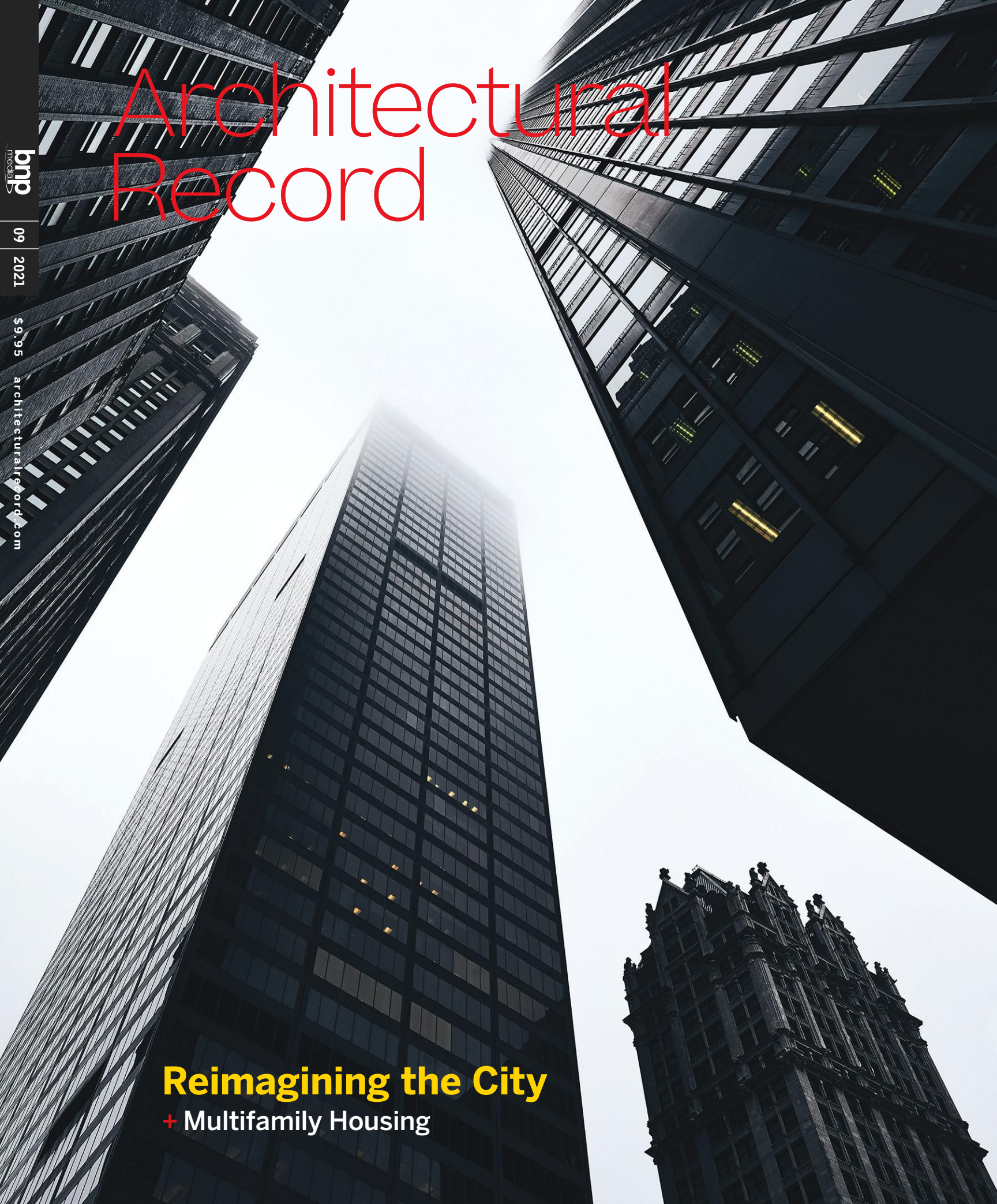


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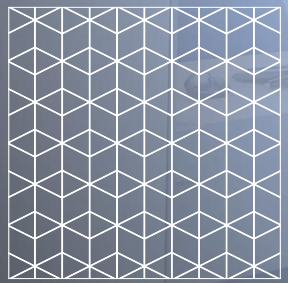
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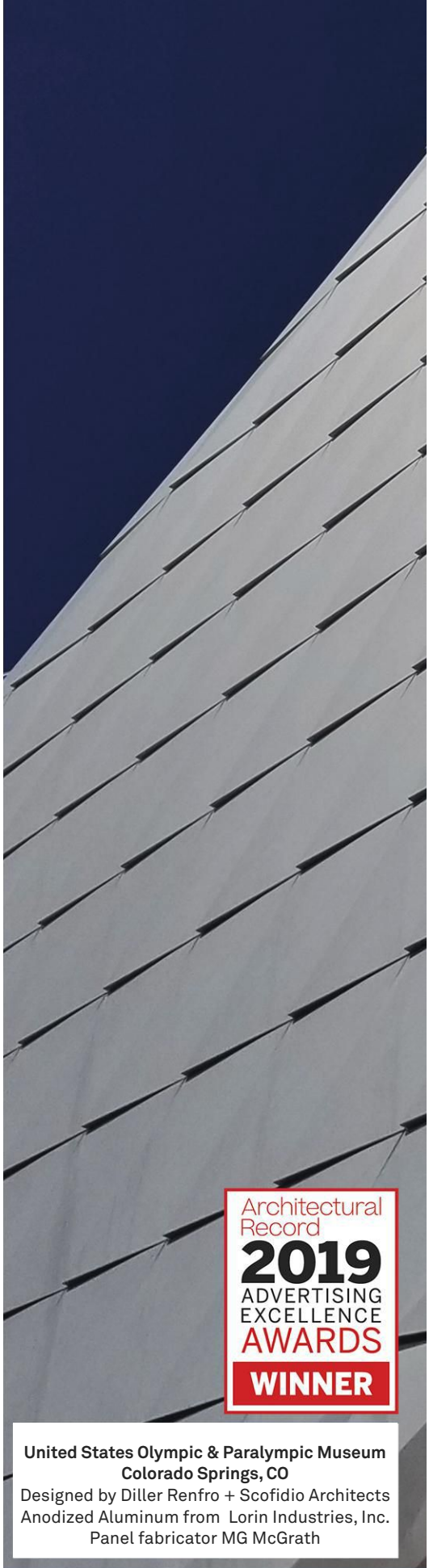
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ART DIRECTOR	Michael T. Powell, *powellm@bnpmedia.com*
ASSISTANT ART DIRECTOR	Kaylee Webster, *websterk@bnpmedia.com*
CONTRIBUTING ILLUSTRATOR, PRESENTATION DRAWINGS	Peter Coe
CONTRIBUTING EDITORS	Sarah Amelar, Fred A. Bernstein, Robert Campbell, FAIA, Blair Kamin, Katharine Logan, Jayne Merkel, Clifford A. Pearson, James S. Russell, AIA, David Sokol, Sarah Williams Goldhagen
SPECIAL INTERNATIONAL CORRESPONDENT	Naomi R. Pollock, FAIA
INTERNATIONAL CORRESPONDENTS	Andrew Ayers, Aric Chen, David Cohn, Chris Foges, Tracy Metz
CONTRIBUTING PHOTOGRAPHERS	Iwan Baan, Roland Halbe

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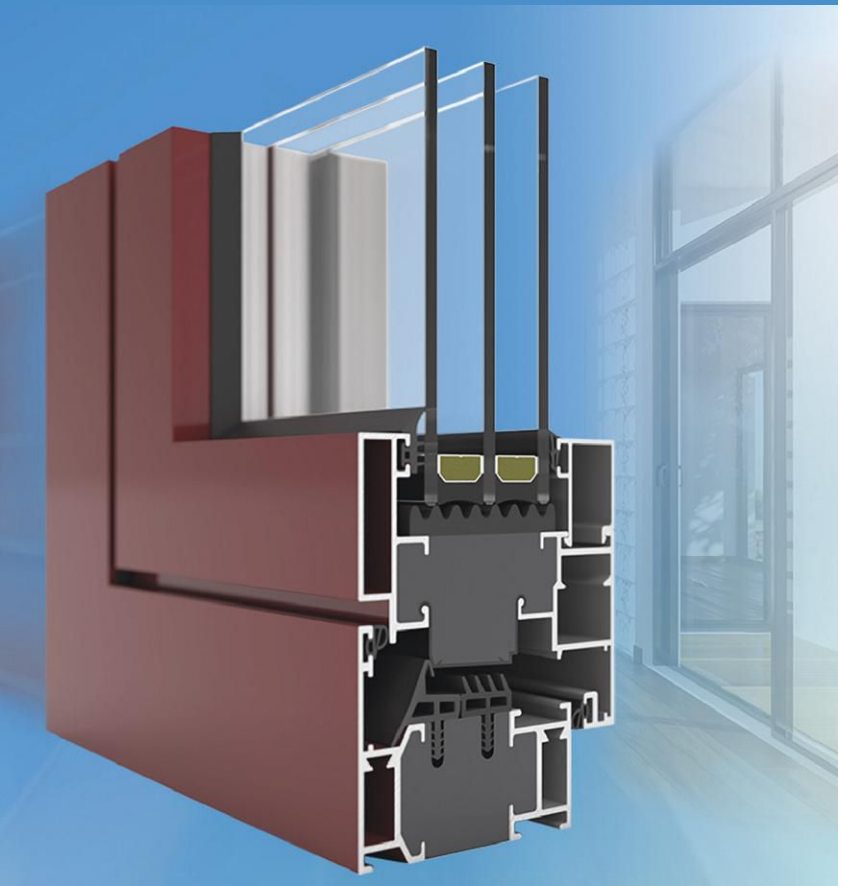
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SOUTHEAST, MID-ATLANTIC: Wesley Loon
(859) 414-3795, Fax: (248) 502-9104, *loonw@bnpmedia.com*
MIDWEST (IA, IL, MN, MO, WI): Bruce Smith
(224) 216-7836, Fax: (248) 786-1390, *Smithb@bnpmedia.com*
MIDWEST (IN, MI, OH), TX, OK, EASTERN CANADA: Lisa Zurick
(513) 345-8210, Fax: (513) 345-8250, *zurickl@bnpmedia.com*
WEST, WESTERN CANADA: Bill Madden
(503) 260-9679, Fax: (503) 557-9002, *bill@maddenandassociates.net*
FL, KS, NE, ND, NY, SD, INTERNATIONAL: Risa Serin
(646) 849-7130, Fax: (248) 786-1393, *serinr@bnpmedia.com*

WORKFORCE/RECRUITMENT: Diane Soister
(646) 849-7137, Fax: (248) 502-2046, *soisterd@bnpmedia.com*

PRODUCTION MANAGER: Kristen Carpenter
(248) 786-1222, Fax: (248) 502-2051, *carpenterk@bnpmedia.com*

CONTINUING EDUCATION
CONTINUING EDUCATION GROUP MANAGER
Brittnie Wilson
wilsonb@bnpmedia.com
CONTINUING EDUCATION PROJECT COORDINATOR
Lisa Stradinger
stradingerl@bnpmedia.com
CUSTOM CONTENT EDITOR
Samantha Staniszewski
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AUDIENCE MARKETING
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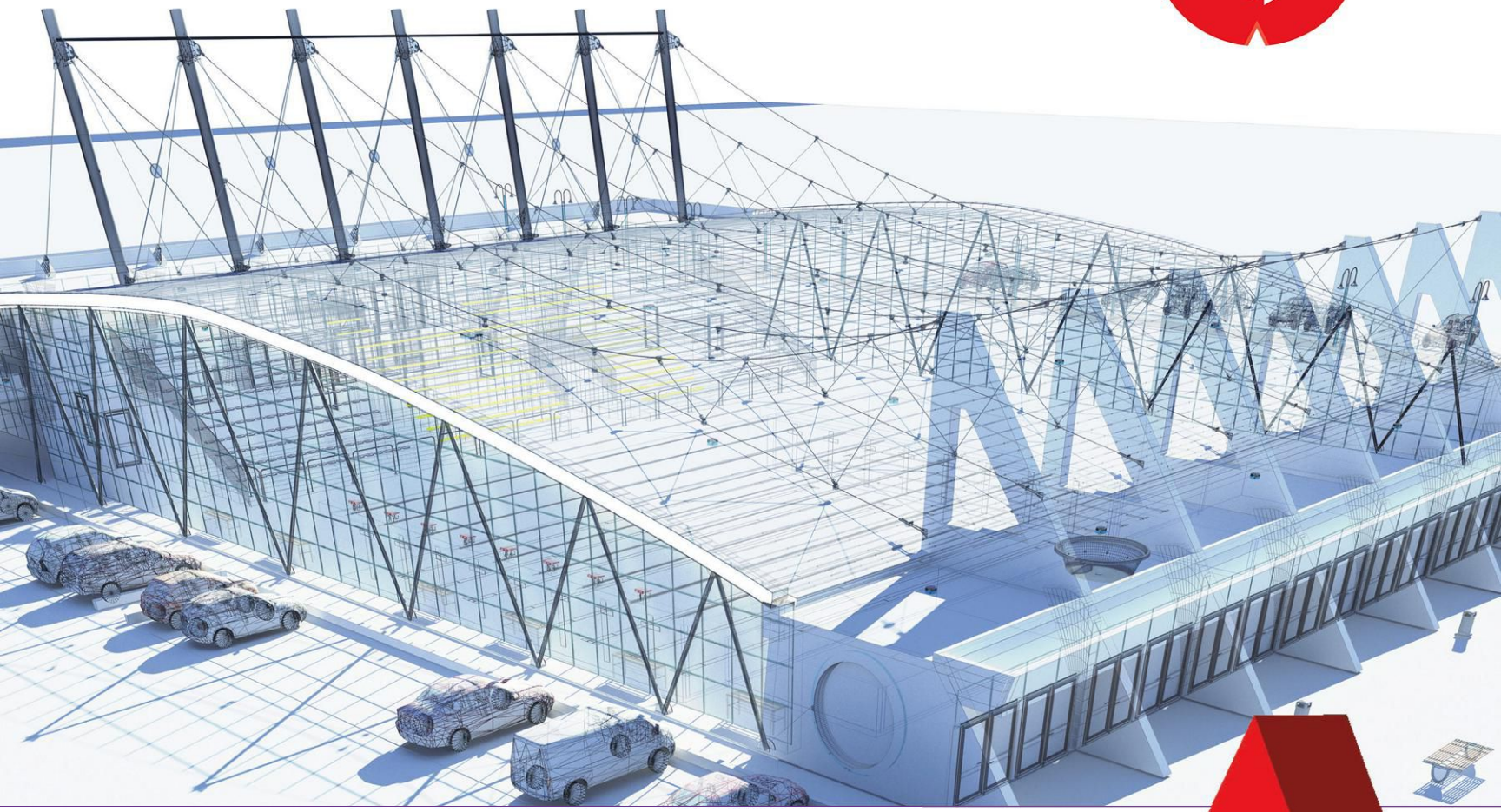
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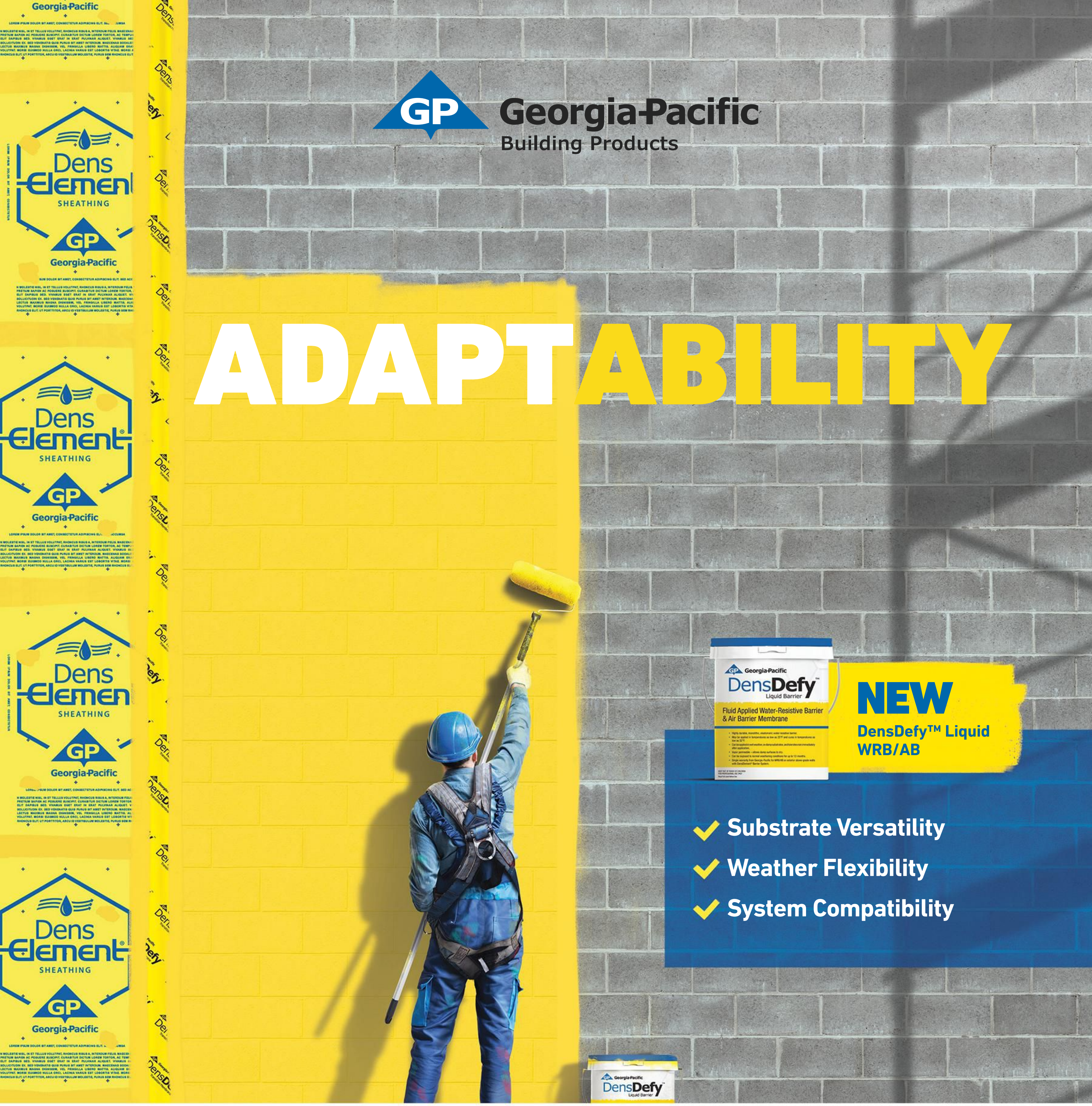
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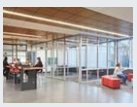
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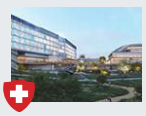


