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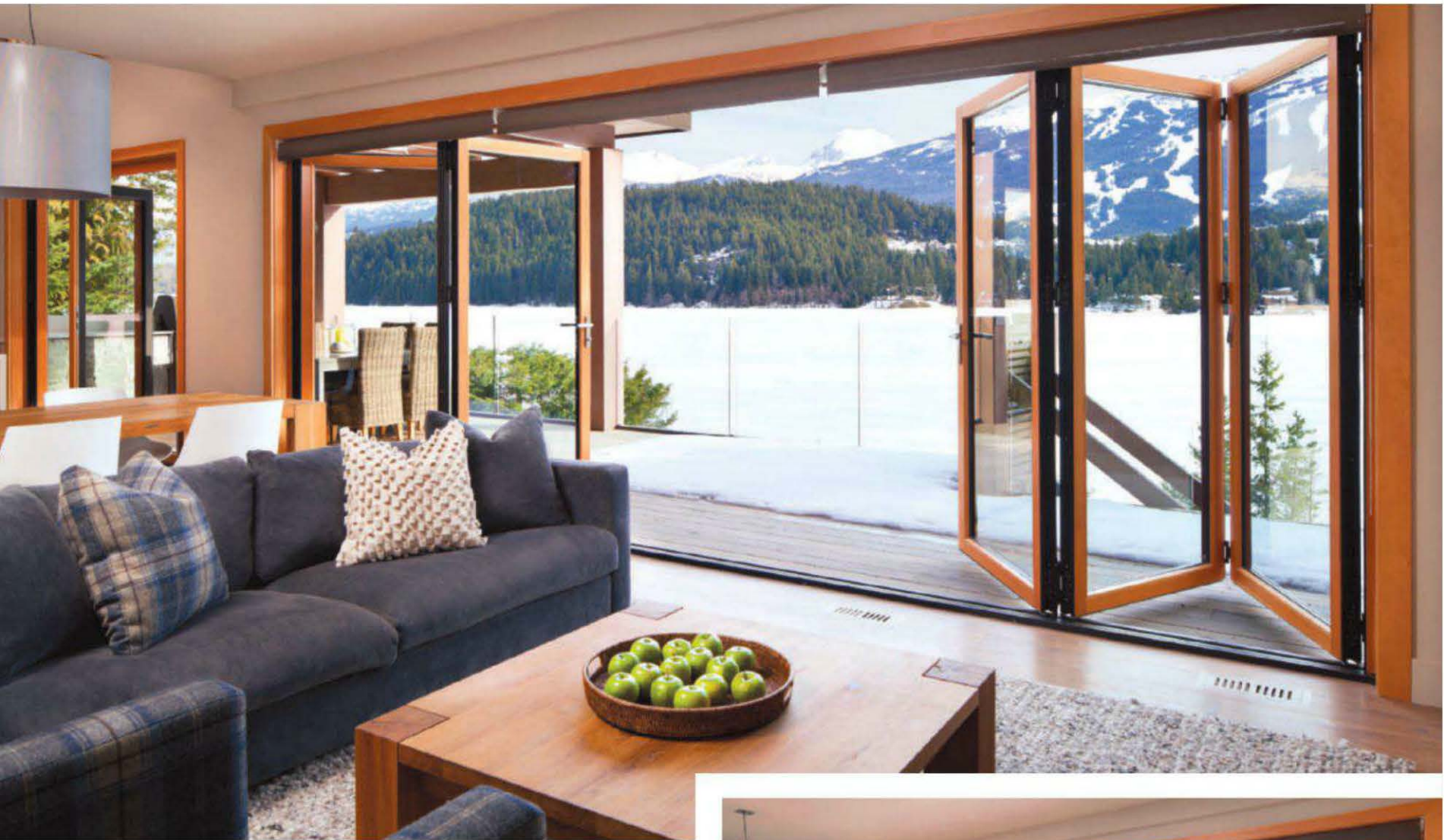
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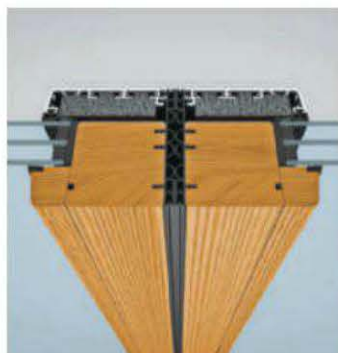
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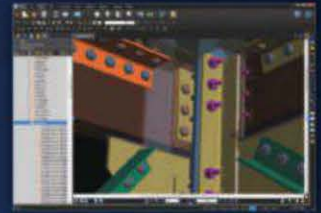
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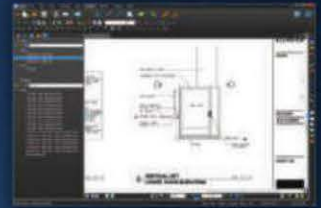
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ON THE COVER: NAKAHOUSE, LOS ANGELES, BY XTEN
ARCHITECTURE. PHOTO BY STEVE KING.

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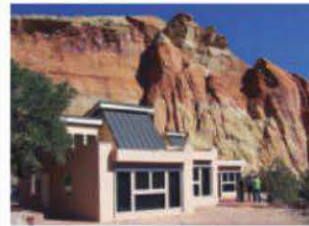
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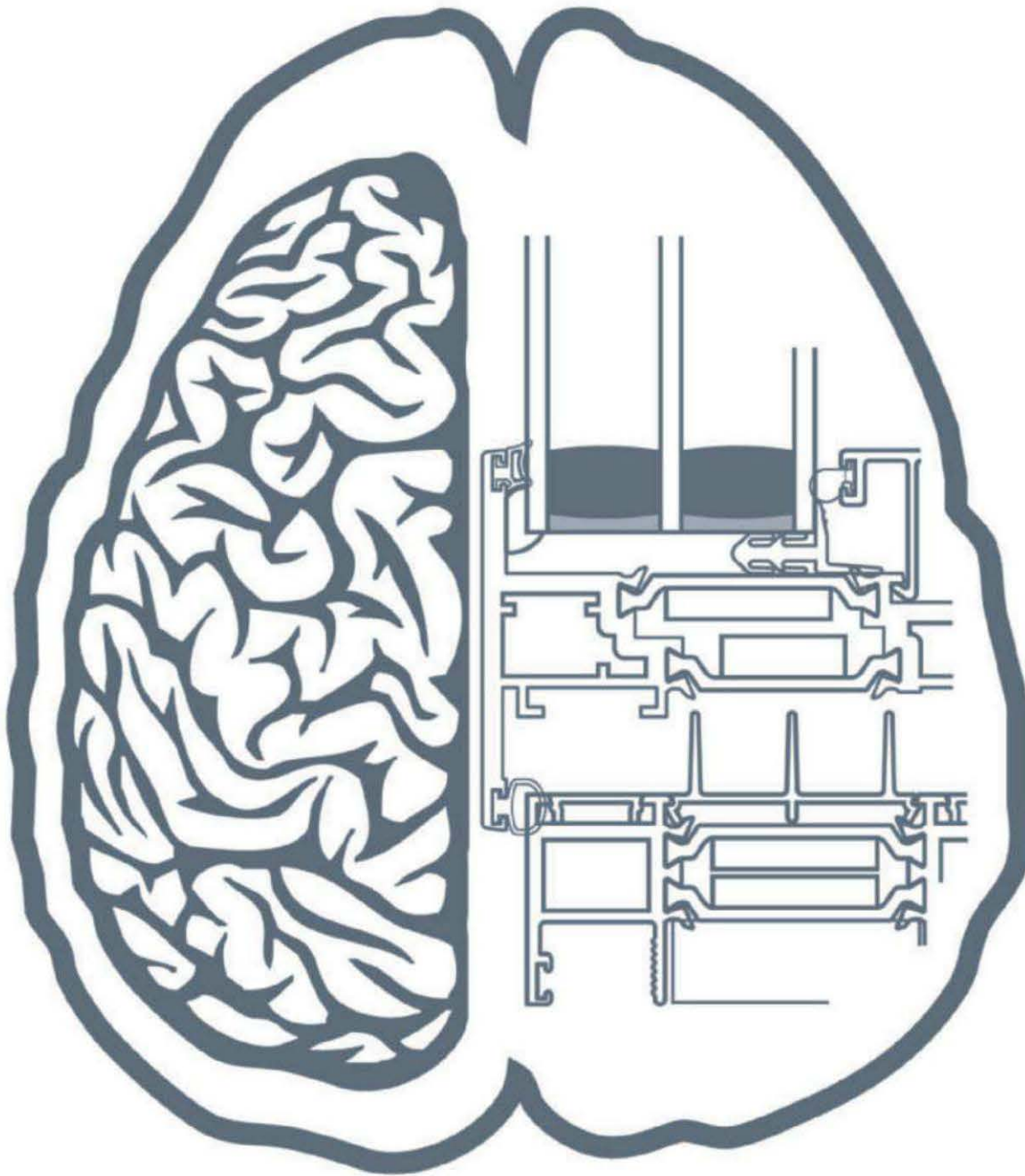
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House Proud

The American dream crashed with the economy. Can architecture bring it back?

IN THIS political season, we're hearing a lot of talk about reclaiming the American dream. And nothing says "American dream" like the single-family house, though it's a sore subject for the 4 million families who've lost their homes to foreclosure since 2007, or the hundreds of thousands more in limbo, with the roofs over their heads worth less than the mortgages they owe.

But now new house construction, which had slowed dramatically, is beginning to rise: Housing starts are up, particularly for multifamily dwellings, as outlined in ARCHITECTURAL RECORD's new "Stats" feature, which draws on unique data from McGraw-Hill Dodge Analytics (page 27).

Still, the notion of the single-family house—the one a child might draw as a square topped by a triangle with a curl of smoke rising from a tiny chimney—remains the epicenter of our battered ideals. Despite admonitions about the virtues of density, in terms of both thrift and sustainability, eight in 10 Americans want to live in their own detached house, according to a 2011 survey by the National Association of Realtors. Even in cities, most people live in single-family dwellings.

For architects, the house has always had a special allure as an incubator of design ideas that are too innovative or outrageous to test out on a sober-sided commercial clientele. Which is why ARCHITECTURAL RECORD has published a special issue on houses each year since 1956. Earlier RECORD editors, too, such as Lawrence Kocher—who designed the radical low-cost "Aluminaire House" with Albert Frey in 1931—devoted special sections of the magazine to the house. The Modern masters valued the experimental challenge that residential design allowed, and their influence is still pervasive: The long shadow of Le Corbusier and Mies (whose Villa Tugendhat in the Czech Republic has just been restored) are evident in our RECORD Houses this month.

Making the selection of RECORD Houses is difficult but fun—and we admit we've gone way out there this year. Most of the nine featured houses take big risks: One had to have its main components helicoptered to its hilly site. Another employs walls of perforated steel. And a third house has so much glass that—well, let's just say its owners won't ever throw stones, let alone engage in certain other activities.

Not that these houses aren't sensible in many ways. Most are comparatively small—just as the size of the average new American home, which was on steroids during the boom, has started to shrink. They are sensitive to their settings—planned for privacy facing the street but more open to gardens—or were created primarily to exploit dramatic views.

Still, we know that these aren't homes for the average modern family. But that's okay. Like the masterpieces that precede them—the Villa Savoye or the Villa Tugendhat—we think you'll find these houses inspiring. And, as we give a bow to the daring patrons who commissioned them, we hope this issue might inspire potential clients to pursue the satisfaction of working with an architect to create their own home.



A house doesn't have to be fancy or expensive—there are good architects in every state of the union who can work at almost any scale or budget.

The foreclosure crisis may have had a silver lining: It revealed a preponderance of houses that are oversized and poorly designed. Good architecture—whether for private clients or developers—can bring to the contemporary home sustainability, economy, and flexibility, as well as sensitivity to place. And isn't that what the American dream should be all about?

Cathleen McGuigan

Cathleen McGuigan, Editor in Chief

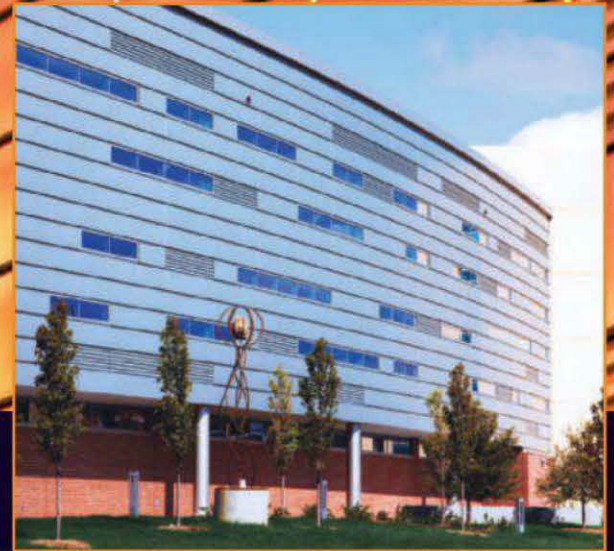
P.S. As we were preparing this issue for press, we learned that ARCHITECTURAL RECORD had won, among several other prizes, the highest journalistic honor at the American Business Media's 58th annual Jesse H. Neal Awards: the 2012 Grand Neal for our September 2011 issue, "The Death and Life of a Great American City." Up against the top publications for such professions as law, banking, and computer science, this recognition demonstrates the broader appreciation for architecture in our culture.

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perspective

“The more media attention that architects are given, the less we are taken seriously.”

—*Rem Koolhaas, on the consequences of the starchitect phenomenon, at the New York Public Library on March 8.*

Wang Shu Wins Pritzker Prize

BY CLIFFORD A. PEARSON

WANG SHU, a 48-year-old Chinese architect whose work explores the intersection of modern technologies and traditional sensibilities, has won the 2012 Pritzker Architecture Prize. He is the 37th person to receive the prestigious \$100,000 award sponsored by the Hyatt Foundation—and the first laureate based in China. (I.M. Pei, the 1983 winner, was born in China but lives and practices in the United States.) Asked about getting the prize, Wang said in a phone interview, “It’s a big surprise. I’m still so young!”

Wang and his wife, Lu Wenyu, founded their firm, Amateur Architecture Studio, in 1997 in Hangzhou, long regarded as one of China’s most beautiful cities. Despite rampant growth in recent years, Hangzhou still exerts an almost mystical pull on the imagination and remains a place where art and tradition thrive. Wang’s buildings tap into that reservoir of ancient culture, while employing contemporary elements and structural systems. Still, Wang doesn’t design with a computer. “I use just the pencil,” he said.

While many of his contemporaries studied abroad, Wang earned his undergraduate and master’s degrees in architecture from the *(continued)*



Calatrava Adds a Stitch to Dallas’s Urban Fabric

“This is now the center of Dallas,” said Santiago Calatrava, standing on his new Margaret Hunt Hill Bridge in the Texas city last month. The 1,870-foot-long span supports its length with 58 steel cords strung from a 400-foot-high arch. In the Spanish architect’s signature style, the delicate white form resembles a stringed instrument. It crosses the Trinity River, connecting a section of West Dallas ripe for gentrification to the city’s developing downtown. *William Hanley*



TOP RIGHT: Wang outside the Academy of Art in Hangzhou.

ABOVE: One of his firm’s best-known projects is the Ningbo History Museum (2008) in the coastal city of Ningbo, in eastern China.

(Pritzker continued)

Nanjing Institute of Technology. He moved to Hangzhou to research building renovation and spent a decade working with local craftsmen. Much of his early work involved refurbishing old structures, which influenced later commissions for new buildings.

Wang said context is critical to his design process. "My starting point is always the site," he said. "I need to understand the life, the people, the weather." He completed his first major work, the Library of Wenzheng College at Suzhou University, in 2000. Wang has participated in the Venice Biennale and exhibited in Hong Kong, Brussels, Berlin, and Paris, but all of his buildings are in China. Finished projects include the Ningbo Contemporary Art Museum (2005), Ceramic House in Jinhua (2006), Phase I (2004) and Phase II (2007) of the Xiangshan Campus at the China Academy of Art, the Vertical Courtyard Apartments in Hangzhou (2007), and the Ningbo History Museum (2008). Since 2000, Wang has been the head of the architecture department at the China Academy of Art in Hangzhou.

When asked why Wang's partner, Lu, was not included in this year's award, Martha Thorne, the Pritzker Prize's executive director, stated: "The jury carefully evaluates all aspects of the professionals nominated for the prize. When it is a team effort (as most of architecture is), this is especially challenging. In the case of this year's winner, the jury looked at his contributions to the built work, teaching, theory, etcetera, and felt that he was exceptional and worthy of the prize."

The current Pritzker jurors are: Lord Palumbo (chairman), U.S. Supreme Court Justice Stephen Breyer, Yung Ho Chang, Zaha Hadid, Glenn Murcutt, Juhani Pallasmaa, Karen Stein, and Alejandro Aravena. Wang will be honored during a formal ceremony in Beijing on May 25. ■

RIGHT: The Ceramic House in Jinhua, China, completed in 2006. BELOW: Phase II of the China Academy of Art's Xiangshan campus, located on the fringe of Hangzhou; the project was finished in 2007.



Designers, Patrons Honored at Accent on Architecture Gala

Nearly 400 guests attended the Accent on Architecture awards ceremony on March 9 hosted by the American Architectural Foundation (AAF) in Washington, D.C. *Architectural Record*, a media sponsor, presented the first Lifetime Achievement Awards in the 15-year history of its Good Design Is Good Business program to Skidmore, Owings & Merrill, for architecture, and to contract furnishings manufacturer Haworth, for design patronage. AAF bestowed its annual Keystone Award to U.S. Green Building Council president and CEO Richard Fedrizzi; Philadelphia mayor Michael A. Nutter received the Joseph P. Riley Jr. Award for his leadership in urban design. The evening marked the 23rd anniversary of the AAF gala.



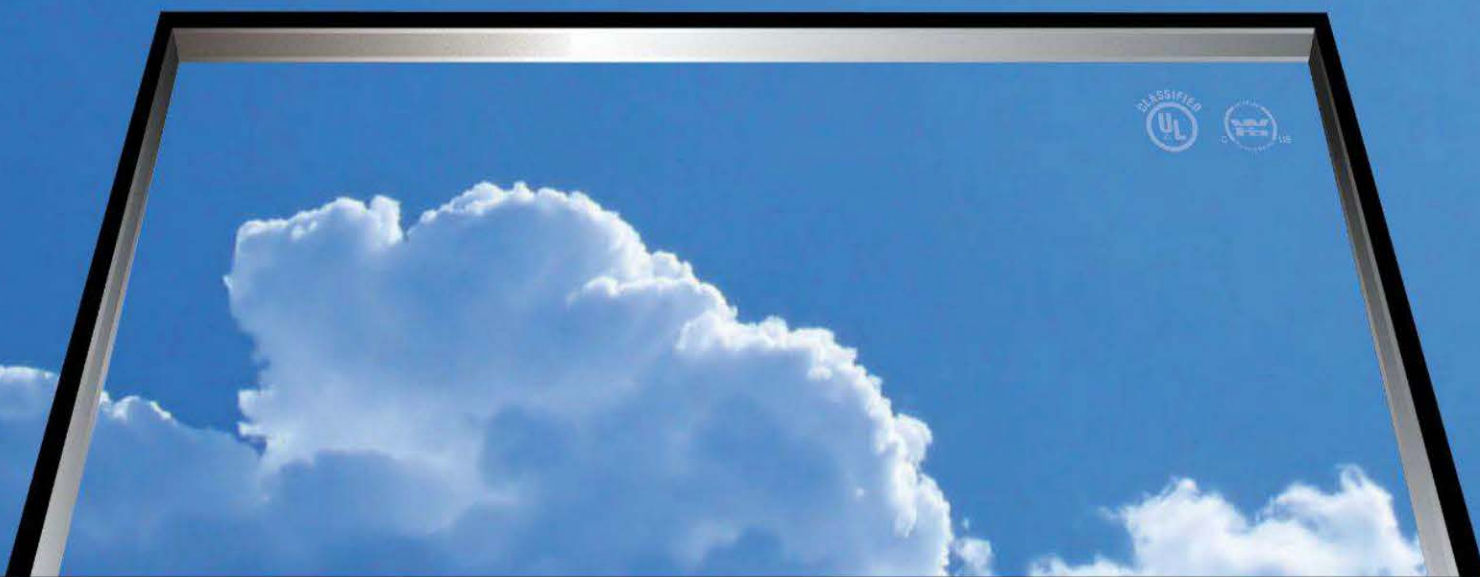
TOP ROW: David Childs of SOM with RECORD editor in chief Cathleen McGuigan; John Mooney, Mabel Casey, and Susan Kuzee of Haworth; Philadelphia mayor Michael A. Nutter. BOTTOM ROW: SOM's T.J. Gottesdiener; Amy Flanagan of law firm Clifford Chance and AAF president Ronald Bogle; Charleston mayor Joseph P. Riley Jr.



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Sink or Swim

Funding shortfalls could hinder ambitious waterfront schemes planned for several U.S. cities.

BY FRED A. BERNSTEIN

WATERFRONTS GET architects—and politicians—thinking big, and sometimes too big. Even Daniel Burnham (he of “make no little plans”) proposed festooning Chicago’s lakefront with five massive piers, of which only one was ever built. Now that structure, the 3,300-foot-long Navy Pier, is about to get a face-lift that residents hope isn’t too large a financial burden for the “City of the Big Shoulders” to bear.

Chicago isn’t alone. Across the country, cities are grappling with elaborate waterfront proposals that could strain their recession-wracked budgets. According to Tom Eitler, vice president of advisory services for the Urban Land Institute, when it comes to waterfront property, “usually cities want something dramatic and big, and they want to do it well. The key these days is to figure out how to bring the private sector along to help create those desired public improvements.”

St. Petersburg, Florida, is one city with expansive waterfront plans. In January, Michael Maltzan of Los Angeles won a competition to replace the city’s aging municipal pier with a futuristic ensemble of canted walkways circling a 2-acre underwater estuary garden; officials hope the project, called the Lens, will “rebrand” the city of 250,000. But the project



Michael Maltzan recently won a competition to convert an aging pier in St. Petersburg, Florida, into a recreational space. The scheme, dubbed the Lens, calls for walkways encircling a 2-acre underwater “garden.” The proposal has sparked controversy.

“The key these days is to figure out how to bring the private sector along to help create those desired public improvements.”

has been dogged by questions about how much of it can be built for the \$50 million the city has allotted. By releasing renderings showing not just the Lens but possible future development around it, the city created confusion about the scope of the project and its eventual cost. That led residents who would like to see the existing pier restored, for far less money, to demand a referendum.

In Chicago, Mayor Rahm Emanuel hopes to revamp the popular Navy Pier in time for its centennial in 2016. In January, five short-listed design teams presented proposals with prices as high as \$300 million. (And those were estimates; as Blair Kamin wrote in the *Chicago*

Tribune, “designers vying for jobs have been known to lowball.”) Each team comprised a long list of architects, urban planners, landscape architects, and other design professionals. Bjarke Ingels Group, James Corner Field Operations, HOK, Grimshaw Architects, and Davis Brody Bond were among the competitors.

On March 15, Navy Pier Inc.’s board members unanimously chose Corner’s 17-member team, which has proposed, among other amenities, a swimming pool with a sand beach and “a surreal and overscaled series of birdhouses and nesting sites.” Even the relatively modest plan—Corner estimates its price at \$85 million—represents a financial stretch. Pier officials

told Kamin they would aggressively push for the sort of corporate and private donations that helped shape nearby Millennium Park.

In New York City, the Brooklyn Bridge Park Conservancy is considering how to develop a strip of land between the Michael Van Valkenburgh–designed park and the change-resistant Brooklyn Heights neighborhood. Condos and a hotel on the site, which overlooks the East River, will provide a revenue stream needed to maintain the park (including sections not yet built). That may explain why, when the conservancy solicited proposals in 2011, “rent offer” and “financial feasibility” appeared before “design” on its list of criteria. There were seven submissions; reportedly, the conservancy has narrowed the field to three—by Rogers Marvel Architects, FXFOWLE, and the team of Bernheimer Architects and nArchitects. It is now negotiating with respective developers.

All this comes amid reports that the Hudson River Park, on Manhattan’s West Side, is in serious financial trouble, in part because of the astronomical cost of maintaining the pilings supporting the site, which are plagued by wood-boring organisms called gribbles and teredos. Builder, beware! ■

A composite image showing a white commercial airplane flying directly towards the viewer from a high angle. Below the airplane, a road made of various wood door designs stretches into the distance. The sky is blue with white clouds and a bright sun in the upper left corner. The ground on either side of the road is green.

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Mies Landmarks Live On

ON TWO different continents, masterpieces by Ludwig Mies van der Rohe have recently been revived.

In Brno, Czech Republic, the city has completed a \$9 million restoration of the Villa Tugendhat (1930), a Modernist dwelling built for a wealthy Jewish couple who fled the country in 1938, shortly before the Nazi occupation. The house was confiscated by the Gestapo, suffered damage during the war, and served as a horse stable for the Soviet military. It became a city-run museum in 1994.

In Montreal, a 1967 Mies-designed filling station has been converted into a community center. The building was shuttered in 2008, prompting the city to list it as a heritage site and to hire Les Architectes FABG to oversee its adaptive reuse. The rectilinear structure's two glass volumes are now multipurpose rooms, and vents for new geothermal wells have supplanted gas pumps. *Jenna M. McKnight*



TOP: Located in the Czech Republic, the Villa Tugendhat (1930) was named a UNESCO World Heritage Site in 2001. **ABOVE:** A Mies-designed gas station in Montreal is now a community center for youths and seniors.

Designing the Middle East, Then and Now



City of Mirages: Baghdad, 1952-1982, on view through May 5 at AIA New York's Center for Architecture, showcases projects designed for the Iraqi city by such 20th-century masters as Frank Lloyd Wright and Walter Gropius (above, Gropius's original 1957 proposal for a mosque at the University of Baghdad). In a separate exhibition, the center presents contemporary work in the greater Middle East (right, GAD's Besiktas Fish Market, Istanbul, 2009). *Laura Raskin*



Brad Pitt "Making It Right" in Kansas City Neighborhood

Brad Pitt's Make It Right Foundation recently announced it will work with BNIM Architects to revitalize the struggling Manheim Park district in Kansas City, Missouri. Plans call for new affordable housing, a health clinic, a preschool, a community center, and gardens, among other amenities.

Design of High Line 3 Unveiled

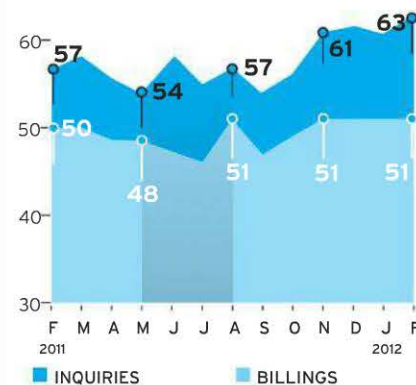
Plans for the third phase of Manhattan's High Line Park were released March 12. Designed by James Corner Field Operations and Diller Scofidio + Renfro, the scheme includes "peel-up" furnishings, an amphitheater, and a children's play area. Friends of the High Line has raised \$38 million of the estimated \$90 million needed to build the project.

Michael Maltzan Tapped for California Campus Revamp

Pasadena's Art Center College of Design has hired Michael Maltzan to evaluate the use of space on its 180-acre campus and create a master plan that will help the school boost its enrollment and programs. The project includes the conversion of a former postal facility that the college purchased in March.

Firms Vie for Cornell Project

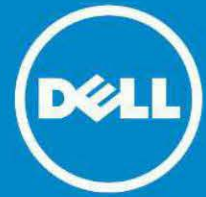
Months after Cornell University—with a master plan by Skidmore, Owings & Merrill—won the bid to construct a tech campus on New York City's Roosevelt Island, the school announced a short list of six firms to design the main facility: OMA, Morphosis, Steven Holl Architects, Diller Scofidio + Renfro, Bohlin Cywinski Jackson, and SOM. A winner is expected to be named this month.



ABI Remains Above 50

The Architectural Billings Index hit 51.0 in February, up slightly from January's 50.9. Regional indices were: Midwest, 56.0; South, 51.3; Northeast, 51.0; and West, 45.6. Commercial/industrial topped the building sectors, landing at 55.1. The inquiries score was 63.4, its highest reading since July 2007.

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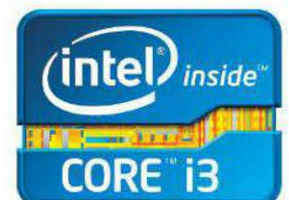
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FORECAST 2012 Residential Construction

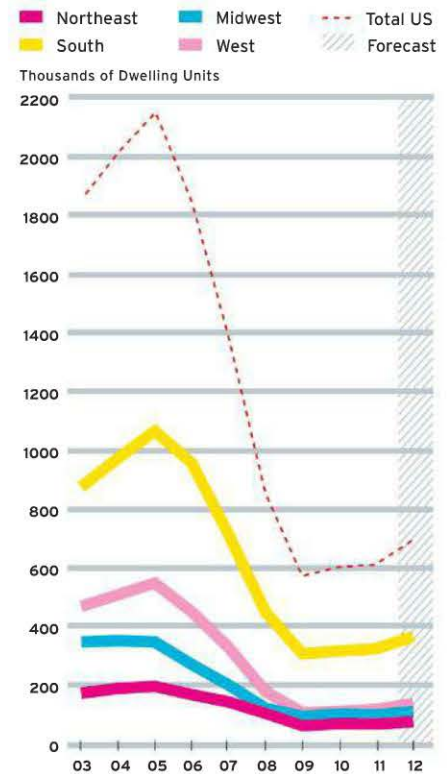
According to construction-economics data from McGraw-Hill Dodge, the housing market has started to turn the corner. Multifamily construction, in particular, is showing new signs of life.

