor was the lack of technical design guidance for multistory CLT or timber-framed buildings, especially with respect to the U.K. regulations that safeguard against disproportionate collapse – a type of collapse caused by abnormal loads, such as accidental impact or explosion, which precipitates a sequence of failure out of proportion to the original event. The official guidelines regarding this phenomenon only relate to reinforced concrete, steel, and masonry, explains Matt Linegar, project director for Techniker, Stadthaus's structural consultant.

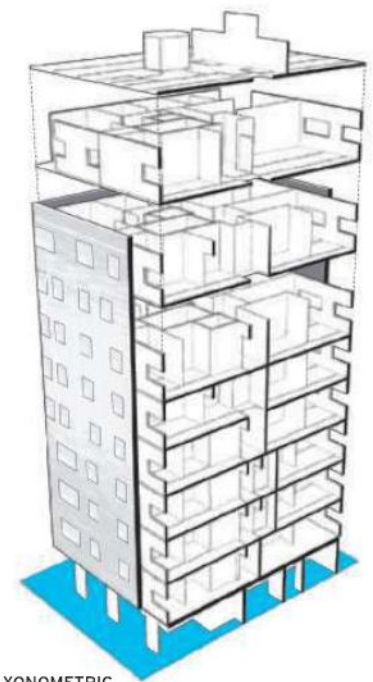
In the absence of official guidance specific to timber and CLT, Techniker sought advice from two timber-industry associations and designed the Stadthaus structure so that any individual wall



TYPICAL WALL-TO-FLOOR CONNECTION DETAILS



3

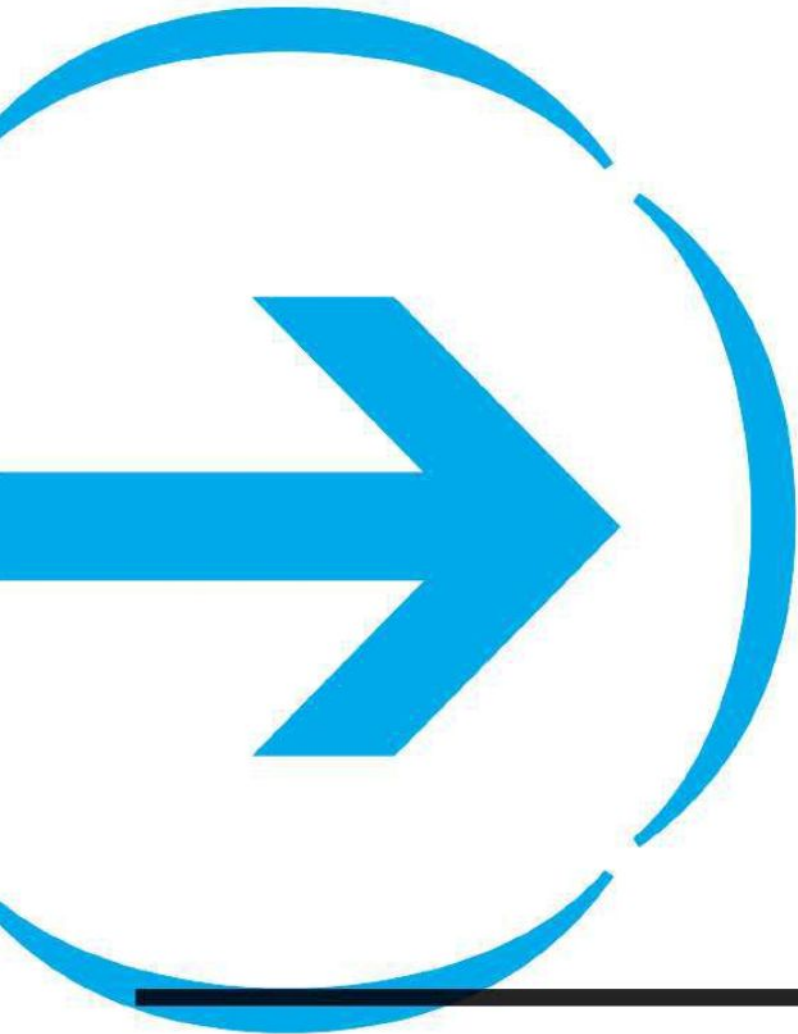


CUTAWAY AXONOMETRIC

can be removed without causing the floor or wall above to fail. The engineers made floor panels continuous over a minimum of two supporting walls or configured them to cantilever under accidental loads. In addition, they tied building elements together with standard angles and plates to resist a horizontal force of 156.6 pounds per square foot,

relying on only two anchorage details and two types of screws. "We kept the connections simple and off-the-shelf," says Linegar.

Acoustical performance is another key area of concern for designers deploying timber in unconventional ways. This was especially the case at the oval, given the possibility that the arena's rever-



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\* Please include one printout of the "Call for Entries" form with the disc. Be sure also to include the project's date of completion. Do not send binders or hard copies of the project presentations. No materials will be returned.

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1. **Stadthaus's timber construction allows electricians to easily install conduit and locate switches and outlets.**

2. **Standard finishes, such as drywall and hardwood floors, conceal the building's unusual frame.**

berant open volume would make announcements unintelligible. But the void above the sculptural ceiling, slot-shaped spaces between the individual two-by-fours, and mineral-wool insulation all help absorb sound. The team commissioned lab tests to compare the panels' effectiveness against conventional perforated metal deck and found that the custom solution matched the performance of the more standard one for sound at upper frequencies and surpassed it at lower frequencies.

The Olympic oval's ceiling also presented a fire-protection conundrum, since the use of small dimensional lumber was not allowed by the prescriptive code. Although the panels cleverly conceal sprinklers, these are intended to protect

the space below the ceiling. But with the inclusion of the mineral-wool insulation, and through modeling, consultants proved that panels have the required resistance.

Solid timber elements, such as glue-lam beams and CLT panels, take longer to burn than dimensional lumber. So for Stadthaus, Waugh could readily demonstrate to local officials a resistance of 90 minutes, based on the charring rates of the CLT and two layers of drywall. But he maintains that actual performance would be even better, since the calculations are conservative and do not take into account timber's ability to "self protect" once a layer of char forms on its surface.

One hopes the robustness of Stadthaus's fire

resistance won't ever be needed or tested. But in other areas, especially with regard to financial practicality, the project has already proved a success. In part because of the panels' off-site fabrication, contractors were able to compress construction into 49 weeks, versus the 66 that would have been needed for an equivalent concrete-framed building. However, an even better indication of the construction method's commercial viability may be the speed at which the apartments sold. When they went on the market in October 2007, according to Waugh, all were bought in just an hour and 15 minutes.