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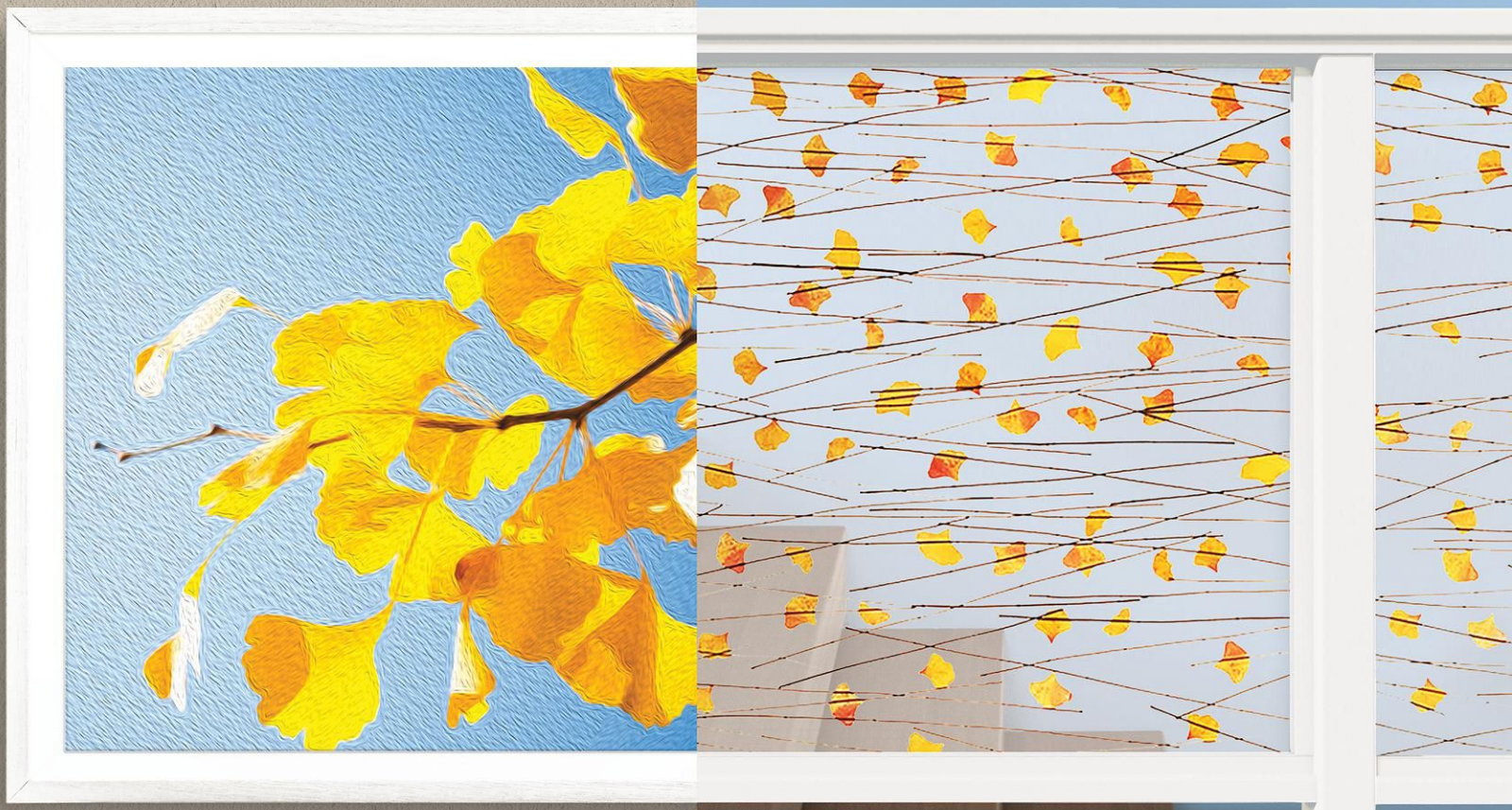
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Are Cities Over? No, the News of Their Demise Is Greatly Exaggerated

Record reports on a myriad of opportunities to remake and reimagine the American city.

IF YOU THINK cities are dying—with urbanites fleeing density during the pandemic, never to return—you can think again. With the release last month of details of the 2020 U.S. census, we now know that metropolitan areas gained population in the last decade.

Still, city-bashing goes on: "Anti-urbanism is an American religion, practiced widely and frequently in ordinary times, and passionately when cities are actually in trouble," sociologist Eric Klinenberg told *The New York Times*, in a recent article about pandemic predictions of urban demise. Throughout U.S. history, cities have been seen as hotbeds of crime and disease—and for being places where people of different races come together. As Andre M. Perry of the Brookings Institution has noted, "social distancing" was familiar long before Covid in urban Black communities that have been subject to segregation and racist housing policies.

But now, with 86 percent of Americans living in metro areas, comes the opportunity to address the real problems of cities. While the planned return of people to offices and schools this month has been tempered with uncertainty over coronavirus variants, the recent focus on inequities in health care, education, public space, and the environment make this a moment not to be squandered: we need to find solutions for the most urgent urban crises now.

For this issue, RECORD reached out to a number of experts in urbanism and architecture and asked how they would reimagine the city. The Harvard urban economist Edward Glaeser and health economist David Cutler discuss their new book, *Survival of the City: Living and Thriving in an Age of Isolation* (page 64). Their biggest concern for cities: the widening gap between the wealthy elite and young people, immigrants, and entrepreneurs who have always helped recharge the batteries of the urban engine.

Thomas Dyja agrees. In an essay for RECORD, the award-winning author of *New York, New York, New York: Four Decades of Success, Excess, and Transformation*, calls for "reducing the inequalities that threaten our democracy." "These past 40 years have been built on the fantasy that 'the market' is the only solution," he writes about New York. "City Hall should have a positive relationship with developers, but it shouldn't be better than the one it has with the people of New York" (page 66).

The climate crisis is an enormous threat too, and, while critic Martin Pedersen, who lived in New Orleans for the last decade, recounts the challenges in bringing resilience to that water-bound city (page 74), architect and scholar Germane Barnes explains the need for *social* resilience in Miami, where rising seas and gentrification have pushed Black residents out of their inland communities, once considered far less desirable (page 72).

David Brown, the artistic director of the Chicago Architecture Biennial, opening later this month, has mapped 13,000 publicly owned vacant lots in that city—which, he notes, are often in marginalized neighborhoods. Brown believes innovative urban-design approaches can transform such properties for the surrounding communities, as will be highlighted in the Biennial, with its theme "The Available City" (page 76).

When asked what the greatest challenges are today in Los Angeles, Christopher Hawthorne, the city's Chief Design Officer, says "housing, mobility, and equity." Hawthorne and his colleagues have devised alternatives to the single-family houses that dominate L.A.'s sprawl, to help spark new thinking about the severe affordable-housing shortage there (page 68).

In this issue we also interview Rosanne Haggerty, a leading authority on dealing with the crisis of homelessness, whose nonprofit organization Community Solutions was awarded a staggering $100 million grant from the MacArthur Foundation to expand its work (page 78).

Also in the pages ahead is a portfolio of innovative housing solutions (page 82)—as well as an array of public-space improvements (page 86); a Continuing Education course on converting office space to apartments (page 90); and RECORD's annual Building Type Study on multifamily housing, with superb examples of urban architecture in the U.S. and Europe (page 97).

If mankind can harness the will to successfully tackle the climate crisis—and cities are not underwater or on fire—surely humanity can transform the urban realm into fair, open, and equitable places, where everyone finally will have an opportunity to thrive.

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The way we talk about global warming is usually dark and pessimistic. Part of my job is showing people new ways to see things, to offer a vision of places we can live in, responsibly, and also enjoy.

—*landscape architect Kate Orff of SCAPE, speaking to Eric Klinenberg for* The New Yorker

World Trade Center Keeps Building, 20 Years On

BY KAYA LATERMAN

ON THE 20TH anniversary of 9/11, the former site of terror and rubble is now a solemn epitaph for those who perished, but also a symbol of urban renewal. The 16-acre site owned by the Port Authority of New York and New Jersey, however, is no longer a crowded, dusty construction zone with road closures, trucks, and cranes, although a few architecture projects are still ongoing. In two decades, the area has transformed into a walkable downtown space featuring One World Trade, the tallest tower in the Western Hemisphere, and an eye-catching transportation and retail hub, the Oculus.

Although much of Studio Libeskind's master plan has changed over the years, the basic idea—to create a memorial to the 9/11 tragedy and to reshape lower Manhattan into both a residential and commercial center—largely remains the same, according to Dara McQuillan, chief marketing and communications officer at Silverstein Properties, a major developer of the World Trade Center (WTC) site.

By 2006, the company finished constructing 7 WTC, a $700 million, 52-story building (designed by Skidmore, Owings & Merrill) that was the first office building in the city to be LEED Gold certified. On the 10th anniversary, the memorial park and reflection pools, by Michael Arad and Peter Walker of PWP Landscape Architecture, were built. Then came the $1.7 billion 4 WTC (Fumihiko Maki), the $3.9 billion Oculus (Santiago Calatrava), followed by Liberty Park (Joseph E. Brown, a landscape architect and former chief innovation officer at AECOM), the $2.7 billion 3 WTC (Rogers Stirk Harbour + Partners), and the memorial museum, with its glazed entry pavilion (David Brody Bond and Snøhetta).

Still to come is the St. Nicholas Greek Orthodox Church and National Shrine on the southern end of the WTC site, just beyond the memorial pools where the Twin Towers once stood. The 19th-century church on Cedar Street was the only religious structure that was destroyed during the terror attack, and its new $80 million shrine, also designed by Calatrava, is expected to open in April 2022.

Crews are currently finishing up the exterior of the church, which is inspired by Istanbul's Hagia Sophia and the Church of the Holy Savior, and made with 3-millimeter-thick Pentelic marble fused between glass panels. Lights that sit between the panels and the concrete structure will illuminate the entire church and area, according to Michael Psaros, vice chairman of the Friends of St. Nicholas, the nonprofit in charge of fundraising and construction funding. "The shrine will glow, allowing light to take over the dark shadow of what was once Ground Zero," he said. "It will be a cenotaph, a place that will allow people of all denominations to reflect on and remember what happened here."





Calatrava's St. Nicholas Greek Orthodox Church is nearly complete (left). It sits at the southern edge of the WTC site and overlooks the memorial park and pools (below, left).

Directly behind the shrine, a mixed-use tower is planned for 5 WTC, developed by a partnership that includes Silverstein, Brookfield Properties, Omni New York, and Dabar Development Partners. The use of both glass and masonry in the 900-foot-tall tower, unveiled in February, will be the connector between the WTC complex and the Financial District, according to Robert Whitlock, design principal at Kohn Pedersen Fox, the building's architect. The podium's design is a contemporary take on the neighboring historic buildings to the east and south, and will have gray brick, white concrete, and metal facing. Meanwhile, the staggered towers of KPF's building, with views of the harbor and city, will house over 1,300 apartments, 330 of which will be affordable housing.

Excavation will probably start in about two years for 5 WTC, or after all the necessary public-review processes conclude, according to Silverstein's McQuillan. Construction costs are estimated at $1.2 billion, according to the *Wall Street Journal*.

Meanwhile, 2 WTC, to be designed by Norman Foster, will not proceed until an anchor tenant is found, McQuillan said. The already excavated lot currently holds the HVAC system for the Oculus, tucked behind a colorful graffitied metal wall.