The housing bubble, which reached its pinnacle in 2005, was followed by four years of painful decline. Although housing has seen small gains over the past two years, the fallout from the bubble persists. For single-family housing, foreclosures and falling home prices continue to subdue home sales and housing starts. For multifamily housing, however, a small revival has begun, thanks to increasing demand from the rental side of the market – ironically, the result of lower rates of home ownership. In 2012, total housing starts are expected to gain 13%, to 690,000 units. This level will be the highest in four years, but less than a third of starts at the 2005 peak. Single-family housing starts will climb 9% this year, to 450,000 units, while multifamily housing starts will advance by 23%, to 240,000 units.

13%
Expected gain in total U.S. housing starts in 2012.

Housing Starts by Region

Including U.S. total and 2012 forecast figures



Top Metro Area Markets Total Residential Starts: 2007–2011*



Robert M. Gurney's Hampden Lane House in Bethesda, MD.

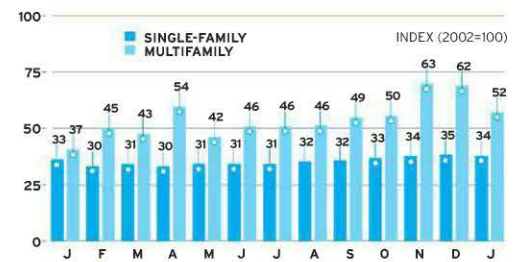
RANK	REGION	2007	2008	2009	2010	2011	2007-2011
1	Houston, TX	57,916	37,956	27,118	27,167	27,729	177,886
2	New York, NY	51,315	45,974	20,098	19,677	21,455	158,519
3	Dallas, TX	40,580	29,711	20,326	19,862	24,876	135,355
4	Washington, DC	27,696	19,300	12,374	15,662	19,256	94,288
5	Atlanta, GA	42,256	19,375	6,802	7,956	9,763	86,152

*single- and multifamily dwelling units

THE DODGE INDEX FOR SINGLE- AND MULTIFAMILY CONSTRUCTION

1/2011 - 1/2012

The Dodge index for single- and multifamily construction is based on seasonally adjusted data for U.S. housing starts. The average dollar value of projects in 2002 serves as the index baseline.



Top 5 Design Firms

Ranked by 2011 U.S. multifamily construction starts value

- 1 SLCE Architects
- 2 MSA Architects
- 3 Shalom Baranes Associates
- 4 Humphreys & Partners Architects
- 5 SK&I Architectural Design Group

Top 5 Multifamily Projects Ranked by 2011 Construction-Starts Value

PROJECT: Gotham West

ARCHITECT: SLCE Architects

LOCATION: New York, NY

VALUE
\$362 million

PROJECT: Potomac Yard Townhouses & Townhouse Condominiums

BUILDER/DEVELOPER: Pulte Homes

LOCATION: Alexandria, VA

VALUE
\$250 million

PROJECT: East Coast Tower II Apartment Building

ARCHITECT: SLCE Architects

LOCATION: Long Island City, NY

VALUE
\$242 million

PROJECT: CityCenterDC Phase I

ARCHITECTS: Shalom Baranes Associates, Foster + Partners

LOCATION: Washington, DC

VALUE
\$180 million

PROJECT: 10th & Market Apartment Tower

ARCHITECT: Handel & Associates Architects, Heller Manus Architects, Durrant Media Five

LOCATION: San Francisco, CA

VALUE
\$173 million

These data have been provided by McGraw-Hill Dodge Analytics. Dodge tracks multifamily projects from predesign through construction to capture key statistical information, such as the number of units and hard construction costs, for multifamily buildings and the residential portion of mixed-use developments. Dodge data for single-family and two-family housing are captured through a survey of permit issuers.



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perspective drawing

IS THE PROLIFERATION OF SOPHISTICATED TOOLS FOR MODELING, PARAMETRIC DESIGN, AND DIGITAL FABRICATION MAKING THE PRACTICE OF SKETCHING BY HAND OBSOLETE?

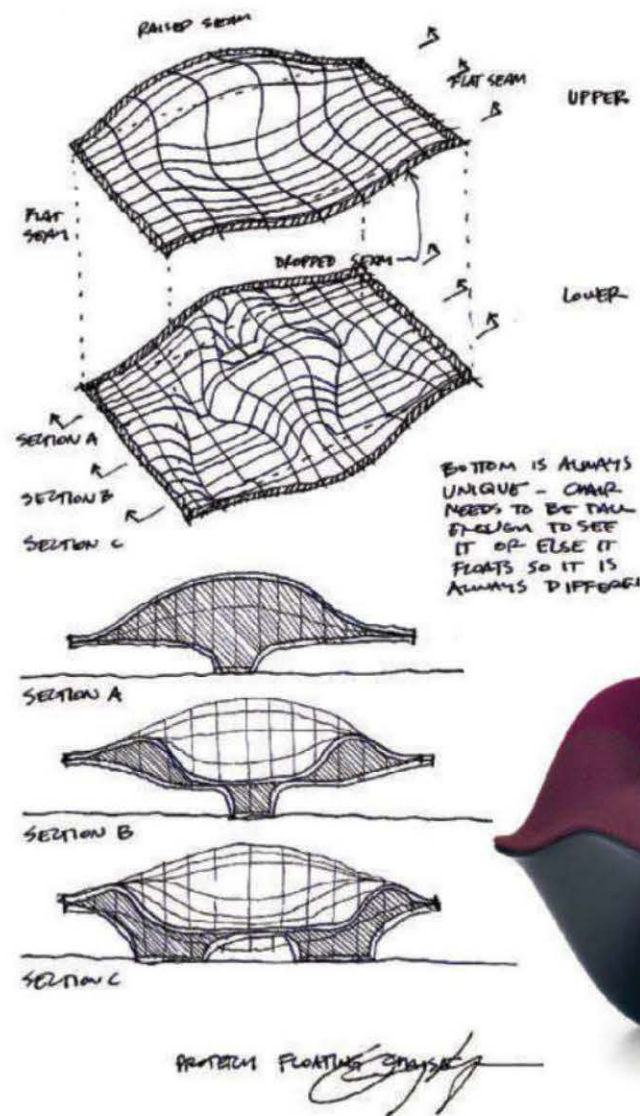
BY JOANN GONCHAR, AIA

THERE ARE many types of architectural drawings. Travel sketches, like those Michael Graves is known for, can serve as a form of note-taking, as fuel for the imagination, and as training for the eye. Depictions of fantastical environments, such as the precisely detailed watercolors and oils created by Italian architect Massimo Scolari, are detached from constructed reality but record the inventiveness of the mind. And, finally, design sketches help architects conceive, develop, and express their ideas.

But with the increasing sophistication of digital tools for modeling, parametric design, and rendering, is drawing by hand destined to become a lost art? That was the question posed by *Is Drawing Dead?*, a recent symposium at the Yale School of Architecture which attracted more than 450 attendees with a roster of speakers that included Archigram founder Peter Cook, Zaha Hadid Architects director Patrik Schumacher, and Andrew Witt, director of research at Gehry Technologies.

Despite its provocative title, the February 9–11 conference was “not intended to be a sentimental homage to hand drawing,” according to Victor Agran, a lecturer at the school. The goal was to combat “a loss of visual literacy” in academia and in the profession, said Agran, who organized the event with fellow faculty member George Knight.

A few of the symposium’s presenters feared hand drawing was especially vulnerable in the face of proliferating digital tools. Finnish architect Juhani Pallasmaa, for instance, made the case for sketching as a tactile tool for discovery. While drawing, an architect isn’t focused on the individual lines he or she is creating, but is instead “occupying that space, as if touching all its surfaces,” said Pallasmaa. Such a kinesthetic connection is “difficult, if not



COMPUTATIONAL CONTOURS Greg Lynn sketches by hand, but typically after first digitally modeling an idea. In his drawing of the Ravioli Chair, designed for Vitra, he describes form with a gridlike mesh.



impossible, to simulate with computers,” he said.

Although such an impassioned defense implies an adversarial relationship between drawing and software, sketching still plays a vital role, even in some of the most technologically advanced practices. For example, the digital design and fabrication pioneer Greg Lynn draws by hand, but often after first quickly modeling an idea with the computer. Sketching, for Lynn, is a method for clarifying ideas, he explained at Yale’s event. Curiously, his hand drawings sometimes mimic computer graphic techniques: In a sketch of the Ravioli Chair designed for Vitra, Lynn defines the shape of its upholstery-covered plastic shell with gridlike contours,

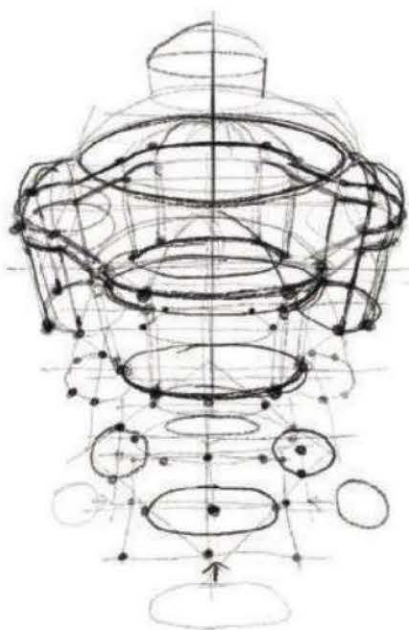
much in the same way 3-D modeling software does.

Design is an iterative process, and many architects move back and forth between digital and hand-drawn modes of representation and exploration as a project progresses. Marion Weiss, principal of Weiss/Manfredi, provided glimpses of such a design process as part of her *Is Drawing Dead?* presentation. Among the drawings she showed was a series of charcoal sketches produced at various points in the development of a scheme for the Diana Center at Barnard College, including a set of facade studies. For Weiss, discoveries made while drawing, and the choice of the sketching medium, helped guide decision making. At Barnard, the selection

of acid-etched glass cladding panels was an attempt to maintain a “whisper of the charcoal” in the completed building, she said.

Like many other firms, Weiss/Manfredi relies heavily on model building as part of its design process. “Analog, digital, and physical studies form an important triad,” said Weiss, with each medium having its own advantages, but also limits.

One of the undeniable advantages of digital tools is that they allow the quick examination of a space or object from multiple vantage points. However, most 3-D programs require the specification of a well-defined geometry, making them cumbersome for conceptual-design exploration.



INVESTIGATING SPACE “Virtual Canvas” is a conceptual-design tool that allows users to combine several 2-D drawings and then explore the assembled sketches by panning, tilting, and zooming. The program’s development team used it to analyze San Carlo alle Quattro Fontane (left and below left), a 17th-century church by Francesco Borromini, in Rome.

assembled drawings through panning, tilting, and zooming.

In architectural schools, there is greater emphasis than ever on digital tools. For example, at Columbia University’s Graduate School of Architecture and Planning (GSAP), former dean Bernard Tschumi took the radical step of creating so-called “paperless studios” in the mid-1990s. Now, however, the computer is “just a given,” noted Laura Kurgan, associate professor and director of visual studies. In the first semester’s required drawing and representation course, graduate architecture students are introduced to modeling, while in the second semester’s course they study the relationship of hand drawing and digital design. But by the time students graduate from the GSAP program, they have command of between 12 and 15 types of software, estimated Kurgan.

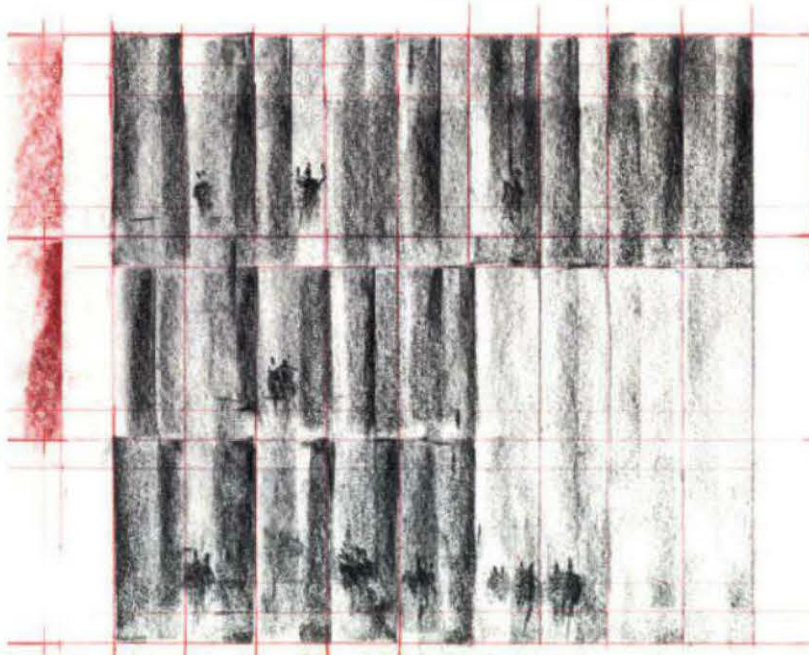
Increasingly, students like those at Columbia and digitally savvy practitioners are actively modifying the tools created for them by software developers. Architects are writing their own scripts within programs like Rhino and Maya as a way of loosening often-hidden constraints that can restrict the creative process. “Software has built-in parameters that create invisible boundaries,” said Cammy Brothers, an architectural historian and associate professor at the University of Virginia. But by adapting the software, architects can gain a stronger command of these tools, taking control of them much in the same way they would manipulate a stick of charcoal, a pen, or a pencil. “You can make a computer as open as a pencil,” said Brothers, “but you have to push at it.” ■



ARCHITECTURAL DREAMSCAPE

Massimo Scolari’s fantastical compositions, like the oil painting *Gate for a Maritime City* (above), are remarkable for their almost-obsessive detail, not because they depict buildable form.

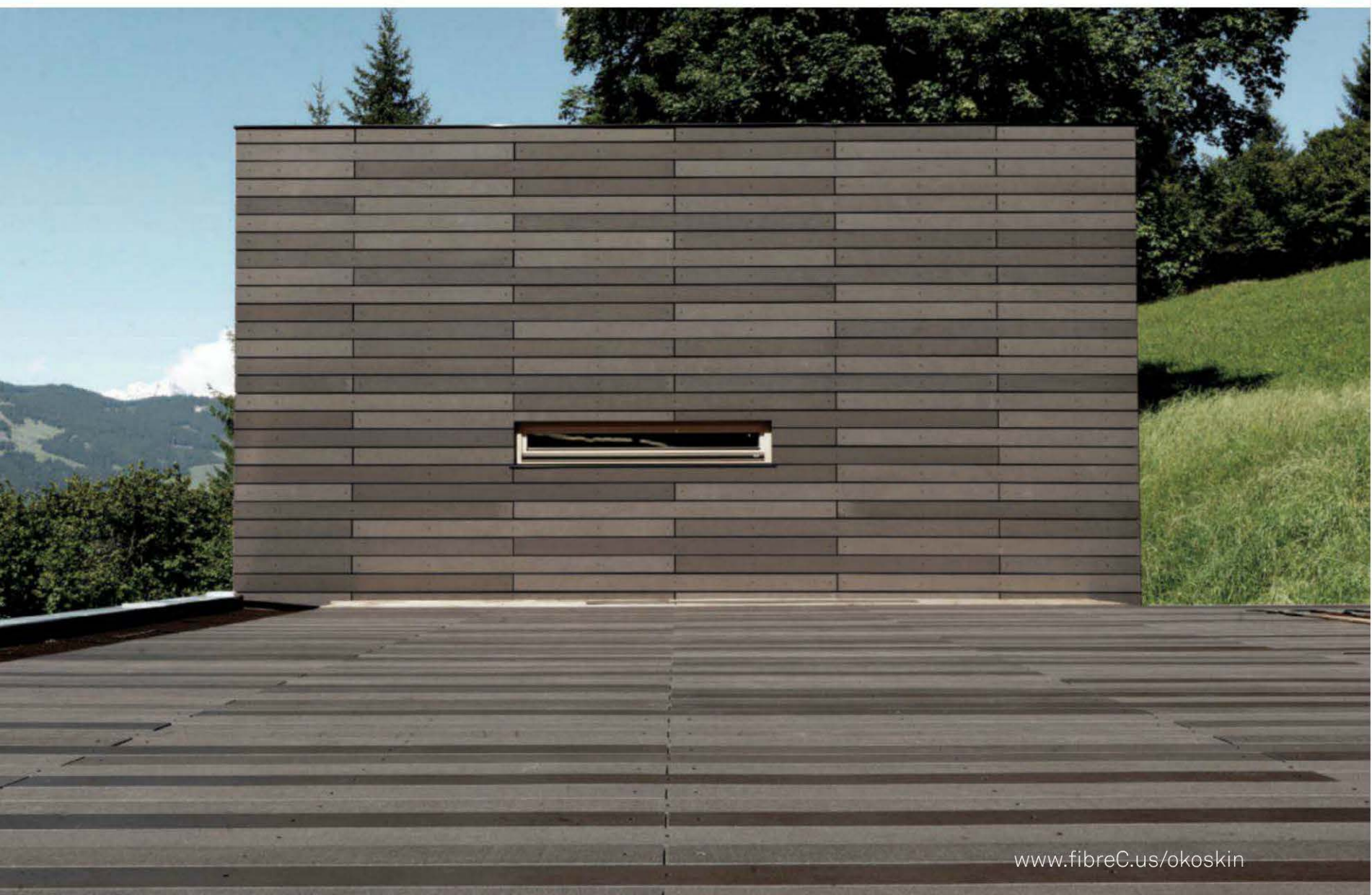
FROSTED FACADE As part of her design process, Marion Weiss, of Weiss/Manfredi, moves back and forth between hand sketches, digital tools, and physical models. Drawings for the firm’s student center at Barnard College, which is clad in acid-etched glass, included a set of charcoal facade studies (below).



But a computer graphics system that combines digital tools’ dynamic visualization capabilities and the spontaneity associated with hand sketching could be commercially available within the next year. As part of the drawing conference, Julie Dorsey, a Yale professor of computer science, demonstrated “Mental Canvas”—the program she is developing with a team of researchers from several universities.

The program promises to allow users to create 2-D sketches on a pressure-sensitive tablet, position them on virtual planar surfaces, and then combine the drawings in 3-D. According to Dorsey, designers will be able to easily adapt and refine their sketches, but also explore the spatial and volumetric implications of the

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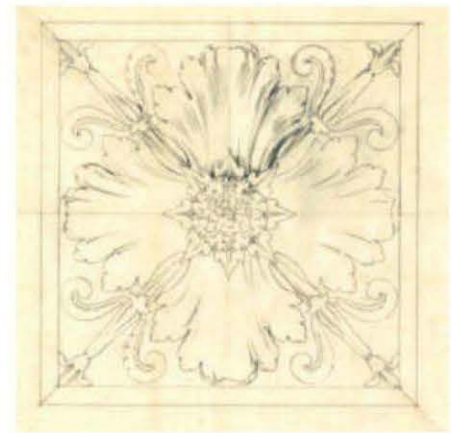
We take a closer look at a few of the new building products that are meticulously handcrafted in the United States—from a line of wood tiles inspired by the drawings of Hearst Castle architect Julia Morgan to a new aluminum chair from Emeco that employs the same 77-step process developed by the manufacturer in the 1940s.

By Rita Catinella Orrell

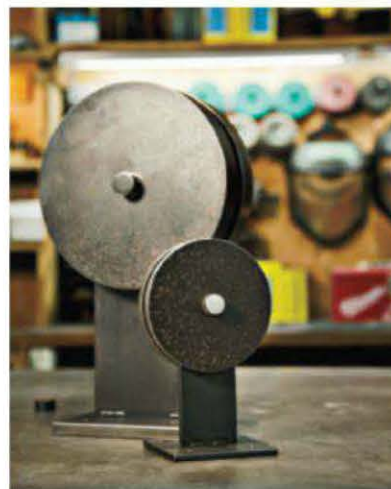
Hearst Castle Collection

Inspired by Hearst Castle, the “little something” William Randolph Hearst asked architect Julia Morgan (1872–1957) to build in San Simeon, California, in 1919, Tilevera’s Hearst Castle Collection of stone, glass, and wood tile interprets the castle’s spirit in material, color, and design. The Celestial Series Tiles, based on Morgan’s delicate archival architectural drawings for the castle’s Celestial Suite, are handmade by Santa Monica-based decorative painter Jacqueline Moore of Baltic birch in two finishes. Each tile features between 12 to 20 layers of glazes, gold and silver leaf, oil paints, washes, and antiquing methods. A protective coat allows the tiles to be used for interior or exterior installations. A portion of the proceeds from the collection will benefit Hearst Castle.

tilevera.com



IMAGES: © HEARST CASTLE CALIFORNIA STATE PARKS-HEARST CASTLE COLLECTION (HEARST DRAWING & PHOTOGRAPHY); AMY BENTON (TOP RIGHT); COURTESY OLSON KUNDIG ARCHITECTS (TOM KUNDIG COLLECTION)



The Tom Kundig Collection

After years of collaboration on custom steel architectural elements and furnishings with Seattle-based metal shop 12th Avenue Iron, Olson Kundig Architects has now designed the firm’s first line of commercially available products to be fabricated by the shop. The Tom Kundig Collection includes 25 unique cut-and-folded steel hardware pieces ranging from door pulls to rollers. According to firm principal Tom Kundig, the midpoint-price-range line “is an opportunity for us to take our approach to full-service design projects and provide it to a broader audience.” Inspired by the way people interact with their structures, each piece is fabricated in steel by handmade and machine processes, then hand-finished and waxed.

12thavenueiron.com

Heath House Numbers

For its line of House Number tiles launched last year in collaboration with House Industries, Sausalito, California-based Heath Ceramics applies the same spinning mold technique used to craft their ceramic bowls. The 3-D tiles, which celebrate the legendary Neutra and Eames fonts, are made one at a time by hand, then glazed in a matte finish with a raised, unglazed number, hand-wiped clean, and kiln-fired. A track, made by local metal and wood shops from salvaged teak and stainless steel, was designed in-house. The track enables the numbers to be attached to any surface that you can screw into; spring tabs accommodate size variation in the clay and make sliding the tiles into the track easier.

heathceramics.com

**Sezz Collection**

The Sezz Collection was conceived when French designer Christophe Pillet and Pennsylvania-based Emeco collaborated on a seating line for the Sezz Hotel in Saint-Tropez, France. Made of 80% recycled aluminum, the pieces in the line, including stools and swivel, side, and lounge chairs, are treated, welded, and brushed in the same 77-step, handcrafted process used since the 1940s to create the original 1006 Navy chair. Engineering the right frame to fit the rounded seat was a challenge for the team; the seat is formed in a deep-leveled stamping process and hand-welded for a seamless one-piece look (seat and back pads are available in black vinyl). A tube frame was built to carry the geometrics of the shell form, which is hand-bent to fit every chair. The frame is then welded, ground, and hardened; after it is welded to the seat, it gets a final grind and cleaning.

emeco.net

Wildwood Sconce

The Blackstone pendant, Broadleaf ceiling fixture, and Wildwood wall sconce (shown far right) are three new Arts & Crafts-inspired light fixtures from Portland, Oregon-based Rejuvenation. All three pieces are based on a period fixture from the early 1900s with a distinctive lily-leaf trefoil canopy. To reproduce the deep grooves, rounded edges, and flowing curves of the antique canopy, Rejuvenation refrained from using 3-D rendering software and teamed up with master carver Steve Pancoast to translate the design into a single wood pattern. This carving was used to make additional polyurethane resin forms for the sand-casting process that produces the final solid-brass canopies. The art glass shades are also made by hand: Clear glass is first mouth-blown into a mold with a teardrop shape, and then, while the shade is still on the pipe, the artisan applies thin threads of opal and gold glass, giving it a feathered, vintage look.

rejuvenation.com



The image features two modern ceiling fans against a vibrant pink background. The fan in the foreground is a sleek, metallic model with a central light fixture that is illuminated, casting a warm glow. It has three large, flat blades. The second fan, in the upper left, is a smaller, similar model without a light fixture. The background is decorated with faint, concentric circles that create a sense of motion and depth.

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Ellisse Textured Glass Panels

Joel Berman Glass Studios bermanglass.com
The Ellisse glass panels from Joel Berman Glass Studios feature a transparent finish that departs from the textured glass for which the studio is known. Available in a tempered option in sizes up to 53" x 108", the panel can be adjusted for different scales; the ellipses can be small- or medium-sized for interiors, or enlarged for viewing from a distance. The elliptical shape of the pattern can also help create unusual light effects suitable for both interior and exterior applications. **CIRCLE 200**

Whispers Wallcovering

Graham & Brown grahambrown.com
Dutch designer Marcel Wanders has created four flocked wallcovering patterns for the U.K.-based Graham and Brown. Called Whispers, the designs are backed on a rough textured paper and feature optical illusions and figural details. Wanders, who is the art director of the avant-garde furnishings powerhouse Moooi, designed the collection for intimate spaces such as bedrooms. **CIRCLE 201**

AG Wall Systems

Superior Walls superiorwalls.com
The new precast-concrete wall panels from Superior Walls are specifically designed for above-grade construction for residential or commercial projects. The new system allows builders to use the panels in stacked applications for multiple stories. Pre-engineered to meet a project's custom needs (including built-in openings for windows and doors), the walls can be installed within hours of delivery to the job site. **CIRCLE 202**

Waterproof Art Panels

Alex Turco Art Designer alexturco.com
These waterproof custom-art panels can withstand extreme weather conditions in public and private settings. Made of two aluminum sheets with a polyethylene core, the panels feature laser-printed images that are enhanced with acrylic, colors, paints, and resin by Italian artist Alex Turco. Shown here is a feature wall with a bamboo design on the terrace of a private home in Lugano, Switzerland. **CIRCLE 203**

Nature Gallery Collection

3form 3-form.com
For Nature Gallery, 3form commissioned a panoramic grouping of natural images for a new photographic interlayer collection. The panels, made of a variety of 3form surfacing options for interior or exterior use, can be heat-formed and are suitable for viewing on both sides of the artwork. The collection can be scaled to fit larger spaces such as atria or long corridors or be used as a single 4' x 8' panel. **CIRCLE 204**

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Record Houses 2012

DO NOT think for one second the selection of RECORD Houses 2012 is meant to provide practical, no-nonsense answers for everyday residential construction. To be sure, several houses continue the tradition of Modern, regional architecture while deploying vernacular or industrial forms and building methods. More important for this grouping, they offer an element of surprise in their crafted, spatial explorations of a Modernist vocabulary.

Yet a good number of the houses in this issue blithely encourage high concept over obvious practicality. Fortunately, the architects involved in these creative investigations have attracted clients who thrive on taking chances with their living environments. In a couple of instances, the architects *are* the clients.

You may ask why we publish houses that are not likely to be replicated next door. As we have written often before, we value functionality and code compliance. But the brave explorations, kinks and all, test the boundaries of design. In this manner, architects can move the discipline forward, often building on historic legacies. Their efforts form an intrinsic part of our architectural culture. *Suzanne Stephens*

House Róces, Bruges, Belgium
Govaert & Vanhoutte Architects

Twin Houses Kastanienbaum | Luzern, Switzerland | Lussi + Halter

The “Machine for Living” Updated

A two-family house in a residential setting allows architect Remo Halter to explore early Modernist ideas in a transformative manner.

BY SUZANNE STEPHENS



CONCRETE AND CUBIC

Remo Halter designed a house in Luzern for himself and his family—and another family next door (left). The black concrete house encloses a series of terraces and outdoor walkways within its assertive volume.

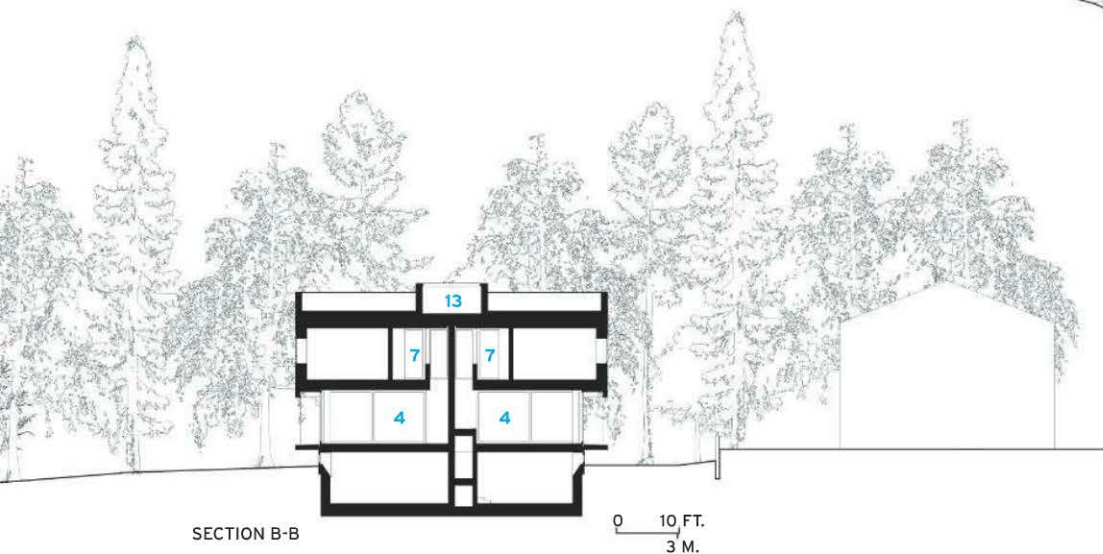
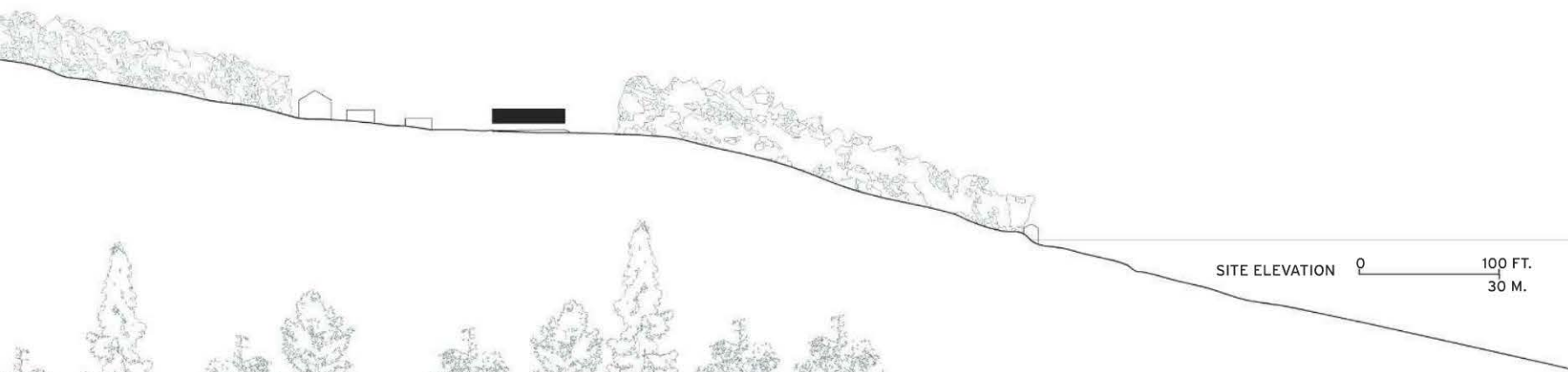
Stairs from a terrace off the living room (below right) lead to the lawn and grove of trees; russet roll-down pine louvered blinds shade it from the sun.