Building on their achievement with Stadthaus, the team is already exploring the feasibility of going taller. According to Linegar, a CLT tower can reach 25 stories before the panels' compressive strength becomes the limiting factor. But no doubt, he and fellow timber innovators will continue to push the world's oldest building material, not only to reach new heights, but also to span longer distances, and find new applications. ■

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).

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# AIA/Architectural Record Continuing Education



410EDIT

To receive one AIA learning unit, read the article "Testing Timber's Limits" using the learning objectives provided. To apply for credit, complete the test below and follow instructions for submission at right.

- 1 Which of the following releases CO<sub>2</sub> into the atmosphere?
  - A burning trees
  - B decomposing trees
  - C both a and b
  - D photosynthesis
- 2 Why is the Stadthaus built out of timber?
  - A because the clients wanted a material with visual warmth
  - B because the architects wanted to sequester carbon
  - C because the clients wanted to showcase regional material
  - D all of the above
- 3 The Stadthaus utilizes which?
  - A post-and-beam construction
  - B platform construction
  - C custom-designed anchors between floors and walls
  - D dimensional lumber
- 4 At the Stadthaus, which elements are concrete?
  - A the foundations and the ground floor
  - B the stair core
  - C the elevator core
  - D the floor slabs
- 5 Disproportionate collapse is typically caused by which condition?
  - A normal gravity loading
  - B wind loading
  - C abnormal loading
  - D none of the above
- 6 To prevent disproportionate collapse, the Stadthaus structural system includes all except which?
  - A a concrete core with extra reinforcement
  - B angles and plates that tie elements together and resist a horizontal force of 156.6 pounds per square foot
  - C floors that are continuous over a minimum of two supporting walls
  - D a configuration that allows removal of any wall without the floor or wall above failing
- 7 Which of the following is true regarding the roof truss at the new Raleigh-Durham Airport terminal?
  - A the top chord is in compression and the bottom chord is in tension
  - B the top chord is in tension and the bottom chord is in compression
  - C both chords are in tension
  - D both chords are in compression
- 8 Which of the following is true regarding pine-beetle-infected wood?
  - A it is often discarded
  - B it can have a slight blue tinge
  - C its structural capacity is undiminished if it is harvested soon after attack
  - D all of the above
- 9 Which of the following help lessen acoustical reverberation at the speed-skating oval?
  - A slot-shaped spaces in the ceiling panels
  - B mineral-wool insulation in the ceiling panels
  - C custom-designed anchors between floors and walls
  - D all of the above
- 10 The fire resistance of 90 minutes for the Stadthaus structural elements is based on which?
  - A the charring rates of CLT and two layers of drywall
  - B timber's ability to self protect after a layer of char forms on its surface
  - C the charring rates of stud-wall construction
  - D none of the above

**Program title**  
"Testing Timber's Limits,"  
ARCHITECTURAL RECORD  
04/10, page 92.

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## Appliances for the Home: Sustainable Choices that Meet Accessibility and Lifestyle Needs

New major appliance design is transforming energy usage and delivering a remarkable choice of features that support the lifestyles of today's consumers.



Photo courtesy of Electrolux Home Products, Inc.

Provided by Electrolux Home Products, Inc.

By Karin Tetlow

If each household in the United States replaced its 1997-and-older appliances with the most energy-efficient models on the market, it has been calculated that the annual overall potential energy savings could be the equivalent of every household driving a car for 242 miles. At present, according to the U.S. Department

of Energy (DOE), appliances in the U.S. account for 13 percent of the energy consumed in each household, with refrigerators, clothes washers and dryers at the top of the list. Clearly, since appliances consume significant amounts of energy, design improvements that result in increased energy efficiency can play a meaningful role in the nation's drive for sustainability

After almost a century of virtually no change in the basic design and function of residential appliances, manufacturers have taken on issues of sustainability while delivering improved cooking systems and electronics that were virtually unknown a decade ago. While most appliances have the same basic power access requirements and cutout dimensions as in the past, their performance has improved remarkably. Manufacturers often exceed DOE energy efficiency standards and the future holds even more changes as an ever-increasing number of design professionals and clients seek out sustainable homes. Students at Drexel University, Duke University and the University of Kansas (see sidebar on p.102) have developed their own "smart homes," and the public is exhibiting more and more curiosity, as evidenced by the popularity of the recent prototype on display at Chicago's Museum of Science and Industry. ("Smart" applies to homes that have advanced systems for managing energy usage and efficiency. The term also applies to homes that use integrated computer and sensor technologies to monitor and control both building systems and aspects of daily

### CONTINUING EDUCATION



Use the learning objectives below to focus your study as you read **Appliances for the Home: Sustainable Choices that Meet Accessibility and Lifestyle Needs**. To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit and sustainable design, answer the questions on page 105, then follow the reporting instructions or go to [ce.architecturalrecord.com](http://ce.architecturalrecord.com) and follow the reporting instructions.

#### Learning Objectives

After reading this article, you should be able to:

- Explain how new appliance design and technologies improve energy efficiencies and contribute to sustainability.
- Identify guidelines and certifications that relate to appliances, such as ENERGY STAR, CEE, STAR K®, ADAAG and NSF®.
- Summarize how ENERGY STAR specifications apply to different appliances and how they help achieve LEED® certification.
- Specify appliances that are both energy efficient and support clients' accessibility and lifestyle needs.

## Energy-efficient Appliances for an Off-the-Grid Prototype

Studio 804, a design/build program led by Dan Rockhill, AIA, at the University of Kansas School of Architecture and Urban Planning, completed the first LEED® Platinum Home in the Kansas City Metropolitan Area in 2009. The house is a fully self-sufficient “off-the-grid” prototype powered by photovoltaic solar panels and a residential wind turbine.

Its donated ENERGY STAR appliances exceed federal standards by 20 percent for a side-by-side refrigerator (2009 model saves \$300 per year compared with a 1980 model) and 83 percent for a front load washer (uses up to 56 percent less water than a conventional top load washer). The dishwasher uses less than five gallons of water per cycle. Cooking appliances include a microwave (no federal energy standard) and a hybrid electric cooktop with two induction elements and a full induction cooktop with all cooking elements being induction.