A cultural highlight is the Ronald O. Perelman Performing Arts Center, under construction directly east of One World Trade. To be completed in 2023, the cubed, marble-faced structure will have three major auditoriums that can transform into 11 different configurations and help the city's art

PHOTOGRAPHY: © PORT AUTHORITY OF NEW YORK AND NEW JERSEY (TOP); JOE WOOLHEAD (BOTTOM)





Renderings show KPF's design for 5 WTC (above), while REX's performing-arts center (above, right) is well under way.

world gravitate to Lower Manhattan, according to its designer, Joshua Ramus, founding principal of REX. The adjustments will allow patrons to experience a different building each time they visit, as the look and feel of the interior changes, Ramus said: "It's like a mystery box, but simple—pure, individualistic, yet respectful." The exterior will be elegant and sober (as it faces the memorial museum, park, and reflecting pools), made with veined marble laminated within insulated glass. As daylight pours through the translucent skin, it will illuminate the interior, highlighting the contrast to the materials used there, like concrete and wood. At night, the structure will have a golden glow, which will bookend the light from the nearly complete St. Nicholas shrine.

The pandemic, which brought on live-work reconfigurations for many New Yorkers, adds uncertainty to how the current, and future, office spaces across the towers of the World Trade Center will be inhabited. But for now, the complex feels as if it is just gaining a footing as part of a new downtown landscape, not yet sure of its identity. Currently a tourist magnet, it will probably take at least another decade before the area truly becomes a seamless, vibrant part of the city. ■

IMAGES: © KOHN PEDERSEN FOX (LEFT); REX (RIGHT)

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Eileen Gray's Villa E-1027 Reopens to the Public

BY BRIDGET COGLEY

AFTER ALMOST seven years of meticulous restoration work, Eileen Gray's Villa E-1027 has been reopened to the public on its rocky waterfront site in Roquebrune-Cap-Martin, in southern France. The holiday home the Irish modernist completed with her partner, Romanian architect Jean Badovici, has been returned to its original 1929 condition.

Le Corbusier occasionally stayed in Gray's villa and built his rustic log cabin home nearby in 1951, called Cabanon (he died there while swimming in the sea in 1965, of a reported heart attack). Also, peering down at Villa E-1027, is the Swiss-French architect's colorful complex Unités de Camping (1957). Villa E-1027 was sold to a relative of Le Corbusier in 1960, and gradually fell into disrepair.

Collectively called Cap Moderne, Gray's villa, with these Corbusian structures, including a bistro, was listed in 1999 as a UNESCO World Heritage Site and bought by the Conservatoire du Littoral to oversee its preservation. Now restored inside and out, and open since June, Gray's E-1027 cost $6.5 million to revive, with 45 percent of the sum from private sponsorship and fundraising and the rest subsidized by regional authorities and the state. While the house slowly underwent work, the rest of Cap Moderne reopened in 2015.



Blue canvas—similar to boat canvases produced in the 1930s, when the house was inhabited by Gray—shades the terrace of Villa E-1027.

The villa kick-started Gray's career as an architect, after she worked for years as a designer in Paris in art, textiles, rugs, lacquerwork, and furnishings—from bent-steel chairs to tiered cabinets with swiveling drawers. She built another house nearby in 1931, and by the mid-1940s, began designing larger cultural and social projects.

Reviving Gray's building has been a labor of love, with as much attention spent on repairing its eroded concrete walls as to recreating her custom furniture pieces inside, some of which are built in, while others move and fold, resulting in a highly flexible space. ■

PHOTOGRAPHY: MANUEL BOUGOT



Sugimoto's Hirshhorn Sculpture Garden Gears Up for Next Test

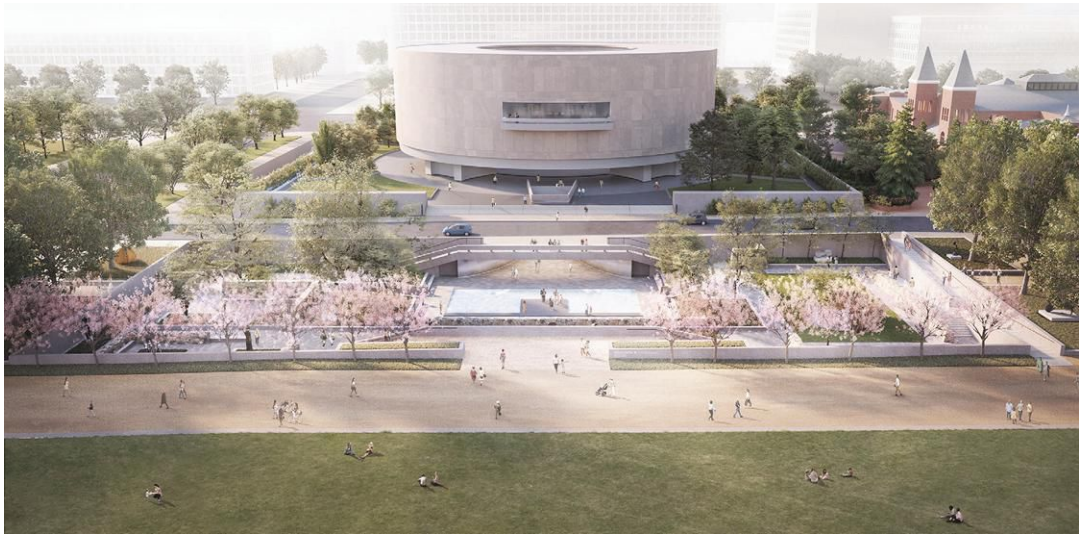
BY BRIDGET COGLEY

TWO YEARS and seven public reviews later, the Hirshhorn Museum and Sculpture Garden in Washington, D.C., is ready to present again its controversial proposal by Japanese artist Hiroshi Sugimoto to redesign its 1.5-acre sunken garden to the National Capital Planning Commission (NCPC) this fall. The latest version of the proposal will include a Memorandum of Agreement (MOA), with mitigation efforts and explanations but still with design elements that some preservationists have opposed: a U-shaped reflection pool, in addition to the original rectangular one, to accommodate a central performance platform, and new retention walls of stacked stone, rather than the current deteriorating concrete aggregate walls (which, some argue, could be repaired or rebuilt). The Hirshhorn last presented its plans to the NCPC in December 2020 in a virtual public hearing (and first in June 2019), where it was granted approval only if the museum addressed those two major changes with "a comprehensive rationale." The garden, as well as the museum itself, was designed by Gordon Bunshaft and opened in 1974.

On July 15, the Hirshhorn landscape plan was accepted by the Commission of Fine Arts (CFA)—another hurdle in Washington's elaborate design-approval process. (Opponents to the plan argue that the almost-all-new Biden-appointed CFA no longer includes a landscape architect, and that the new commissioners had never seen or reviewed the project before, and therefore were not familiar with its intricacies.) When it is next presented to the commissioners of the NCPC, critics will be able to give testimony. "A lot of unresolved questions were raised at the CFA presentation, but they were never addressed, like adding an elevator, and the width of the pool's walkway," says Charles Birnbaum, president of The Cultural Landscape Foundation (TCLF), a landscape-advocacy organization. "The Hirshhorn took advantage of the new CFA board's unfamiliarity with the project to get it approved." But even if it does receive final approval by the NCPC, this would be just another step in a lengthy process to bring Sugimoto's project to life.

When unveiled in 2019, the design received concept approval by the CFA, then composed mostly of Obama appointees. Critics immediately argued that Sugimoto's plan did not honor the original design of the garden, though they did believe that restoration was long overdue. It has since gone through several iterations, mostly regarding the pool, as Sugimoto first proposed to enlarge and change it completely. Then in May 2020, an expanded version of the original Bunshaft pool was paired with a U-shaped one, and finally now, as of March, a hybrid model proposes to keep the pool and link it with a new U-shaped piece. TCLF and Docomomo US, as well as leading landscape architectural historian Elizabeth Meyer, former vice-chair of the CFA, and local historic preservationist C. Andrew Lewis, all declared that the scheme violated the spirit of the original work by SOM's Bunshaft, as well as the minor updates to the landscape by Lester Collins. "In the end, this iconic Modernist landscape might not be what it is today," says Birnbaum. "It's a plaza, it's not a garden anymore. I question if it will even be eligible for the National Register."

In 1974 the Hirshhorn unveiled its sunken garden, with the circular museum's long, horizontal window echoing the rectangular reflection pool below, surrounded by a bed of crushed stones. In 1981, landscape architect Collins revised the design by swapping Bunshaft's pebbles for grass, for more accessibility,





Sugimoto's proposal would alter the sunken garden in several areas, including the reflection pool (top) and the retention walls (bottom).

IMAGES: © HIRSHHORN MUSEUM AND SCULPTURE GARDEN



The scheme proposes a U-shaped pool to accommodate a central performance space.

IMAGE: © HIRSHHORN MUSEUM AND SCULPTURE GARDEN

and adding leafy trees for shade, all while keeping the original stepped design and water feature. But what might seem like a simple task to preserve, enhance, and revitalize the art-filled oasis, which suffers from low visitor attendance, cracked walls, and drainage issues, has proven to be a "painstaking" process, according to Kate Gibbs, Hirshhorn Director of Communications and Marketing.

Mitigation efforts and attempts to adjust Sugimoto's design have dragged on for months, as part of the Section 106 review process that began in 2019. Because the garden is on the National Mall and is part of the Smithsonian (its museum for international modern and contemporary art), it is a federal project and falls under this Section 106 review process, in which the public has the opportunity to alert the government of federal projects' historic properties and influence design decisions.

Yet, say the critics, the most debated aspects of Sugimoto's proposal have not been amended or addressed in the Hirshhorn's new MOA, and they hope the NCPC will not be fooled. "The proposed changes aren't being mitigated," Birnbaum says. "Hundreds of hours later, and the proposal has largely not changed. There are a lot of unresolved issues." ■



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Newsmaker: Chris Lasch

BY BRIDGET COGLEY



FRANK LLOYD WRIGHT'S School of Architecture at Taliesin is alive and well, after a lengthy process to change its name, location, and board, and separate completely from the Frank Lloyd Wright Foundation. Now called the School of Architecture, the private college that offers a master's degree in architecture has completed its first year (though mostly remote because of coronavirus) from its two new homes, Arcosanti and Cosanti, in Arizona. RECORD caught up with former Taliesin dean Chris Lasch, who was appointed president of the revamped institution last June, to discuss the transition and what the future holds.

This has been quite the year for you and the school. How has it been?

It was pretty traumatic at first and a lot of work. We couldn't come to an agreement with the foundation and basically lost our leases at Taliesin West in Scottsdale, Arizona, and Taliesin in Spring Green, Wisconsin.

It was also a one-two punch with the pandemic. We were remote for summer and fall 2020 at our new locations and brought everyone back to campus in a hybrid way in January. We have spent the past year making sure our program is still intact, so that we can take care of our students. We are the same institution, just in new locations with a new name.

When I was offered the position as president by the board, I took it because continuity during this time of transition is our main priority.

How did the contract with Arcosanti and Cosanti come up?

One of our current board members thought that Cosanti and Arcosanti might make sense as new locations. Both are zoned for nonprofit education use and have operated as such since they were established in the late 1950s and 1970, respectively. He made that connection and opened the door to our agreement with the Cosanti Foundation.

Both locations were founded, designed, and built by Paolo Soleri after he left Taliesin West, where he was an apprentice of Wright's in the late 1940s. They were designed for the learning and practice of architecture in much the same way as Taliesin West, with generous outdoor space for experimental building and construction. And Cosanti has the advantage of being in the Phoenix metro area.

How does the school year work, with its different locations?

We only have these home bases in Arizona at the moment, and we're actively looking for a new Midwestern home, perhaps in Wisconsin or Chicago.

Our program is 3.5 years and has a seasonal rhythm to it. Traditionally we moved our program and students between two states every few months: we used to be in Wisconsin from June to mid-October, and then Arizona from late November to May.

The school is known for its hands-on "learning by doing" pedagogy. Has this changed?

We built our first shelter projects at Arcosanti this spring, and they're amazing. We're expanding this and have a new group design-build program, called Usonia 2021, focused on service, learning to complement the individually focused thesis. It plays on Wright's Usonia program of housing, which was designed to address rising prices in housing in the middle of the last century. We need a new program that addresses the urgency of today. Students will work in communities all over the States, and it is a way for the school to reach out into the world.

How is enrollment?

Class kicks off on September 1. We're coming into fall with about 11 students—that's down from about 28 in January 2020. We didn't admit an incoming class fall 2020 because of the uncertainty of the transition, but also the pandemic. We're rebuilding, but I think it will take a while to let people know we're still out there. ■

Welcome, MillerKnoll

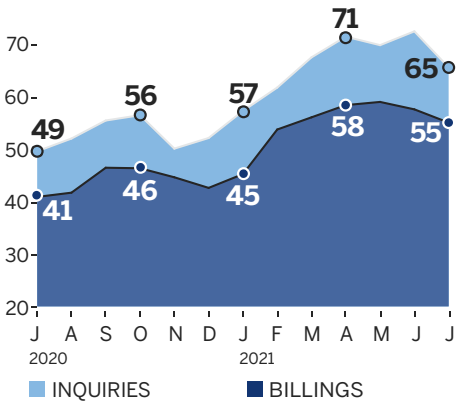
Herman Miller and Knoll have rebranded as MillerKnoll, following the former's $1.8 billion acquisition of the historic design brand in April. MillerKnoll's combined portfolio includes Herman Miller's celebrated Eames and Noguchi collections and Knoll's well-established pieces, such as the works of Eero Saarinen and Marcel Breuer, and partner brands like Muuto.

Trade Shows Begin

As case numbers of the highly contagious Delta variant of Covid-19 continue to rise, Europe's trade design shows, once postponed, are under way this month, in person, including Paris Design Week Maison&Objet, London Design Festival, Salone del Mobile in Milan, and Cersaie in Bologna. Also scheduled for October in the U.S. is NeoCon in Chicago.

Liverpool at Odds with UNESCO

UNESCO has stripped Liverpool, U.K., of its World Heritage status, citing "the irreversible loss of attributes conveying the outstanding universal value of the property" when listed in 2004, citing disruptive development along its waterfront. The city now joins Dresden's Elbe Valley and Oman's Arabian Oryx Sanctuary as one of three sites ever delisted, severed from the likes of Paris, Warsaw, Kyoto, and Mexico City, which are recognized for their architectural and historical significance.



ABI Score Steadies

The AIA's latest data show that the Architectural Billings Index eased to 54.6 in July, down slightly from 57.1 in June but still above the bench line of 50 (scores over 50 indicate an increase in firm billings). New inquiries and contracts are still growing but also slowed, from 71.8 to 65 and 58.9 to 58, respectively.

PHOTOGRAPHY: © ARANDA\LASCH

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Rieder is pushing its US business by establishing two legal entities, one for sales and one for its fabrication operations including new made-in-the-USA services like shop drawings, assembly, project management, customer care and design assist. This works in conjunction with its established rep network that's been helping businesses for more than 16 years.

Many different projects have already been realized worldwide, including the visionary TRIO project with the international Moxy Hotel. Located in the modern Wankdorf City district in the Swiss city of Bern, this three-part building complex is a newly conceived space created for living, shopping, working and overnight accommodation. This concept from GWJ Architects is designed for contemporary lifestyles: A not-too-big but delightful living space that's straightforward and cosmopolitan. Its analog setting and expressive design communicates interest in the colorful world we live in.