ARCHITECTS UNDERSTANDABLY yearn to be their own clients, especially when it comes to their homes. But Remo Halter of the Luzern, Switzerland, firm, Lussi + Halter, couldn't afford to build his ideal house—a cubic volume of poured-in-place concrete. Yet he had found a tranquil setting—over a third of an acre in the wooded residential district of Kastanienbaum, not far from downtown Luzern. So he and his Brazilian wife, Cristina Casagrande, a psychoanalyst, looked for a “roommate”—that is, someone to share his design for a 6,652-square-foot two-family house divided vertically down the middle.

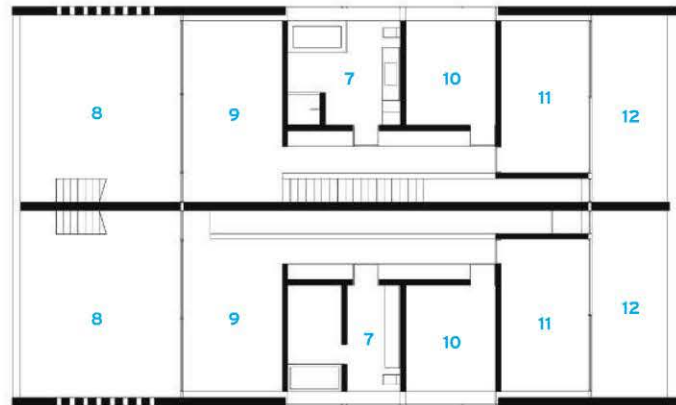
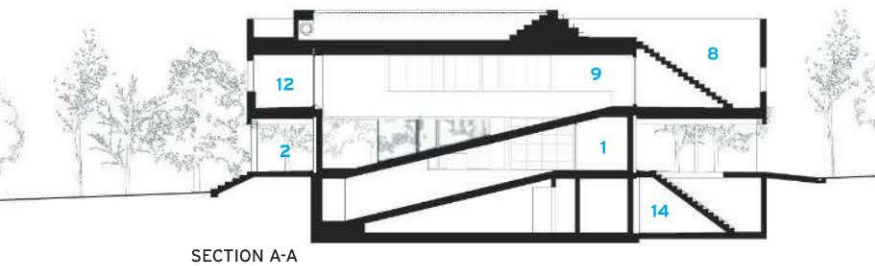
Halter found adventurous partners for his project: a physician-and-artist couple. “The doctor wanted something new and quite brave,” says Halter about his plan to create an anthracite-hued concrete house. A far cry from the gemütlich gabled houses of the neighborhood, the three-level structure's poured-concrete walls, floors, and piers form a crisp, brooding mass floating above the voids for open-air carports, terraces, and walkways.

The house's impeccable detailing and clarity of form also reveal an affinity to Le Corbusier that both Halter and his partner, Thomas Lussi, acquired during their architectural training at the Eidgenössische Technische Hochschule (ETH) in Zürich. Since 1999, the two have practiced together in Luzern,

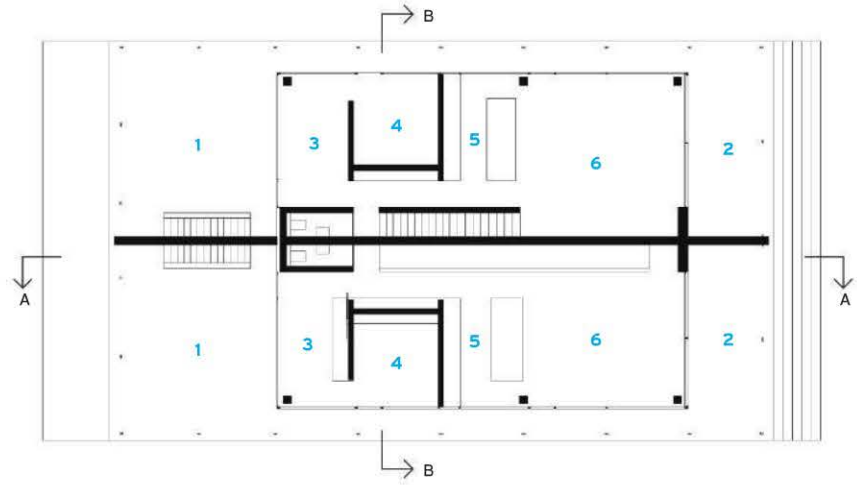




- 1 CARPORT
- 2 VERANDA
- 3 ENTRANCE
- 4 OFFICE
- 5 KITCHEN
- 6 LIVING ROOM
- 7 BATH
- 8 OUTDOOR COURT
- 9 SITTING ROOM
- 10 BEDROOM
- 11 MASTER BEDROOM
- 12 COVERED BALCONY
- 13 POOL
- 14 SERVICE SPACE



SECOND FLOOR



GROUND FLOOR

CREDITS

ARCHITECT: Lussi + Halter – Remo Halter, principal in charge; Corina Kriener, coordinating architect

ENGINEERS: Gmeiner (structural); Markus Stolz (hydraulic); Jules Häflliger (electrical)

CONSULTANTS: Koepfli (landscape); iGuzzini Illuminazione Schweiz (lighting)

CONTRACTOR: Schmid Bauunternehmung

CLIENT: Remo Halter

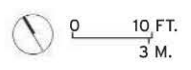
SIZE: 6,652 square feet

COMPLETION DATE: August 2011

SOURCES

GLASS: Biene

JATOBÁ WOOD: Schnyder Parkett

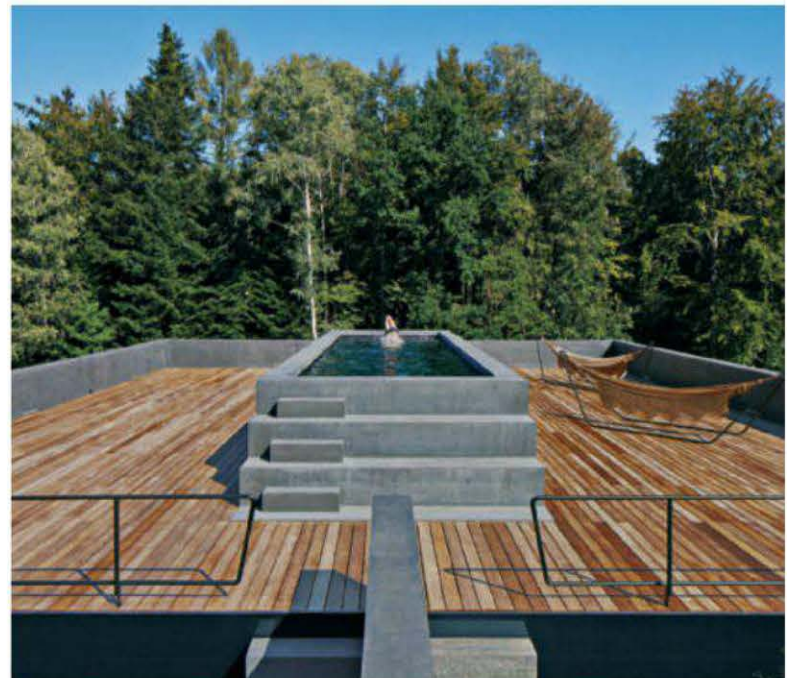




LIVE-IN SCULPTURE

The front door for both twin houses is entered through the carports contained within the concrete volume (above).

A second-level terrace above the carport has a view of the street, plus a sculptural stair (near right) to the rooftop pool (far right), which is shared by both neighbors.





RAMPS

FOREVER

Elongated concrete ramps (above) replace stairs within the Halter house. Brazilian cherry (Jatobá) sheathe ramps and floors. They, in turn, contrast with the exposed concrete walls and ceilings.

A ramp also leads to the lower-level living and service areas (opposite).

where they have been winning competitions for schools, housing, and hotels. The firm's Dreilinden School Propsteimatte in Luzern (2005), in which concrete, oak, and daylight animate interior spaces, demonstrates the architects' knowing manipulation of plan and section.

Halter's use of Corbusian language at the Twin Houses brings to mind the master's Museum of Ahmedabad in India (1957) or the Shodan House (1956), also in Ahmedabad, in the way the stalwart block seems to defy gravity. Even the double carports at the front of the Luzern house recall Le Corbusier's vehicular approach to Villa Savoye at Poissy in France (1929).

As you proceed into the vestibule and walk past Casagrande's office, you are pulled toward the forest at the rear of the property, visible through an expansive glass wall. But wait: As you arrive at the kitchen/living/dining area, you behold a Corbusian coup de théâtre. Rather than stairs, attenuated

ramps stretch to the lower level and to the second floor along the concrete party wall separating the two residences. The ramps have a gradient similar to the exterior ramp to the roof at Villa Savoye, Halter points out. But unlike Le Corbusier's, Halter's ramps don't have pipe rails—nor a parapet, nor balustrade. No nothing.

When asked about Swiss building codes that allow you to leave out handrails (a sin of omission that American architects may not easily forgive, even for private houses abroad), Halter explains that the municipality only requires the homeowner to sign off on liability claims. Nevertheless, the architect did not inflict his architectural obsessions completely on his neighbor: The doctor opted for wood stairways. Crafted of the same Jatobá (a Brazilian cherry) as Halter's ramps, the stairs next door are quite handsome. But we must confess that the sculptural interplay of the ramps is breathtaking to look at,



and literally so to walk up or down.

The ramps underscore the strong processional experience Halter introduced into his house. The one leading upstairs terminates in an enclosed court open to the sky. From there, a concrete stair (no handrails again), like the one Le Corbusier designed for Charles de Bestegui's penthouse garden in Paris (1931), takes the intrepid to a rooftop pool and deck shared by both families. The second interior ramp leads from the main floor down to the basement, which contains additional living and service spaces, not to mention a room for a geothermal pump. "We have no need for oil or gas," says Halter, who notes that all hot water and heating, including that for the pool, are provided by the geothermal system.

Terraces and covered balconies connect spaces within the self-contained platonic volume to the outdoors. A covered balcony off the master bedroom provides framed views of the

forest. In addition, a rear terrace adjoining the living area links to the lawn and woods by a wide cascade of stairs. Covered walkways edge the long elevations and afford protection from the sun via roll-down louvered pine blinds supported on elegantly thin steel columns. To reduce heat loss in the winter months, Halter specified triple-glazing for the inner walls that enclose the house proper.

If Le Corbusier were alive, he might envy the high level of craft now so evident in Swiss construction, particularly that executed in concrete: Le Corbusier's iconic landmarks usually had to be realized with plastered masonry or concrete that spalled. Here Halter can pay homage to the pioneer architect while advancing and refining his vocabulary in new ways and with better technology.

The architect, along with his wife (and visiting children from his first marriage), has found the house to be very comfortable. And, fortunately, his neighbors seem happy with their Modernist home. The mystical color may help. As Halter says, "The black box is powerful. You feel a certain energy emanating from it." ■

Heavy Metal House | Joplin, Missouri | Hufft Projects

Iron Curtain

Contemporary design pays a surprise visit to Joplin, Missouri, in a unique collaboration between architect and owner.

BY JANE KOLLEENY

IN A LEAFY, UPSCALE neighborhood of Northridge Estates in Joplin, Missouri—which was spared the destructive wrath of the tornado that tore through much of the town last year—most of the houses are faux-Georgian McMansions. But one stands out. People driving by Bill Perry's aptly named Heavy Metal House frequently stop to admire the 5,000-square-foot, one-story structure that sprawls across its 8-acre wooded site. From the road, observers can readily see the exterior of large glazed openings and perforated rusting steel panels. What they can't see is the man behind the facade, a self-styled collector and fabricator of art and architectural forms, whose home exists both as a laboratory for and testament to his creative spirit.

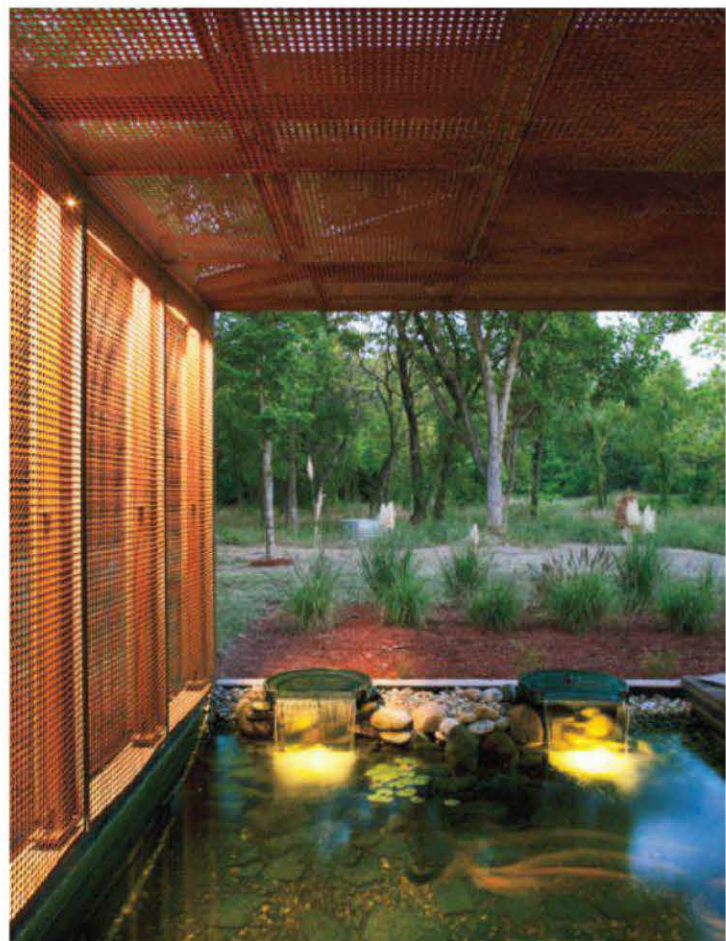




LAYERED FACADE Rusting rolled-steel panels, concrete, and glass are visible from the front of the house (above).

The low-lying building spreads out onto the 8-acre wooded site (left).

In the backyard, a pond flows from a waterwall. Perforated metal panels clad the facade and fold up to create a brise-soleil on this side of the house (below).





FLOOR PLAN

WALLED OFF

A partial wall separates the master bedroom (left) from the bath (right). River rocks line the perimeter of the concrete floors throughout the house.

The owner's scale company custom-fabricated the steel that covers the floors and walls of the bathrooms. A large rock serves as a stool, and an outdoor shower is accessed through sliding glass doors.

Perry wanted to participate intimately in the design and construction of his house and sought a partner in the architect he would hire. He engaged Matthew Hufft of Hufft Projects, a small firm in Kansas City, Missouri. Hufft, now 35, had won an SOM traveling fellowship in 2000 while attending the University of Kansas; received an M.Arch. from Columbia University in 2003; did brief stints in Bernard Tschumi's and Stanley Tigerman's offices; then founded his own practice in 2005. Originally from Springfield, Missouri, Hufft always knew he wanted to be an architect. "I grew up on a farm with no nearby friends and no cable TV," he recalls. "I spent my weekends messing around with my dad's tools building things. I am a practical architect, not a theoretical one." From his rural roots, Hufft's hands-on, easygoing style emerged, one that fit seamlessly with Perry's desire to work as a team. "When we met it was like a party. 'We can do this, we can do that.' Pure joy," remarks Perry. In the same breath, he readily admits to being a control freak: "Well, I'm the one who has to live in the house, after all."

The architect and owner agreed on a house of steel, glass, and concrete, with wood accents. A Miesian pavilion, the low-rise, flat-roofed building is free of ornamentation on the exterior except for 200 custom-manufactured panels of cold-rolled steel: It rusts like Cor-Ten, but is less expensive and more flexible (see sidebar). Perry's family-owned industrial scale company, Cardinal Detecto, fabricated the

CREDITS

ARCHITECT: Hufft Projects – Matthew Hufft, Kimball Hales, Dan Brown, Adam Crowley, Jonathan Tramba, project team

ENGINEERS: CEO Structural Engineers (structural)

CONSULTANTS: John Galloway

(landscape); Derek Porter Studio (lighting)

GENERAL CONTRACTOR: Harry Young Construction

CLIENT: Bill Perry

SIZE: 5,000 square feet

COMPLETION DATE: July 2009

SOURCES

METAL PANELS: Cardinal Detecto

GLASS: Guardian Industries

SLIDING DOORS: Fleetwood Windows & Doors

LIGHTING: HE Williams, Pure Lighting, Bartco

LIGHTING CONTROLS: Lutron

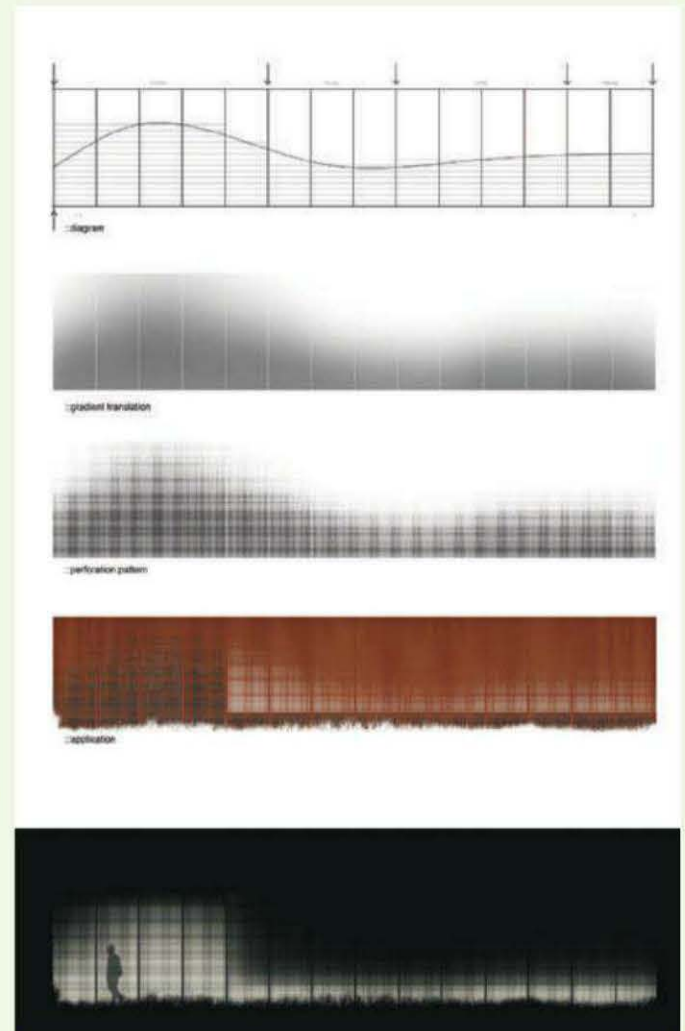
panels, as well as many other elements in the house: the gunmetal-finished steel kitchen cabinets, steel-clad floors and walls in the bathrooms, a giant concrete countertop in the kitchen, an oversized walnut dining table, and more. Perry admits, "I come from a family that says, 'We can make that,' and does."

The house is arranged along two long hallways. Standing just inside the wide-pivoting walnut front door, one can see the full length of each extending in opposite directions, lined with art, fully glazed at the ends, and revealing views outside. Along one hallway an open plan provides for public areas, with three guest bedrooms and a garage tucked behind them. A private wing with a photography studio, library, and master bedroom suite occupies the other. There are clusters of red bud trees and ponds filled with koi and lilies in the front and backyards surrounded by dense woods. Lighting positioned under the eaves of the steel cladding outside illuminates the facade at night—the exterior appears to glow—while brightening the inside perimeter of the building.

Although Hufft's career is just unfolding, this project, supported by his seven-year mostly residential body of work, demonstrates a keen proclivity for innovation and experimentation. He readily admits his design ability is honed project by project. Heavy Metal House stands out as an accomplished stepping-stone in this evolution. ■

Holes in the Heavy Metal

A fan of constraint-based architecture, Hufft established a set of criteria upon which to calibrate the holes in the 200 cold-rolled steel panels that clad the exterior of the Heavy Metal House. Each panel takes into account solar orientation, privacy, and what lies behind the panels (windows or walls). The highest level of porosity occurred on panels covering public rooms, while bathrooms have the lowest. If a window rests behind a panel, the panel is perforated; if a solid wall lies behind, it is not. The north-facing elevation required opaque skins; panels on the south flip up as brises-soleil. Following the rules, the architect created digital files of the panels in Photoshop. Software pixelated the images, creating a map with white representing low porosity and black representing maximum porosity, with variant grades in between. "We e-mailed the file to [scale company] Cardinal Detecto, which punched the steel and bent it into shape," explains Hufft.



PHOTOGRAPHY: COURTESY HUFFT PROJECTS



OFF THE GRID Perforations on the metal panels that clad the exterior (left) allow light to permeate the northern (entrance) side.

Lights tucked under the awnings of the panels (right) animate the exterior at night, while illuminating the perimeter of the interior spaces.

House NA | Tokyo | Sou Fujimoto Architects

Open House



A clear breach of form within a discreet city, this simple glass house raises the bar on transparent living for a working couple—and their neighbors.

BY NAOMI R. POLLOCK, AIA

THERE'S NO running around naked in Sosuke Fujimoto's House NA. The 3-D matrix of tiny rooms and exterior terraces—all located on different floor levels—is encased almost entirely with see-through glass. Supported by a bare, white structural frame, the transparent walls reveal the interior contents to all who pass by. Even in Japan, where proximate neighbors and thin walls often compromise privacy, an unclothed house is a daring solution.

Yet House NA is not simply a bold, exhibitionist gesture. It is Fujimoto's carefully considered response to the building's surrounding conditions. Designed for a working couple in their forties, the home is located in a quiet Tokyo neighborhood on a 592-square-foot plot that opens onto a narrow street and is hemmed in by adjacent houses just about everywhere else. It does not turn its back on the city with solid walls, a typical strategy for Japan's cramped urban areas. Instead, the house engages the environment with transparency. Just inches away, a neighbor's concrete-block wall doubles as House NA's wallpaper, while a borrowed view toward the roof garden next door enhances the interior.

Inside, there aren't many walls, either. "In a sense, it is like a one-room

LOFT LIVING
While a clear glass partition hardly separates the bathroom from the sleeping area (above), terraces on the south-facing facade provide a modicum of screening from the street and double as sun-shading devices (opposite).



house,” explains Fujimoto. This vertical “room” is actually 21 individual floor plates that delineate functional areas. Ranging in size from 21 to 81 square feet, the various levels are linked by an assortment of stairs and ladders in addition to short runs of fixed and movable wooden steps.

At grade, the house begins with a covered carport and entrance. The foyer leads down to the guest quarters and up to the kitchen. Abutting a slotlike dining space, the kitchen segues into the living area, a large platform that expands into a series of small, raised lofts that double as seating or work surfaces. Overhead, the sleeping area adjoins the library, followed by a sunroom and multiple tiny terraces. Higher still, a dressing area leads up to the bathroom, which crowns the house.

While the absence of walls, both inside and out, posed a number of practical challenges, the unimpeded flow from one level to another does make the interior feel spacious. Fujimoto installed in-floor heating within some of the horizontal platforms and subtly embedded electrical outlets in the main areas. He concentrated the HVAC and plumbing equipment, storage, and lateral bracing in the thick, north-facing wall at the rear of the house. Then he

tucked additional lateral bracing in a full-height bookshelf and lightweight concrete panels inserted into the side elevations.

According to consulting engineer Jun Sato, “In our first meeting the shape of the building was almost fixed, but there was no clear structural direction.” Sato proposed a slender, steel frame system to complement the house’s cellular composition and floating floor plates.

Elegant in its simplicity, the structure consists of 1-inch-thick, corrugated-steel deck plates plus solid 1.4-by-2.4-inch rectangular beams and 2-inch-square columns—all assembled on-site with welded joints exclusively. The solid sections of these components required careful temperature control during welding to avoid steel shrinkage. Below grade, the columns are embedded in the concrete foundations anchored to steel piles.

Because of the delicacy of Fujimoto’s architecture, Sato went to great lengths to minimize the dimensions of the structural components. While the placement of the individual floors determined the columns’ gridlike configuration, the slabs’ short spans enabled the design team to reduce the column size and deck thickness. Cross bracing—0.63-inch-diameter round pipes where exposed and flat

CREDITS

ARCHITECT: Sou Fujimoto Architects – Sou Fujimoto, principal; Takahiro Hata, Keisuke Kiri, Masaki Iwata, design team

ENGINEER: Jun Sato Structural Engineers

GENERAL CONTRACTOR: HEISEI Construction

CONSULTANTS: Vectorworks (CAD)

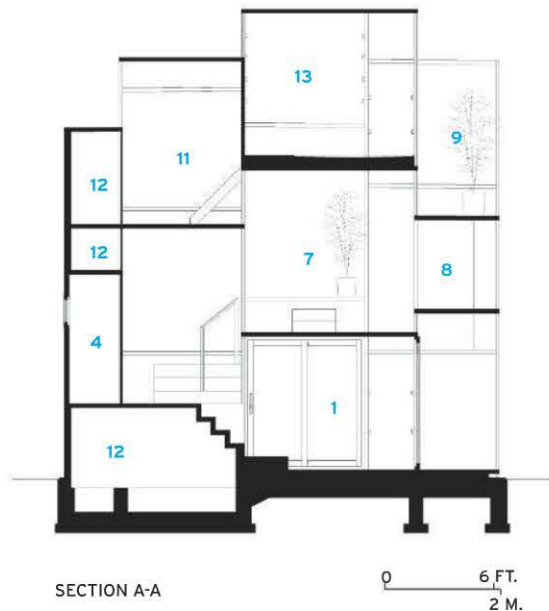
CLIENT: withheld

SIZE: 914 square feet

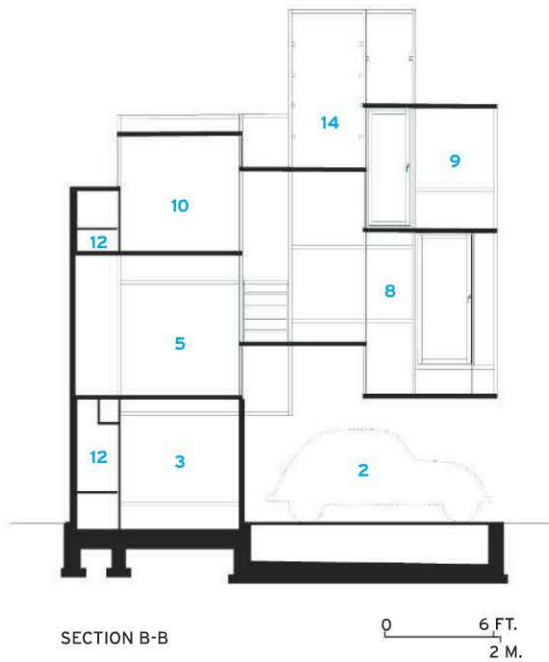
COMPLETION DATE: October 2010

SOURCES

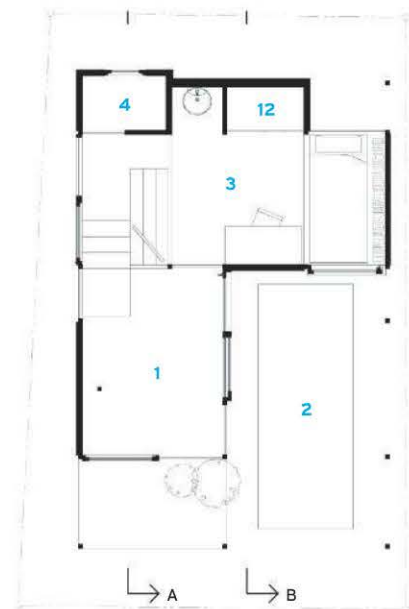
GLAZING: Nippon Sheet Glass (10-mm float glass with photocatalytic coating and insulation film)



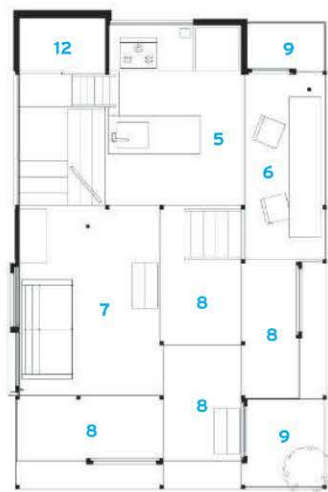
SECTION A-A



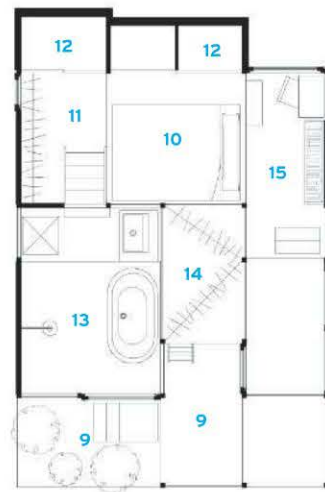
SECTION B-B



FIRST FLOOR



SECOND FLOOR



THIRD FLOOR

- 1 ENTRY HALL
- 2 CARPORT
- 3 GUEST AREA
- 4 WC
- 5 KITCHEN
- 6 DINING
- 7 LIVING AREA
- 8 LOFT LEVELS
- 9 TERRACE
- 10 BEDROOM
- 11 DRESSING AREA
- 12 STORAGE
- 13 BATH
- 14 LAUNDRY ROOM
- 15 LIBRARY

DESIGN INTENT Outside, House NA reads as an assemblage of cubic forms (top). Following in the footsteps of Japanese tradition, shoes are removed at the entry, enabling the platforms to function as much more than floors. For example, the living area floor becomes a seat when the adjacent loft floor becomes a work area (below).

bars where concealed—not only counter earthquake and lateral forces, they also enabled Sato to reduce the dimensions of the square pillars.