Appliances contributed 3.0 points toward LEED Platinum certification: EA 9.1 High Efficiency Appliances: ENERGY STAR labeled refrigerator (1 point); ENERGY STAR labeled dishwasher that uses 6.0 gallons or less per cycle (0.5 point). ENERGY STAR labeled clothes washer (.5 point). EA 9.2 Water Efficient Clothes Washer: Clothes washer with modified energy factor (MEF) greater than 2.0 and water factor less than 5.5 (1 point). (Clothes washer installed has an MEF of 2.31 and a WF of 3.77.)

Photos courtesy of Studio 804



living such as inventorying refrigerator contents and suggesting menus.) Another impact on appliance design will be the need for two-way digital communication, as smart grids become a reality and household appliances are linked directly to outside power sources.

Yet “smart” is more than addressing energy efficiency and accessibility standards. Forward thinking design professionals recognize that smart appliance design also serves today’s multi-generational consumers and their multiple complex lifestyles. Smart is also about communication where user interface does not only occur between the consumer and appliance, but between the consumer and information — as one manufacturer’s popular web-based interactive energy savings calculator confirms.

Photo courtesy of Electrolux Home Products, Inc.



Touch screen control panel for a two-oven electric wall unit

A recent television commercial shows a TV star dashing from wall oven to washer to dryer to dog to children as she cooks and does laundry at the same time. Even allowing for dramatic license, its message of needing to save time must resonate with adults who are holding down one or two jobs, often at home. Another commercial, albeit imaginary, could send an equally compelling message that smart appliance design is safer for the aging baby boomer whose vision and mobility are compromised.

Improved appliance ergonomics have benefitted people of all ages. Oven racks that extend fully with the touch of a finger and do not tip even when all are fully extended, dishwasher doors that stay at any angle they are placed, and three tiers of easy-to-reach freezer baskets are examples of manufacturers’ response to today’s consumer culture.

Smart appliance design also provides greater health benefits. With today’s flu epidemics and antibiotic-resistant bacteria, dishwashers and washing machines with certified sanitized rinse cycles are increasingly valued.

It is, therefore, critical that design professionals understand the new technologies and features that contribute to appliance sustainability, rather than specify a product merely because it carries the appropriate energy efficiency sticker.

### NEW APPS FOR APPLIANCES

Appliance innovations include increased capacities and more efficient cycle times, as well as sensors that detect dirt and leaks. But the most visible feature found across the broad spectrum of appliances is fully integrated touch screen technology that echoes that of cell phones and gives users the satisfaction of using their mastery over digital technology in the domestic sphere. A step beyond LCD (liquid crystal display) and LED (light-emitting diode) displays, touch screen panels on new models of wall ovens, ranges, dishwashers, washers and dryers, light up at the touch of a finger displaying icons with word descriptors. Like a cell phone the panel is black at rest. After an icon has been pressed and an application for “perfect turkey” or “extra light soil” has launched in the oven or washer, the panel fades to black except for the selected mode, which remains lit.



## GUIDELINES AND CERTIFICATIONS

### ENERGY STAR®

ENERGY STAR is an international voluntary program for energy-efficient consumer products ([www.epa.gov](http://www.epa.gov)). First created by the United States government in 1992 to reduce greenhouse gases, it has since been adopted by other countries, plus the European Union. ENERGY STAR Product Development teams at the EPA and the DOE aim to transform the market for manufactured goods by expanding the availability and visibility of more than 60 energy-efficient product types. One enticement for manufacturers to seek ENERGY STAR ratings is the fact that a number of states and utilities have consumer reimbursement programs for ENERGY STAR-rated products.

Devices carrying the ENERGY STAR logo, such as dishwashers, washers and refrigerators, generally use 20 to 30 percent less energy than is required by minimum federal standards.

Minimum federal standards for appliances are established by the DOE ([www1.eere.energy.gov/](http://www1.eere.energy.gov/)). Performance factors include efficiency levels, incremental equipment prices, operating cost savings, payback periods and lifecycle cost savings. Manufacturers of most home appliances in the U.S. are required to attach a yellow and black sticker to the product stating its annual energy consumption and operating cost estimates.

ENERGY STAR specifications differ with each item. As of early 2008, average refrigerators need 20 percent energy savings over the federal standards. There are no ENERGY STAR specs for cooking appliances since energy-efficient models need far less energy than other heavy energy consumers such as refrigerators and clothes washers. Also, their payback time is relatively long. Nor are there specs for dryers since dryers using the same power sources have virtually indistinguishable drying systems. When applicable, manufacturers' product specifications include ENERGY STAR compliance.

In recent years, the ENERGY STAR program has been involved in some controversies. Criticisms have included outdated testing rules and manufacturers being allowed to test their own products and selectively spot-check test results. To improve the program, the EPA and DOE formed a new partnership on energy efficiency in buildings and products where the EPA has taken over the branding and imaging of ENERGY STAR. In a September 2009 briefing for the Senate Committee on Energy and Natural Resources, the EPA announced an enhanced ENERGY STAR program that includes more frequent updates (a minimum of once every three years for home appliances), enhanced product testing and the intent to look into a new program to identify "top tier" efficiency products and technologies. Already, the Consortium for Energy Efficiency (CEE), a nonprofit public benefits corporation ([www.cee1.org](http://www.cee1.org)), publishes information on appliances that qualify for CEE Tier 1, 2 or 3 (see CEE High-Efficient Home Appliances Initiative tables at right).

Another significant announcement is the requirement that products at some future date are tested in an accredited laboratory and qualifying product information be submitted to the government before the product can be qualified ENERGY STAR. At present, manufacturers have their own testing labs usually located on the factory premises. "Manufacturers will need to keep open and ongoing two-way

communication with the EPA /DOE to assure all test procedures are followed," says Tom Anderson, Director of Sustainability, Electrolux Home Products, Inc. "This will allow consumers true peace of mind when they purchase their appliances with the trusted ENERGY STAR label."

#### CEE High-efficiency specifications for mid- and full-sized refrigerators (Effective January 1, 2007)

Efficiency level	Percent above Federal standard
Federal standard	Varies according to size
ENERGY STAR®	20
CEE Tier 1	20
CEE Tier 2	25
CEE Tier 3	30

#### CEE High-efficiency specifications for residential clothes washers (Effective January 1, 2007)

Level	Modified Energy Factor* (MEF)	Water Factor (WF)**
Federal standard	1.26	No requirement
ENERGY STAR®	1.80	7.5
CEE Tier 1	1.80	7.5
CEE Tier 2	2.00	6.0
CEE Tier 3	2.20	4.5

\*MEF is a combination of Energy Factor and Remaining Moisture Content. MEF measures energy consumption of the total laundry cycle (washing and drying). It indicates how many cubic feet of laundry can be washed and dried with one kWh of electricity; the higher the number, the greater the efficiency.  
\*\*WF (number of gallons needed for each cubic foot of laundry). A lower number indicates lower consumption and more efficient use of water.