Custom-made and Flexible Glassfibre Reinforced Concrete

Keeping with this lifestyle concept, formparts from Rieder were used on the trendy Moxy Hotel. The front facade is made of glassfibre reinforced concrete and serves as a connecting element to buildings I and II with load-bearing concrete structures as the outer shell. The length of the formparts is particularly impressive: For example, the longest formed part ever produced at Rieder, at almost 5 meters in length, was installed here.

The facade is made of fibreC, which is visually similar to the concrete facade of the other two complexes. "Rather than being introverted, the hotel was to appear as communicative as possible structurally in order to create a dialogue with the other buildings," explains project manager Maurizio Chirico from GWJ. "The three buildings created by the GWJ / ASTOC planning consortium stand out due to their stringent facade design with prefabricated concrete elements. Even though the facade of the hotel building is not load-bearing, we wanted to use a similar materiality here as well. Due to the weight, the available space and the possible surfaces, we decided to use concrete-formed parts.".

For the contrasting lattice structure of the hotel facade, 1,963 pieces of formparts in silver-grey from Rieder were used. The aforementioned longest part ever produced in the company's history is a 4.99-meter-long U-part that creates a monolithic appearance while at the same time symbolizing the flexibility, stability, and practicability that characterize Rieder's facade range.

Formed Parts From Rieder - A Straightforward Solution

Due to their low weight and large span widths, Rieder's curved elements require less supporting structure than comparable products made of concrete. Rieder's facade products have a customizable surfaces, including the concrete color, finish, and texture. This offers technical advantages and design benefits, which impressed the GWJ Architects working on the TRIO project. A wide range of shapes and colors, as well as flexibility in the realization of concrete architectural concepts, make Rieder a popular partner for the implementation of the most diverse designs for modern buildings with concrete facades.

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A RESIDENTIAL COMPLEX NEAR HELSINKI BY OOPEAA SMOOTHLY COMBINES RENOVATION WITH CONSTRUCTION. **BY WENDY MOONAN**

FINNISH ARCHITECT Anssi Lassila, founder of the 20-person firm OOPEAA/ Office for Peripheral Architecture, in Helsinki, was only 4 years old when Aarne Ervi, known as a master of Modern architecture, died in 1977. But Lassila grew up admiring his predecessor's work. "Even though Ervi was of a younger generation than Alvar Aalto, he worked with Aalto in the 1930s," says Lassila, "and he had a strong influence on the functionalist style of architecture in Finland."

Lassila was thrilled when his firm was asked to renovate the Villa Koivikko in 2017, a landmarked residence that Ervi designed in 1958, on a forested lakeside hill just outside Helsinki. (*Koivikko* means "birch grove.") The villa's new owner told Lassila he planned to use the 2,700-square-foot house on weekends and holidays, year-round. His brief was to make it a place where the family could relax while he, an author, focused on his work in a new, separate 540-square-foot studio. His only requirement? Any new buildings had to be of the same high caliber as the original villa and the caretaker's house.

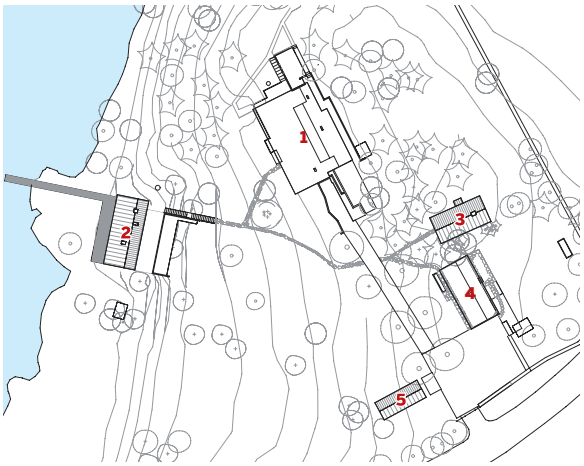
"Our starting point was to really celebrate the beauty of Ervi's architecture, then to add to the complex in a way that would meet the needs of the current owners and their lifestyle," Lassila says. Studio Petra Majantie acted as the interior architect and client's representative on the project.

The villa is poured-in-place concrete with a white-brick and iroko-wood facing; for the caretaker's house, Ervi used concrete block. "Ervi was eager to experiment with new technical solutions and innovative materials," Lassila says. "But many of the materials he selected turned out not to endure all that well. For example, the thermal insulation totally



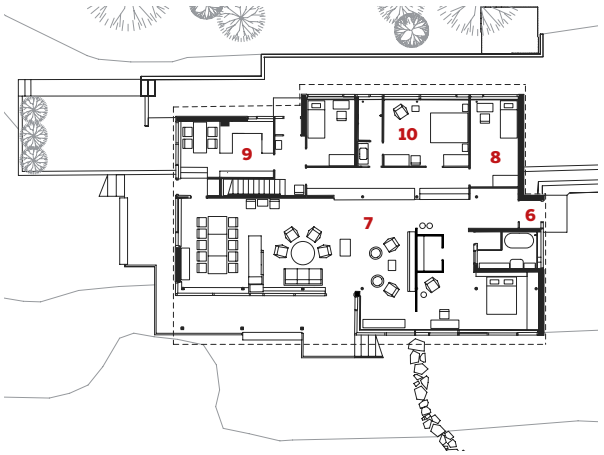


The main villa, designed by Aarne Ervi in 1958, of reinforced concrete, brick, and iroko wood, was renovated by Anssi Lassila, working with interior architect Petra Mejantie (top). The updated villa's living and dining area (above) retains its original Modernist sensibility.



SITE PLAN

0 50 FT.
15 M.



MAIN-VILLA PLAN

0 15 FT.
5 M.

1 MAIN VILLA
2 SAUNA
3 WRITER'S STUDIO
4 CARETAKER'S HOUSE
5 GARAGE
6 ENTRANCE
7 LIVING ROOM
8 BEDROOM
9 KITCHEN
10 MAIN BEDROOM

PHOTOGRAPHY: © SAKARI MAJANTIE (TOP); ANGEL GIL (MIDDLE)

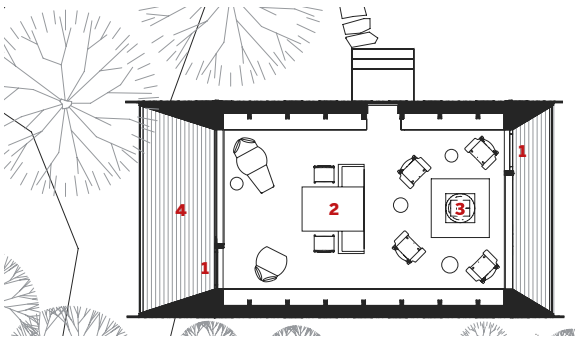






Besides renovating the villa and caretaker's cottage, architect Anssi Lassila designed additional structures. One, a writer's studio (above) is built atop a stone cellar. Its interior (left) is lined in spruce. Another new building, a sauna, is covered with tarred wood and a green roof (top, right).

1 ENTRANCE
2 WRITING AREA
3 FIREPLACE
4 DECK



WRITER'S STUDIO PLAN

evaporated and turned into dust." Lassila installed new insulation, geothermal heating, and updated the HVAC systems while meeting the requirements for renovation set by the landmark authorities.

Off to one side of the villa, midway down the steeply sloping hill to the lake, Lassila designed a new car shed with two open ends, like a covered bridge. On the opposite side of the villa, he decided to build the writer's studio on top of a stone cellar. By removing the cellar roof, he was able to add a second floor, with a glass facade overlooking the lake. Both garage and studio are covered with tarred wood shingles extending from their pitched roofs to the ground,

"Tarred wood in Finland appears on church roofs and old buildings because it offers good weather protection and is long-lasting," Lassila says. "I didn't want to compete with the original white buildings; I thought the new structures should avoid being the center of attention, and try to blend in with nature."

The interiors of the studio (as well as the new black-waxed traditional wood sauna with a grass roof, next to the lake) are sheathed inside with pale spruce. "The interiors' light-colored wood is visible from the outside," he says. "The buildings seem to glow at night."

Lassila felt that the work on the villa was especially inspiring "because of the rich layers of dialogue" involved. Others agree: it has been nominated for the 2022 European Union Prize for Contemporary Architecture/ Mies van der Rohe Award, to be announced next spring. Whatever the outcome, here the architect and his team have sensitively balanced the strong horizontal lines and light exteriors of 1950s Modern architecture with discreet dark-wood vernacular additions, to create an arresting ensemble. ■

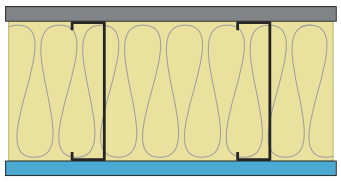
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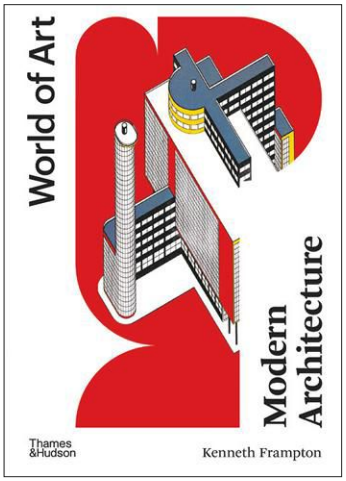
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The Quintessential Resource, Updated

Modern Architecture: A Critical History (fifth edition), *by Kenneth Frampton. Thames & Hudson, 736 pages, $29.95.*

REVIEWED BY ERIC P. MUMFORD

SINCE THE EARLY 1960s, when his career as an architect and as technical editor for *Architectural Design* (*AD*) began in London, Kenneth Frampton has been one of the most effective advocates of an ethically informed approach to architectural design. Not only has he been a strong supporter of women in the field, his was also an influential early voice in calling attention to the need for architectural design to be part of what is now often called sustainability.



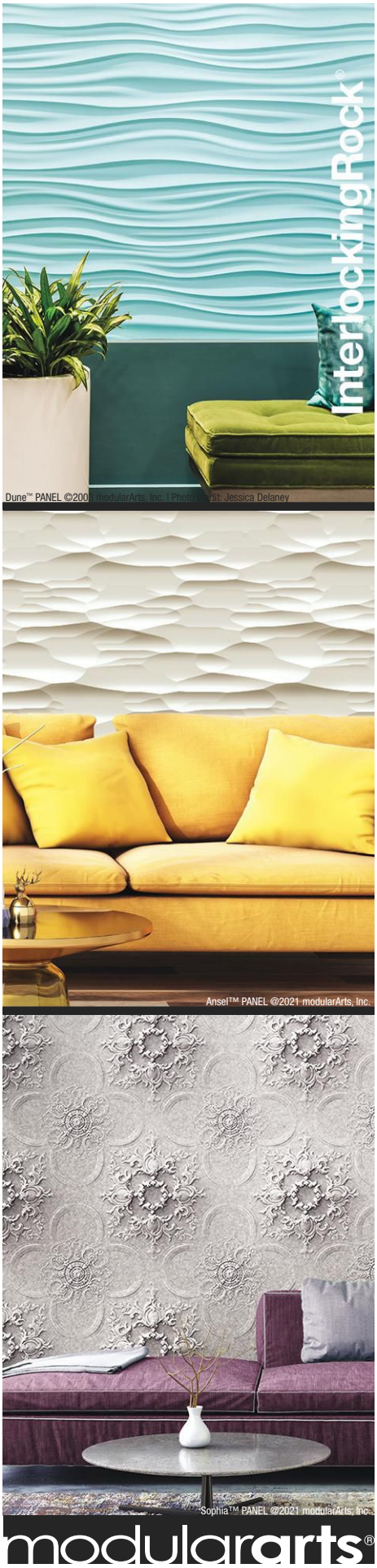
This textbook, originally published in 1980, remains a very thoughtful and usable overview of the development of modern architecture from the mid-19th century to around 2010. Drawn in part from Frampton's earlier writings in *AD* and from *Oppositions* (the influential journal of the Institute of Architecture and Urban Studies that Frampton cofounded and co-edited), *Modern Architecture* has been an essential resource for generations of architecture students. Its compact design and enigmatic cover remain largely unchanged in this new edition, though at 736 pages, it is nearly twice the length of the previous edition, with more illustrations and new chapters that bring attention to less well-known works, many of them outside the West. As in the earlier versions, the author's sharp insights and observations, informed by his deep knowledge of modern Western philosophers like Hannah Arendt as well as of 20th-century history and politics, situate the specific architectural works included. Frampton's rare ability to concisely explicate the phenomenological, social, and technical aspects of the examples he has chosen, many of them illustrated by a variety of photographs and architectural drawings (some difficult to obtain elsewhere), ensure this book's continuing value.

In the contemporary cultural environment, various political aspects of this canonical material may be difficult to appreciate. Responses to Philip Johnson, for example, whose politics Frampton never admired, have shifted radically since the first edition. Rather than valorize specific figures, Frampton's intent is to identify the breadth of architectonic issues and responses found in modern buildings across the world, and to explain those in a succinct and coherent way, with the larger goal of making the field more socially and environmentally responsible.

Modern Architecture is also filled with excellent visual material, ranging from the historic photo of Walter Gropius and Le Corbusier at a Paris café table in the early 1920s, with Ise Gropius sitting nearby, to an iconic view of the then-recently completed Eames House in Los Angeles (1949) and Francis Keré's primary school in Burkina Faso (2001). The text quickly conveys the story of how new ways of building and thinking about architecture have been transformative across the world.

Among the most valuable aspects of *Modern Architecture* are its many precise architectural drawings, which include detailed floor plans, sections, axonometrics, and analytic perspectives. Drawn by generations of architecture students, these differentiate the book from more standard architecture publications that consist mainly of photographs. As with any textbook, one can quibble about some of the specific project choices. Inevitably, for a book first published in 1980, the contemporary situation of the architectural profession within the real environmental legacies of racial segregation and gender and economic inequality could at points be more substantially addressed. Nonetheless, Frampton's work still offers a greatly expanded and accessible historical introduction to many of the key issues and problems of contemporary architectural design. ■

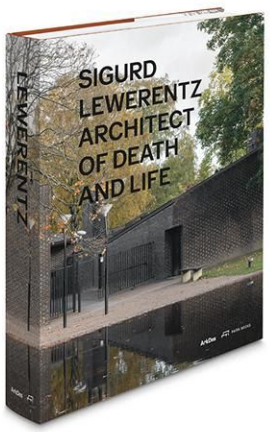
Eric P. Mumford is professor of architecture at Washington University in St. Louis and author of Designing the Modern City: Urbanism Since 1850.



A Modern Master, Long Revered and Now Revisited

Sigurd Lewerentz: Architect of Death and Life, *by Kieran Long, Johan Örn, and Mikael Andersson. Park Books, 712 pages, $150.*

REVIEWED BY JOHN RONAN, FAIA





The idiosyncratic brick and windows of St. Peter's Church.

WALKING INTO the sanctuary of St. Peter's church in Klippan, in southern Sweden, is like entering a time machine. You have the sense of being transported to another age, but you're not exactly sure which—it could be the future or some very distant past. The dimly lit worship space is at once modern and primitive, technologically advanced yet possessing the atmosphere of a pre-Christian pagan temple, with its clamshell baptismal font supported by metalwork that could be from the Bronze Age. In lieu of conventional windows, glass is clipped to the exterior wall in the crudest fashion, to preserve the interior's cavelike character.