Integral to the architecture, white-tinted birch flooring and stairs blend with the structure and serve as a visual transition to the chunky wood sashes and frames that outline the operable windows. The fenestration, strategically positioned to maximize the flow of fresh air, is the house's only source of ventilation and cooling.

Living in a home as exposed as House NA is not for everyone, not even the architect. “The composition of space—a group of small floors at different levels—is fine for me, but this house would honestly be too open for my personal residence,” admits Fujimoto. His clients even added some curtains and blinds. It seems, for them, privacy is more than a state of mind. ■

Naomi Pollock is RECORD's Tokyo-based correspondent.



Nakahouse | Los Angeles | XTEN Architecture

Nip and Tuck in Hollywood

A Los Angeles firm does reconstructive surgery on a 1960s house to turn it into a glamorous pad for a pair of fashion models.

BY CHRISTOPHER HAWTHORNE



THERE ARE any number of reasons to envy Ryan Burns and his wife, Aline Nakashima. One is the good looks that have made both of them very successful models—Burns for the Ford Agency and Nakashima in the *Sports Illustrated* swimsuit issue, among other high-profile venues. Another is their sheer niceness, so genuine it's almost shocking.

But there is also their house, which might trump both perfect cheekbones and amiability. Perched on a ridge under the Hollywood sign, not far from the Griffith Observatory and adjacent to a publicly owned ravine that will never be built on, it has been remade by Los Angeles firm XTEN Architecture as a case study of compact glamour. Called Nakahouse, after Nakashima, it has unrivaled views and a sleek all-white interior. But at 1,890 square feet, it is superefficient, packing a remarkably complex spatial experience into a small container. The place feels as though it could be folded up and slipped into your pocket.

Burns came to the door of the house one morning in February, smiling and game to lead a tour but clearly exhausted, having been out late the night before with Nakashima at a couple of

Academy Awards parties. She was already up and out the door, leaving Burns to greet Austin Kelly, the architect who founded XTEN in 2000 with his wife, Monika Hafelfinger.

Burns and Nakashima bought a different, adjacent house on this ridge in 2005, which they still own. Looking for a way to expand and turn that house into a guest cottage, the couple bought this place five years ago. Built in the 1960s, it had been owned by the same woman for decades and was decorated in a mixture of Canyon Hippie and Cluttered Chalet. "It had this hanging fireplace and barely any windows," Kelly says.

XTEN started remaking the house without adding any new interior square footage, which would have triggered a long list of code requirements and hillside building restrictions. Burns had already started taking down some interior walls, and the architects accelerated that process, adding glass on nearly every elevation and opening the master bedroom on the north edge of the house, in particular, to the outside.

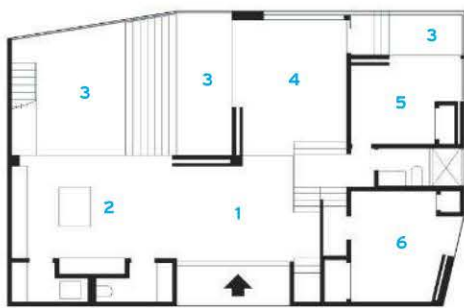
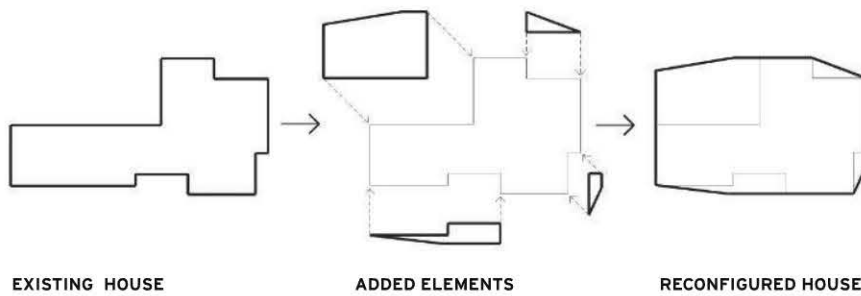
What turned this project from a remodel into a complete reinvention were two bigger moves. One was to slide a

SUPER MODEL
Thanks to a black thermoplastic membrane wrapping its exteriors and sleek, white interiors, the house has a strong graphic presence among the Hollywood Hills.

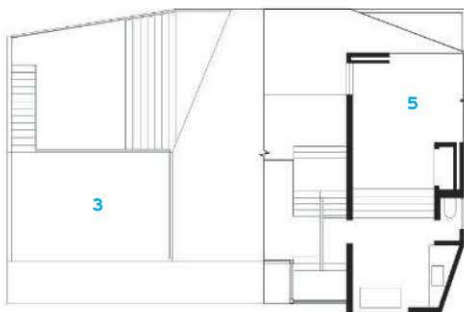




- 1 DINING
- 2 KITCHEN
- 3 DECK
- 4 LIVING
- 5 BEDROOM
- 6 OFFICE



FIRST FLOOR



SECOND FLOOR

500-square-foot terrace and wide outdoor stair next to the kitchen on the south end. This insertion creates an outdoor connection between the living room and the kitchen, and another between the living room and a large rooftop deck. Perhaps most important of all, it turns the multilevel nature of the existing house from a drawback into a major amenity.

“Most of the modern houses on these hill-sides are just one interior plane supported by a couple of columns, which makes their views mono-directional,” Kelly says. “What you don’t get is any tension, like we get in this house, between views in various directions.”

The second move was to treat the exterior (and to a lesser extent the interior) as a single architectural volume. Kelly and Hafelfinger decided to wrap the structure in new plaster and the roof in a thermoplastic membrane; Burns suggested they paint the whole thing black, roof and all. While that gesture increases the maintenance required—Burns plans to have the roof resealed once a year—it has produced a house of uncommon graphic strength and legibility. The architects tucked all of the gutters on the inside of the roofline to further streamline the exterior profile.

“Early on we knew we had to treat it as a single piece,” Kelly says. “It was a really important thing for such a small building that it look completely uniform from the outside.”

Finishes inside are similarly monochromatic, though all white instead of black. The floors





are concrete epoxy, the cabinets lacquered to a high sheen. Though hidden on the outside, the original wood roof beams are exposed inside (but painted white like everything else). The open interiors and operable clerestory windows on the upper level create natural ventilation, eliminating the need for air-conditioning.

While the existing house and the way it grew out of the hillside offered no shortage of constraints, it also made XTEN's innovation work here. "You'd never be able to build any house at all on this site today, given the way the hillside codes have changed," Kelly says. Working with the existing structure also kept costs down; Kelly says the project was completed for roughly \$250 per square foot. There is some new steel belowground, but the rest of the new framing is wood. Kelly says the firm's experience in building hillside houses in Los Angeles, many with tight budgets, has given it a resourceful attitude about structure.

"Other architects might look at a project like this and see it as a formal exercise," Kelly says. "They would frame the entire thing in steel, because of the shape. On most of our houses we couldn't afford steel, so we had to figure out how to do it with wood." If you're willing to spend the time to really understand structure, he adds, "it's astonishing how little you can build for in L.A." ■

Christopher Hawthorne is the architecture critic of the Los Angeles Times.

LIVING BIG
Although just 1,890 square feet, the house feels bigger because interior spaces such as the living room (above) and kitchen (left in photo at right) flow directly into new decks and terraces. The architects used the difficult hillside site to create a range of outdoor spaces on different levels (opposite top). The main entry is on the uphill side (opposite bottom).



CREDITS

ARCHITECT: XTEN Architecture – Austin Kelly, Monika Haefelfinger, Scott Utterstrom, Jae Rodriguez, Qichen Cao, Karin Nelson, Joseph Tran, Karin Von Wyl, project team

ENGINEERS: Axial Engineering (structural)

CONSULTANT: CY Geotech

GENERAL CONTRACTOR: NWGC

SIZE: 1,890 square feet (interiors); 945 square feet (terraces); 2,835 square feet (gross)

COMPLETION: March 2011

SOURCES

VENETIAN PLASTER: Meoded

ELASTOMERIC ROOFING AND SURFACING: Sarnafil

METAL WINDOWS: Milgard

EPOXY CONCRETE ON DECKS: Dex-O-Tex

House Roces | Bruges, Belgium |
Govaert and Vanhoutte Architects

Belgian Modern

Outside the medieval city of Bruges, an architect designed a shimmering glass pavilion for himself and his family.

BY SUZANNE STEPHENS





BRUGES MAY be best known for its centuries-old stepped-gable structures edging cobblestoned streets and narrow canals, and for its urban squares enclosed by idiosyncratic Gothic and Flemish Renaissance buildings. Nonetheless, the small Belgian port has produced at least one architecture firm that leans not to the earthy romanticism of the medieval picturesque, but to the transcendent romanticism of the Modern Movement.

Benny Govaert and his partner, Damiaan Vanhoutte, who founded a practice in Bruges in 1989, have adhered to the crisp geometries of modern pioneers such as Mies van der Rohe and Le Corbusier since their architectural studies at the Higher Architecture Institute in Ghent. “We also love Richard Neutra’s and Rudolf Schindler’s California houses in the Hollywood era,” adds Vanhoutte. In recent years the two architects have attracted attention for their poured-concrete, low-rise, rectilinear volumes found in the D-Hotel in nearby Marke (2009), and the award-winning visitors center for the World War I Tyne Cot Cemetery (2008), near Ypres.

Govaert longed to live in a house of his own design, and fortunately his wife, Martine Neirinck, was sympathetic: as a photographer and the architects’ office manager she was at home with Govaert & Vanhoutte’s unswerving allegiance to minimal and austere geometries. Govaert found a narrow 230-by-99-foot slice of land in a sylvan residential area on the outskirts of the historic city for which he would design a

GLASS PAVILION

On the narrow slice of property (above), Benny Govaert inserted a 14-foot-high glass rectangular house for himself and his family.

The two levels of the bedroom wing at the rear of the house step back to make room for a 7.5-foot-wide lap pool (opposite), of which 4.5 feet is covered by the pavement.

At the front of the house a large glass panel (right), 13.5 feet high, pivots open to allow access to the outdoors.





2,874-square-foot house for his family, including a young son and daughter. Responding to the grassy, tree-studded property, the architect-client opted for the ineffable transparency and translucency of glass that would make the house dissolve into its natural setting. "As a starting point I placed the long [168 feet] and narrow [23 feet] glass box against a wood back wall at the northeast edge of the property," he says. The living areas face south and west onto the tree-shaded lawn through an expansive, floor-to-ceiling wall of glass.

In his desire to keep the rectangular form intact, Govaert carved into the overall volume in three places: First he cut a large notch for the driveway to the underground garage; then

he took a slice out of the northwest corner to create a lap pool that skims past the bedroom wing; and finally he made a small incision between the bedroom wing and the rear wood wall for a back entrance.

The architect wanted to retain the flat, horizontal roof plane at a 14-foot height above-ground for the full length of the steel-frame house. In order to fit bedrooms and a family room into the single volume, he created two levels, with a lower one (containing the master bedroom and the family room) sunk a half-level below grade. Since this bedroom wing jogs 6 feet back to accommodate the lap pool, not only does the lower level receive light, but it has an intriguing view overlooking the water's edge.



INTO THE WOODS

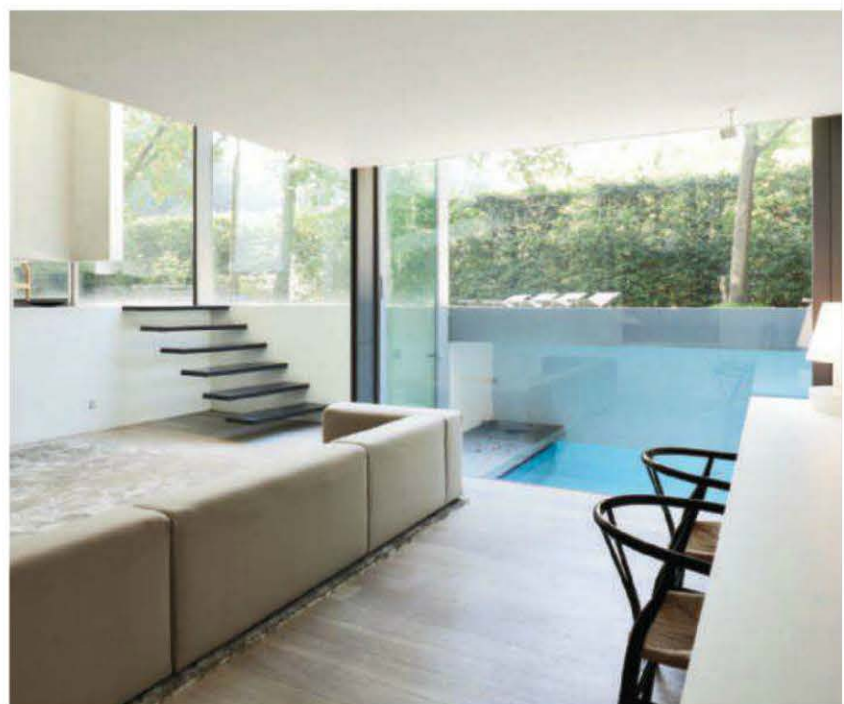
The elongated kitchen faces directly onto the tree-studded lawn (opposite).

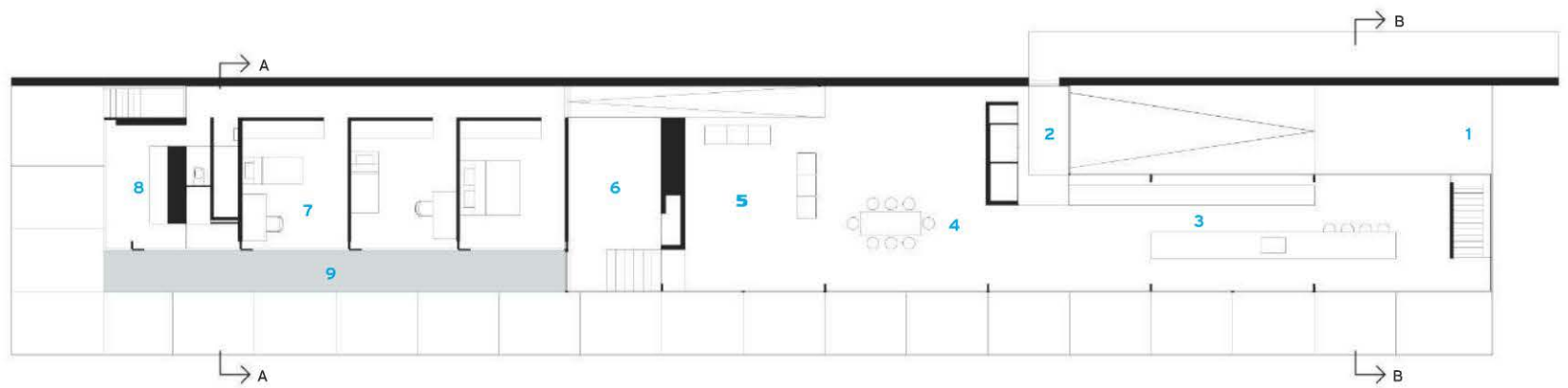
The concrete chimney wall of the living area (above) is suspended over the hearth. A ramp on the northeast side of the house leads up to the second-level bedrooms for the son and daughter.

From the living area cantilevered metal treads lead down to the lower-level family room (right). The soffit under the second-level bedrooms belies the fact that the room soars to a 21-foot height.

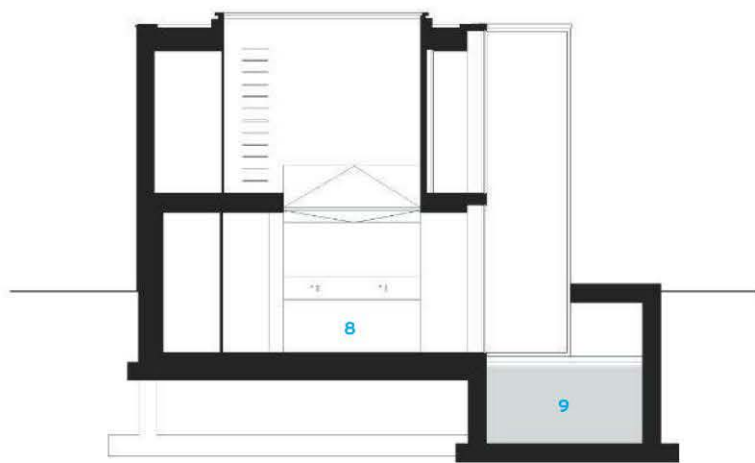
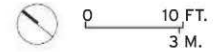
As you enter the house views unfold: From the street you see only a glass end bay of the kitchen, a driveway, and the narrow profile of the whitened African teak back wall. The “front door”—actually a floor-to-ceiling narrow panel in the wood wall—opens into a glazed vestibule bridging the driveway. Stepping into the kitchen/dining area, you are drawn visually to the smooth, flat lawn through 9-by-13½-foot glass panels attached to bladeliike steel columns.

The legendary Modernist compulsion to align all joints according to severely meticulous arithmetic measurements is much in evidence: You may notice the generous basalt floor pavers (3 by 4½ feet) line up precisely





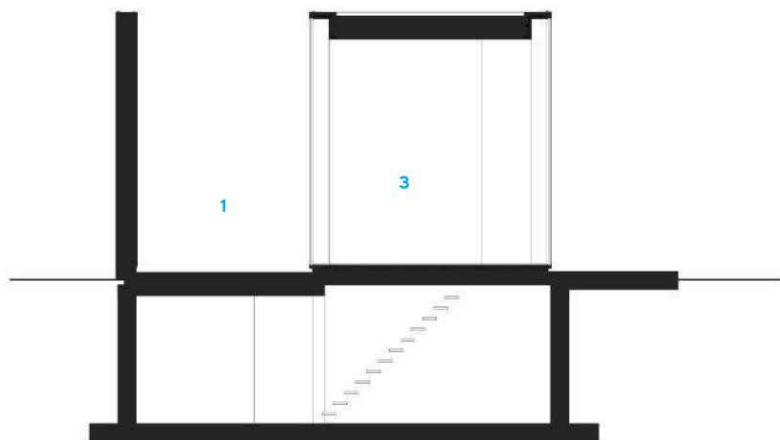
GROUND FLOOR PLAN



SECTION A

0 6 FT.
2 M.

- 1 DRIVEWAY
- 2 ENTRANCE VESTIBULE
- 3 KITCHEN
- 4 DINING AREA
- 5 LIVING AREA
- 6 FAMILY ROOM
- 7 BEDROOM
- 8 BATH
- 9 POOL



SECTION B

0 6 FT.
2 M.

with the butt-jointed glass walls; the length of the dining table (12 feet) echoes the width of the kitchen's service block. We could go on.

From the dining area, you are pulled into the living room, where a concrete chimney wall floats above the fireplace hearth. (A steel beam perpendicular to the suspended wall carries the load to the poured-concrete substructure of the family room a half-level down.) Descending a stair's metal treads cantilevered from the perimeter wall, you find yourself in a family room that soars to a 21-foot height. "I wanted to emphasize extreme horizontal and vertical spaces in the house," Govaert says. The master bedroom behind the family room is smaller and more secluded. It, too, overlooks the lap pool.

By ascending a ramp from the living room, you can find the bedrooms of the son and daughter each individually decorated—and awash in colorful art and personal objects. While Govaert intended the rear wall to be solid for the full length of the house, with the glass bar extruded from it, he cut out a large glazed opening in this taut wood plane on the east side of the ramp. "Actually, I didn't want to puncture the wall with an opening," says the architect. "But Martine insisted, and she's right. It brings more light and view to the family room."

Back in Bruges, bridges replace modern ramps; cobblestones substitute for basalt pavers, and stone and brick abound, rather than glass. There is much to marvel at in the city's rich architectural stew of spires, scrolls, serpentine contours, and craggy textures. Yet the memory of Benny Govaert's glass pavilion surrounded by grass and trees lingers as a soothing tonic: ethereal, elegant, and transporting. ■



EXTERIOR INCISIONS

The driveway leading to the garage belowground is carved out of the rectilinear volume on the street side of the house (above).

For the front door, Govaert cut out a panel in the back of the wood wall from which the glazed living spaces are extruded (above right). The door opens onto a glazed bridge overlooking the driveway (above).

Another incision in the rectangle accommodates the long lap pool by the bedroom wing (right).



CREDITS

ARCHITECT: Govaert & Vanhoutte – Benny Govaert, principal in charge

ENGINEERS: Claes Engineering (structural)

CLIENT: Benny Govaert and Martine Neirinck

SIZE: 2,874 square feet

COMPLETION DATE: February 2010

SOURCES

STEEL FRAME: Liebaert Staalbouw

METAL AND GLASS CURTAIN WALL, GLASS, ENTRANCES, METAL DOORS AND SLIDING DOORS: Lootens Line

CONCRETE SLABS: Eddy de Mey Oostende

LIGHTING: Delta Light Belgium

CARPET: B.I.C.-Carpets

Genius Loci | Montauk, New York | Bates Masi Architects

Out There

On one of Montauk's highest elevations, a beach house hugs the hill to make way for the views.

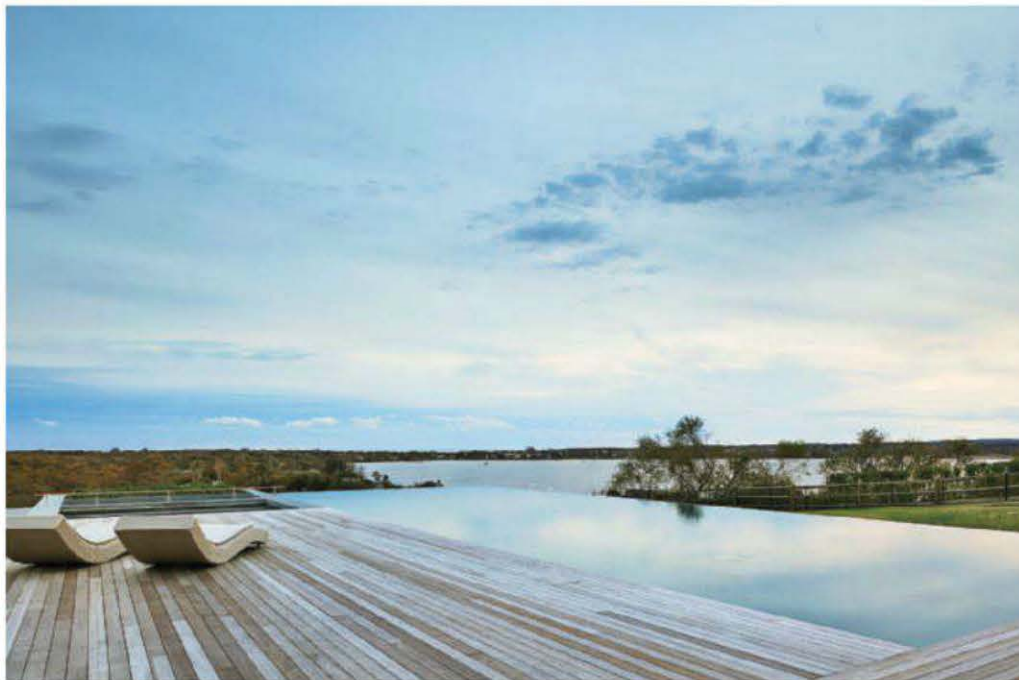
BY LAURA RASKIN





TWIN PEAKS What appears to be two ranch houses (left) is one wedge-shaped volume connected by a bridge on the upper level. The house is situated on a former horse ranch.

The pool offers views out to Lake Montauk and the Atlantic beyond (below).

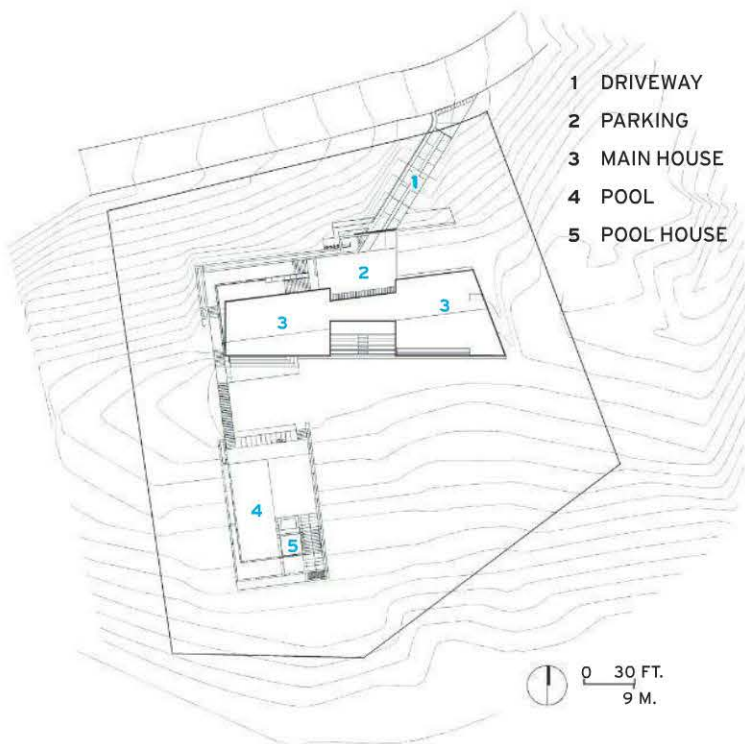
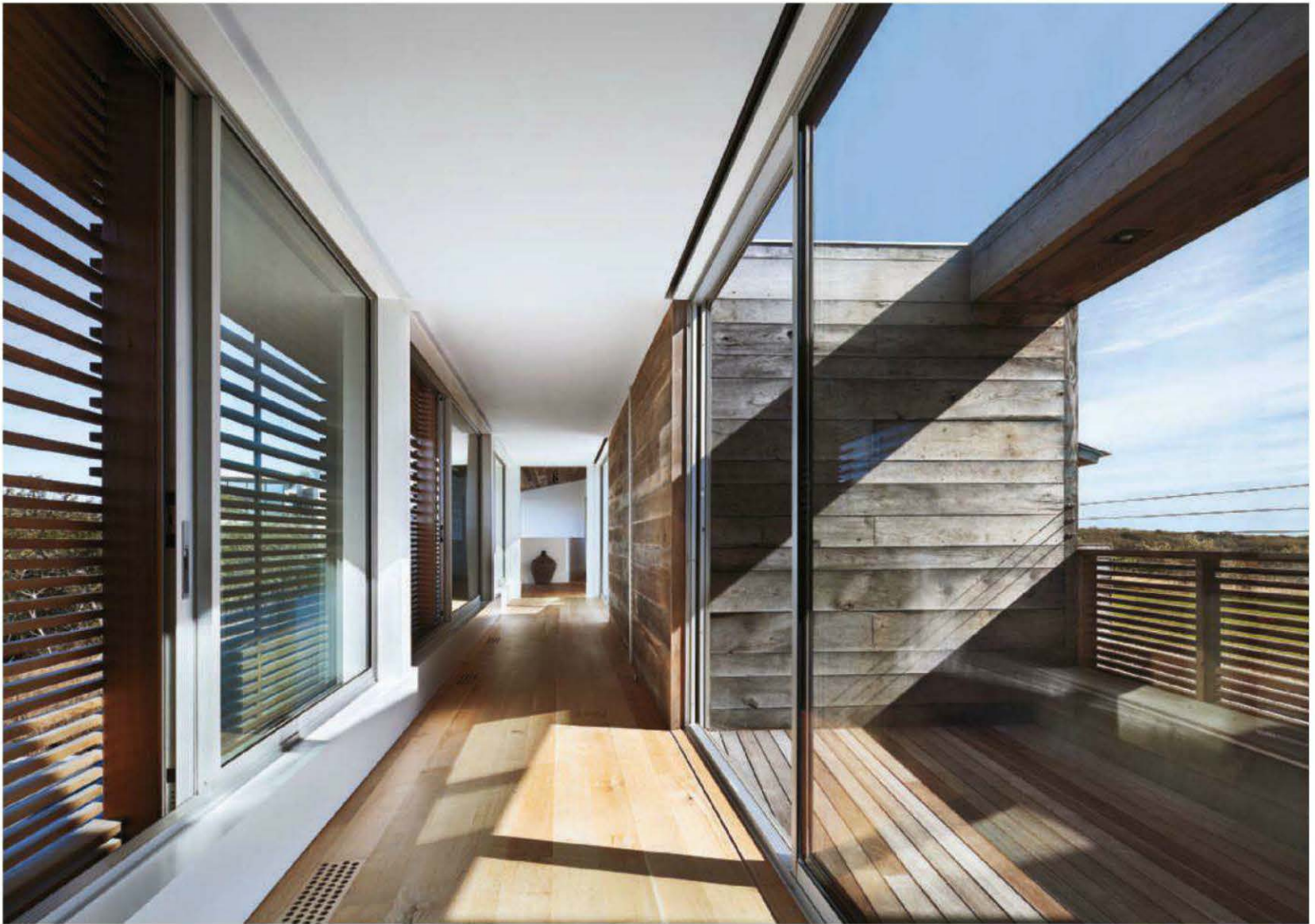


THE EASTERN END of Long Island, New York, is famous for Modern houses by Richard Meier, Charles Gwathmey, and Gordon Bunshaft, among others. Each of these architects designed odes to the summer vacation early in their careers, their experiments encouraged by affluent clients and dramatic views characteristic of the area. The East End has been a summer colony since the late-19th century when, notably, McKim, Mead & White were designing Shingle Style cottages here. Stanford White's Montauk Association houses, built in the 1880s according to a site plan by Frederick Law Olmsted, are one famous example.