### Americans with Disabilities Act (ADA)

ADA Accessibility Guidelines (ADAAG) requirements for appliances published by the U.S. Access Board ([www.access-board.gov](http://www.access-board.gov)) cover kitchen and laundry room layouts and appliances. Because private homes are exempt from ADA compliance, household appliances are not required to meet standards relating to, for example, location of oven controls ("804.6.5.3 Controls. Ovens shall have controls on front panels"). Design professionals, however, should be aware of accessibility issues and review product specifications to see if models are or are not ADA compliant.

### Star-K® Certification

Appliances that comply with a Sabbath Mode feature are certified by Star-K. To be sure that all halachic (Jewish religious law) concerns have been addressed, design professionals should check model numbers from specific manufacturers on the Star-K website ([www.star-k.org/cons-appl.htm](http://www.star-k.org/cons-appl.htm)).

### NSF® Certification

NSF International, an independent non-profit certification body, developed NSF/ANSI (American National Standards Institute) Standard 184 in order to determine if residential dishwashers

could clean and sanitize dishes as effectively as their commercial counterparts. This national standard establishes minimum design and performance requirements. Products certified to this standard are verified to achieve a 99.9 percent reduction of bacteria when operated on the sanitizing cycle. Again, manufacturers' product specs will so state if a dishwasher is NSF-certified. NSF also certifies dryers and washing machines.

### LEED® Certification

Specifying ENERGY STAR water-efficient appliances will earn three U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED®) credits with no prerequisites ([www.usgbc.org](http://www.usgbc.org)):

**9.1 High-Efficiency Appliances (maximum 2 points).** Install appliances from the list below. To receive points for one type (e.g., refrigerator), every appliance of that type must meet the applicable requirement below.

- ENERGY STAR-labeled refrigerator (s) (1 point).
- ENERGY STAR-labeled dishwasher(s) that use 6.0 gallons or less per cycle (0.5 point).
- ENERGY STAR-labeled clothes washer(s) (0.5 point).

### 9.2 Water-Efficient Clothes Washer (1 point).

Install clothes washer with modified energy factor (MEF) > 2.0 and water factor (WF) < 5.5. A clothes washer that meets these requirements and the requirement in EA 9.1 can be counted for both.

Applicants should check for synergy and trade-off options for points.

## COOKING APPLIANCES

Gone are the days when women expertly scheduled meal preparation around the single stove whose ill-lit and unevenly heated oven cooked three dishes at once at best. New cooking methods and intelligent controls in today's kitchens allow cooks to focus on the food rather than logistics and treat cooking as a creative and sometimes social act instead of work.

### Cooktops

Cooktops installed within islands help make the kitchen the focal point of the home, especially when family members and guests sit across the counter from the cook.

**Induction.** The most significant technology for surface cookers to come on the market in the past decade is the induction element (see Induction Cooking sidebar.) Typical models come with up to five elements housed within a sealed smooth top glass surface. An LED display with up to ten settings can immediately raise or lower temperatures, maintain food at the perfect serving temperatures and activate an easy-to-read kitchen timer.

**Hybrid induction/electric.** For those who want the option of using the conventional electric cooktop, hybrid cooktops with, for example, two induction elements and one or two electric elements are available. Innovations include:

- Expandable induction and electric elements. Some models are equipped with 7-in to 11-in expandable induction elements



to accommodate different sized cookware while maintaining energy efficiency. A 6-in burner size provides 1,500 watts; a 7-in provides 1,900 watts; an 8-in provides 2,300 to 3,200 watts; an expandable 7-in to 11-in provides up to 3,400 watts for large pots and pans.

- **Cook-surface sensors** that automatically detect the presence of induction-ready cookware activate the induction field, and direct heat to the exact diameter of the pot or pan.

**Gas.** While employing traditional heating mechanisms, gas cooktops have more precisely managed control knobs, dishwasher-safe continuous grates for easily moving pans and at least one dual flame burner that ranges from 450 BTU to 18,000 BTU. Hybrid, gas and electric cooktops are typically ADA compliant.

### Wall ovens

The major decision when selecting an oven is choosing between gas and electric. According to New York Times Company-owned ConsumerSearch ([www.consumersearch.com](http://www.consumersearch.com)), which strives for objective and precise content, experts say electric ovens heat more evenly, have a larger capacity and are generally easier to install. Gas ovens, on the other hand, heat up and cool down faster. However, because ovens tend to be energy efficient in general, the difference is only about \$25 per year. The biggest downside for gas is the potential for noxious fumes, especially in today's well-sealed homes. Gas appliances should, therefore, always be vented to the outside.

▶ [Continues at ce.architecturalrecord.com](http://ce.architecturalrecord.com).

See Quiz on the Next Page

or

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Program title: "Appliances for the Home: Sustainable Choices that Meet Accessibility and Lifestyle Needs" (04/10, page 101). AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare/sustainable design (HSW/SD) credit. (Valid for credit through April 2012). **Directions:** Refer to the Learning Objectives for this program. Select one answer for each question in the exam and fill in the box by the appropriate letter. A minimum score of 80% is required to earn credit. **To take this test online and avoid handling charge, go to [ce.architecturalrecord.com](http://ce.architecturalrecord.com)**