The church is as enigmatic as the man who designed it, Sigurd Lewerentz (1885–1975). A new book and exhibition (opening at Stockholm's National Center for Architecture and Design, ArkDes, on October 1), both called *Sigurd Lewerentz: Architect of Death and Life*, seek to demystify this "architect's architect" known primarily through two late-career churches. Lewerentz didn't write much, which contributes to his shaman-like reputation, and his architecture has always presented a problem for historians because it defies easy categorization. This explains why much of the scholarship on his work has been written by architects, notably publications by Janne Ahlin (1987) and Wilfried Wang (1997). The latest, by ArkDes director Kieran Long, curator Johan Örn, and historian Mikael Andersson, is a somewhat less reverential account of Lewerentz that seeks to broaden the overall framing of his career and provide fresh insight into his legacy. No exercise in hagiography, it looks at the architect's professional life with a sober detachment, exploding some of the myths surrounding this figure of cultlike devotion and providing a fuller picture beyond the caricature of a cigar-chomping loner who designed idiosyncratic churches.

The well-researched book is organized into three parts, beginning with an introduction by Long, followed by a description of the many artistic periods of Lewerentz's career, which Örn breaks down chapter by chapter. The second section includes photographs of the built work, and the third part consists of selections from the ArkDes and other drawing archives, with notes by Andersson. Large-format, printed in full color, and more than 700 pages, the book weighs in at a hefty 8 pounds. Lewerentz was famous for allowing no cutting of the bricks on his jobsite, and a similar rule seems to govern this book.

Even the most ardent Lewerentz enthusiasts will find something new, learning perhaps for the first time that the architect designed—in addition to buildings—pianos, buses, wallpaper, luxury furniture, posters, logos, typefaces, neon signs, and headstones; and that he co-founded a company that produced steel windows, doors, and storefronts. The book includes insightful detail about Lewerentz's research and working methods, such as the influence of ancient Persian masonry techniques on his work, or how he sketched over photographs of partially built works to refine the design. He was chronically late delivering projects to his (frustrated) clients, who sometimes wound up firing him. An anecdote about how one residential client "cut out pictures from interior-decorating magazines and sent them to Lewerentz as helpful suggestions on how to deal with particular details" will resonate with many designers today.

While the book does an excellent job of chronicling the shifting focus of Lewerentz's long career—kick-started by a competition win for the Woodland Cemetery (with Gunnar Asplund) when he was just 30 years old—it is less successful in "connecting the dots" between periods and resolving the seeming contradictions of this complex figure. For example, how does one reconcile the young Lewerentz's enthusiasm for flamboyant decoration—a desk he designed had 18 different woods, with inlays of silver, enamel, ivory, mother-of-pearl, and tortoiseshell, earning him the disdain of functionalists—with the almost monomaniacal focus on a single material of the late churches, in which even the altar, pulpit, and confessional are made of brick? How does an architect who once owned a steel-frame window factory and attempted to patent an innovative spring-loaded glazing assembly resort to crude metal clips and caulk to secure the windows in his most mature work? While the book contributes invaluable new information about and insight into this enigmatic figure, it is silent on these and other intriguing questions, leaving room for future scholarship.

What is prompting this fresh examination of Lewerentz now? What is it about his work that makes it particularly relevant? The first retrospective on Lewerentz opened in 1968, a time similarly turbulent to our own, when his work was held up as "a shining light in a time of decay." The generation of Swedish architects who followed him saw a resistance fighter, an architect who swam against the tide of homogeneity, prefabrication, and devaluation of craftsmanship then inundating Scandinavian building culture. Perhaps the story of this architect of thoughtful "one-off" buildings from the land of IKEA, who elevated the handling of materials to an almost spiritual level, might help us understand how architecture might move forward in our own time. ■

John Ronan, FAIA, is principal of John Ronan Architects in Chicago and professor at the College of Architecture at the Illinois Institute of Technology.

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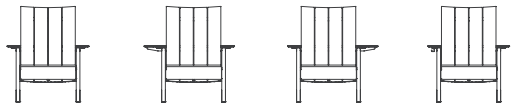
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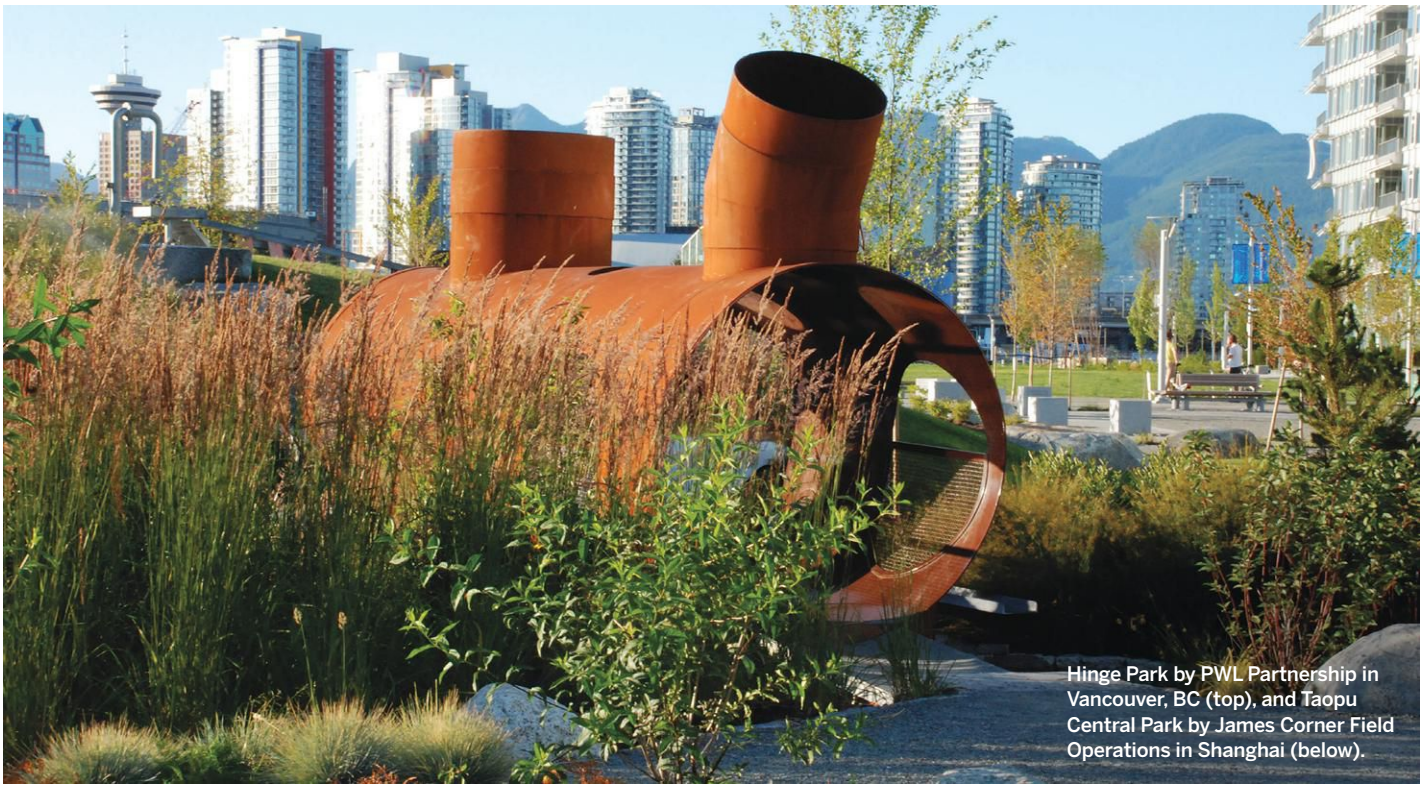
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VICTORIA NEWHOUSE AND ALEX PISHA DISSECT THE BEAUTY OF PUBLIC SPACES IN THIS GORGEOUS ANTHOLOGY. **BY KARA MAVROS**



Hinge Park by PWL Partnership in Vancouver, BC (top), and Taopu Central Park by James Corner Field Operations in Shanghai (below).

"IT WAS OBVIOUS from the moment Covid happened that parks were assuming more importance," architectural historian Victoria Newhouse tells RECORD. After a tumultuous year, spent mostly indoors and isolated, *Parks of the 21st Century* is just the tonic we need to remind ourselves of the power of renewing and reclaiming public spaces. In the lovely 356-page anthology out this month from Rizzoli ($75) by Newhouse and landscape architect Alex Pisha, the authors illustrate various examples of landscape urbanism across the globe through detailed histories, full-page photos, and site maps of 52 recently created parks. (She and Pisha visited all the sites during a five-year period, pre-Covid.)

Chosen by criteria of attendance, public awareness, and would-be imitators, each of the projects is organized according to former use, broken down into categories including railways, airports, waterside industry, inland industry, quarries, strongholds, and future projects. Today, some have off-site programming components that include classes, and many incorporate surviving remnants from a site's previous life, such as the bridge constructed from a sewer pipe at Vancouver's Hinge Park. Another, Taopu Central Park in Shanghai, was built on the site of former industrial plants.

Newhouse and Pisha explain that three factors led to the abundance of newly created parks in the past several decades: the environmental movement of the 1970s (Newhouse also posits that the resurgence of interest can be pinned to today's current ecological renaissance), Western postindustrialism, and the erosion of public space.



Parks of the 21st Century: Reinvented Landscapes, Reclaimed Spaces, by Victoria Newhouse with Alex Pisha



The most surprising takeaway of this book, however, are the myriad differences between landscape architecture in China—almost one-third of the projects included are there—and in the Western world. "The scale is amazing," says Newhouse of the Chinese parks. "One has this sense of spaciousness and generosity [when there]." While the U.S.'s landscape history dates back to the 19th-century park movement, most of China's city-built parks were only lately adapted from markets, temples, and plazas. These are built faster than those in the U.S., but maintenance is much less a priority.

Though geography and programs vary, Newhouse says each of the 52 parks has a "water story," such as stormwater retention, to reduce effects of climate change. The future will tell if and how their legacies will endure. ■

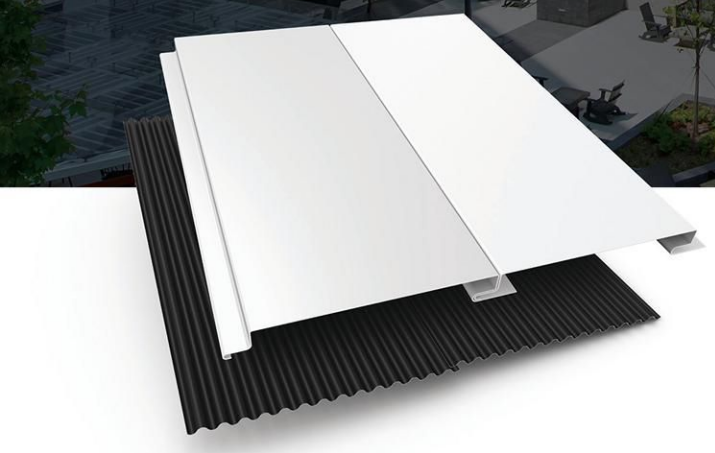
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L'Arc de Triomphe, Wrapped

The final project by the late artists Christo and Jeanne-Claude will open in Paris on September 18, with the wrapping of one of the city's greatest monuments.

BY PHILIP JODIDIO

KNOWN *for their signature transformations of monuments and landscapes, from the* Pont Neuf, Wrapped *(Paris, 1985) and the* Reichstag, Wrapped *(Berlin, 1995) to* The Gates *in Central Park (New York, 2005), Christo and Jeanne-Claude attracted millions of visitors to see their free two-week installations around the world. Each of their urban projects encouraged a different way of viewing a monument or a public space, transforming historic architecture into contemporary art. What is probably their last work,* L'Arc de Triomphe, Wrapped, *was delayed for one year after Christo's death on May 31, 2020, and because of Covid—yet, of their projects, it was one of the longest in gestation. It will be open from September 18 to October 3.*

At the juncture of 12 major avenues in Paris, including the Champs-Élysées, the Arc de Triomphe was commissioned in 1806 to celebrate Napoleon's victory at the Battle of Austerlitz the previous year, and it finally opened in 1836 (long after the emperor's final defeat at Waterloo and his death in 1821). Designed by the architect Jean-François-Thérèse Chalgrin (1739–1811), the Arc is 164 feet high and 148 feet wide, and has hosted at its base the tomb of the unknown soldier, marked by an eternal flame, since 1923.

Like all the projects of Christo (1935–2020) and his wife and partner, Jeanne-Claude (1935–2009), L'Arc de Triomphe, Wrapped *is the result of years of meticulous administrative and technical planning. The structure will be encased in 269,098 square feet of silvery blue recyclable polypropylene fabric, and 9,843 feet of red rope. The artwork is entirely funded by the sale of Christo's preparatory studies, drawings, collages, and scale models, with no direct public support involved. Both artists made clear their intention for their work to be carried forward even after their deaths, and, in this case, their original team is directed by Christo's nephew Vladimir Yavachev.*

Philip Jodidio, who knew Christo and Jeanne-Claude for many years, met Christo for the last time at his Howard Street studio in New York on June 11, 2019. During their conversation, they spoke about L'Arc de Triomphe, Wrapped, *which had just won final approval. Here is an excerpt.*



Christo in his New York studio in 2019, with a preparatory drawing for the project.

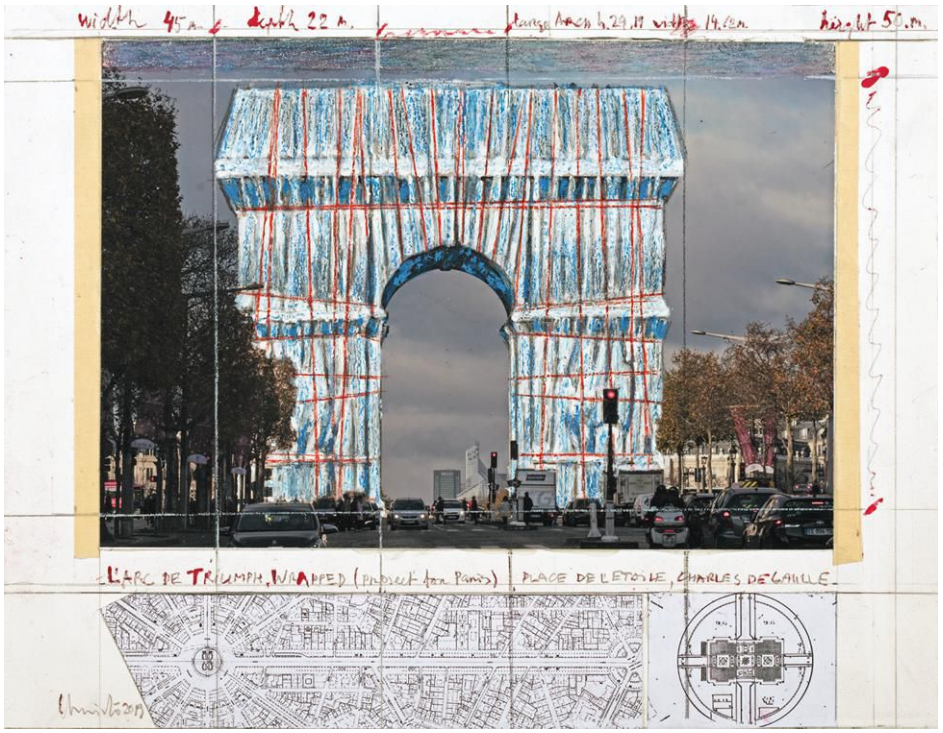
PHOTOGRAPHY: WOLFGANG VOLZ © 2019 CHRISTO AND JEANNE-CLAUDE FOUNDATION

When did you first become interested in the Arc de Triomphe?