Montauk, New York's easternmost town, remains the Hamptons' scruffier sister. Its strange mix of high and low combines motels, diners, and beach shacks with Andy Warhol's estate. Rick Scanlon and Alicia Zarou Scanlon, a businessman and art dealer who live in Singapore with their two children, liked this funky juxtaposition. After years of renting in Montauk, they purchased a roughly 3½-acre site on a hill with views of the Atlantic, Lake Montauk, and Gardiners Bay. Then they turned to Bates Masi Architects, a Sag Harbor-based firm, to design a house that would combine the weather-beaten vernacular with Modernism.

The result, which the architects dubbed *Genius Loci*, is modest on first glance: two cedar-shingled ranch houses connected by a bridge. "We didn't want to be the big house on the top of the hill," says Paul Masi, one of the firm's principals along with Harry Bates. Neither did the clients. Instead, the 7,000-square-foot house hugs one side of the hill, and its luxuries, of which there are many, reveal themselves slowly.

What appears to be two ranches actually is one wedge-shaped steel and wood-framed volume. Public and private spaces are separated by a 40-foot-long bridge. On the upper level of the main house, the architects placed the kitchen, dining room, and living room in the narrow end of the wedge with views of a meadow leading to the water. They took the traditional gabled roof and set the ridge



SITE PLAN

BRIDGING THE GAP

A bridge (above) clad in tapered cedar boards connects public and private spaces, provides views, and maintains privacy. On the lower level (top right), a sculptural wood screen functions as a gallery wall and guardrail.

A set of bluestone bleacher steps (opposite right and far right) beckons visitors when they arrive and awards them with views of the ocean.

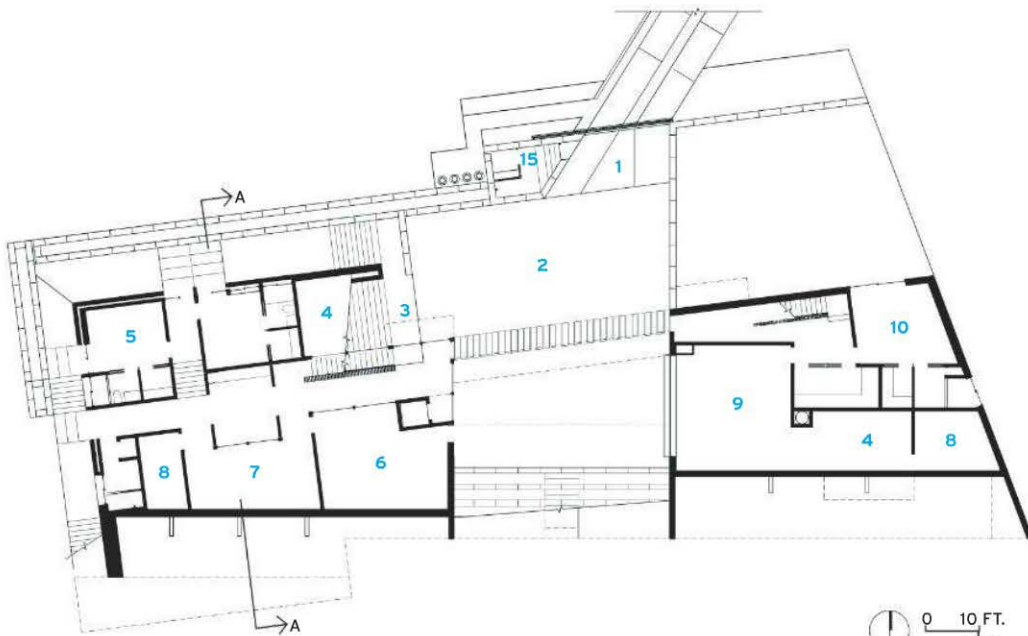
off-center to focus the view outside. This spatial trick is underscored by floorboards that narrow gradually toward the west.

Masi and his team sank the lower level into the hill for a garage, laundry room, and maid's room. These are connected by a long hallway to a gym, guest room, and playroom. Living on a hill makes privacy an issue when the summer is in full swing, says Masi. Copious glazing in the house is balanced by creative screening, such as the tapered cedar boards that clad the bridge and clerestory windows on the lower level.

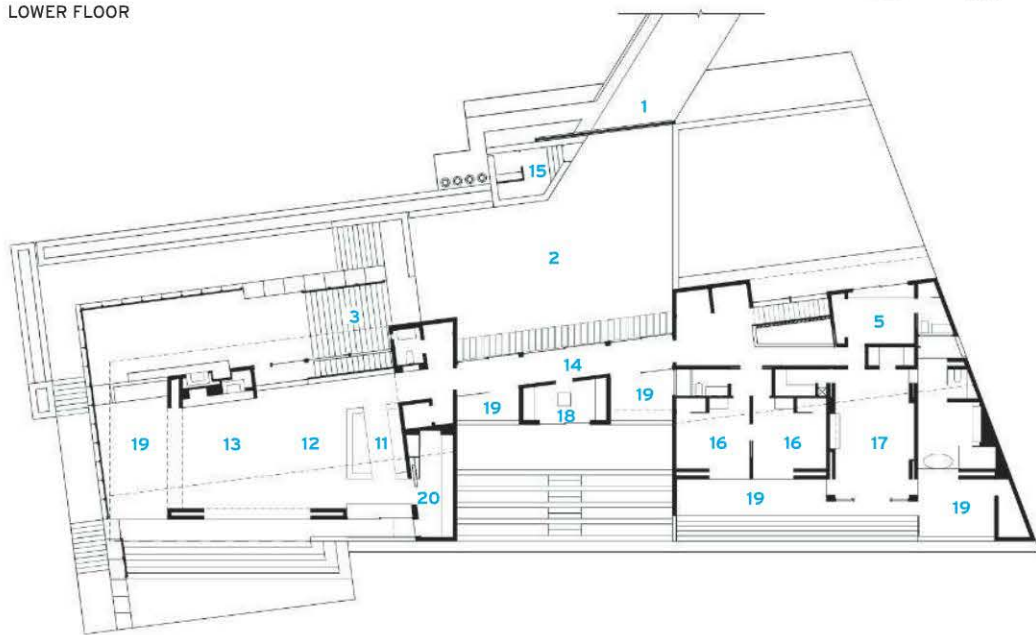
Since the Scanlons host numerous guests and parties in the summer, the architects wanted to create moments of discovery, with multiple points of entry to the house and landscape. One of the most dramatic: the bluestone bleacher steps set into the hill underneath the bridge. The surprise reward after the climb up is an expansive view of the meadow and water. Alternatively, from the parking area, visitors can mount another set of stairs to an outdoor fireplace, patio, and entrance.

In designing Genius Loci, Masi and his team thought about what makes Montauk "unexpected," a word he repeats often about the place and the house. "Montauk has a certain sense of drama to it," he says, as well as different weather phenomena. "All of a sudden it's socked in with fog, while it's sunny in Amagansett a few miles west." Masi, 40, grew up on Long

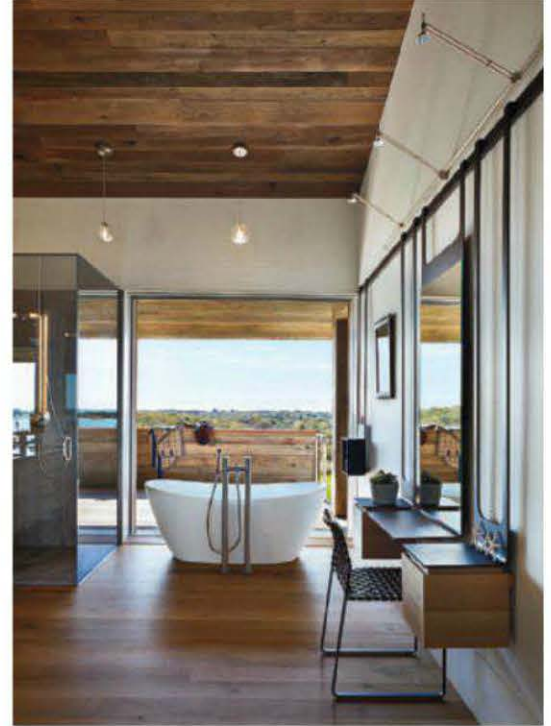




LOWER FLOOR



UPPER FLOOR



VIEW Sliding glass doors allow bathers to enjoy breezes and views in the master bath (above). The architects were inspired by horseshoes when designing the blackened stainless steel shelving, which also appears in the kitchen.

In the dining/living room (top right), the off-center peak in the gabled roof—combined with floorboards that narrow toward the west—focus the view outside. Pocket doors slide open to create a covered terrace. Rough-sawn oak, alluding to the property's previous life as a horse ranch, is seen throughout, including in the children's rooms and the master bedroom (bottom right).

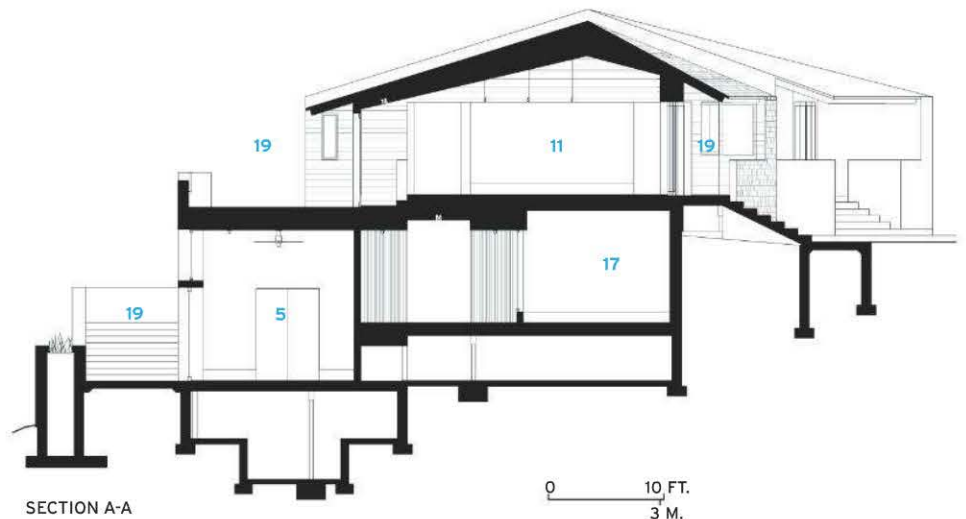
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|-----------------|--------------------|
| 1 DRIVEWAY | 11 KITCHEN |
| 2 PARKING/ENTRY | 12 DINING |
| 3 ENTRY STAIR | 13 LIVING |
| 4 STORAGE | 14 BRIDGE |
| 5 GUEST ROOM | 15 OUTDOOR SHOWER |
| 6 PLAYROOM | 16 KIDS' ROOM |
| 7 GYM | 17 MASTER BEDROOM |
| 8 MECHANICAL | 18 OFFICE |
| 9 GARAGE | 19 DECK |
| 10 MAID'S ROOM | 20 BUTLER'S PANTRY |

CREDITS

ARCHITECT: Bates Masi Architects – Harry Bates and Paul Masi, principals in charge; Katherine Dalene Weil, Antonio Rodriguez, project team
ENGINEER: Steven L. Maresca
CONTRACTOR: Davis Builders
CONSULTANT: Victoria Pryor (interiors)
CLIENT: Rick Scanlon and Alicia Zarou Scanlon
SIZE: 7,000 square feet
COMPLETION DATE: July 2011

SOURCES

RAINSCREEN: Benjamin Obdyke
WOOD: Old American Lumber, Western Red Cedar
MOISTURE BARRIER: Grace Construction Products
METAL FRAME: Arcadia, Kawneer
GLAZING: Pilkington
DIMMING SYSTEM: Lutron
INTERIOR LIGHTING: RAB Lighting, LaMar Lighting, SELUX, Brass Light, Ingo Maurer, Edge Lighting, Circa Antiques
ENERGY MANAGEMENT: Savant



SECTION A-A



Island, and his parents have owned a kit house with no insulation in Montauk since 1965. Bates, 85, spent 10 years with Skidmore, Owings & Merrill before establishing his own firm in New York City. He moved the firm to Southampton in 1980.

Masi worked for Richard Meier after college and began working for Bates while he was still at the Harvard Graduate School of Design. He moved to Amagansett in 1998 to work for the firm full-time and became a partner in 2000. The firm's 10-person office focuses primarily on regional residential projects.

A rainy day didn't seem to temper Masi's enthusiasm for the town as he drove around the deserted marina in his sand-filled SUV, pointing out Ditch Plains, the scrappy beach famous for its surfing waves. "Besides choosing Bates Masi because of another house of theirs we saw, Paul is a local," says Alicia Scanlon. "He'll put on his wetsuit on January 15 and go surfing. He gets it. He loves Montauk. I think that's ultimately why we chose the firm." Scanlon, drawn back to Montauk because of her memories of childhood summers there, says, "The architects positioned the house so thoughtfully and cared about the views from all different angles and rooms. When I first walked into the house, I started to cry." ■



House Beside a Vineyard | Stuttgart, Germany | UNStudio

Let's Twist

A dynamic study in contrasts, this sculptural villa is a reflection of German tradition and style, as well as of the couple who commissioned it.

BY DAVID COHN



FORM FACTORS

The walls of the house twist and rise over planes of glass. In front, a "natural" pool casts reflected light into the ground-floor guest suite and

living-area nook one flight up (above). The second-level dining room and kitchen look onto the garden, as does the master bedroom above them (opposite).

THERE'S A swirl at the center of UNStudio's House Beside a Vineyard outside Stuttgart, Germany. Principal Ben van Berkel calls it "the twist." Two flights of stairs run diagonally across the square floor plan, crossing over each other in a single, fluid motion as they rise from the ground-floor entry to the living area and up to the gallery and master bedroom. The dynamic energy they impart sets the open living spaces into motion and directs visitors toward the cozy, glazed corners with views of ancient terraced vineyards to the north, or over the rooftops and trees to the south. Above the stairs, a curving skylight caps the sweeping space like the vortex at the center of a whirlpool.

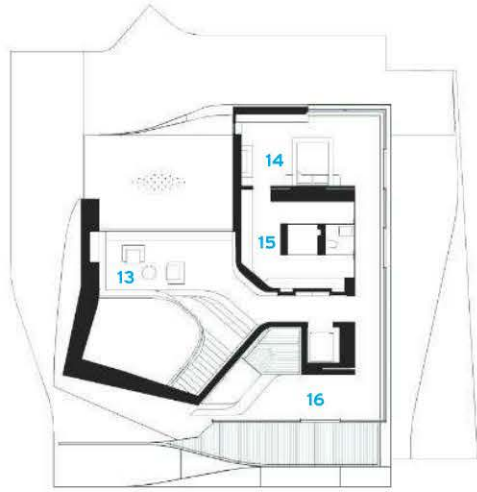
The thrust of van Berkel's trajectory continues out to the facade and roof, both clad in custom aluminum panels, where curves distort every plane. The roof dips at the front of the house in a nod to the steep gables of neighboring houses. At the back, a side elevation curls up over the double-height glazing around the dining room, rising at an angle that mimics the slope of the adjacent vineyards. From the garden, the walls

appear to rise in successive diagonal spans over another glass curtain, as if the entire house were a grand cantilevered stair. In fact, the concrete structure has only four points of continuous vertical support: the elevator shaft, pillars hidden in the kitchen, and two side walls.

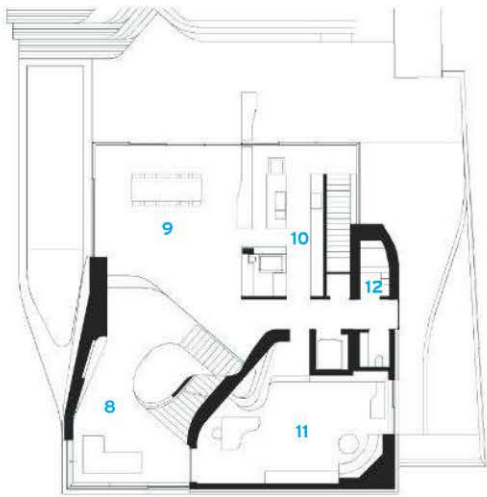
The living spaces spill onto the grounds on all sides, and include two pools next to the window walls that throw shimmering reflections of light to the indoors. Van Berkel used a clay-based stucco with flecks of mica to surface the main interior walls. Washed-oak stair treads, a rough limestone fireplace, and matte limestone floors in the kitchen and dining area offer a tactile sense of rootedness and solidity. "The more you neutralize the material effects, the better the effects of spatial and conceptual organization can operate," he says.

Against this pristine openness, an undercurrent of tension, in the form of closed, static rooms, offers an intriguing glimpse into the lives of the clients—a couple who commissioned the project to replace their existing house on the site. Most

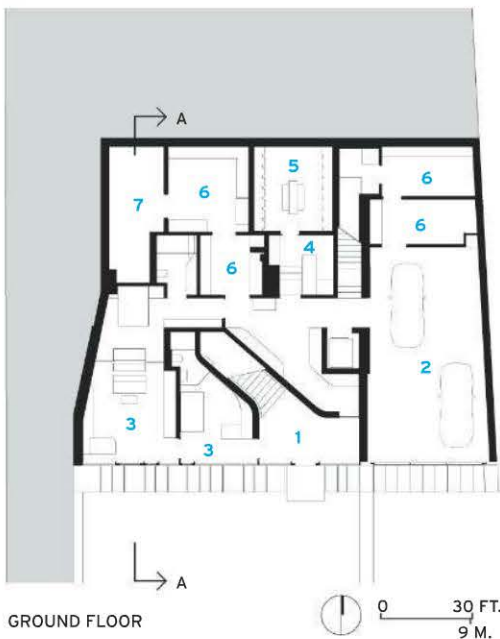




THIRD FLOOR



SECOND FLOOR



GROUND FLOOR

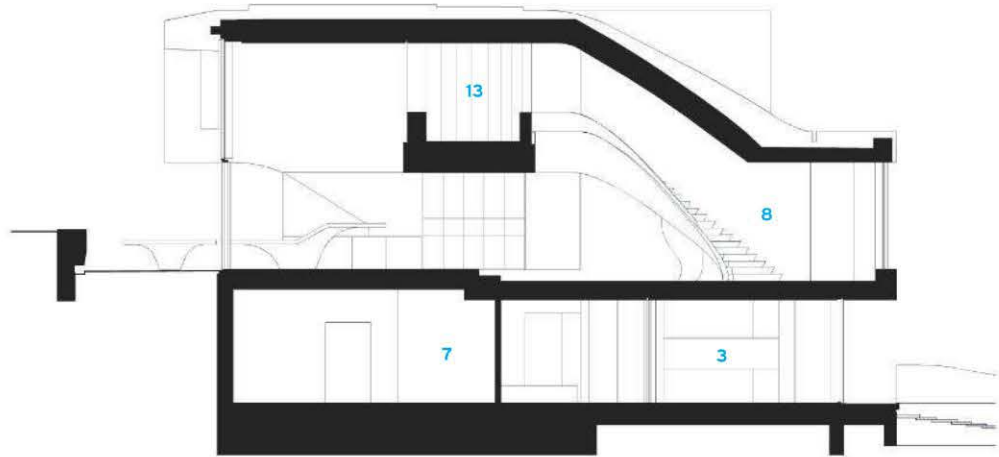
- 1 ENTRANCE
- 2 GARAGE
- 3 GUEST QUARTERS
- 4 WINE-TASTING ROOM
- 5 WINE CELLAR
- 6 STORAGE
- 7 TECHNICAL ROOM
- 8 LIVING ROOM
- 9 DINING ROOM
- 10 KITCHEN
- 11 MULTIUSE ROOM
- 12 DOG SHOWER
- 13 GALLERY/LIBRARY
- 14 MASTER BEDROOM
- 15 MASTER BATH
- 16 WELLNESS AREA

dramatically, a dark multiuse room, off the living area, serves as a *herrenzimmer*, or men's room (a German custom), dedicated to music, masculine conviviality, and the hunt. Here the husband keeps his baby grand piano, traditional leather furniture, and spectacular grouping of big-game trophies. The rippling waves of the architecture repeat in this intimate space like eddies of relief across the ceiling and walls, designed for optimum acoustics. The wine cellar, too, exudes a masculine aura with its archaic vaulted stone ceiling.

This is not to say that the rest of the house is "feminine," or that the clients were divided about the programming and design—a point underscored in the luxurious master suite, with a sauna, sun deck, and combined dressing area and bath, which is neither boudoir nor men's club. According to van Berkel, these "territorial games" offered a welcome challenge: "We mustn't forget that the architect is essentially a territorial invader."

With its square plan and white surfaces, the project brings to mind the classic white houses in the 1972 book *Five Architects* (including works by Peter Eisenman, Michael Graves, Charles Gwathmey, John Hejduk, and Richard Meier), adding the concepts of fluidity and context to their formal investigations of line, plane, and curve. While the formal play of the "Five" creeps with the outmoded mechanics of manual drafting, the warped curves of UNStudio's project bring architectural form into pixelated space, where it can stretch, bend, and turn inside out. ■

David Cohn is a Madrid-based correspondent for RECORD.



SECTION A-A

0 16 FT.
5 M.

CREDITS

ARCHITECT: UNStudio – Ben van Berkel, Caroline Bos, principals; Astrid Piber, senior architect

ENGINEERS: Bollinger und Grohmann, Kraft Baustatik (structural); Aktive Partner Michael Blicke (electrical); Bauer & Ihle (heating/plumbing); Plangruppe

Emhardt (ventilation)

CONSTRUCTION MANAGEMENT: G+O Architekten

CONSULTANTS: Atelier Dreiseitl (landscape); ag Licht (lighting)

SIZE: 9,900 square feet (gross)

COMPLETION DATE: November 2011

SOURCES

ALUMINUM PANELS: Ebener (facade, roof)

CURTAIN WALL: Sky-Frame, Wincona (metal framing); Sanco (glazing)

STAIRS: Boxler Innenausbau & Bodendielen



INNER SANCTUM

Dynamic washed oak stairs flow into the house's open public spaces detailed with limestone kitchen and dining room floors, clay-based stucco walls, and custom downlights in the sloping ceiling (top and far right). The kitchen counter extends through the glass out onto the terrace for al fresco entertaining (right). In contrast, the architects created a dark, acoustically optimized masculine retreat with a baby grand, hunting trophies, and leather furniture (below).



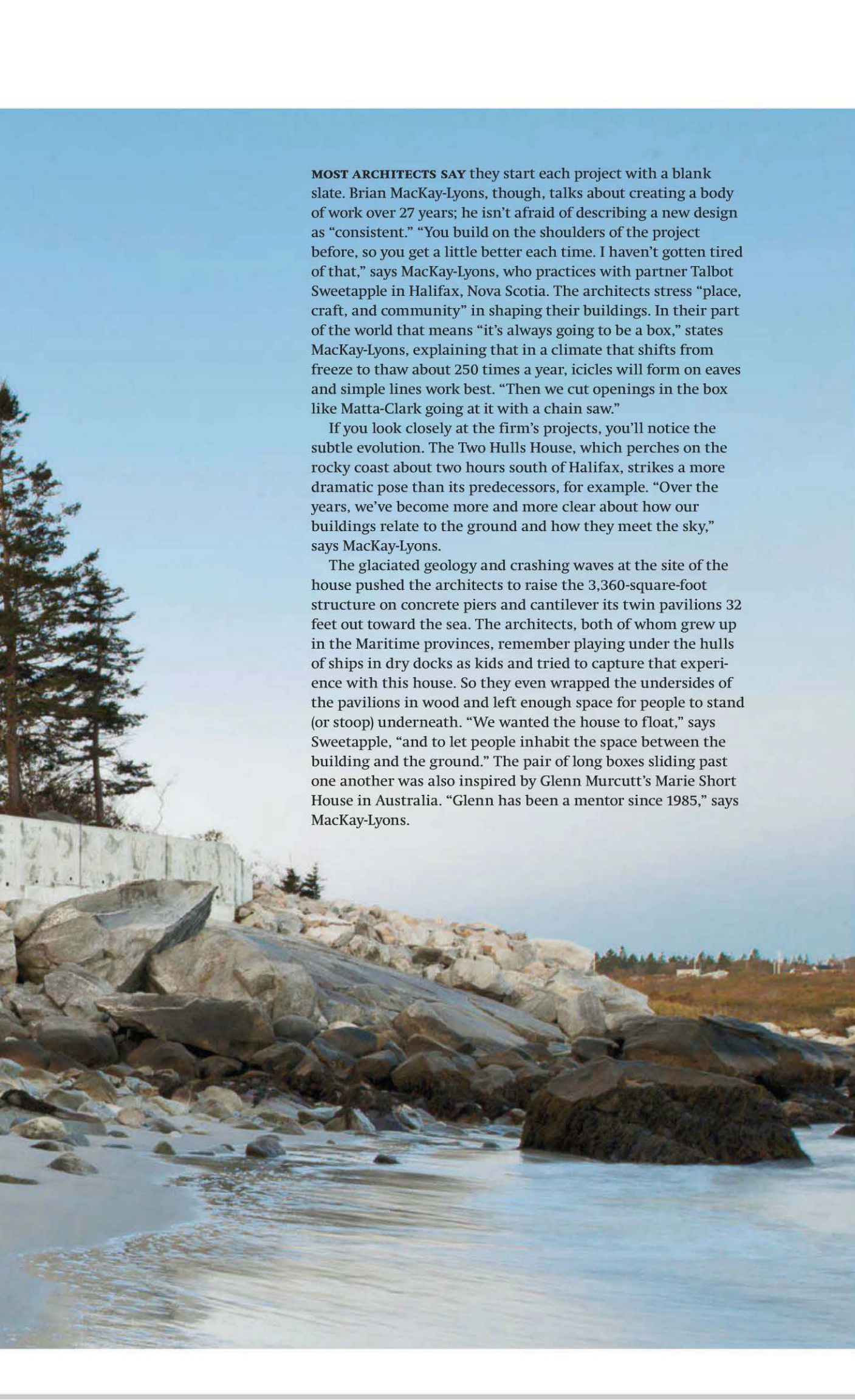
Two Hulls House | Nova Scotia, Canada | MacKay-Lyons Sweetapple Architects

Between the Sea and the Sky

Evoking maritime images and experiences from the architects' past, a house for a young family reaches out to the water.

BY CLIFFORD A. PEARSON





MOST ARCHITECTS SAY they start each project with a blank slate. Brian MacKay-Lyons, though, talks about creating a body of work over 27 years; he isn't afraid of describing a new design as "consistent." "You build on the shoulders of the project before, so you get a little better each time. I haven't gotten tired of that," says MacKay-Lyons, who practices with partner Talbot Sweetapple in Halifax, Nova Scotia. The architects stress "place, craft, and community" in shaping their buildings. In their part of the world that means "it's always going to be a box," states MacKay-Lyons, explaining that in a climate that shifts from freeze to thaw about 250 times a year, icicles will form on eaves and simple lines work best. "Then we cut openings in the box like Matta-Clark going at it with a chain saw."

If you look closely at the firm's projects, you'll notice the subtle evolution. The Two Hulls House, which perches on the rocky coast about two hours south of Halifax, strikes a more dramatic pose than its predecessors, for example. "Over the years, we've become more and more clear about how our buildings relate to the ground and how they meet the sky," says MacKay-Lyons.

The glaciated geology and crashing waves at the site of the house pushed the architects to raise the 3,360-square-foot structure on concrete piers and cantilever its twin pavilions 32 feet out toward the sea. The architects, both of whom grew up in the Maritime provinces, remember playing under the hulls of ships in dry docks as kids and tried to capture that experience with this house. So they even wrapped the undersides of the pavilions in wood and left enough space for people to stand (or stoop) underneath. "We wanted the house to float," says Sweetapple, "and to let people inhabit the space between the building and the ground." The pair of long boxes sliding past one another was also inspired by Glenn Murcutt's Marie Short House in Australia. "Glenn has been a mentor since 1985," says MacKay-Lyons.