1. **What percent of the energy consumed in each household is attributable to appliances?**
  - a. 13 percent
  - b. 23 percent
  - c. 10 percent
  - d. 12 percent
2. **ENERGY STAR is a(n):**
  - a. sticker dealers affix to their products.
  - b. standard that originated in Europe.
  - c. logo of a consortium of private manufacturers.
  - d. energy saving program first created in the U.S.
3. **Devices carrying the ENERGY STAR logo generally:**
  - a. use 40 percent more energy than required by federal guidelines.
  - b. use 20-30 percent less energy than required by federal standards.
  - c. expand the availability and visibility of energy efficient products.
  - d. b. and c. above.
4. **ENERGY STAR specifications can differ between items and product lines.**
  - a. True
  - b. False
5. **There are ENERGY STAR specifications for:**
  - a. dryers and cooktops.
  - b. refrigerators and clothes washing machines.
  - c. washing machines and dryers.
  - d. ovens and dishwashers.
6. **ADA Accessibility Guidelines require oven controls to:**
  - a. have a digital user interface.
  - b. have a rough coating.
  - c. be located on front panels.
  - d. be labeled in Braille.
7. **LEED® credits for appliances are earned:**
  - a. by specifying ENERGY STAR products.
  - b. only if prerequisites are met.
  - c. if an ENERGY STAR® clothes washer uses more than 5.5 gallons of water per cycle.
  - d. if a dishwasher uses 6.0 or more gallons of water per cycle.
8. **Induction cooking is more efficient because:**
  - a. heat is generated directly in the cooking vessel.
  - b. the amount of heat generated in the cooking vessel can be changed instantly.
  - c. glass cookware is used.
  - d. a. and b.
9. **The number of gallons of water needed for each cubic foot of laundry in a CEE TIER 3 washing machine is:**
  - a. 7.3
  - b. 4.5
  - c. 6.1
  - d. 5.0
10. **NSF® certification applies to:**
  - a. dishwashers, dryers and clothes washers.
  - b. refrigerators.
  - c. hybrid induction/electric element cook tops.
  - d. digital control panels.

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By press time, we had not yet received materials for the quartz countertop ad slotted for this page. The team responsible for the ad is reported to have fallen into a deep and prolonged hypnotic state upon seeing samples of the new Noble collection from Samsung Radianz™ and have been heard murmuring the words, "mmm...sparkly." In lieu of the ad, you can view the product at the website. Do so at your own risk. [samsungradianz.com/noble](http://samsungradianz.com/noble)



## DATES & EVENTS

### New and Upcoming Exhibitions

#### **Palladio and His Legacy: A Transatlantic Journey**

New York City

April 2–August 1, 2010

Andrea Palladio is famous for his elegant interpretation of the architecture of Classical antiquity, and his finished buildings, drawings, and writings are cultural touchstones. This show at the Morgan Library & Museum displays a collection of 31 of his rarely seen drawings. Visit [www.themorgan.org](http://www.themorgan.org).

### Ongoing Exhibitions

#### **Spatial City: An Architecture of Idealism**

Milwaukee

Through April 18, 2010

*Spatial City* brings together an international, multigenerational array of artists – with an emphasis on those living in France – whose work contends with utopian thinking. At the University of Wisconsin. Visit <http://arts.uwm.edu>.

#### **John Portman: Art & Architecture**

Atlanta

Through April 18, 2010

Featuring 15 completed and current architectural projects by Atlanta-based architect John Portman, this exhibition at the High Museum of Art explores five decades of national and international developments, including the Hyatt Regency Atlanta (1967), which is globally recognized as the first Modern atrium hotel. Visit [www.high.org](http://www.high.org).

#### **Contemplating the Void: Interventions in the Guggenheim Museum**

New York City

Through April 28, 2010

For the 50th anniversary of its Frank Lloyd Wright–designed building, the Guggenheim Museum in New York invited more than 200 artists, architects, and designers to imagine their dream interventions for this exhibition. To learn more, visit [www.guggenheim.org](http://www.guggenheim.org).

#### **Spitzer School of Architecture Exhibition**

New York City

Through April 30, 2010

This show at City College of New York is designed by Le Corbusier's last protégé, the noted architect Jose Oubrerie, and includes original models, drawings, photographs, and videos of two of his projects. To learn more, visit [www.ccnycunyu.edu](http://www.ccnycunyu.edu).

#### **House of Cars: Innovation and the Parking Garage**

Washington, D.C.

Through July 11, 2010

For more than 100 years, the parking garage has provided design and engineering solutions to the problem of parking. This is the first major exhibition to explore the history of this familiar structure and to discuss innovative designs and parking solutions for the future. At the National Building Museum. Call 202/272-2448 or visit [www.nbm.org](http://www.nbm.org).

### Lectures, Conferences, and Symposia

#### **Expo + Home Tour: Return to Paradise**

Scottsdale, Ariz.

April 10–11, 2010

This event draws architectural pilgrims from across the nation for a glimpse at lovingly restored and creatively modified midcentury homes. It will feature Paradise Gardens, the only example of tract homes involving the input of architect Alfred Newman Beadle. Contact the Scottsdale Museum of Contemporary Art at [www.smoca.org](http://www.smoca.org).

#### **Ugly and Ordinary?**

Los Angeles

April 11, 2010

In conjunction with an exhibition at L.A.'s Museum of Contemporary Art that investigates the history and legacy of *Learning from Las Vegas* with regard to architecture, artistic practice, and urbanism, this symposium shows how the landmark 1972 publication galvanized the Postmodern movement in architecture. Visit [moca.org](http://moca.org).

#### **Residential Design and Construction**

Boston

April 14–15, 2010

This convention and trade show features professional-development opportunities and workshops on topics such as sustainable design, alternative energy, smart business practices, interior design, home renovation, and smart growth/smart development. For more information, visit [www.rdcboston.com](http://www.rdcboston.com).

#### **Francis D.K. Ching: Seeing Thinking Drawing**

Honolulu

April 21, 2010

Widely known for his illustrated classics in architecture and design, Francis Ching will present his perspective on the relationship between traditional and emerging digital methods of drawing and design. In particular, he will demonstrate

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## DATES & EVENTS

the continuing relevance of freehand drawing in architecture. Visit [www.aiahonolulu.org](http://www.aiahonolulu.org).

### Coverings 2010

Orlando

April 27–30, 2010

Coverings is the premier international trade fair and expo dedicated exclusively to showcasing the newest in ceramic tile and natural stone. Architects and designers will have access to informative, accredited seminars and live demonstration sessions. Visit [www.coverings.com](http://www.coverings.com).

### Competitions

#### IIDA/HD Product Design Competition

Registration deadline: April 16, 2010

Honoring innovation, function, and aesthetic advancements in the hospitality industry, this competition recognizes excellence in product design. Visit [www.iida.org](http://www.iida.org).

#### International Student Wall Competition

Registration deadline: May 12, 2010

By providing a communicative platform, this competition aims to jump-start students' imaginations to redefine "walls" for the present and the future. Visit <http://competition.ntutarch.com>.