In 1958, when I arrived in Paris [from his native Bulgaria], I lived in a maid's room on the top floor of 8 rue Quentin Bauchart, adjacent to the Champs-Élysées. That is how I discovered the Arc de Triomphe in March of that year. In 1962, we did a photomontage with a photo by Shunk-Kender, looking up the Avenue Foch toward the Arc de Triomphe, in which we imagined wrapping the structure (*Wrapped Public Building—Project for Arc de Triomphe, Paris*). In 1972, Jacques Putman, the husband of the decorator Andrée Putman, published a color lithograph of the original project. In 1989, Torsten Lilja in Stockholm printed another more detailed lithograph. For the Reichstag project, which took 25 years, I created more than 600 original works, but in the case of the Arc de Triomphe, I thought we would never get the permission. As a result, I created fewer works, but the original idea dates back to 1962.

How did you finally obtain permission to create *L'Arc de Triomphe, Wrapped*?

In the last 50 years, we have realized 22 projects and we failed to get permission for 47 others, although we continue our efforts. Bernard Blistène [then Director of the Musée national d'Art moderne at the Centre Pompidou] was interested in an exhibition on our work. Each of our major projects, starting with *Wrapped Coast* [Australia, 1968–69], has had its own exhibition, with full documentation, models, artworks, and films. Before Jeanne-Claude passed away in 2009, because we were aging and we are not forever, we sold a full documentary exhibition on the *Running Fence* [Sonoma and Marin counties, California, 1972–76] to the Smithsonian American Art Museum in Washington, D.C. Later we worked very hard to sell the exhibition on the *Wrapped Reichstag* to a German foundation



A 2019 collage, with a Wolfgang Volz photo and a map of the Place de L'Etoile in Paris.

that has lent it for 20 years to the Reichstag [*Christo and Jeanne-Claude:* Wrapped Reichstag, *Berlin, 1971–95. A Documentation Exhibition, 2015–35*]. Our exhibition on the *Pont Neuf Wrapped* [1975–85], in which we tried to articulate its similarity as an urban project to the *Reichstag*, was held at the Kunstmuseum in Bonn in 1993. It was shown again in 2004 at the Portland Art Museum in Oregon before *The Gates* project. But it was never shown in France, and our idea was that every exhibition should find a permanent home in its own country. And so, at our request, Bernard Blistène accepted the *Pont Neuf* exhibition for the Centre Pompidou, and he decided to add an extra section with the working title "Christo and Jeanne-Claude—Parisian Years," about our works between 1958 and 1964.

It was the exhibition on the Pont Neuf at the Centre Pompidou, then, that made *L'Arc de Triomphe, Wrapped* possible?

That is correct. Not so long ago, I was leaving the Centre Pompidou with Bernard and Serge Lasvigne, the president of the Centre, after a meeting. Looking at the spaces in front of the Centre—the esplanade, and the Brancusi Studio—Bernard said to me that usually artists who show at the Centre create a work nearby. I immediately responded that I would not do something there, but that I would wrap the Arc de Triomphe. They took me seriously, and, with their help—within less than a year—we had the necessary permission for the *Arc de Triomphe*.

I thought we would never get the permission [for the Arc de Triomphe], but the original idea dates back to 1962. In the last 50 years, we have realized 22 projects and failed to get permission for 47 others.

Even after you obtained permission, there were obstacles to the timing.

Yes. The original idea was to have the Centre Pompidou exhibition coincide with the *Arc de Triomphe, Wrapped*, but other factors intervened. The LPO [Ligue pour la Protection des Oiseaux], which is a very active association for the protection of birds in France, heard about the project and approached us because there were falcons nesting in the bas-relief sculptures on the north facade of the Arc. This fact, combined with the frequent use of the Arc de Triomphe for official functions, often around the eternal flame, led to a delay in the schedule. The space is, in fact, not under the control of the City of Paris but that of the National Monuments and the Presidency of France. Because of the birds and because of the official use, the project is planned to last from the 19th of September until October 4, 2020 [the original planned date, delayed one year]. This morning, we received final approval from Philippe Bélaval, the president of the Centre des Monuments Nationaux, who was instrumental in convincing President Macron to allow the project to advance.

One of your strengths is clearly your consistency over long periods of time.

This is the story about how a long, unrealized project came to fruition on a very rapid schedule. We also try to continue to work with people and organizations in the long term. For *L'Arc de Triomphe, Wrapped*, we are very fortunate, because the company that realized the *Pont Neuf Wrapped*, the Charpentiers de Paris, is very enthusiastic about working with us again. The Compagnie des Guides de Chamonix, mountain climbers who were with us in 1985, are again involved.

What are some of the reasons you have been interested in the Arc de Triomphe?

The Arc de Triomphe is the most visited national monument of France [9.9 million visitors in 2019], and visits will continue during the project. At the top [viewing] platform, visitors will be able to walk on the fabric that will cover the structure. I was interested to learn that an ephemeral full-scale wood and painted-canvas mock-up of the Arc was built on the site in 1810, when the structure was under construction. It has been the theater of major events such as the funeral of the writer Victor Hugo, when it was partially shrouded in black while the body was displayed there for one night in May 1885. General De Gaulle marched from the Arc down the Champs-Élysées on August 25, 1944, marking the liberation of the city. Physically and historically, it is a significant monument. ■

Philip Jodidio was editor in chief of the French art monthly Connaissance des Arts *from 1980 to 2002. He is the author or editor of 180 books about contemporary architecture for Taschen, Rizzoli International, Thames & Hudson, and other publishers.*

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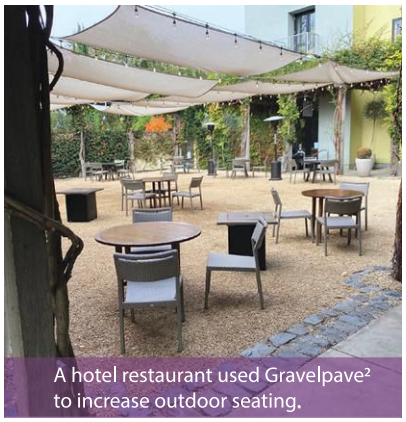
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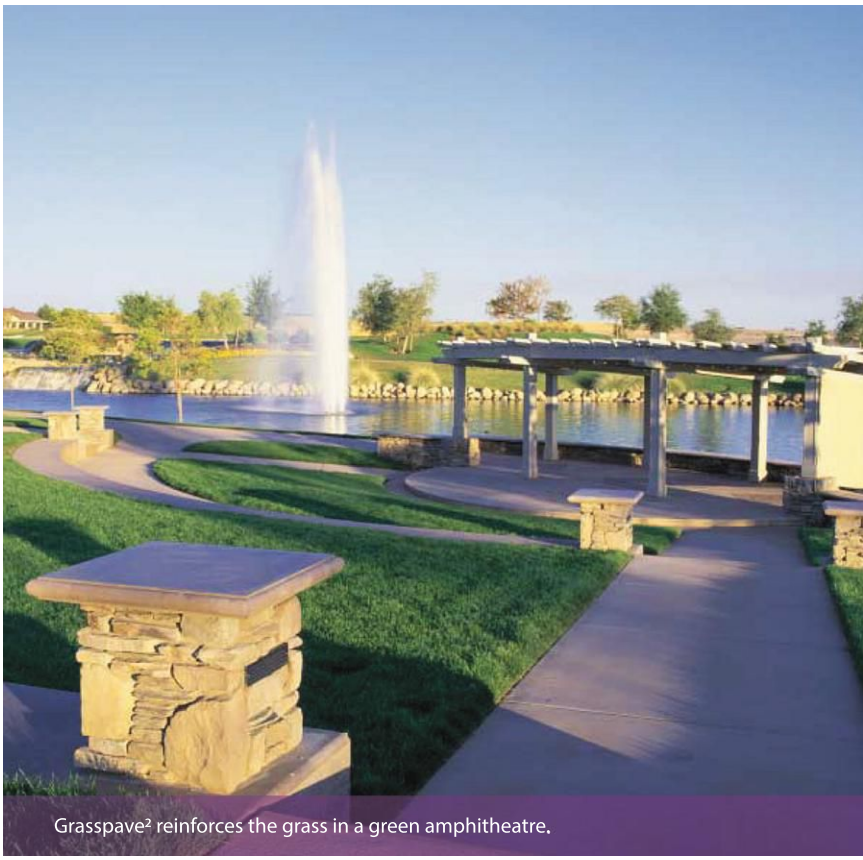
Grasspave² doubles as greenspace and a fire lane.



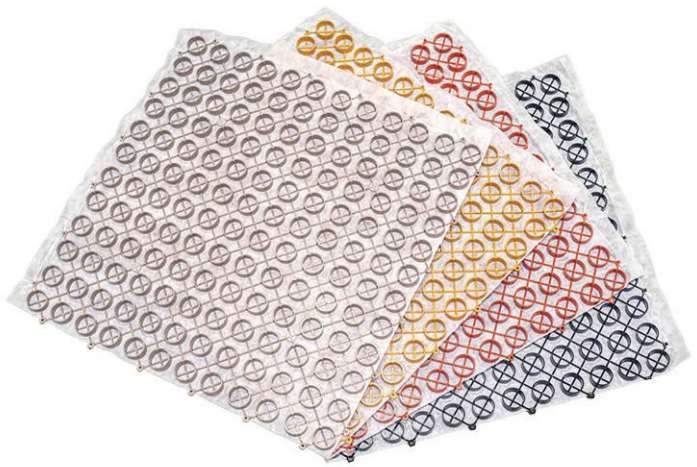
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BY SHEILA KIM



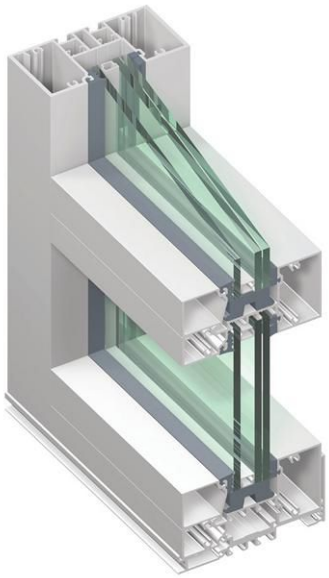
Palisades S100

This sliding-door addition to CRL's Palisades door and wall systems maximizes views, thanks to its slim 15⁄16" rails and stiles. The glazed portal accommodates glass panels of up to 7' wide x 13' high and is available in black bronze anodized, satin anodized, black or white powder coat, and custom finishes.
crlaurence.com



One55 Series

Hope's Windows has expanded its One55 series with doors and operable windows that, like the rest of the line, feature more traditional architectural aesthetics. Incorporating the manufacturer's Thermal Evolution technology, the products are made of hot-rolled steel with fiber-reinforced polymer thermal isolators that help meet the most stringent energy codes in the U.S.
hopeswindows.com



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Tubelite has enhanced its high-security blast-mitigating product range with curtain walls, entrance doors, and storefronts, all of which utilize blast-resistant aluminum-framing members. The systems can be customized in options such as thermal enhancement, ADA compliance, and a choice of 19 paint and 10 anodized finishes.
tubeliteinc.com



8325 Series

Winco has developed these windows to be thermally advanced; independent aluminum extrusions are used for the inside and outside faces, with a cavity between them housing two glass-reinforced polyamide struts. The system can accommodate double or triple glazing to meet stringent energy codes.
wincowindow.com

Wood Entry Door Systems

These new doors from TruStile come in 500 styles designed to suit almost any residential project. All are constructed with engineered exterior-grade MDF and are specifiable with optional sidelights and transoms. The doors are available in a whopping 70 finishes and 12 wood species.
truestile.com





Skylight Shades & Blinds — New Colors

Roof-window manufacturer Velux has expanded its portfolio of skylight coverings with more than 50 new colors for its four offerings: Double-pleated room darkening shades; single-pleated light filtering shades; classic venetian slats; and solar-powered blackout shades. The updated palette includes charcoal, wine red, and blue jeans, among others.
veluxusa.com

590X Steel Replica Window

Architects can replicate classic windows for existing structures, such as buildings listed on the National Register of Historic Places, as well as new buildings, while increasing energy efficiency with this series. EFCO 590X comes in three profiles—bevel, cove, and T-grid—and features a customizable muntin grid to match the project's existing sight lines and style.
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deceuninckna.com

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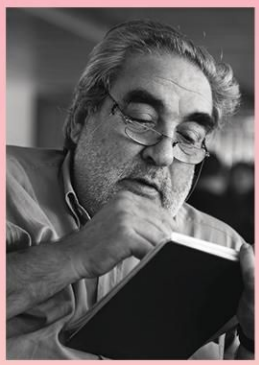


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aidlin darling design
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William Leddy, FAIA and Marsha Maytum, FAIA
Leddy Maytum Stacy
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Meejin Yoon, AIA and Eric Höweler, AIA
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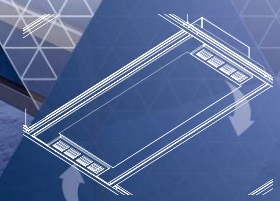
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These artisanal and innovative pieces speak to today's contemporary schemes.