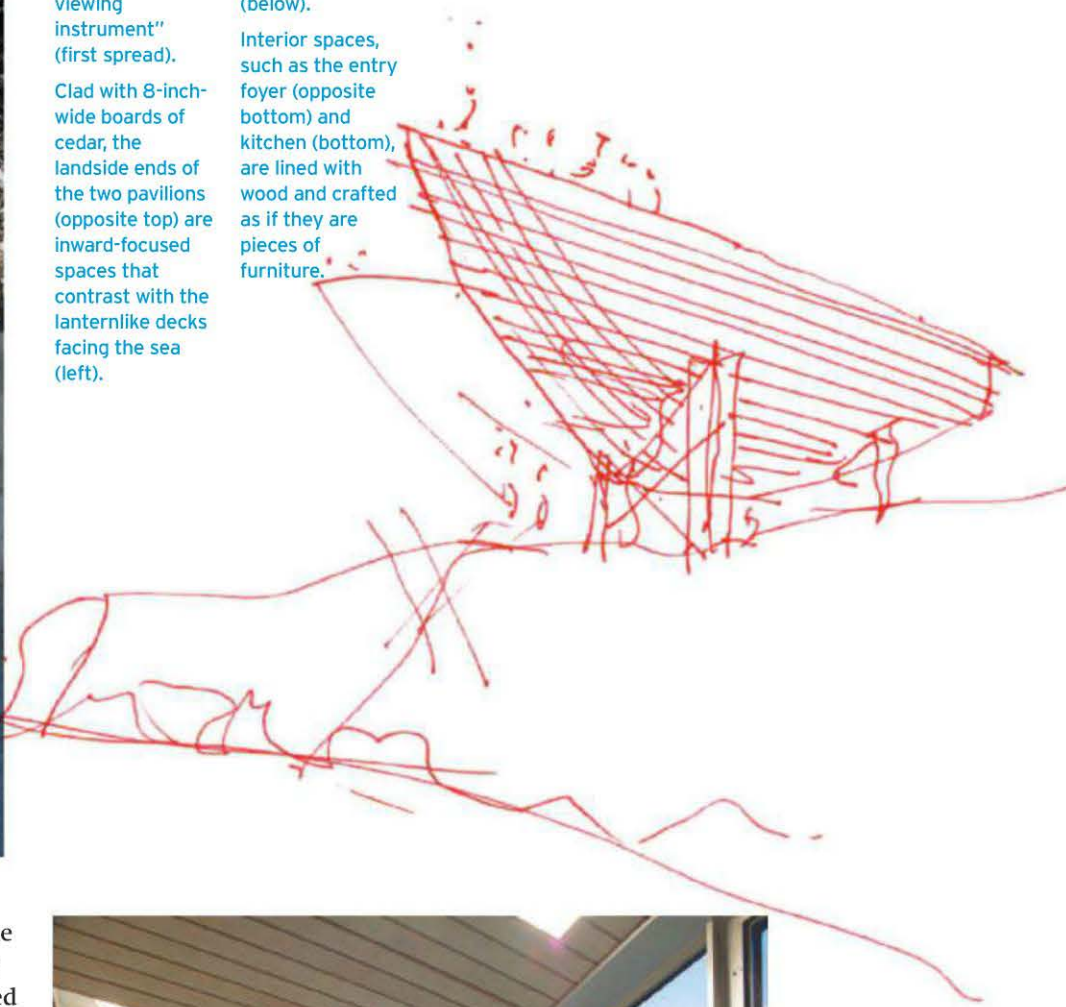
BINOCULARS

The architects call the house a "landscape-viewing instrument" (first spread).

Clad with 8-inch-wide boards of cedar, the landside ends of the two pavilions (opposite top) are inward-focused spaces that contrast with the lanternlike decks facing the sea (left).

A simple drawing shows the inspiration for the design (below).

Interior spaces, such as the entry foyer (opposite bottom) and kitchen (bottom), are lined with wood and crafted as if they are pieces of furniture.



At first, the architects planned to use timber frames for the pavilions and clad them with corrugated metal. But building wood cantilevers would have been expensive, so they switched to steel frames and cedar cladding. To link the two pavilions, they designed a wood-clad block on the landside of the house that pushes through one and just touches the other.

The clients are a couple of doctors originally from Brazil and their two daughters. They have a place in Halifax but plan eventually to use the Two Hulls House as their primary residence. "We fell in love with the coast here," says the husband, "so finding the right place to build [on the 75-acre site] was really important." They settled on a hill that affords views to a pair of sandy beaches on either side of a rocky promontory.

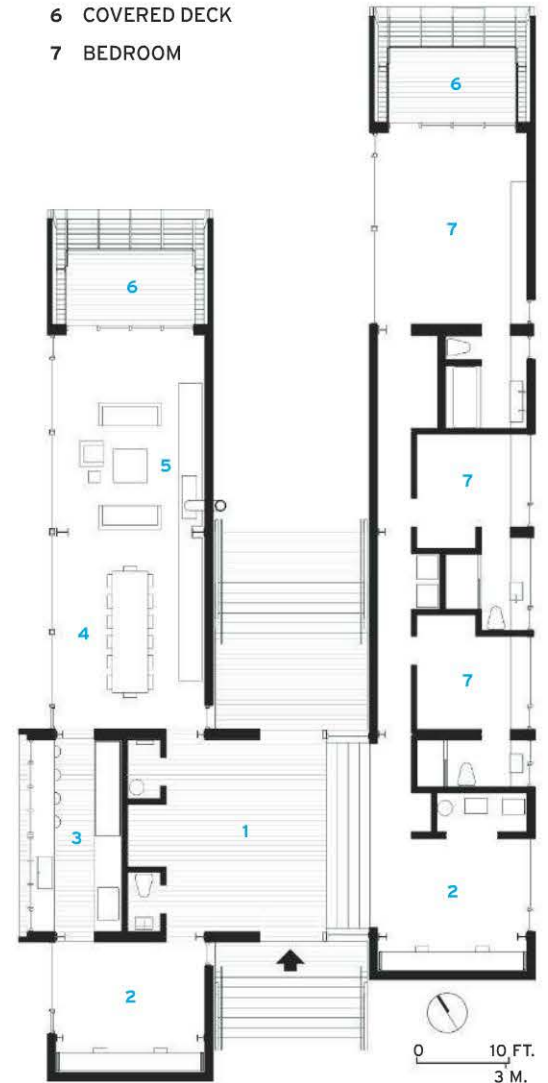
One pavilion serves daytime functions such as living and dining, while the other one houses the bedrooms. The linking block acts mostly as a spacious foyer with a broad set of wood steps up to the night pavilion, while it also pushes through the day wing to define the kitchen. Two studies (one for the kids and one for the adults) anchor the landside of the pavilions, providing cavelike counterpoints to the pair of covered decks that project out to the water. Floor-to-ceiling glazing at the tall end of each pavilion brings in enough daylight to reduce the use of electric lighting, while cross ventilation in the narrow structures eliminates the need for air-conditioning.

"This house is about dwelling in the landscape and knowing where you are in the universe," says MacKay-Lyons. Sitting on one of the decks, staring out to sea or at the stars at night, you certainly feel connected to the great outdoors, even if you can't quite fathom your place in the cosmos. ■





- 1 FOYER
- 2 STUDY
- 3 KITCHEN
- 4 DINING
- 5 LIVING
- 6 COVERED DECK
- 7 BEDROOM



FLOOR FLOOR

CREDITS

ARCHITECT: MacKay-Lyons
Sweetapple Architects – Brian
MacKay-Lyons, Talbot Sweetapple,
Kevin Reid, David Bourque,
Omar Gandhi, Sawa Rostkowska,
Jordan Rice, project team

ENGINEERS: Campbell Comeau
Engineering (structural)

GENERAL CONTRACTOR: Delmar
Construction

SIZE: 3,360 square feet

COMPLETION DATE: November
2011

SOURCES

STEEL FRAME: West Nova

CURTAIN WALL: Alumicor

CABINETWORK: Custom by
Wedgeport

AMBIENT LIGHTS: Sistemalux

DOWNLIGHTS: Lightolier

**PAIRED VOLUMES**

The bedroom pavilion extends farther than the daytime wing (opposite), so its sloping roof rises to 32 feet, 4 feet higher than its sibling.

Concrete floors with radiant heating (left) and a wood-burning fireplace keep the house warm, while cross ventilation aided by remotely controlled clerestory windows eliminate the need for air-conditioning.

The 747 Wing House | Malibu, California | David Hertz Architects

Come Fly With Me

A Boeing 747 reaches new heights as the elements of a residence on the former estate of extravagant set designer Tony Duquette.

BY SARAH AMELAR



PHOTOGRAPHY: COURTESY DAVID HERTZ (THIS PAGE); © SARA JANE BOYERS (OPPOSITE PAGE)



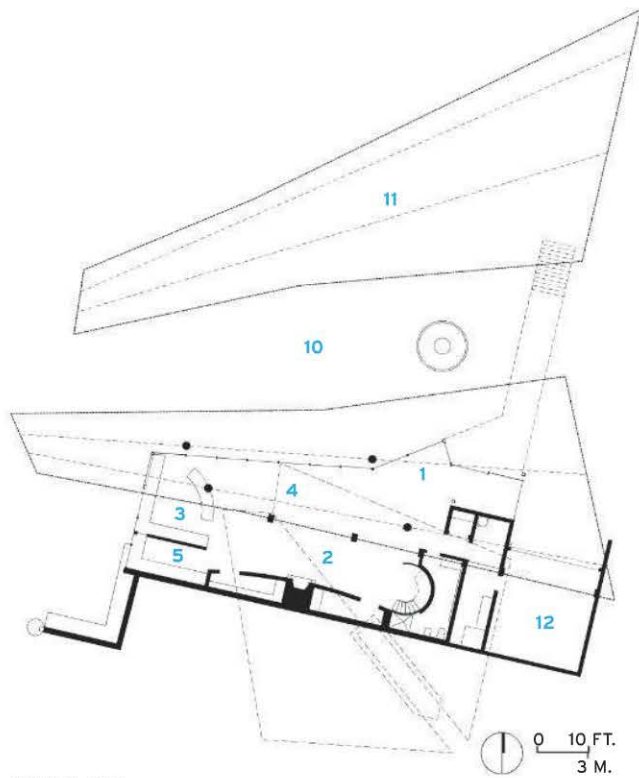
STEP THROUGH the filigreed entry gates, and you've clearly entered another world. High in the Santa Monica Mountains, a driveway descends amid jungly cacti, pink mink and pincushion protea, and fanciful pagodas fashioned from steel drums, cable spools, and vintage power-line insulators. Then, near the path's end, another feat of salvage comes into view: a glassy house crowned by the wings of a Boeing 747.

Amid rugged mountain peaks with distant ocean views, the 55-acre site was once part of "Sortilegium," or "The Empire," the 21-building weekend retreat of Elizabeth ("Beegle") and Tony Duquette, legendary designer of Hollywood sets, costumes, jewelry, and flamboyantly eclectic interiors. A wizard of inventive repurposing, Tony created opulent chandeliers from plastic juice glasses and, on this rustic Malibu terrain, pavilions from stage sets, a junked trailer, and other "found objects"—everything but a 747. In the 1990s, wildfire ravaged the compound, destroying the buildings. Later, the Duquettes died.

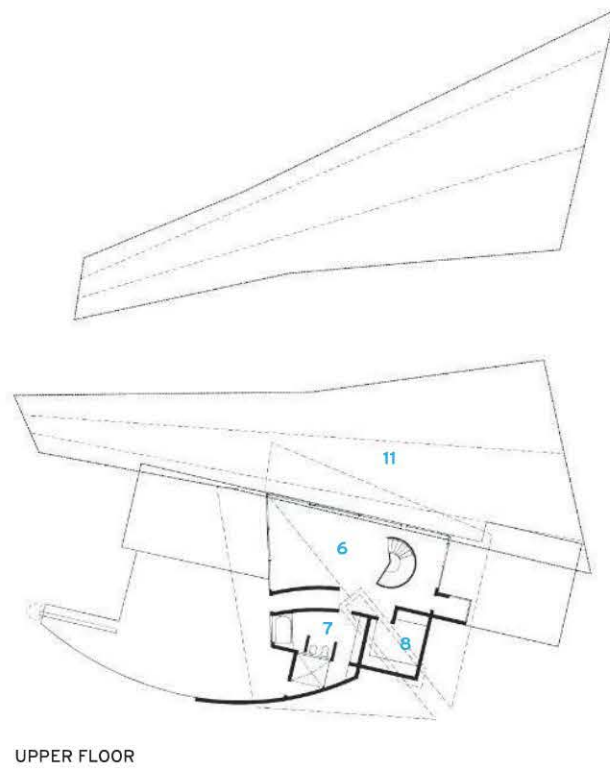
Eventually, Francie Rehwald, a retired Mercedes-Benz dealer, purchased 55 of the 150 acres—and just happened to have the original gates in storage (bought, on a whim, at auction years earlier from an unidentified Duquette project). After interviewing a *Who's Who* of architects, she hired Los Angeles-based David Hertz, who had also been breathing new life into post-

FOUNTAINHEAD a former engine cowling (top right) is now a Zen-like fountain, with an optional flame at its center.

The wing contours (opposite and above right) resonate with the shapes of the Santa Monica Mountains. The architect added long, thin metal strips on the wing tops to disrupt aerodynamic flow and prevent lift.

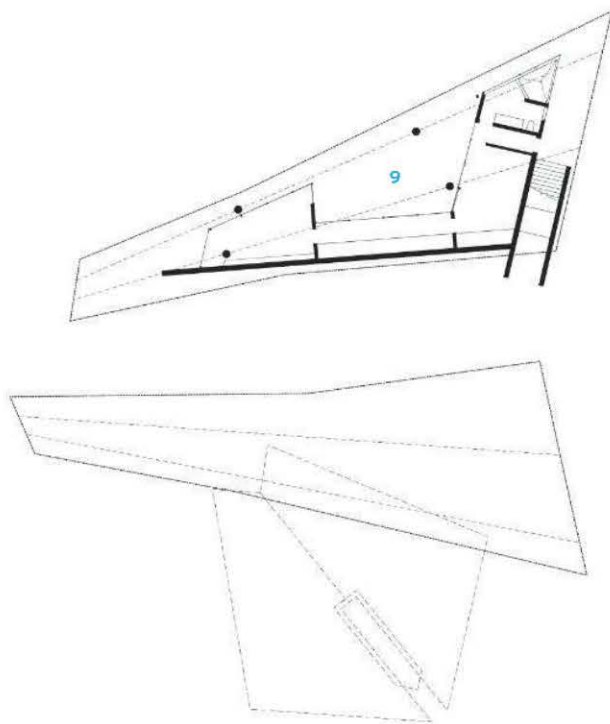


MAIN FLOOR



UPPER FLOOR

- 1 ENTRY
- 2 LIVING
- 3 KITCHEN
- 4 DINING
- 5 OFFICE
- 6 MASTER BED
- 7 MASTER BATH
- 8 CLOSET
- 9 COVERED PATIO
- 10 COURTYARD
- 11 ROOF
- 12 GARAGE



LOWER FLOOR

consumer waste. In 1983, as a 23-year-old, fresh out of SCI-Arc, he created Syndecrete, a lightweight concrete with recycled carpet fibers and aggregates of computer parts, broken glass, chopped-up cassette cases, and other detritus of the material world. But not until he designed Rehwald's house did he salvage an object as monumental as a 747.

On his first site visit, Hertz sketched dramatically cantilevered roofs, gesturing to the landscape (and evoking John Lautner, with whom Hertz had apprenticed). As the roof profiles began to resemble airplane wings, he hit on the idea of creating a house from a partially deconstructed plane. Rehwald had requested an eco-design with "feminine curves," and the 747's voluptuous aero-dynamism sparked his imagination.

Soon, Hertz and Rehwald visited nearby "boneyards": desert "parking lots" for thousands of grounded commercial aircraft. Typically, decommissioned planes get cannibalized for resalable mechanical parts and, ultimately, the metal itself. A new 747 costs at least \$250 million, but Rehwald purchased an intact 1970 model for \$35,000, the price of scrap.

To carve the 230-foot-long "whale" into transportable parts, four men "fileted" off the fuselage's top half and bisected the 125-foot-long wings. Delivery to the site entailed freeway closures and brief helicopter airlifts (to bypass extremely steep, winding roads). These premanufactured parts, says Hertz, offset the transfer's monetary and carbon costs. His design for a 4,700-square-foot main house—with three tiers stepping down a slope—would integrate wings as roofs over the main living area (the mid-level) and guest quarters (at bottom), with tail stabilizers and dual Ronchampian curves over the master suite, at top.

But first, the project needed to clear 17 government agencies (a two-year process) and pass an office visit from suspicious Homeland Security personnel, plus FAA requirements (later retracted) for huge, red "X"s on the roofs to deter pilots from calling in a crash.

CREDITS

ARCHITECT: David Randall Hertz, partner in charge; Lucas Goettsche, project manager

ENGINEERS: M3 Civil (civil); C.W. Howe Partners (structural); Monterrey Energy Group (m/e/p)

CONSULTANTS:

Grover Hollingsworth (geotechnical); Aaron Landsworth (landscape)

CLIENT: Francie Rehwald

SIZE: 5,175 square feet

COMPLETION DATE: October 2011

SOURCES

LIGHTING: BK Lighting (exterior)

GLASS: Crystal Clear Glass (skylights, curtain wall)

HARDWARE: Emtek (locksets)

PLUMBING: Toto

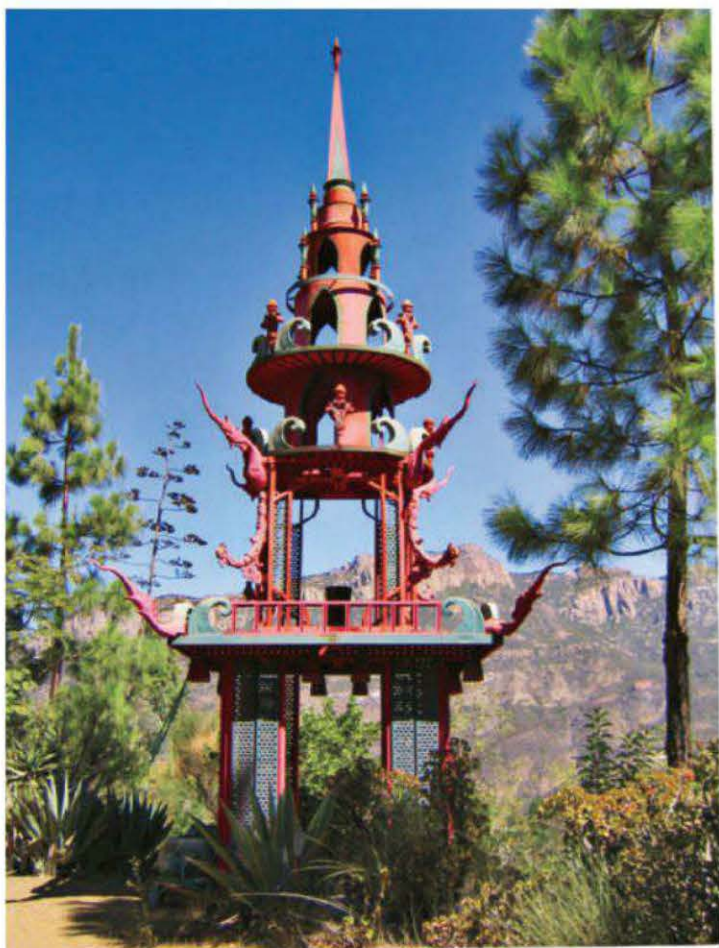


PHOTOGRAPHY: © SARA JANE BOYERS (TOP, FAR RIGHT); COURTESY DAVID HERTZ (RIGHT)

CABIN FEVER
 Aluminum sheeting, with circular vents, caps the wings' severed ends (top). A three-window stretch of 747 fuselage

(above) forms a whimsical pass-through from the kitchen to the client's study. The house's base is concrete, cast into the hillside (left), but the

wings appear to float above a clerestory to the south (uphill) and floor-to-ceiling glazing to the north.



SALVAGING SHANGRI-LA Many of the Duquettes' fanciful pagodas, fashioned from steel oil drums and other cast-offs, survived the fire. Though some were toppled or scarred, Hertz recreated the original entry procession.

Today, those wings, with their tips cantilevered out 45 feet, seem to float. Hertz set them above floor-to-ceiling, low-e glass walls, facing north and west, and a long clerestory upslope, to the south. You can look diagonally right through the house, across the valley.

"We thought of the plane as Native Americans considered the buffalo, using every part of it," Hertz says. Aside from the stabilizers and wings—now retrofitted with LEDs in lieu of landing lights and access ports—the house actually integrates very little of the body, only a swatch of fuselage. The remaining "carcass" awaits future on-site phases, including a meditation pavilion from the jet's upended nose and outbuildings from its body.

Beyond the thrill, and sustainable ambitions, of reusing a jumbo jet, the design succeeds most where it resonates with the landscape's heroic horizontality—and where salvage is most transformed, as in the whimsical kitchen pass-through (a three-window stretch of fuselage) or the engine cowling reborn as a Zen fountain/fire pit.

Though Hertz's idiom is clean-lined Modernism, and Duquette's exuberant mod Baroque, their work resonates with an affinity for repurposing. As toppled pagodas turned up across the property, Hertz restored the original entry procession. "It's been an adventure," says Rehwald, who often shares the property with guests. "I keep finding more 'archeology'—all sorts of shards and treasures." ■

Sarah Amelar is a contributing editor to ARCHITECTURAL RECORD.

A Complex Project Takes Off

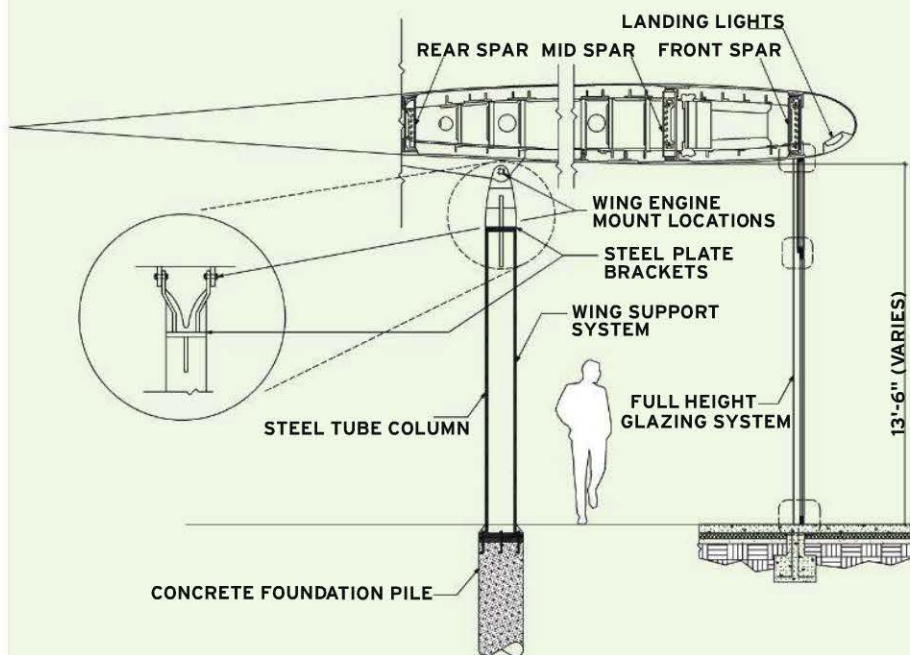
In transforming an old jet into a home, how do you even find an available plane? Of the hundreds of commercial aircraft idling in two "parking lots" in the California desert, not every plane is permanently grounded nor necessarily for sale.

Rehwald bought hers via Aviation Warehouse, in nearby Adelanto. Its owner, Mark Thomson, a former corporate-and-stunt pilot, sells flightless "birds" for TV and movies, and often ships planes to Asia for reassembly as restaurants. "Outside the U.S., few places have the maintenance resources and dry climate to fend off corrosion," he explains. Rehwald's 747, originally TWA's, was the 28th off Boeing's

assembly line.

Nominally sold for the cost of scrap and market value of the mechanical parts, "the price," he says, "is almost meaningless, a fraction of the real costs. The logistics of moving are everything. And, in this country, it's a long, hard battle for permits and approvals." He usually acquires gutted planes. Before power-sawing a jet into transportable pieces, his crew blocks it up to avert tipping and fills the fuselage with carbon dioxide to prevent fire.

With 747 parts dwarfing a semi-truck, a transfer requires Herculean feats. For Rehwald, precipitous roads were bypassed via Chinook helicopter, at \$18,000 per hour.



GALA

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*Michael Roemen, Design Solutions Manager
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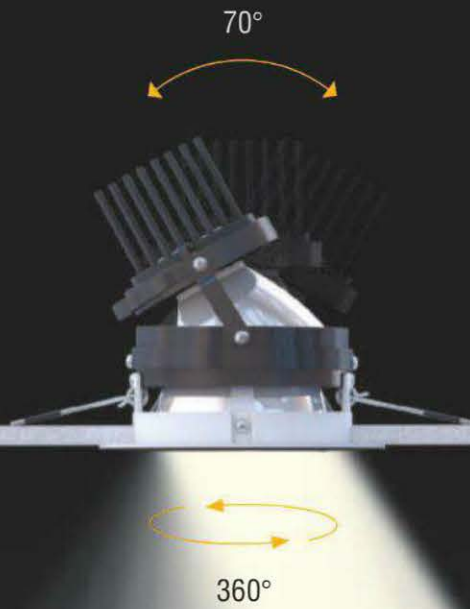


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Second Skin

From high fashion to high performance: Two design teams work closely with fabricators to develop visually dynamic exterior wall systems.

By Michael Cockram



THE FACADE of the recently opened Liverpool Department Store in the Mexico City suburb of Interlomas gives away very little of the functional building inside. Beneath its glowing metal cocoon lies a conventional three-floor concrete structure resting on a three-story parking deck. The edgy exterior is a departure for the Liverpool chain, with its slew of 75 stores in the area. Established in the mid-19th century, the store originally specialized in European fashion shipped through the port of Liverpool. The conservative retailer was ready to “break the mold” and establish a new direction for its store designs according to Gerardo Salinas, partner at Mexico City-based Rojkind Arquitectos.

The clients not only wanted a fresh face for the 325,000-square-foot store, they needed it quickly—it had to be designed and built in only nine months. Adding to the challenge, the footprint of the building and the form of

the parking garage on which the store would rest were preordained. The semicircular site is hemmed in on three sides by a lacework of freeways. “There is no way to reach the site by foot, so the facade will be viewed mostly by car,” Salinas says. And since the client’s program precluded window openings, the architects needed a bold gesture to give the exterior a kinetic energy.

A pair of folded hands with interlacing fingers inspired the form of the facade. The idea is realized in bands of undulating horizontal ridges and valleys, creating a swirling skirt of stainless steel. The form is at once easy to comprehend and complex in its articulation. The visual impact of the building is in the subtle play of light and shadow across the folds, an effect enhanced by the surface treatments of the finish material.

Early in the design phase, the architects decided they wanted a metal skin, but they





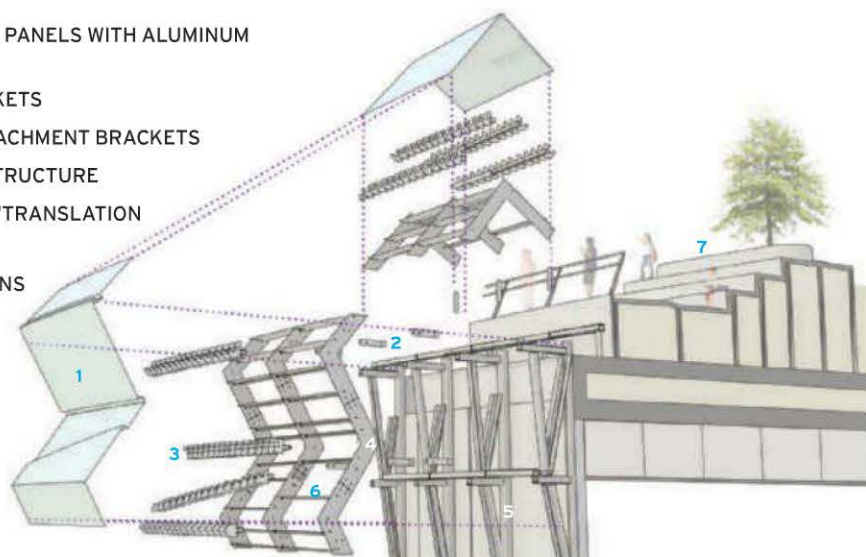
CONTOURED AND CURVY The swirling facade designed by Rojkind Arquitectos for a department store in a Mexico City suburb responds to its site, which is hemmed in by busy roadways (opposite, bottom). Anodized steel mesh surrounds parking at the base of the structure (opposite, top). But most of the building is wrapped in brushed and bead-blasted stainless steel. To facilitate installation, the assembly crews put together facade sections for every other bay in an off-site shop. They hung these pre-assembled sections before working on intermediary bays (above).

needed a broader understanding of the potential surface treatments and the required details. So the facade fabricator, A. Zahner, of Kansas City, Missouri, built a full-scale mockup of an approximately 20-foot square section of the wall. The team looked at several options, such as aluminum and zinc, but eventually settled on stainless steel. The 316 stainless steel alloy contains molybdenum, which makes it resistant to corrosion and discoloration from acid rain and air pollution. “The client was willing to pay a bit more for a material that’s almost maintenance-free,” says Salinas.