#### Tiananmen Square Landscape Architecture Competition

Deadline: June 1, 2010

This competition aims to generate debate and ideas for redesigning part of the most important urban space in the history of Chinese civilization. The intention is to set a new course for Eastern landscape architecture, encouraging the development of an ecologically and culturally distinctive design tradition. Visit [www.gardenvisit.com](http://www.gardenvisit.com).

#### Western Red Cedar Architectural Design Awards

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E-mail information two months in advance to [recordevents@mcgraw-hill.com](mailto:recordevents@mcgraw-hill.com). For more listings, visit [architecturalrecord.com/news/events](http://architecturalrecord.com/news/events).



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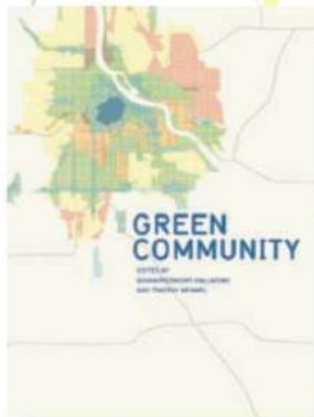
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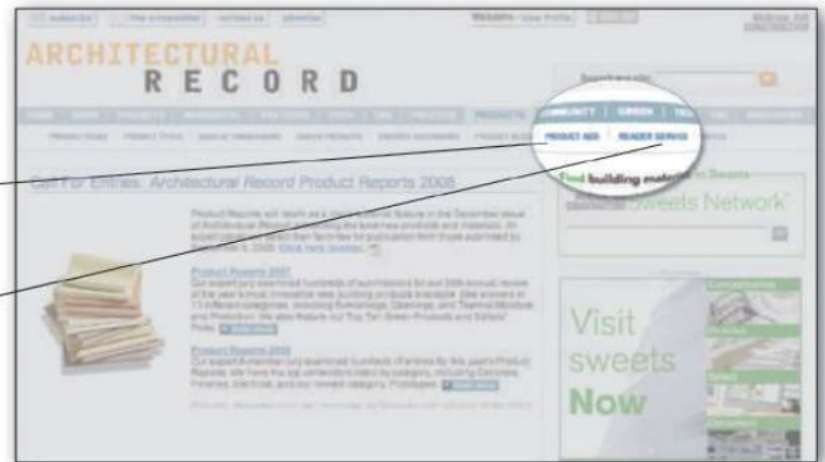























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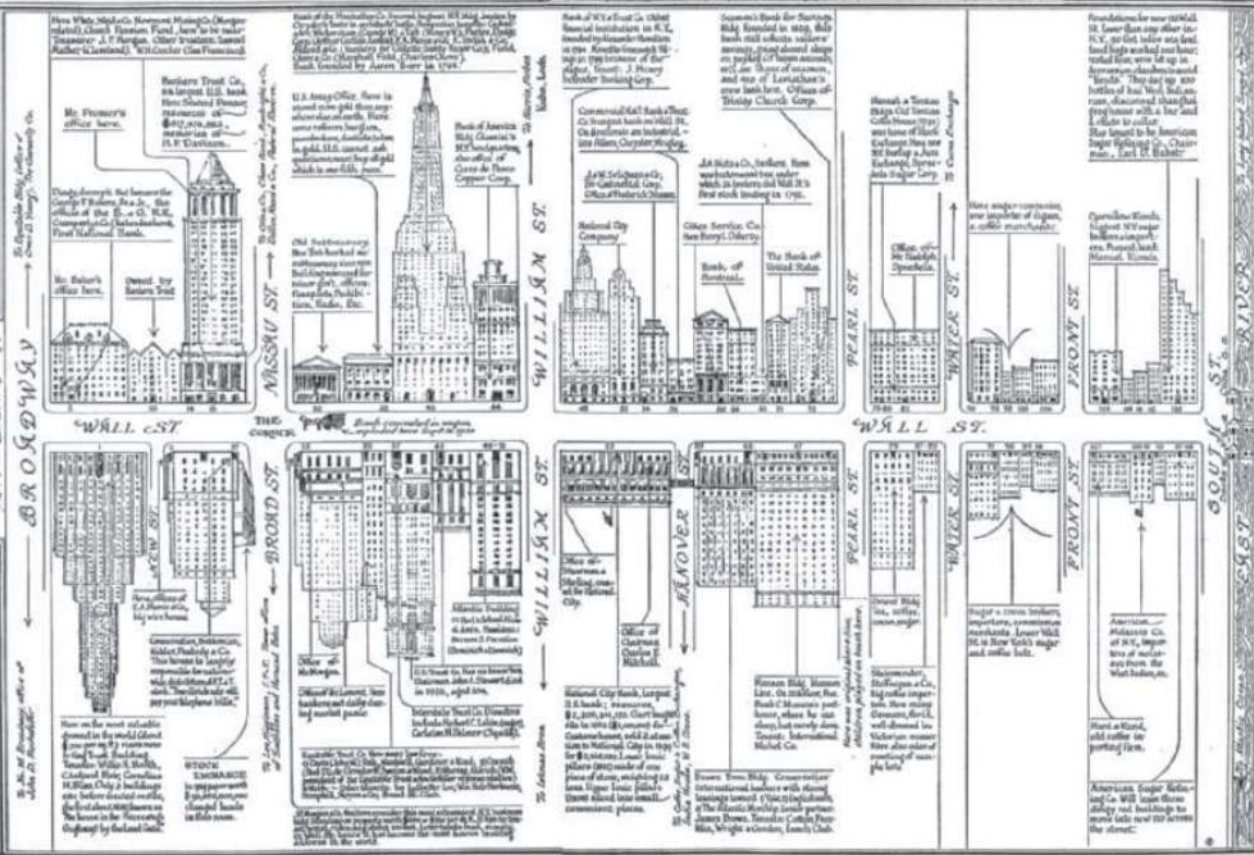
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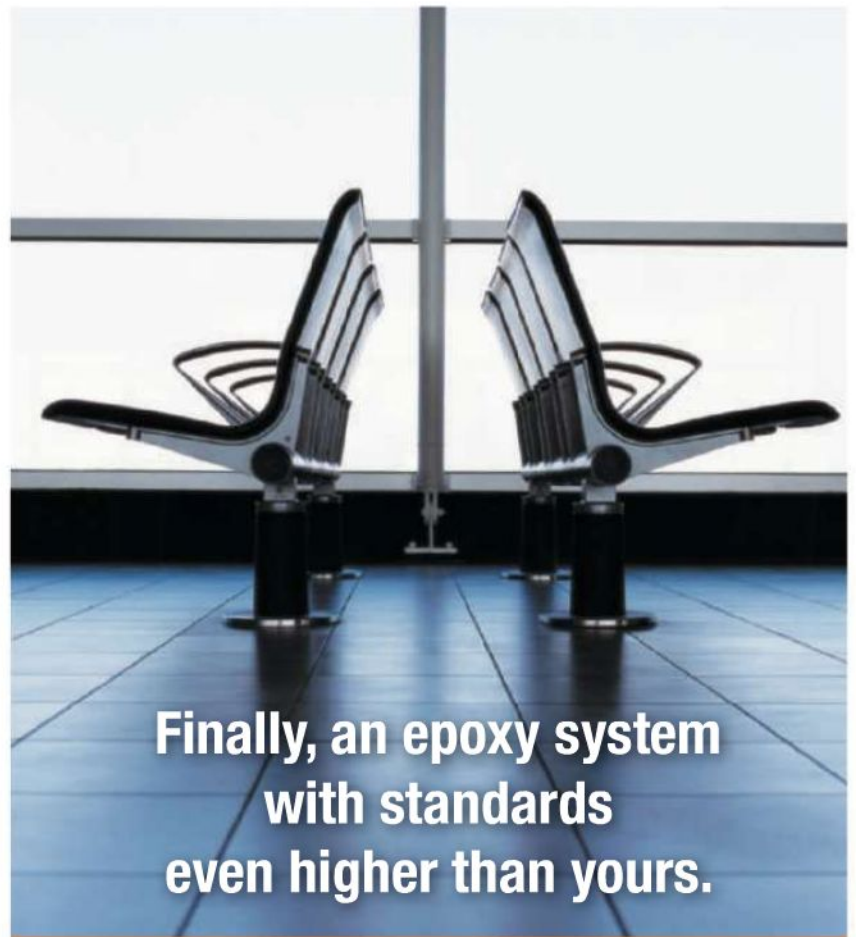