BY SHEILA KIM

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zaha-hadid-design.com



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pella.com



Contemporary Square Escutcheon

Baldwin Hardware has added five new large egress escutcheons, including the Contemporary Square (left), which presents a clean, sleek design with squared edges. It comes in six complementary finishes that range from Venetian bronze to satin black. This design is available on Baldwin's Seattle, Miami, and Santa Cruz handle sets.
baldwinhardware.com



Linear Door Hardware

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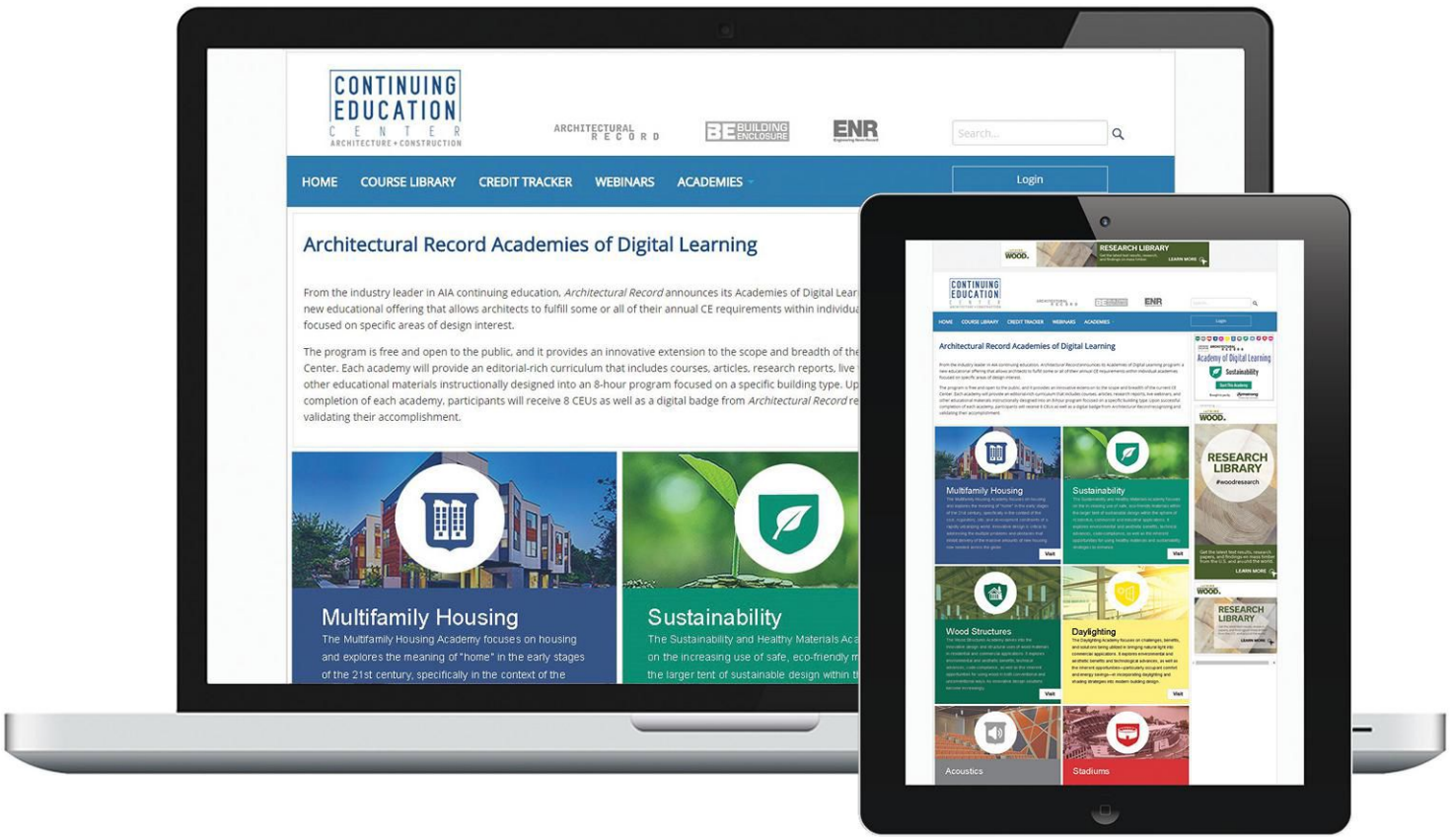
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Reimagining the City

Cities tend to evolve organically, shifting with the forces of the market and the movement of people. But after 18 months of pandemic, and a renewed reckoning of the racial and social inequities of urban life, the call has grown louder to rethink our cities, and to close the widening gaps in access to good education, decent housing and health care, and job opportunities. In the pages ahead, you will hear from scholars, architects, and critics about some of the ways, large and small, to revitalize the urban realm.



PHOTOGRAPHY: © ZEPH COLOMBATTO

NEW YORK, 2020

Urban Futures

Two Harvard economists propose solutions to cities post-Covid.

BY DIANA LIND

WITH THE NATIONAL economic output back to its prepandemic numbers and unemployment down to 5.9 percent, cities have begun to quash the doomsday predictions of their demise. Yet they are changing, as they always do, after prolonged disruptions to their citizens' daily habits and the overall shifting of America's economy.

This issue of RECORD is dedicated to reimagining the post-Covid city, and the opportunities that come with addressing a host of challenges that faced cities long before the first patient came down with the coronavirus—from the crisis in affordable housing to traffic congestion and mobility—and the inequality of access to health care, education, and public space that remain embedded in urban life. In New York, Los Angeles, Miami, New Orleans, and Chicago, there is hope for a better, more sustainable, and more equitable future.

But we urgently need to put that idealistic promise into practice, or the new normal will be worse than the old one. As we know, Covid has not been an equal-opportunity scourge, in terms of health and welfare. Low-wage earners account for 52 percent of those displaced from jobs, as mid- or high-wage earners recover more quickly from layoffs. Eviction moratoria are expiring in piecemeal fashion, and yet housing prices rose 14.9 percent in the year up to June 2021 (see "Why is the Housing Market Insane?" page 80) in the 20 cities tracked by the Case-Shiller Index. Almost every major metropolis is seeing a rise in violent crime. And people seem to be driving as much as ever—used-car prices jumped 45 percent over the past year, while public-transit ridership remained down an average of 57 percent in the first quarter of 2021.

While the Delta variant reminds us that we are not out of this crisis, it is not too early for cities to devise responses to the severe social and structural problems that Covid exposed. *Survival of the City: Living and Thriving in an Age of Isolation*, a book by two Harvard economists, Edward Glaeser and David Cutler, offers an agenda-setting appraisal of the past 18 months' impact on the future of cities.

Informed by a fascinating history of previous pandemics, the authors contend that urban survival will hinge on solving cities' fundamental problems of education and safety, with an added challenge to address pandemic preparedness. This approach makes plenty of sense, like an urban version of pyschologist Abraham Maslow's "hierarchy of needs." Before we fret over ways to turn downtown office buildings into housing, for example, shouldn't we actually build a better public health system, public schools that finally tackle inequalities, and more just and effective policing?

> **Our cities have flourished as enclaves for the wealthy but failed in their great mission of turning poor children into prosperous adults.**

Even when Covid doesn't kill people, it can leave victims debilitated over the long term, along with the institutions and agencies that support them. The authors aren't that worried that cities will die because of a loss of population to the suburbs or receiving lower revenue from fewer daily commuters but, rather, that they could be hobbled by bad policy decisions.

Even in New York, where 18.7 percent of Manhattan's office space was vacant as of July—the highest percentage on record—the authors maintain that the effects of remote work will be "marginal." They note that premature projections of urban demise were often incorrect, such as in Alvin Toffler's 1980 book, *The Third Wave*, where Toffler correctly foresaw that computers would revolutionize the global economy but was wrong in postulating that they would leave downtown office towers empty (not true until a pandemic struck). Glaeser, the author of *Triumph of the City*—a paean to the unparalleled innovation and culture that only dense places can provide—says in an interview, "Cities that were doing well before the pandemic will be fine."

But what Glaeser and Cutler worry about most in *Survival* is that the pandemic will widen the gap between the haves and have-nots. "Before 2020, our cities flourished as enclaves for the wealthy, but they were failing in their great mission of turning poor children into prosperous adults," they write. They see urban agglomerations as increasingly protective of "insiders" — homeowners, incumbent businesses, city agencies—at the expense of outsiders like young people, immigrants, entrepreneurs, and renters. This current lack of opportunity is the threat that should demand our attention and action.

In the book's introduction, Glaeser and Cutler divulge their political leanings: Glaeser calls himself a "traditional East Coast Republican," while Cutler worked in the Clinton administration and on the Obama campaign. These backgrounds inform their appealingly nonideological approach to solving inequity. In some instances, they want the market to drive—they propose reforming cities' zoning and permit processes that are high hurdles to building housing or starting new brick-and-mortar businesses. The physical world is much more tightly regulated, with licenses and inspections, than the virtual one, making it much harder to launch a new store or café than to create an online business. And yet retail entrepreneurship is more accessible to those with lower levels of education. "Only 5 percent of high school dropouts were able to work remotely," says Glaeser. "If you're going to regulate one sector and not the other, you're offering a huge benefit to one group," he adds. Cities need vibrant new in-person businesses across price points in order to rebound.

In other cases, local policy reform isn't enough, and a big-government approach will be necessary. The two authors call for a well-funded national "Apollo program for opportunity" to address persistent urban poverty. Part of this vision requires improving schools, but that "is incredibly hard," Glaeser admits. Past attempts, such as the Obama-era Race to the Top— "a brilliant piece of management-consulting design," Glaeser says—was a competitive process that linked federal funding to excellent school performance. "And yet it [ran] up against the fact that schools have no capacity to adapt to a new set of standards without funding."

Significantly, the authors suggest augmenting improved traditional learning with

IMAGE: © STEPHEN GRAY/GRAYSCALE COLLABORATIVE



Collage by Stephen Gray, associate professor of urban design at Harvard Graduate School of Design, for "Boston: Race and Space, Urban Intermedia—A Harvard-Mellon Urban Initiative," 2019.

job training. Glaeser says these programs, which could supplement school in the afternoon, on weekends, or during the summer, could provide a more direct pathway to employment if done in conjunction with unions or companies that train people specifically in everything from carpentry to computer skills. Such programs, Glaeser points out, will "deliver skills that are actually valued by the workplace." He adds, "And you can measure them at completion. You can pay for performance."

A final plank of their platform to address inequality is improving public safety. Rather than reduce police budgets, they call for enough money to implement community-led policing, violence-diversion programs, and neighborhood amenities in high-poverty areas—ideas that have worked in some neighborhoods in Chicago and New York. All of this will require leadership adept at change management, and the authors suggest adopting a system of metrics that measure not just how much the police reduce crime, but also whether the people with whom they interact are treated with dignity and respect.

Public education and safety are not new urban challenges, but in the wake of the protests after George Floyd's murder and the miserable school year, when shutdowns cut across demographics, "There may be a new impetus to solve them," Cutler says. "We are only as healthy as the least healthy among us," he adds, with the pandemic demonstrating that our own well-being is highly interdependent on the public at large.

To prepare for the next pandemic, Glaeser and Cutler envision a NATO-inspired global health agency that would both provide aid to build cities' public-health infrastructure and deliver data and analysis about outbreaks. After so many years of pitting cities and countries against one another, this agency would bring about a new system of cooperation to ensure mutual health and safety.

As the authors note, "Humanity crafted itself an urban world because proximity is valuable." But as economists, they know there is a cost–benefit analysis to just how valuable city living is. Over the past few decades, most of the benefits of cities—culture and restaurants, good jobs and housing—accrued to the wealthiest. Now it is clearer than ever that, unless we improve health, safety, and education for everyone, inequity and inequality is going to cost us all. ■

Diana Lind is the author of Brave New Home: Our Future in Smarter, Simpler, Happier Housing.



New York State of Mind

The city that never sleeps must finally wake up to the vast inequities in housing, education, and services.

BY THOMAS DYJA

New York City, over its history, has been scrutinized by legions of writers—most recently by the award-winning author Thomas Dyja, whose latest book, New York, New York, New York: Four Decades of Success, Excess, and Transformation, *was published last spring.* RECORD *asked Dyja what he thinks the future holds—or should hold—for the city.*

Beach blankets stored, kids back in school, September traditionally marks the season of beginnings in New York, when fat fall previews tell us what we'll be wearing, watching, and reading as the nights get longer and the air takes on a chill. Openings are attended, sweaters dug out of drawers.

But this isn't just another September, and this isn't the same New York.

Of course, it never is. Change is the nature of cities. Between Ed Koch's inauguration as mayor in 1978 and Mike Bloomberg's departure from office in 2013, New York went through three evolutions—Renaissance, Reformation, and Reimagination, each bigger, cleaner, and in its own way meaner than the one before. Pandemic and protest have announced the next, and with Labor Day still the semi-official city restart, Delta be damned, things are about to get real in New York. Hopefully that's what's coming finally: Realism.

One reality is that New York is not dying. The city was declared dead in the 1970s, the '80s, the '90s, after 9/11, 20 years ago, and after the financial crisis in 2008, and, each time, it clawed back. If a slightly dented, slightly sadder New York isn't for you, so be it, but it should be obvious by now that narratives of urban collapse are driven largely by racist political agendas, and it's happening again today. The 2020 Census put the city's population at 8.8 million, up more than 600,000 from 2010, and crime is actually

down from last year, according to NYPD statistics. So New York won't be melting away any time soon, if only for the terrifying fact that the climate crisis will force billions more into the world's cities, where almost 70 percent of the world's population will live by 2050. So, even after the pandemic, the most pressing urban challenge remains sustainability. How can we manage the impacts of climate change and the ongoing uncertainty of Covid while creating a truly pluralist, democratic society?

A year of discussing inequities and vulnerabilities, of mourning 33,000 dead, made it seem as if New York was sincerely ready to try. And then the coup attempt in Washington, the vaccines, and our wary reemergence into a lame duck summer at City Hall. After months of rhetorical ping-pong—more police or no police; please the rich or eat them—the June mayoral primary left us with the moderate, African American Democrat Eric Adams as the November favorite in this Democratic town, and the lingering question as to whether we'd voted for real change or more of the same, just in a new way.

As it got hotter, our collective desire to party again, to make money again, to argue politics without actually doing anything again kicked in. Now when newspapers tell us with a cheery headline that apartment prices are back up to pre-pandemic levels, I don't know whether to laugh or cry.

We cannot let this moment pass. The biggest reality New York City must face is that life before the pandemic isn't something we should—or can—return to. Ed Koch liked to tell about the woman who asked him to make New York the way it once was. "Lady," he replied, "it was never that good." And in a city born from a dodgy land deal, the change needs to begin with real estate and building. Over the last half century, New York traded the bulldozers of Robert Moses and urban renewal for the supposedly virtuous cycle of encouraging pretty much every development in the name of harvesting tax revenue. Back when the fiscal crisis was still a tender bruise, you could argue this made sense, but now it's simply an addiction that no one wants to break. An '80s-era Request For Proposals once issued by City Hall sums it all up: the first consideration for the winning bid would be the amount. And the last? "Overall benefit to the city."

Well, we need to put the good of the city first now. The problem isn't that we've built too much; New York will always need new construction, big buildings, and big plans. The problem is that we haven't built enough of what we actually need, and that's housing. Since the late '70s, the city has added roughly 1.3 million people—the entire population of Dallas—but only about 600,000 new units, and that's not taking into account how many others were demolished or are prohibitively expensive for most New Yorkers. Residential real estate reset during the '90s, all but pricing out the middle and working classes, and turning what had been a push for long-term, stabilizing investment into pure speculation. As City Hall subsidized, abated, tiffed, and otherwise coddled developers to produce the few trickle-down affordable apartments they promised, rent controls were eroded, entire communities were fed to the brokers, and NYCHA (the New York City Housing Authority) fell apart. Mayor Bill DeBlasio claims to have financed around 150,000 units of affordable housing in his term, but low residential vacancy rates, overcrowding, and glacially paced approvals for builders remain the norm. Despite temporary eviction protections, expect more homelessness, more bankrupt small landlords, and more "market-rate" high-rises.



City Hall should have a positive relationship with developers, but it shouldn't be better than the one it has with the people of New York, and it certainly shouldn't be at their expense.

—Thomas Dyja

Unfortunately, when "the market" is open only to millionaires, "market-rate housing" does little to help. These past 40 years have been built on the fantasy that "the market" is the only solution. City Hall should have a positive relationship with developers, but it shouldn't be better than the one it has with the people of New York, and it certainly shouldn't be at their expense. In fact, the most productive decision Koch ever made was to simply give land away. His housing initiative offered cheap land to community developers and connected them with building capital, bringing neighborhoods back to life with low- and middle-income housing, filling streets with people and windows with light. It's impossible to calculate just how much that investment not only saved but made for New York, and it's at least as responsible for the collapse of crime in the '90s as anything the police did. Reducing the inequalities that threaten our democracy, creating diverse neighborhoods, an integrated school system, and fair delivery of services all require not just fast-tracking more housing, but also encouraging non-market options like mutual housing, limited-equity coops, and community land trusts. We don't need another massive arts venue; we need another Westbeth Artists Housing. I'll trade you former Governor Cuomo's Penn Station complex for another low-cost co-op housing development like Penn South, just a few blocks away.