While the steel-panel system acts as a rain-screen, a concrete-block wall assembly behind the screen performs as the thermal envelope, freeing the team to play up the expressive qualities of the skin. The architects selected two surface treatments to create a subtle variation: a brushed finish with a delicate random brushstroke pattern and a bead-blast finish. The treatments were arranged in separate



- 1 STAINLESS STEEL PANELS WITH ALUMINUM SHEATHING
- 2 MOUNTING BRACKETS
- 3 “SHARK FIN” ATTACHMENT BRACKETS
- 4 ALUMINUM SUBSTRUCTURE
- 5 TUBULAR STEEL “TRANSLATION STRUCTURE”
- 6 ALUMINUM PURLINS
- 7 ROOF GARDEN



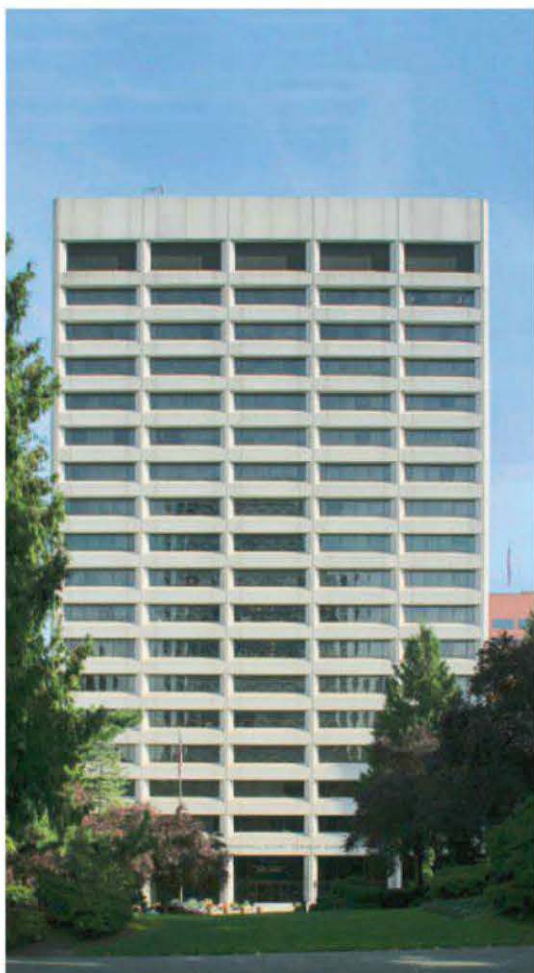
LIVERPOOL DEPARTMENT STORE: FACADE ASSEMBLY DIAGRAM

bands to increase the sense of depth to the facade and give the material sheen but produce considerably less glare than a more mirrorlike finish. A third treatment—small raised ovals—swims across the facade like a school of fish. Around the base of the building, with its three levels of parking, the design team used a black-anodized expanded aluminum mesh. The material is about 50 percent opaque so that it obscures the parking while allowing the required ventilation.

Since it was an international project, the construction documentation and construction phases had a different trajectory than is typical in the United States. There were few construction drawings and no conventional shop drawings. The fabricator generated installation drawings but performed almost all of its shop work digitally, which helped the team meet the project’s tight time line, according to Zahner’s director of engineering Paul Martin. “We were doing everything in 3-D, including unfolding the form and generating the patterning and surface finishes,” he says.

The eccentric form of the skin, with its curving plan and continuously changing section, dictated that none of the 7,500 panels were identical. To process this complexity, the fabricators started with their own digital modeling of the skin’s geometry. “We took the form from Rojkind’s model, sliced it up, and generated all the different parts,” says Martin, adding that each panel had as many as 50 components. Zahner fabricated the elements with CNC (computer numerical control) machines which rely on computers to direct cutting, bending, and surfacing.

Zahner usually installs the facades it fabricates. In this case, the client, acting as general contractor, hired its own Mexico City-based crew. To insure that installation went smoothly, the crew’s supervisor rehearsed the



LACY VEIL The \$133 million renovation of the 1970s Edith Green/Wendell Wyatt Federal Building (far left), in Portland, Oregon, includes installation of a high-performance glass skin shaded by a system of aluminum "reeds" (left).

assembly process several times on a mock-up at Zahner's Kansas City plant. A Zahner employee was also on site in Mexico City during much of the construction process.

As the panels rolled out of the fabrication plant, sections were shipped to Mexico in sequence for assembly and erection. The installers put together every other bay of the 1.7-ton truss assemblies, including skin, sheathing, and aluminum trusses, at an off-site facility. The skin assemblies were attached to a tubular steel "translation structure" which spanned the gap between the concrete frame and the skin. Once the fabricated bays were put in place on the building, the components for the missing bays were filled in on-site.

According to Salinas, the attention to detail and the advance planning paid off. Only 14 panels needed to be manufactured a second time due to fabrication or installation problems. Instead of being discarded, the rejected components were installed inside the building.

The Big Green Screen

Like the Liverpool Department Store's skin, the new facade of the Edith Green/Wendell Wyatt Federal Building in Portland, Oregon, encases a conventional structure in an embellished exterior. But instead of the solid armor of

Building information modeling helped the Portland project's architects and fabricators articulate the design and refine it swiftly.

the Mexican store, the Portland project has a metallic veil. The facade, now almost completely installed, is part of a \$133 million renovation, slated for completion in 2014. The overhaul is expected to earn the 18-story, 1976 precast-concrete office tower a LEED Platinum certification and help it comply with current security standards.

The revamp, designed by a pair of Pacific Northwest firms—Portland-based SERA Architects and Bainbridge Island, Washington-based Cutler Anderson Architects—encases the structure in a high-performance double-glazed glass curtain wall that is both energy-efficient and blast-resistant. The scheme also includes a shading screen for the building's west elevation. By incorporating the screen, the project team was able to significantly reduce solar gain and maintain occupant comfort with radiant heating and cooling. Without the shading device, the building would have required more cooling capacity

and a much less efficient VAV (variable air volume) mechanical system, according to SERA associate principal Lisa Petterson.

The client, the General Services Administration (GSA), rejected an early scheme for a living wall that included climbing vines due to concerns about maintenance and the two-year time frame required for the plants to grow to full shading capacity. However, James Cutler, Cutler Anderson principal, wanted to maintain the screen's organic look. In collaboration with cladding fabricator Benson Industries, he developed a system of six bowed arrays made up of extruded aluminum reed-like members. The reeds vary in size and are combined in a manner that allows the screens to be fabricated readily but lends them a slightly random quality.

The team relied on BIM (building information modeling) to get all the details worked out quickly. "It was critical to be able to see the design in 3-D and in context with the other

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SUN AND SHADE Each facade of the Federal Building responds to its particular solar orientation. The west elevation (left) is shrouded with six bowed, vertically oriented screens. A system of finlike elements and light shelves (below, right) shields the south and east elevations.



EDITH GREEN/WENDELL WYATT FEDERAL BUILDING: WEST FACADE

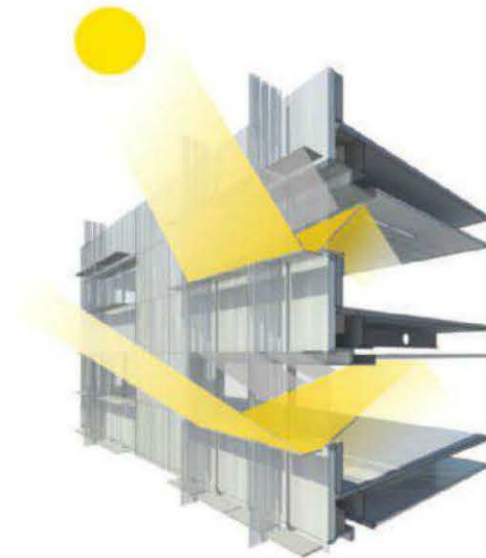


conditions,” says SERA’s Gauri Rajbaidya. The modeling software allowed both the architects and the fabricators to articulate the design and refine it swiftly.

The west facade responds to the low-angle sun, according to Petterson. “It needed to be a vertical scenario, but the south and east facades—which are actually oriented southeast and southwest—required a combination of horizontal- and vertical-shading systems.” The result is that each facade is articulated in response to its specific orientation. For the south and east elevations, the reeds were adapted to create vertical finlike screens that bracket either side of horizontal light shelves. The 2-foot-deep light shelves shade the lower portion of the windows and reflect daylight into the building through upper windows.

SERA worked with the University of Oregon’s Energy Studies in Buildings Laboratory to analyze the shading and daylighting system. The architects tested several facade configurations in an artificial sky—a chamber that simulates overcast skies—to assess daylighting levels. The team also placed a partial-facade mock-up on a rotating table called a heliodon, which replicates sun angles at a given time of year. The data allowed the designers to fine-tune the screen and the light shelf systems.

The tubular reeds would have been 280 feet tall if they were continuous. But because aluminum has a relatively high coefficient of thermal expansion, designers needed to develop an assembly that would allow the material to expand and contract as the temperature changes. They divided the tubes into roughly 30-foot-long sections that span between horizontal supports spaced every two floors or 25 feet. Each reed cantilevers several feet above and below the supports, creating a rhythmic pattern. “We spent so much time on these joints because you see them when you look out the window,” explains Cutler.



EDITH GREEN/WENDELL WYATT FEDERAL BUILDING: LIGHT REFLECTOR AND SUNSHADE DIAGRAM

“They’re right in your face.”

The reeds are trapezoidal in plan, splayed so that the narrower face is on the interior. Besides meeting the shading needs, the splay is meant to reduce the feeling of enclosure. The tubes, which vary in depth from 3 to 5 inches, also have a slightly “pillowed” front face and rounded corners. Sharp corners would have created sharp shadows and emphasized the tubes’ barlike nature, explains Petterson.

As with the Liverpool Department Store, it’s the chorus of thoughtful details that make the facade sing. Both projects illustrate how the technology of modeling programs, BIM, and computer driven fabrication have broadened possibilities for the architect. They also demonstrate the value of collaboration between architects and fabricators in realizing complex design concepts. ■

Michael Cockram is a freelance writer, educator, and sustainable design consultant living in Fayetteville, Arkansas.



Continuing Education

To earn one AIA/CES continuing education hour (CEH), including one hour of health, safety, and welfare (HSW) credit, read the extended “Second Skin” story online and complete the test at no charge at ce.construction.com. Upon passing the test, you will receive a certificate of completion and your credit will automatically be reported to the AIA. Additional information regarding credit-reporting and continuing-education requirements can be found at ce.construction.com, under “resources and requirements.”

Learning Objectives

- 1 Describe the Liverpool Department Store and the Edith Green Wendell/Wyatt Federal Building facade systems.
- 2 Explain how the two facade systems respond to client programming requirements and environmental conditions.
- 3 Explain how the two facade systems respond to fabrication and installation constraints.
- 4 Describe the role of digital tools in the design and fabrication of the two facade systems.

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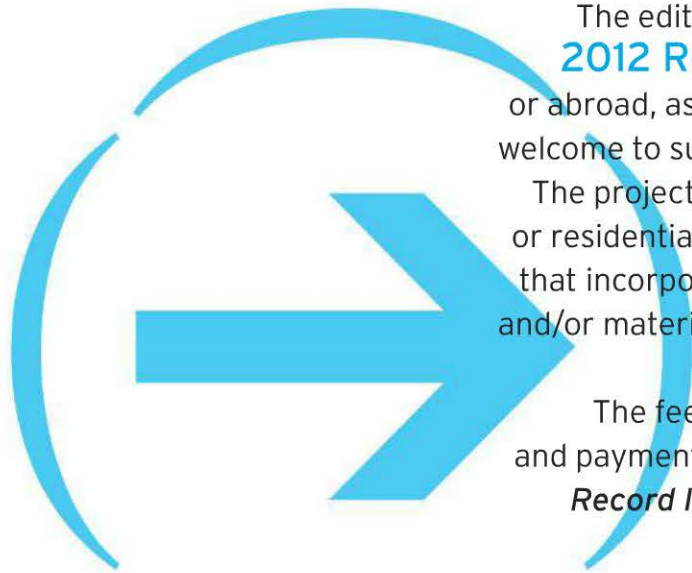
2012 CALL FOR ENTRIES Record Interiors



The editors of ARCHITECTURAL RECORD are currently inviting submissions for the **2012 Record Interiors** issue. All architects registered in the United States or abroad, as well as interior designers working in collaboration with architects, are welcome to submit interiors-only projects that have been completed in the last year.

The projects may be new construction, renovation, or adaptive reuse, commercial or residential, domestic or international. Special consideration will be paid to works that incorporate innovation in design, program, building technology, sustainability, and/or materials. The winning projects will be featured in the September 2012 issue.

The fee is \$75 US per entry. Download the official entry form with submission and payment instructions at architecturalrecord.com/call4entries. (Please indicate *Record Interiors* as the subject of the e-mail.) **Submissions are due 6/1/2012.**



2012 CALL FOR ENTRIES Record Kitchen & Bath

The editors of ARCHITECTURAL RECORD are currently accepting submissions for the **2012 Record Kitchen & Bath** competition. Entry is open to any registered architect who has completed an innovative residential and/or commercial kitchen or bath project in the last year. We are looking for projects that feature unexpected materials, address unique client needs, or are designed in a manner that allows these utilitarian spaces to be functional, sustainable, and beautiful. Winning projects will be featured in the September 2012 issue.

The fee is \$50 US per entry. Download the official entry form with submission and payment instructions at architecturalrecord.com/call4entries. E-mail questions and submissions to ARCallForEntries@mcgraw-hill.com. (Please indicate *Record Kitchen & Bath* as the subject of the e-mail.) **Submissions are due 6/1/2012.**





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Learning Objectives

After reading this article, you should be able to:

- Discuss “socially sustainable design” and how it is defined.
- List techniques and technologies for green building and adaptive, universal and/or accessible design.
- Provide examples of specific products or materials that enhance the sustainability and accessibility of building designs.
- Describe building standards, codes and principles that may contribute to socially sustainable design, including a pilot LEED credit.

*Sustainable window products are a valuable part of the design of facilities such as Mitchell Hall at the University of New Mexico.
Photo courtesy of Pella Commercial*

An unexpected symposium at the 2010 Build Boston conference addressed a topic that few of the event's attendees had learned much about before: *socially sustainable* design. The term, and the symposium raised some eyebrows at the time — “What’s social sustainability?” many asked.

Yet, the series of workshops and events led by Valerie Fletcher, executive director of Boston’s Institute for Human Centered Design (IHCD), proved a watershed moment, introducing a sweeping and valuable mindset to a growing audience — and a growing body of renovation work. Topics covered included enhanced pedestrian design, facilities that accommodate children with autism and dual-sensory impairments, and ways to make the city’s Quincy Market area more accessible to people with disabilities. Clearly, *inclusive design* is at the heart of social sustainability — and it is driving more of today’s renovation and new construction projects.

“The biggest takeaway from the workshops was that many architects still treat these criteria

as limitations rather than opportunities,” wrote Flavia Gnecco, a user-experience designer at Novartis Institutes for BioMedical Research, Cambridge, Mass., who attended the symposium. By using a collaborative approach with clients or potential end-users, she says, “designers can avoid jumping into sketching from assumptions and concentrate on finding innovative solutions that gracefully satisfy multiple needs at one time.”

Inclusive design is at the heart of social sustainability — and it is driving more of today’s renovation and new construction projects.

Architects should use inclusive design principles — also known as adaptive, universal and accessible design — says IHCD’s Fletcher, not merely out of selflessness but also out of a market-based rationale. “Human diversity of age and ability has never been greater and is expected to increase steadily over the next

40 years,” she says. Today about 35 million U.S. citizens are over the age of 65, and about 78 million baby boomers will increase the number. An astounding 54.5 million have a disability, according to statistics compiled by the IHCD.

Impressed with the notion of social sustainability, a number of professional associations and trade groups are working to incorporate the concept more broadly into their work. The U.S. Green Building Council (USGBC), for example, has long recognized the three pillars of “economic, environmental and social sustainability.”

“Further evidence of the trend is that the USGBC has indicated there will be a credit for universal design features in future versions of LEED,” says Gunnar Baldwin, a water efficiency specialist with TOTO, a plumbing products manufacturer. Pilot Credit 34, “Design for Adaptability,” which was updated last August for the LEED 2012 draft, provides for points for homes and mid-rise construction that must meet the Fair Housing Amendments Act — those with four or more residential

School Interiors Promote Adaptability

For recent school renovations, the emphasis has been cost but also flexibility for a range of uses and user groups. The approach, which has been called *responsive design* or *adaptive design*, is defined as interior environments having the customized equipment needed to ensure all children, including those with disabilities, “can participate fully in home, school and community,” according to New York City’s Adaptive Design Association.

Architects are showing how proven adaptive furnishings and learning tools can be complemented by school interiors that work better for the entire school population, regardless of learning challenges or physical handicaps. The Texas Association of School Boards, for example, pursued a unique approach to classroom flexibility for new elementary schools in the state’s independent school districts. At Kay Granger Elementary School in Keller, Texas, architects from Dallas-based SHW Group employed operable glass walls to meet the vision of the curriculum director, who believed school interiors could be more responsive to frequent changes in classroom setup and teaching approach.

SHW proposed an adaptable floor plan concept to create “flex space” that would both increase flexibility while also reducing the costs of installing labs at the schools. Using folding glass walls, the common floor areas between 30 pairs of classrooms can now be reconfigured during the day by teachers and staff. The monumental,

standard aluminum folding system, can provide openings of more than 40 feet, with additional paired panels to increase the opening size.

“The multiuse space we designed to adjoin each pair of classrooms needed great visibility and flexibility, with good acoustical separation,” says Konrad Judd, AIA, the project’s lead designer for SHW Group, and the folding glass wall “maximizes the view and flexibility of the space when closed or open.” Judd adds that the glass walls are “very elegant and simple systems” that are “safe and easy for teachers and students to use.”

Other examples include the Booker T. Washington Elementary School STEM Academy in Champaign, Ill., in which operable glass walls have been used to increase the transparency and flexibility of the educational setting. For the LEED Gold-rated expansion, architects from Cannon Design and Bailey Edward Design used glass partitions to improve visual links and create larger class spaces — called “learning studios” — that increase access, visual connections and flexibility.



Photo courtesy of NanaWall Systems

At Kay Granger Elementary School in Keller, Texas, operable glass walls are used to create “flex space” that meet the vision of the curriculum director, who believed school interiors could be more responsive to changes in classroom setup and teaching approach.



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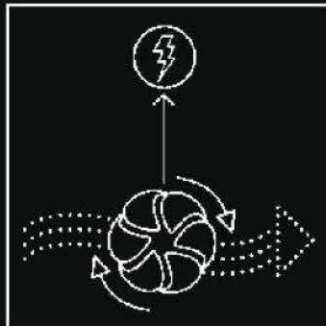
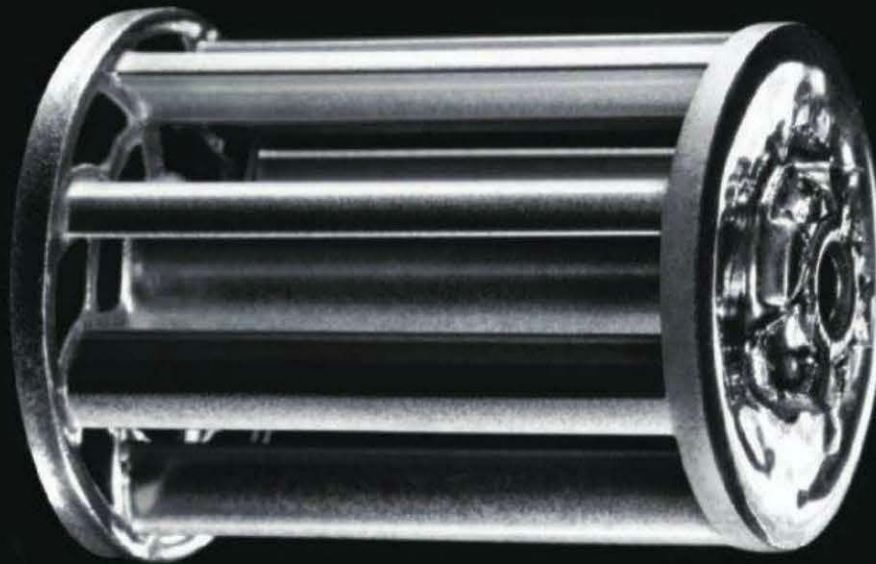


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A variety of adaptable design approaches can contribute to social sustainability, says Matt Thomas, marketing director at NanaWall Systems, a maker of operable glass wall

systems. “Beyond the mere removal of barriers of entry, architects are using adaptive design, where adaptability means accommodating a user’s need or changing needs based on daily usage,” he explains. “At a school, for example, adaptability means the space provides for modifications based on what the instructors and students need to do, day after day. A more flexible floor plan is also more sustainable, as

they tend to use less square footage, less land and fewer materials.”

For renovation projects, the opportunity to make building systems more adaptable extends to many building assembly and product choices, notes Terry Zeimetz, AIA, CSI, CCPR, commercial marketing manager with Pella Corporation. Ample, 36-inch-wide doorways provide effective clearances for wheelchair access or occupants handling baby strollers or walkers, and window designs that allow cleaning from indoors are safer and more convenient for all occupants. Some casement and awning windows have a sash that moves toward the center of the frame a full 4 inches — wider than typical casements — with unison-style hardware that secures two locks with a single, easy-to-grasp handle and an integrated crank.

“Cordless, between-the-glass fabric shades and blinds are ideal for universal design,” says Zeimetz. He cites several benefits, including reduced potential for damage, protection from dust on the shades and low maintenance. “For these reasons,” he adds, “they have become a very popular choice for schools.”

Universal Restrooms for National Landmark

For facilities that address the older population segments, recent trends have shown how to make restrooms and other accommodations more comfortable, safe and enjoyable for seniors. “Architects are using toilets in the universal-height range of about 16.5 inches, rather than the lower seats at 15 inches,” says TOTO’s Baldwin. “The difference in effort required is noticeable, and people can use them longer and feel more independent.” This effect contributes to seniors’ ability to live at home longer — which arguably helps reduce overall health costs by reducing the need for assisted living facilities.

Similarly, says Baldwin, *bidet-type seats* supplied with water and electricity are growing in popularity for the aging-in-place market. “Surveys show that these hygienic seats are seen as helping users preserve their dignity and use the bathroom independently, even if they are dealing with disabilities,” he explains.

New public projects are an ideal place for universal restrooms, Baldwin says, pointing to the new Martin Luther King, Jr. National Memorial in Washington, D.C. The design-build team — including the local architecture firm McKissack & McKissack, along with Turner Construction Co., Arlington, Va.-based MEP firm TM/R Engineering, and civil engineering firm Gilford Corporation — were looking for sustainable, high-performance plumbing products for these heavily trafficked public restrooms. The designers specified high-efficiency, 1.28-gallon-per-flush (gpf) toilets along with 0.5 gpf urinals with matching sensor-activated flush valves.

A number of these units are set at universal design heights — heights that also meet Americans with Disabilities Act (ADA) height requirements — to accommodate visiting patrons who are physically challenged. Adding to the monument’s socially sustainable profile, high-efficiency 0.5 gpm sensor faucets, like the flush valves, use flowing water to power their electronics, creating a “sustainable loop” that obviates the need for hard wiring. With a minimum of 10 uses per

day, the backup batteries installed will last up to 19 years, reducing toxic battery waste.

“With this high-profile project, I wanted to design restrooms that were both highly efficient and low maintenance, offering a new performance standard for the National Parks Service,” says Brian Russell, TM/R senior plumbing designer. “I knew there would be an extremely heavy volume of people visiting Dr. King’s national monument, so reliability and performance were crucial.” The invisible accommodation of seniors and visitors with limited mobility, thanks to various restroom design features including the 17-inch toilet seat heights, reflects user testing by manufacturers and best practices in creating unobtrusive, adaptive and accessible facilities.

Like the novel recharging batteries powered by water, this “intergenerational bathroom design,” which is increasingly common in a range of building types, provides for the long view of building sustainability.



For older population segments, toilets in the universal-height range of about 16.5 inches reduce the effort required to use the fixtures, which helps reduce overall health costs.

A GLOBAL VIEW OF SUSTAINABILITY

Social sustainability goes beyond adaptive and universal design. According to ESP Design, an online resource for sustainable product design, the idea of social sustainability involves five basic precepts:

1. Protect the mental wellbeing of all stakeholders.
2. Protect the physical health of all stakeholders.
3. Encourage community.
4. Treat all stakeholders fairly.
5. Provide all stakeholders with essential services.

This definition reframes the meaning of environmental degradation and energy efficiency as “community” and “stakeholder” considerations in the broadest sense. In this way, social sustainability takes a global view — and a long view — of reducing energy use.

“Green certifications like LEED will eventually be more about carbon footprint than other measures,” says Wally Johnson, vice president of marketing and sales for U.S. Concrete, a producer of ready-mix, precast, and other concrete solutions. “For example, supplementary cementitious materials, or

SCMs, can help earn points under LEED, but if it's slag imported from China for a building project in Houston, you're defeating what you're trying to accomplish." With that in mind, the company provides information on carbon footprint for every mix it brings to market, says the 40-year industry veteran, cognizant of the fact that Portland cement may make up as much as 9% of all carbon emissions in the world.

"Cement manufacture requires high temperatures and lots of energy and CO₂, including for the decalcification of lime, which is ground up and processed into cement," says Johnson. For every pound of cement, the manufacturing processes produce as much as a pound of CO₂ — close to a 1:1 ratio. For this reason, some manufacturers have developed operational

processes that use alternative cementitious materials. Johnson adds, "This not only produces greener and more sustainable concrete mixes, but also stronger and more durable concrete products."

This global view is essential to social sustainability, but so is a long-term view. Proponents like Harvard's Amartya Sen, a Nobel Prize-winning economist who created the United Nations Human Development Index, also argue that social sustainability requires thinking about *intergenerational equity*. Sustainable human development, Sen has said, can be seen as development that "promotes the capabilities of present people without compromising capabilities of future generations."

The drive for intergenerational

sustainability has boosted the emphasis on renewable material and energy sources, notes John J. Bailey, Jr., senior vice president of sales and marketing with ClimateMaster, which manufactures water-source heat pumps. "The best renewable technologies are those that are widely and easily applied regardless of building constraints," he contends. "Many renewable approaches, such as for geothermal, need a flat roof or a cooling tower, or they conflict with skylights. But there are distributed systems that are ideal for retrofit and renovation projects because they are small, individual units scattered throughout the building."

The same holds true for architectural products that boost the performance of buildings with little or no adaptation. These qualities make them more widely

High-Rise Structure, Low Carbon Impact

A number of new building projects and renovations have pointed to novel structural and precast concrete systems that limit the use of Portland cement, which may make up as much as 9% of all carbon emissions in the world, says U.S. Concrete's Wally Johnson. A growing trend is that building product manufacturers will often provide the carbon footprint of their products or structural systems. Smaller carbon footprints reflect both operational process and the use of materials, such as alternative cementitious products, that reduce greenhouse gasses.

Recent projects include One World Trade Center, part of the new World Trade Center complex in New York City. A hybrid structural design created by architect David Childs of Skidmore, Owings & Merrill with the local structural engineer WSP Cantor Seinuk, the building employs steel and concrete structural columns as well as innovative concrete core walls with steel frames for lateral force resistance and other security needs.

The concrete mix uses a proprietary mix as well as an admixture optimization service by another supplier that determines the optimal combination of recycled materials and tailor-made chemical admixtures needed to improve the desired slump, setting characteristics, strength and durability of concrete used. The results of the approach include two high-strength core wall mixes that exceed project requirements.

Beyond the enhancements to the strength and durability of the concrete structure, the combined technologies are credited with a significant change in the project's environmental profile: The optimized mix has saved more than 30,000 gallons of fresh water,

8 million kWh of energy and nearly 750,000 pounds of fossil fuel. According to Johnson, the carbon footprint is smaller by at least 12 million pounds of CO₂ emissions as compared to what would have been required for a similar high-strength, hybrid high-rise.

Other LEED Platinum projects are also using concrete mixes meant to dramatically cut carbon emissions, says Johnson. One example is the Trinity River Audubon Center in Dallas, designed by Antoine Predock Architect of

Albuquerque, N.M., with architect-of-record Brown Reynolds Watford Architects of Dallas and the local engineer Lopez Garcia Group. Designed for LEED Gold certification, the center is built to meet its mission of people, forest, river and wildlife coexisting successfully. Part of that mission is built into its 10,026 cubic yards of low-carbon concrete mix, comprising 30% fly ash and 50% pier mix; the outcome is the avoidance of at least 1.8 million pounds of CO₂.

Photo courtesy of U.S. Concrete, Inc.

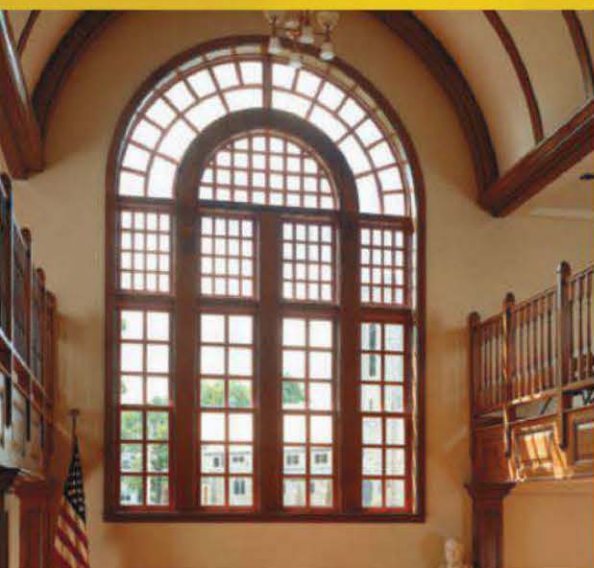


For the hybrid structural system at One World Trade Center in New York City, a proprietary concrete mix determines the optimal combination of recycled materials and tailor-made chemical admixtures needed to improve the desired slump, setting characteristics, strength and durability of concrete used.



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Geothermal for Nonprofit Headquarters

For a renovation of the charitable group United Way's headquarters for Central Oklahoma, the local firm of HSEarchitects used metal cladding and a perforated aluminum panel system to update the organization's image. Costing about \$3 million, the updating of the 28,000-square-foot facility combined the distinct historic characteristics of a 1911 church with contemporary commercial office space. Low maintenance was one goal, according to the architects, as was a high level of accessibility through multiple entrances. A new canopy structure identifies the main, universally accessible entry.

To reduce energy use, the design-build project includes low-E glazing and exterior sun shading on south and west façades. "In keeping with sustainable solutions and forward thinking, a geothermal system was installed with 25 wells located beneath the new parking lot," according to the architects.

According to ClimateMaster's Bailey, the dozens of heat pumps match the need for environmental zones within the building. Vertical packaged units are located in small mechanical closets or the basement and draw

from 63 vertical bores of about 300 feet deep using steel/copper piping and variable-speed pumping. The geothermal engineering, Bailey adds, helped keep the costs at a reasonable level, including: the geothermal installation (about \$630,000), the water loop with a fluid cooler and boiler (\$542,000), the 23-zone fan coil with air-cooled chiller and boiler, as well as rooftop makeup air units (\$617,000), and 16 new gas/electric rooftop units and three split systems (\$400,000).