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(left) Mia Lehrer image: Vista Hemmosa Park. Photo by Tom Lamb, (right) Pugh + Scarpa image: Cherokee mixed-use building. Photo by Tara Wojcik

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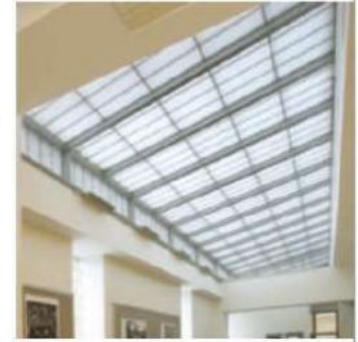
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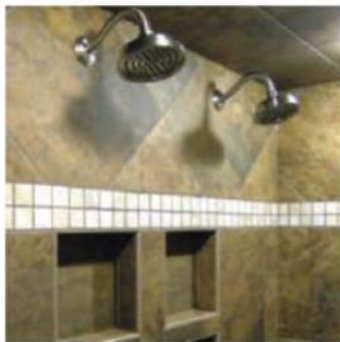
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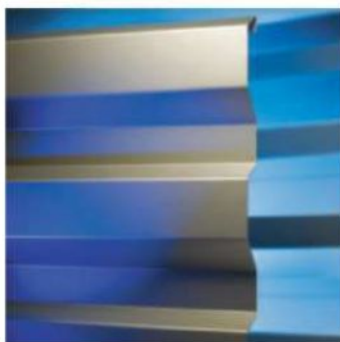
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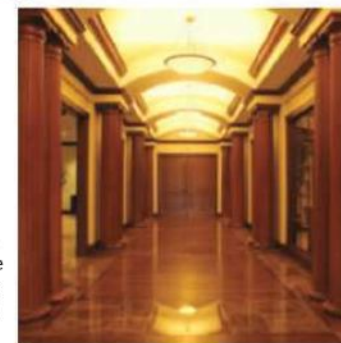
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Tested and approved glass railings exceeding FBC requirements. NOA in progress. Flextech frameless glass railing brackets: Go from straight to curved glass. Exterior and interior use.

Product Application:

- Commercial, residential, hospitality
- Use Flextech mode of attachment for glass railings, columns, walls, furniture, etc. (patent pending)

Performance Data:

- Their frameless brackets don't need additional support and save time and installation costs.



www.glassandglass.com  
305.796.2226 | Contact: Rolando Serra

Circle 169

SPECIALTY PRODUCTS

LED-LIGHTED RAILING

\$\$ | G

The Wagner Companies

Wagner Lumenrail® produces brilliant cool white light—5,400K—and comes in lengths from 6 to 60 in.

Product Application:

- Hope Memorial Building - Yale School of Medicine, New Haven, CT
- Johnson Controls Corp. HQ, Glendale, WI

Performance Data:

- 50,000 hours of continuous light output
- Accent or practical lighting to improve safety and security



www.lumenrail.com  
888.243.6914 | Contact: Heidi Bischmann

AIA Booth #2838 | Circle 170

SPECIALTY PRODUCTS

RAILING SYSTEM WITH LED

HDI Railing Systems

HDI introduces LED lighting as an option now available for the CIRCUM railing system. Combining the beauty of focused lighting with increased visibility—bringing safety, drama, and practicality to your designs. CIRCUM with LED is available in four light output options providing the flexibility you need for your next project.



www.hdirailings.com  
717.285.4088

Circle 171

SPECIALTY PRODUCTS

SAUNAS

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Finlandia Sauna Products, Inc.

They manufacture authentic saunas, no infra-reds. They offer precut packages, modular rooms, and heaters.

Product Application:

- Any available space
- Residential or commercial
- New construction or remodeling

Performance Data:

- Uses 1-in. x 4-in. paneling
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www.finlandiasauna.com  
800.354.3342 | Contact: Tim Atkinson or Reino Tarkkainen

Circle 172

SPECIALTY PRODUCTS

WIRE MESH SYSTEMS

\$\$\$ | G

The Gage Corporation, Int.

GageWoven is an innovative collection of 23 architectural wire mesh designs.

Product Application:

- Calgary Zoo, Canada
- State Street Bank, North Quincy, MA
- 217 17th St., Atlantic Station, Atlanta, GA

Performance Data:

- Class A ASTM E-84
- Durable, low-maintenance stainless steel



www.gagecorp.net  
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Circle 173



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**ASSOC. PROFESSOR OR PROFESSOR  
(PROGRAM DIRECTOR)  
BACHELOR OF DESIGN IN ARCHITECTURE  
COLLEGE OF ARTS AND HUMANITIES  
UNIVERSITY OF CENTRAL FLORIDA**

The University of Central Florida seeks innovative leaders as inaugural faculty for the new Bachelor of Design in Architecture program, a unique partnership between UCF, Valencia Community College, and the University of Florida. The academic home for the Bachelor of Design in Architecture program will be the School of Visual Arts and Design in the College of Arts and Humanities. The program will be located at UCF's Valencia West Campus, which is under the leadership of UCF's Regional Campuses. The University of Central Florida is an Equal Opportunity/Affirmative Action Employment. The University of Central Florida is looking for a dynamic leader in the architecture education field with a commitment to collaborative interdisciplinary teaching, scholarship, and outreach within a collegial and diverse environment. The Program Director will report to the Director of the School of Visual Art and Design with additional reporting responsibilities to the Vice Provost for Regional Campuses. The program director responsibilities include teaching, program administration, research, student recruitment, collaboration with local industry, and direct cooperation with educational partners. The program director is responsible for academic visioning, budgeting, interdepartmental collaboration, and internal relations within the larger university structure. The candidate will be appointed as a tenured or tenure earning faculty member at the associate or full professor level. Minimum requirements include a

Master's degree from an accredited institution, at time of application in architecture, current professional architectural registration, and a demonstrated research and publication record in architectural design. Preferences will be given to those who possess a distinguished record of professional practice, a Ph.D. from an accredited institution, at time of application, demonstrated research and publication record in urban design and development, environmental design, and sustainability, and possess previous architecture educational administrative experience. Applicants must submit completed application information as noted on the University of Central Florida Human Resources website at <http://www.jobswithucf.com>. Applicants must include a current resume/CV, a Letter of Interest and three names of references. The search committee will begin reviewing applications: March 23rd. The position is "Open" until filled

**ASSISTANT PROFESSOR  
BACHELOR OF DESIGN IN ARCHITECTURE  
COLLEGE OF ARTS AND HUMANITIES  
UNIVERSITY OF CENTRAL FLORIDA**

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University of Central Florida's School of Visual Arts and Design invites applications for a tenure-earning position at the assistant professor level. Responsibilities include teaching required courses in design, theory, or studio classes in the upper division undergraduate program, pursuing scholarly research and publication, providing service to the university and to the community, interacting with the community of practicing architects in central Florida, and collaborating with colleagues from Valencia Community College, the University of Florida and other partners. Minimum requirements include a Master's degree from an accredited institution, at time of application, in architecture and evidence of professional practice in the field of architectural design. Preferences will be given to those who possess an architectural educational experience and current professional architectural registration. Applicants must submit completed application information as noted on the University of Central Florida Human Resources website at <http://www.jobswithucf.com>. Applicants must include a current resume/CV, a Letter of Interest and three names of references. The search committee will begin reviewing applications: March 23rd. The position is "Open" until filled

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PROJECT

**Tree Trunk Garden House**

LOCATION

**Hilversum, the Netherlands**

DESIGNER

**Piet Hein Eek**

**WE ALL LONG FOR ONE** – a private space all to ourselves to work, think, or even just escape to. When popular Dutch musical and comedic performer Hans Liberg (pictured) built himself a small studio in which he could hone his act

without interruptions from family, he did so right in his own backyard.

For a getaway to match the showman's personality, Liberg turned to designer Piet Hein Eek. The cabaret star had previously commissioned Eek, an alumnus of Holland's famed Design Academy Eindhoven who now has an international following, to create several of his signature handcrafted, scrap-wood furniture pieces for his home.

The result of their latest collaboration, completed last summer, is an iconic log cabin with a twist. Eek switches the orientation of the tree trunks so that the structure more closely resembles a pile of firewood.

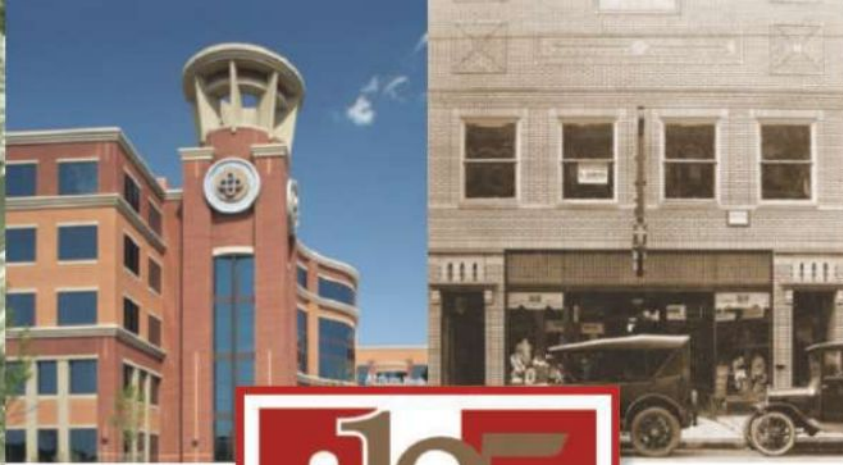
The trompe l'oeil is revealed only when the windows – camouflaged with slices of wood – are flipped open. (A second layer of glass beneath slides open.) "It's difficult to feel close to nature in the city," Eek says. "We created a fairy tale."

Oak logs line the sides and top of the cabin, while 2-inch-thick circular trunk sections are arrayed along the 15-foot-long front and back. The surface wood is both glued and mechanically fastened to the plywood substructure.

The cabin was built in Eek's 40-person production facility, then transported the 60 miles to Liberg's residence. The assembly itself is

built on wheels to comply with local zoning regulations restricting the number of habitable structures on a single property, making it possible (though highly unlikely) for Liberg to take it on the road with him.

The fresh, cozy interior of the 100-square-foot box – housing a desk, shelves, and a separate U-shaped seating area – is painted a powder blue to contrast with the exterior's rustic appearance. Supplied with heat and electricity, Liberg can play his instruments well into the night on even the coldest of days. "I think Hans really loves it," Eek says. "He's in there way too much."  
*Josephine Minutillo*



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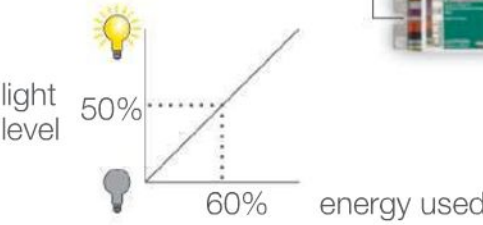
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