For the United Way's headquarters for Central Oklahoma, a geothermal system was installed with 25 wells located beneath the new parking lot.

applicable to historical adaptive reuse and other renovations — the "whole-building recycling projects" that currently make up the lion's share of green building work.

RENOVATION FOR SUSTAINABILITY AND ADAPTABILITY

Examples of these retrofit-ready solutions are widespread, and include new techniques for reducing the solar heat gain coefficient (SHGC) of existing curtain walls and window assemblies, says Erik Sutton, manager of product marketing for EFCO, a Pella Company. Among other fenestration products, manufacturers are introducing lightweight, integral light shelves for curtain wall and storefront systems. The most recent light shelf designs are easier to install than in the past and may offer a tilt-down feature for improved access and cleaning.

According to the Oak Ridge National Laboratories, light shelves also benefit building users by improving the distribution of natural lighting within work and living spaces. Their efficacy, as shown in an ORNL study¹, depends directly on the surface materials used and the light shelf's geometry and orientation. Passive or fixed light shelves, the study concluded, were found to be equivalent to automated light shelves, in which the angles of the shelf and fins are adjusted according to time of day or solar angle of incidence.

Between-the-glass shades and blinds — a technology that dates to the late 1960s — provide similar benefits of daylight redirection and reduced thermal gain, including enhanced insulation value at night. Protected within a double- or triple-glazed assembly, the daylight control method requires limited maintenance and is easy to operate. Recent improvements to these window assemblies have addressed aesthetics as well as improvements to access of the blinds, thanks to an interior hinged access panel.

Continues at ce.architecturalrecord.com

C.C. Sullivan is principal of a marketing and content agency that specializes in the architecture, design, and construction segments. He is former editor-in-chief of the magazines Architecture and Building Design + Construction.

See Quiz on Page 112 or
Take the Quiz Free Online

Renovations for Whole-Building Recycling

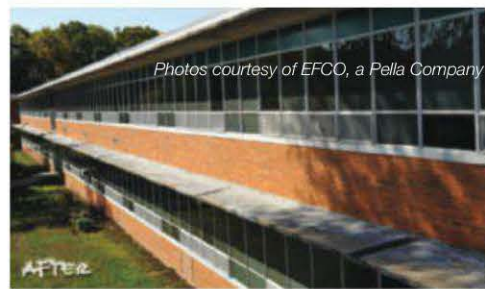
One effective way to reduce carbon emissions is through the use of existing structures that can be renovated for better function or for adapting to other uses. According to the AIA's Committee on the Environment, "by 2035 more than a third of the built environment will exist in the form of new renovation projects. In reversing the climate change crisis, this is a key opportunity to avoid otherwise demolishing more than 25% of our building stock and instead promoting adaptive reuse design."

For Abington Senior High School in Abington, Pa., the firm AP3C Architects of Philadelphia, reinvention of the modernist brick school building was envisaged to support its vision of providing an excellent community for young people that would increase success in school and prepare students for life outside of school.

A major part of the renovation was the need for new, thermally broken projected windows to

match the original frame depths, sightlines and infill thicknesses. The thermal barrier in the windows' vents and frames would also help meet the school's desired performance ratings and energy conservation goals. Also, to improve access to the school while maintaining standards for security and code-mandated egress, AP3C Architects selected a commercial-duty replacement package of wide-stile doors that would provide maximum flexibility for hardware as well as student needs and administration uses.

Testifying to the success of the renewed three-year high school, last October the Abington school district received a "100 Best Communities for Young People" award — the fifth it has received — as part of a competition that recognizes communities taking action to help reduce local dropout rates and create better futures for young people.



To receive AIA credit, you are required to read the entire article and pass the test. Go to ce.architecturalrecord.com for complete text and to take the test. The quiz questions below include information from this online reading.

Program title: **“Renovating for a Greener, More Accessible Future” (04/12, page 103)**. AIA Credit: This article will earn you one AIA CEH of health, safety, welfare/sustainable design (HSW/SD) credit. (Valid for credit through April 2013). **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**

1. **Approximately how many Americans have one or more disabilities?**
 - a. Fewer than 5 million
 - b. Fewer than 15 million
 - c. More than 50 million
 - d. More than 100 million
2. **LEED’s Pilot Credit 34, “Design for Adaptability,” provides points for homes and midrise construction that must meet the Fair Housing Amendments Act, which includes what kind of midrise construction?**
 - a. Buildings of four stories or greater in height, including the basement
 - b. Buildings with disabled or senior residents
 - c. Buildings with two or more residential units and an elevator
 - d. Buildings with four or more residential units and an elevator
3. **Cement manufacture requires high temperatures and significant amounts of energy. For every pound of cement produced, approximately how much CO₂ is emitted?**
 - a. Approximately 1 pound
 - b. Approximately 10 pounds
 - c. Approximately 1 ounce
 - d. Almost none
4. **In terms of performance and effectiveness, how do passive or fixed light shelves compare with automatically adjustable, motorized light shelves, according to the ORNL?**
 - a. Fixed light shelves are more effective.
 - b. They are about the same.
 - c. Automatic light shelves are more effective.
 - d. They can’t be compared.
5. **Universal-height toilets are designed so that the seat is about what height above the finished floor?**
 - a. 16.5 to 17 inches
 - b. 15 inches max.
 - c. 12 inches
 - d. None of the above
6. **The manufacture and transport of Portland cement may account for how much of all carbon emissions in the world?**
 - a. Less than 1%
 - b. As much as 9%
 - c. More than half
 - d. None of the above
7. **According to the AIA, by 2035, how much of the built environment will exist in the form of new renovation projects?**
 - a. Less than 5%
 - b. Less than 25%
 - c. More than a third
 - d. Almost all
8. **In its definition of universal design, the North Carolina State group describes environments that are “usable by all people, to the greatest extent possible,” because they:**
 - a. serve the needs of older occupants.
 - b. include stacked MEP systems to reduce renovation complexity.
 - c. are adaptable to the needs of special occupant groups.
 - d. do not require adaptation or specialized design.
9. **The “low physical effort” principle is guiding the design of universal-height toilets, such as those used at the Martin Luther King, Jr. National Memorial.**
 - a. True
 - b. False
10. **According to the World Health Organization, a physical disability is best understood as:**
 - a. a medical condition.
 - b. the result of an unaccommodating existing environment.
 - c. an interaction between a person’s features and their overall life context.
 - d. None of the above

<p>Last Name _____ First Name _____</p> <p>Job Title _____</p> <p>Firm Name _____</p> <p>Address _____</p> <p>City _____ State _____ Zip _____</p> <p>Tel. _____ Fax _____</p> <p>E-mail _____</p> <p>AIA ID Number _____ Completion date (M/D/Y) _____</p> <p>Check one: <input type="checkbox"/> \$10 Payment enclosed. (Make check payable to McGraw-Hill Construction and mail to: Continuing Education Certificate, PO Box 5753, Harlan, IA 51593-1253.)</p> <p>Charge <input type="checkbox"/> Visa <input type="checkbox"/> Mastercard <input type="checkbox"/> American Express</p> <p>Card# _____</p> <p>Signature _____ Exp. Date _____</p>	<p><input type="checkbox"/> To register for AIA/CES credits: Answer the test questions and send the completed form with questions answered to address at left, or fax to 888/385-1428.</p> <p><input type="checkbox"/> For certificate of completion: As required by certain states, answer test questions, fill out form, and mail to address at left, or fax to 888/385-1428. Your test will be scored. Those who pass with a score of 80% or higher will receive a certificate of completion.</p> <p>Material resources used: This article addresses issues concerning health, safety, welfare and sustainable design.</p> <p>I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.</p> <p>Signature _____ Date _____</p>
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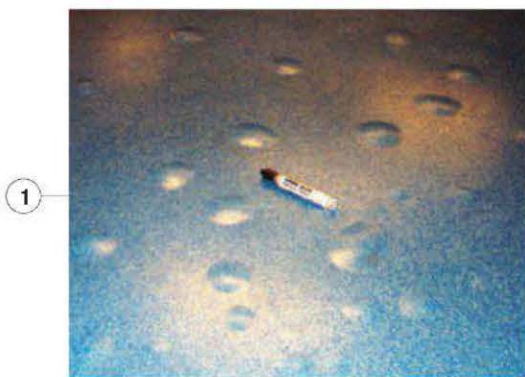
For McGraw-Hill Construction customer service, call 877/876-8093.

Endnote: ¹ http://www.ornl.gov/sci/buildings/2010/Session%20PDFs/155_New.pdf



Renovating for a Greener, More Accessible Future

PRODUCT REVIEW



1



2



3



6



5



4

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3. NanaWall Systems

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4. ClimateMaster, Inc.

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5. Bradley Corporation

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6. EFCO, A Pella Company

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CIRCLE 47

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New and Upcoming Exhibitions

Inventing the Modern World

Kansas City, Missouri

April 14–August 19, 2012

This exhibition traces the technological, design, and artistic innovations catalyzed by World's Fairs and features furniture, ceramics, jewelry, textiles, glass, and a papier-mâché piano. In keeping with World's Fairs as incubators for technological and stylistic advancements, the Nelson-Atkins Museum of

Art has also launched a design contest for a temporary pavilion which will be constructed on the museum grounds during the exhibition. Visit nelson-atkins.org.

There's No Place Like Home

Washington, D.C.

April 28, 2012–May 1, 2017

Throughout American history, people have lived in all sorts of places, from military barracks and two-story colonials to college dormitories and row houses. This exhibition at the National Building Museum takes visitors on a sweeping tour of houses both familiar

and surprising, through past and present, to explore the varied history of the American home. One gallery showcases 14 intricate models of iconic American homes and their architectural innovations. Visit nbm.org.

Ongoing Exhibitions

Carlo Scarpa: The Architect at Work

New York City

Through April 21, 2012

Dedicated to the renowned architect of post-war Europe, the drawings on view at the Cooper Union's Arthur A. Houghton Jr. Gallery create a window into the private intellectual space of the architect, uniquely illustrating the power of the eye, mind, and hand working in unison to create an architectural vision. The exhibition depicts Scarpa's thought process through the designs for Villa Ottolenghi, one of his most well-known completed works (Bardolino, Verona 1974–79) and Il Palazzetto, a series of architectural interventions that re-imagined the grounds of a 17th-century villa (Monselice Padua, 1969–1978). Visit cooper.edu.

Alturas de Macchu Picchu: Martín Chambi-Álvaro Siza at Work

Montreal

Through April 22, 2012

On view in the CCA's Octagonal Gallery, this exhibition displays sketches from Portuguese architect Álvaro Siza's 1995 trip to Macchu Picchu alongside 1920s photographs from the CCA collection by Peruvian photographer Martín Chambi. Supplemented by documentation of Siza's landmark social-housing project in Évora, Portugal, the exhibition investigates the architect's use of sketching. For more information, visit cca.qc.ca.

Ralph Walker: Architect of the Century

New York City

Through May 1, 2012

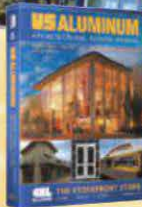
Walker shaped New York's skyline in the 1920s through his iconic Art Deco skyscrapers and captivated visitors to the Chicago and New York World's Fairs in the 1930s. The exhibition features large models of Walker's masterpieces, interactive digital displays, and archival plans, all on display in one of his classic telephone buildings completed in 1929, recently renamed Walker Tower. By appointment only. Visit ralphwalkerexhibit.com.

Massimo Scolari: The Representation of Architecture, 1967–2012

New Haven

Through May 4, 2012

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eminent Italian architect, artist, and designer, this exhibition explores the arc of Scolari's career from 1967 to 2012. The exhibition includes 160 paintings, watercolors, and drawings, most with architectural and urban subjects; a scaled-down iteration of a monumental sculpture created for the 1991 Venice Biennale; and architectural models. At the Yale School of Architecture. For more information, visit architecture.yale.edu.

Bright Future: New Designs in Glass

New York City

Through May 5, 2012

This exhibition of sculpture, tableware, and lighting designs by American and international artists and firms explores issues of sustainability, the manipulation of light, and the contrast of ancient and modern influences in contemporary glass. At the Pratt Manhattan Gallery. Visit pratt.edu.

Maya Lin

Pittsburgh

Through May 13, 2012

Architect, artist, and dedicated environmentalist Maya Lin achieves a balance between nature, science, and art by observing natural phenomena and imaginatively representing them as physical objects. The objects and drawings in *Maya Lin*—including a new piece, created for the exhibition—reveal otherwise hidden landscapes, such as underwater seabeds, the surface of water, and negative spaces between mountains. At the Carnegie Museum of Art. Visit carnegiemuseums.org.

The Architecture of Stanley Tigerman

Chicago

Through May 19, 2012

Both a retrospective and a reexamination of the architectural concepts of Stanley Tigerman, this exhibition at the Graham Foundation features texts, sketches, cartoons, object designs, architectural drawings, and models organized in relation to nine themes. Visit grahamfoundation.org.

Colombia: Transformed

Chicago

Through May 27, 2012

Ten recently completed projects by Colombia's top architects demonstrate the country's commitment to design, and show how architecture can improve the lives of ordinary people. These works—schools, community centers, and more—reflect the significant social shifts happening in Latin America today. The projects (by Daniel Bonilla, Giancarlo Mazzanti, Felipe Mesa, Juan Manuel Pelaez, and Felipe Uribe) will be explored through photographs,

drawings, films, and models at the Cervantes Institute. Visit chicago.cervantes.es.

CHANGE: Architecture and Engineering in the Middle East, 2000–Present

New York City

Through June 23, 2012

Architectural production in the Middle East ranges from the preservation of heritage, social housing, governmental buildings, and tourist resorts to mega theme parks, supertall towers, knowledge cities, sustainable cities, and artificial islands. This exhibition at the Center for Architecture shows how architects

and engineers have participated in the rapid transformation of the region, translating the rich geographical, cultural, and economic resources of the Middle East into contemporary form. Visit aiany.org.

News PAPER Spires

New York City

Through July 15, 2012

This exhibition at the Skyscraper Museum chronicles the high-rise headquarters of New York's great metropolitan dailies from the 1870s through the 1930s in historical prints, films, architectural renderings, photographs,

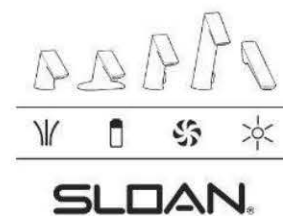
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CIRCLE 50

dates&events

typesetting equipment, and, of course, newspapers, attempting to create a collage of this lost or fading world. Visit skyscraper.org.

The Utopian Impulse: Buckminster Fuller and the Bay Area

San Francisco

Through July 29, 2012

This exhibition links Buckminster Fuller's radical idealism to local innovators inspired by his visionary thinking. The presentation features prints, drawings, photographs, documentary video, books, models, and ephemera representing some of Fuller's most iconic projects. At the San Francisco Museum of Modern Art. Visit sfmoma.org.

Foreclosed: Rehousing the American Dream

New York City

Through July 31, 2012

Examining new architectural possibilities for American cities and suburbs in the context of the recent foreclosure crisis in the United States, this exhibition at the Museum of Modern Art presents the work of five interdisciplinary teams of architects who envisioned a rethinking of housing and related infrastructures. Visit moma.org.

Lectures, Conferences, and Symposia

Mumford Lecture: Janette Sadik-Khan

New York City

April 5, 2012

New York City Department of Transportation commissioner Janette Sadik-Khan will deliver the eighth annual Lewis Mumford Lecture on Urbanism, presented by the Bernard and Anne Spitzer School of Architecture at the City College of New York. Held at 6:30 p.m. at CCNY's Shepard Hall, her topic will be "It's Not Impossible to Change a City." Visit cuny.edu.

Coverings 2012

Orlando

April 17–20, 2012

Coverings is the global show and conference for ceramic tile and stone. With nearly 1,000 exhibitors from more than 50 countries, this expo is the most comprehensive marketplace of its kind, featuring the newest products, technology, innovations, machinery, supplies, and tools. Visit coverings.com.

GRAVITY FREE 2012

Chicago

May 1–2, 2012

Held at the Spertus Institute, this is a two-day conversation with inspiring design thinkers

and doers, intended to break attendees out of their daily routine of familiar ideas. For more information, visit gravityfreedesign.com.

Alternative Building Materials & Design Expo

Santa Monica, California

May 11–12, 2012

Presented at the Santa Monica Civic Auditorium, AltBuild offers professional development programming for industry professionals such as architects, builders, contractors, engineers, landscapers, and exhibitors, as well as a large consumer audience. Visit altbuildexpo.com.

Clerkenwell Design Week 2012

London

May 22–24, 2012

This three-day festival brings a vibrant program of product launches, parties, auctions, debates, pop-ups, exhibitions, installations, open studios, and workshops. The Farmiloe Building (a former lead- and glass-merchants warehouse) and the House of Detention (a subterranean Victorian prison) will be showcasing the latest product and furniture innovations from both homegrown and international manufacturers, as well as a wealth of design and architecture talent. For more information, visit clerkenwelldesignweek.com.

Competitions

Brick in Architecture Awards

Submission Deadline: April 27, 2012

The Brick Industry Association's Brick in Architecture Awards honor outstanding, innovative, and sustainable brick design in eight categories. The awards showcase the finest work in clay face and paving brick from architects and builders around the country. For more information, visit gobrick.com.

ONE Lab: Future Cities Summer 2012

Submission Deadline: May 15, 2012

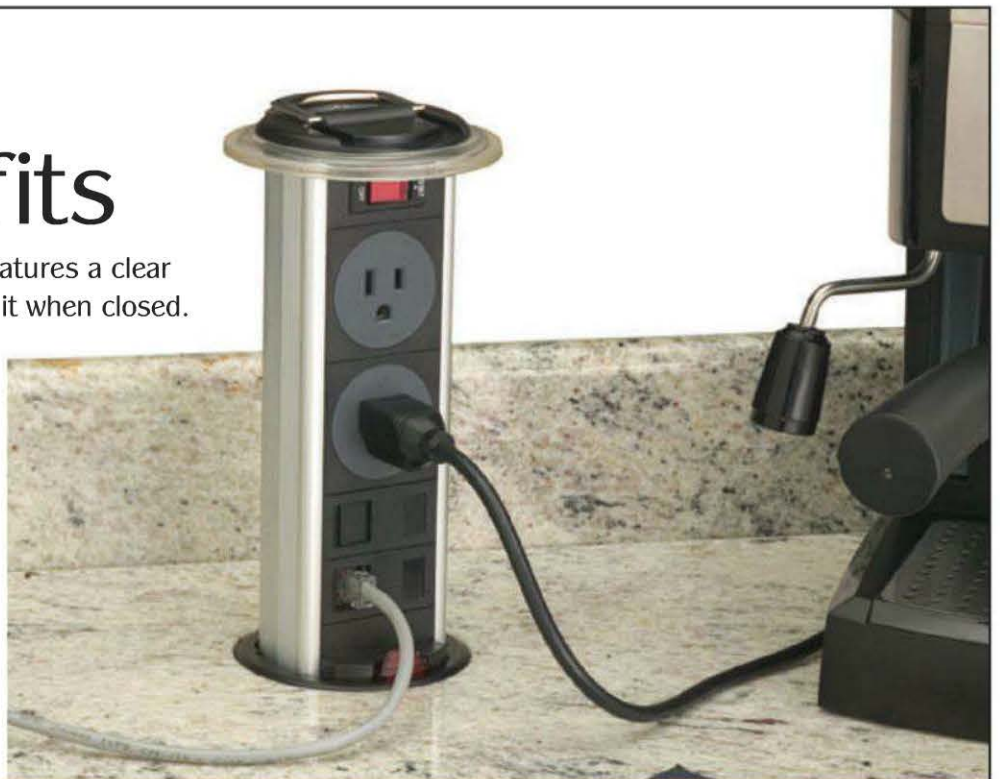
This design studio/seminar will address the emerging discipline of global "urbaneering" by assembling a wide range of innovators from fields as diverse as architecture, material science, urban design, biology, civil engineering, and media art. Spend four weeks with nine TED Fellows and internationally recognized scientists, researchers, designers, and artists. For more information, visit onelab.org.

E-mail information two months in advance to recordevents@mcgraw-hill.com. For more listings, visit architecturalrecord.com/news/events.

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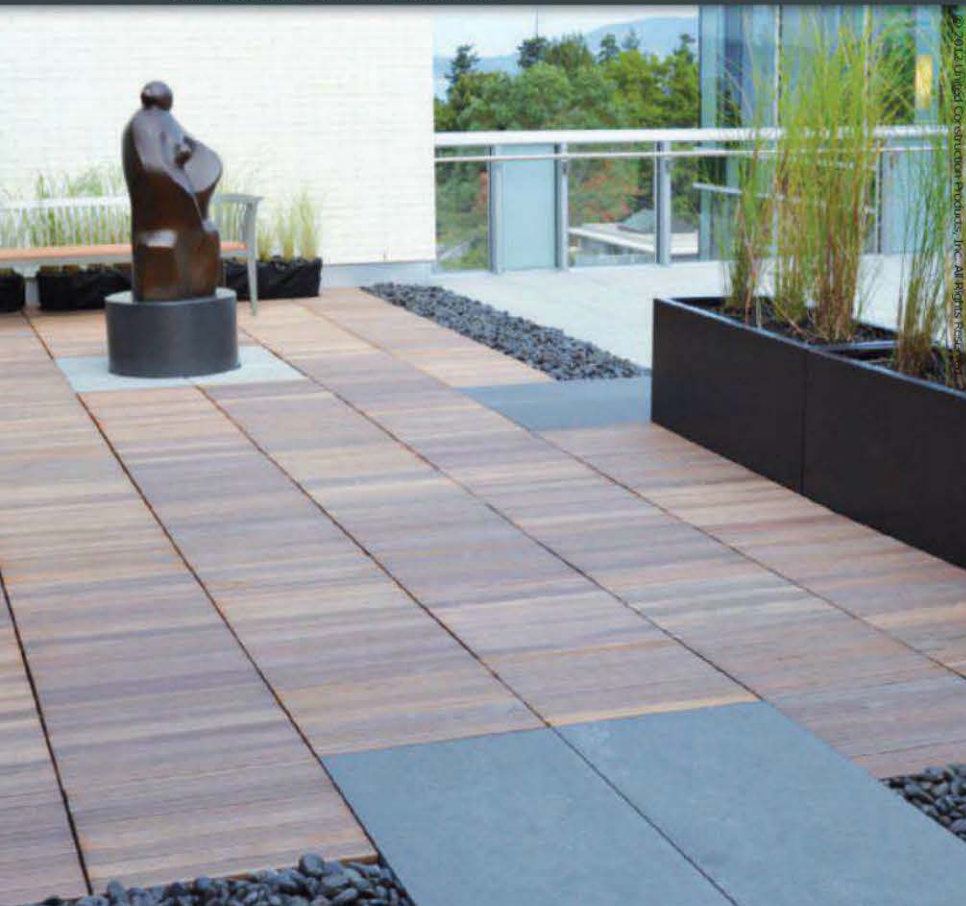
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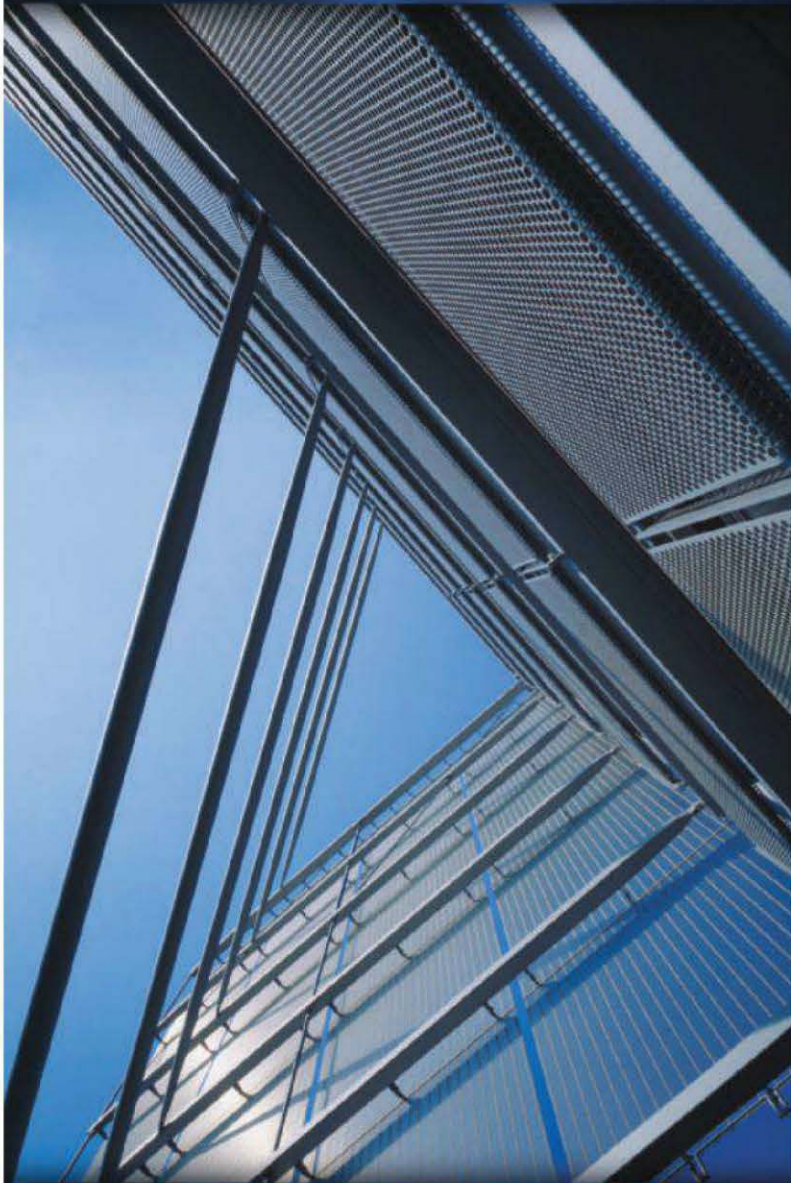


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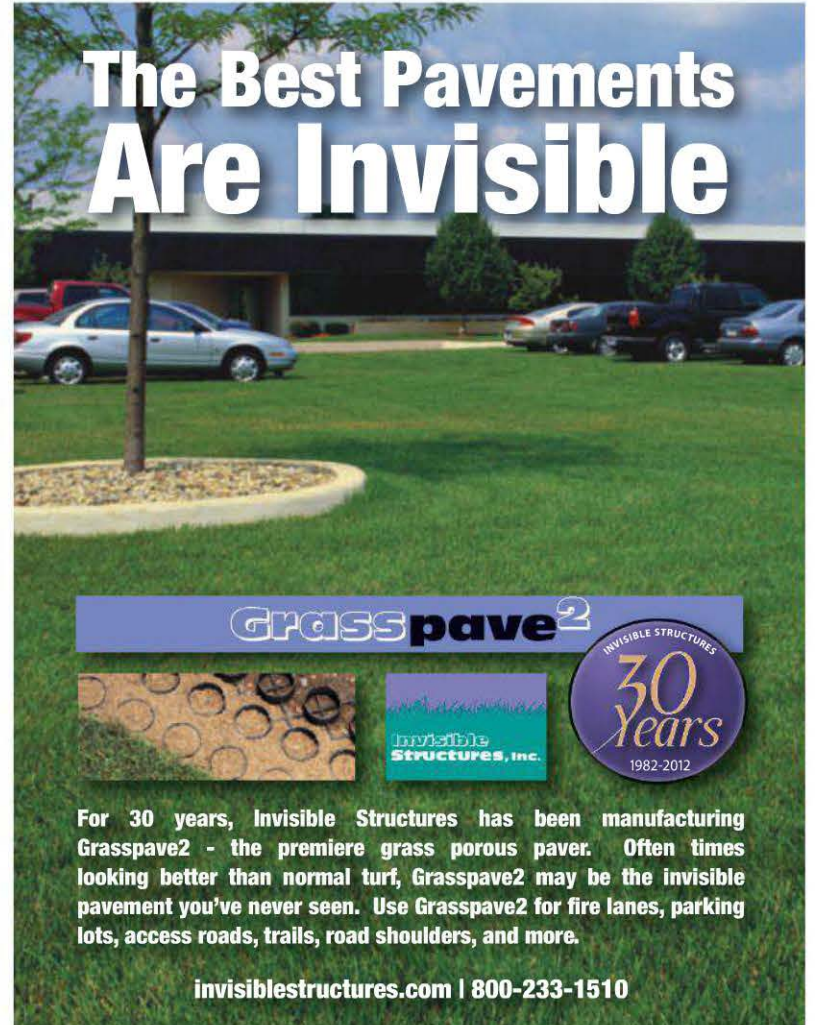


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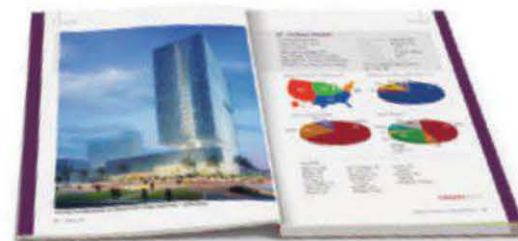
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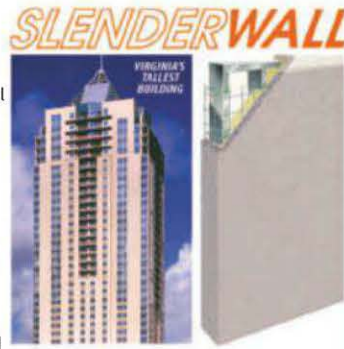
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LOCATION COPENHAGEN
DESIGNERS MLRP

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