While some architects and builders do actively confront the technical and ethical challenges of climate change and social justice, others lend their brilliance to the visible inequity that's made this city sick. Firms whose websites profess their humanism and commitment to sustainability also somehow find their way to circumvent zoning rules on supertalls built on gerrymandered air rights. When it comes to public space, put the calculated whimsy of vanity parks aside and put the people who live here first. All together, some half a billion dollars were spent on the now-closed Vessel and Little Island (both designed by Thomas Heatherwick) while New Yorkers battled to restore $80 million to the 2022 Parks budget. A century of modernism may have shown us the limits of what the built environment can actually do to change society for the better, but that doesn't mean we should stop trying.

Fall in New York is about promise, but it's also profoundly realistic. All those previews describe how we'll harvest creativity to light the winter ahead. Thanksgiving asks us to make sure everyone has enough, and that's how this city will survive, by making sure we all have enough. I hope we're starting not just another new season this September, but the beginning of a better New York. ■

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Reality Check in La-La Land

The Chief Design Officer of L.A., Christopher Hawthorne, talks about the city's most urgent problems.

BY SARAH AMELAR

***Christopher Hawthorne**, former architecture critic of the* Los Angeles Times*, is the first Chief Design Officer of the City of Los Angeles, appointed by mayor Eric Garcetti in 2018. Hawthorne has led design initiatives aimed at some of the city's most critical issues, which he discussed with* RECORD *contributing editor Sarah Amelar.*

What do you consider the three greatest challenges to Los Angeles today? And what are some of the specific ways the city is tackling those problems?

There are two ways to answer that question. One is: housing, housing, and housing. The other is: housing, mobility, and equity—which is how I'd really answer. Housing is the No. 1 issue—affordability, access to options, and the ways we can rethink zoning and land use.

There's a stereotype of Los Angeles as a city of single-family houses. We do have almost 500,000 single-family parcels—but we're also a city of renters, with about two-thirds of households renting. Los Angeles has a great legacy of low-rise residential architecture that preceded the dominance of the single-family house. The idea that the city is defined by it is limited—and has a "before" and an "after."

Our housing deficit goes back nearly four



PHOTOGRAPHY: © YOAV GETZLER/EYEEM VIA GETTY IMAGES (OPPOSITE); COURTESY CHRISTOPHER HAWTHORNE (TOP)

decades, with systematic under-building. Now, like many cities, we face a housing crisis, with homelessness and lack of affordability. That's challenge No. 1.

Mobility is the second big issue. No other city has understood its connection to mobility the way Los Angeles has. There's a longstanding view that the city is most legible—in some ways, only legible—through motion. You read it by moving through it.

But the stereotype we're challenging is whether it has to be "auto-mobility," meaning by car. Other ways of navigating L.A. are just as revelatory. Like the single-family stereotype, the idea that this is a city of cars, freeways, and parking lots is also limited. In the mid-20th century, Los Angeles remade itself in that image. But that view has its own before and after. In the early 20th century, our streetcar



No other city has understood its connection to mobility the way Los Angeles has. There's a longstanding view that the city is most legible through motion. You read it by moving through it.

—Christopher Hawthorne

system was the most extensive transit network in the country, if not the world. And now we're building out a modern replacement of it.

We're finally investing in a mature, modern transit system with bus lines, light rail, and subways. We're not there yet, but the voters have consistently supported that vision. By the end of this decade, we'll be close.

Some of it's been made possible by using surviving rights of way from the older, defunct network—what Reyner Banham called L.A.'s "transportation palimpsest." It's all layered: the cart paths among the original ranchos, the oldest streets, the streetcar network, the major boulevards, the freeways, and now this new countywide Metro system, which began in the 1980s under mayor Tom Bradley.

There's a grain of truth to the cliché—the city did radically remake itself in the image of the car. We saw Los Angeles as a metropolis of the future, we wanted to be modern, and, as in many other cities, saw cars and then freeways as central to that vision. But now we need patience. After 75 years of remaking the city in the service of "motordom," it's going to take decades to build a new paradigm.

That may mean some form of congestion pricing and free transit—both ideas are now on the table. Metro's recently launched pilot is making buses and trains free for students, and it will extend to low-income riders in January. That could dramatically build a constituency: a newly empowered generation of Angelenos, who learn to navigate the city by Metro.

What will be in place by the end of the decade?

The major breakthroughs include the 5-year-old fully completed Expo Line (E Line), connecting downtown to the beach in Santa Monica. Among the three new lines now under construction, the Wilshire Boulevard subway is fundamental to rethinking our urban geography, bringing the new Academy Museum and LACMA onto the transit grid. By the Olympics in 2028, it will extend to UCLA, to the west. The second breakthrough, also underground, will be the Regional Connector, linking existing Metro lines and adding downtown stations, such as one behind Disney Hall.

Subways are expensive, and we waited too long to build them along major spines like Wilshire, but they'll make a huge difference. The Expo Line, as transformative as it's been, still runs at grade, with traffic crossings and resulting delays. The new subway and Regional Connector will be enormously important in increasing the system's efficiency and coverage of L.A.'s vast territory.

The third project, the Crenshaw Line (see "Revitalization of the Civic Realm," page 86), will connect the city to the airport—finally. A big transit gateway station by Grimshaw will link it to the new airport people-mover. Within 10 to 15 years, we'll reclaim a pretty close approximation of the geography originally covered by streetcar routes.

What about the equity challenges?

One response has been our Civic Memory project, a reckoning with this city's darker past and tendency to whitewash it. Los Angeles's modern identity was largely based on mythmaking and boosterism, virtually erasing strands of our past: the indigenous, Spanish Colonial, Mexican, and multiracial legacy that preceded the early 20th-century Anglo elite here.

A city commission is under way to address reparations for Black Angelenos. Los Angeles has long been segregated by class and access to wealth. And the housing crisis has exacerbated it.

How might the civic-memory initiatives play out?

When our Civic Memory Working Group

first convened, in November of 2019, the national conversation was already under way about monuments and memorials, particularly Confederate ones. Soon after my job began, Mayor Garcetti mentioned the 1871 anti-Chinese massacre, perhaps the second-deadliest lynching in American history. Nineteen Chinese and Chinese-American Angelenos, then about 10 percent of that entire population, were mobbed and killed one afternoon. Beyond a small plaque in front of the Chinese-American Museum, we'd never grappled with it.

The mayor's comment stuck with me. We decided to take on not just monuments and memorials, but broader questions of civic memory and the city's relationship to history. While learning from the national conversation, we wanted to ground our efforts in Los Angeles. The idea that we're a city of the future has given us a peculiar relationship with the past.

We brought together historians, along with indigenous leaders, architects, designers, and artists, to help think through these issues. In partnership with the Getty Foundation and Huntington-USC Institute on California and the West, we produced a book with 18 key recommendations. It's called *Past Due: Report and Recommendations of the Los Angeles Mayor's Office Civic Memory Working Group*.

It has spun off initiatives, including a memorial for the 1871 massacre, which marks its 150th anniversary in October. We hope to announce some progress then.

Also moving forward is reparative work with indigenous communities, which we hope will include not just a land-acknowledgement policy, but also a formal apology and, potentially, "cultural easements," opening land to co-management or access by Tongva-Gabrielino and other tribes. One complexity is that no Southern California tribes are federally recognized.

The Tongva language already appears in place names, like Cahuenga Pass, but few people realize it. There hasn't been an effort to educate the public and officially formalize those markers. Prominent in our report is a round-table re-examination of the legacy of priest Junipero Serra—father of the California mission, in the 1760s and '70s. Though canonized by the Catholic church, he symbolizes pain and dislocation for indigenous people.

What about overlooked African-American contributions to L.A.?

We explored that in the report, working with Gail Kennard, a member of our Cultural Heritage Commission, president of Kennard Design Group, and daughter of Robert Kennard, a leading 20th-century African-American architect. While Paul R. Williams's work has drawn welcome revived interest, other deserving, contemporary Black architects—and the stylistic, programmatic, and political range of Black architecture in L.A.—have been overlooked. Uncovering, documenting, and mapping that history, figuring out how to bring attention to it, has been important.





We won't meet our housing needs and affordability goals without opening up more single-family neighborhoods to new housing options—not blanket up-zoning, but a more pinpointed approach.

Let's circle back to "housing, housing, and housing"—from the equity perspective. Didn't single-family enclaves throughout L.A., and across America, help create segregation in neighborhoods where opposition to multiunit housing became a dog whistle for racism?

That's the key issue. And we won't meet our housing needs and affordability goals without opening up more single-family neighborhoods to new housing options. That doesn't mean blanket up-zoning, but a more pinpointed approach to adding new options in some neighborhoods. Roughly 75 percent of Los Angeles' residential land is zoned for single-family housing. Meeting our goals will demand a reckoning with our history of discrimination, which, as in other cities, included redlining and other exclusionary lending, zoning, and land-use practices. That was fundamentally responsible for the wealth gap between white and Black households—traceable to the inability among Black families, for



ADU DESIGN by Fung+Blatt (opposite, top) and LA Metro (bottom); low-rise prototype (above) by Studio-MLA and omgivning.

much of the 20th century, to buy into neighborhoods where houses would appreciate over generations, enabling their equity to grow.

Meanwhile, climate change, wildfires in particular, has clarified the need to locate housing more intelligently, near jobs and transit instead of along ex-urban fringes.

Most Angelenos seem willing to acknowledge that our land-use patterns are no longer sustainable. The question is, how do you build public and political support for careful, effective zoning and land-use reform? Even where there's interest in aggressively tackling our history of exclusion and racism, it's tricky to build support for that kind of change. This is a hearts-and-minds effort.

Has recent Accessory Dwelling Unit (ADU) legislation changed the picture?

Yes. In 2017, California passed legislation making it easier to build and legalize ADUs in single-family neighborhoods. Our mayor and other Los Angeles officials supported it by streamlining the city's permitting process—with great results. ADUs now constitute 20 percent of new housing units each year. The predicted backlash didn't happen, and ADUs continue to generate some of the most affordable housing to build: single-story, wood-frame construction with no parking requirements.

The next step is to determine how else to increase housing options without radically changing scale. So, our Low-Rise initiative challenged architects and landscape architects to propose designs for small multiunit dwellings to advance the conversation within single-family residential communities. We looked for ways that modifying land use and zoning could provide opportunities—for example, for older residents to age in place or for younger buyers to gain footholds in the now-unaffordable neighborhoods where they grew up.

The initiative engaged communities from the start, asking how people wanted their neighborhoods to evolve, what they lacked and wanted to protect. We were also interested in ways of welcoming new residents who'd been priced out of areas with good school and jobs access.

In the winning designs, I think most Angelenos see a scale and inside-outside architecture that resembles their own neighborhoods. One lesson is the city's legacy of low-rise multifamily residential architecture from the first half of the 20th century—including bungalow courts, with single- or two-unit structures around a communal garden—is beloved.

Are the Low-Rise proposals you received legal in L.A.?

Not yet. This was an ideas competition to clarify the changes needed. Making the winning designs legal would, in most cases, take relatively modest adjustments to setbacks, parking requirements, and a few other things.

Let's talk about homelessness, a problem for L.A. and everywhere.

There are two key issues: One is, we've underbuilt all kinds of housing for decades. According to one recent estimate, L.A. County's overall housing supply has a deficit of about a million units.

Then there's the fact that the City of Los Angeles doesn't officially build and operate public housing. There's a long history of L.A.'s civic elite being suspicious of public housing and blocking it.

The city has cobbled together various subsidies and measures to promote largely nonprofit affordable-housing development. But the complex "capital stack"—the multiplicity of financing sources—plus integral supportive services for the formerly homeless, combined with the challenges of publicly owned sites (difficult grading or locations along freeways, for example) can result in units' costing half a million dollars or more each.

By contrast, the estimated cost for a one- or two-story wood-frame fourplex without attached parking is less than $200,000 per unit, according to the McKinsey report that informed some of our Low-Rise work. Even modest-scale changes to single-family neighborhoods could significantly increase relatively inexpensive housing. We won't solve this problem at the macro level without a targeted approach, informed by our history, and extended over the next couple of decades. ■

IMAGES: COURTESY FUNG+BLATT ARCHITECTS (OPPOSITE, TOP); LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY/LA METRO (OPPOSITE, MIDDLE); OMGIVNING + STUDIO-MLA (TOP)



Miami, Race, and Rising Seas

Germane Barnes explains the need for social resilience in the face of climate change.

BY CATHLEEN MCGUIGAN

Miami-based architect ***Germane Barnes****, who was part of the exhibition* Reconstructions: Architecture and Blackness in America *at New York's Museum of Modern Art, earlier this year, has been awarded both the Wheelwright Prize and a Rome Prize to conduct research into the African diaspora and classical architecture. In a conversation with* RECORD*'s editor in chief, Cathleen McGuigan, Barnes discussed the impact of racism in the city.*

How has racism been embedded in Miami since its beginnings?

Miami was constructed as a water-dependent city, built by Black bodies who came from water-driven places like the Bahamas, Trinidad, Jamaica, Haiti. And the irony now, in the ongoing reconstruction of Miami, is that those living in the vulnerable, water-rising communities are fleeing to get to the higher, inland areas that were not desirable before.

The Black people who first built the city at the turn of the 20th century were forced to live in Good Bread Alley, now called Overtown, or Lemon City, now called Little Haiti, places that are nowhere near the water. With shotgun houses and poor plumbing, if any, the bad infrastructure led to disease. As a result, people started to simply say, "Go over town" meaning, to go where the Black people live. And so the neighborhood came to be known as Overtown and has kept that name ever since.

The various ethnicities of the city are nuanced. I identify as African-American, but many identify as Black because they're from the diaspora, and you find smaller enclaves, such as Little Haiti; Allapattah, where Dominicans live; Little River, a mix of Dominicans and Cubans; or Opa Locka, an African-American town.

What is happening in those communities today?

They are at risk because they are the highest-elevated communities—the places that Black people were forced to live are actually the safest, should water rise up. Who lives on Miami Beach? It's not Black people. You go from South Beach all the way to North Beach, and it's not us.

With sea-level rise, people with money and influence are pouncing on those higher neighborhoods. "Well," they say, "actually,

we need that land back because we didn't look far ahead and realize that when all this water rises, we're going to lose the beach—and now your location is the best place to live. I'll seduce you with enormous amounts of money."

Everyone likes to blame gentrification—it's the bogeyman. But there's an omission in that thinking. In areas like historic Coconut Grove or Overtown or Little Haiti, many local residents are marginalized and poor. Should a developer approach them and say, "I will give you $400,000 for your house right now," these are amounts of money they've never seen.

There are, obviously, predatory developers. But generational wealth has typically been absent from the Black community. Any opportunity to benefit from family property is one that most people leap at. In Coconut Grove, settled by African-Americans and Bahamians, many individuals—or their grandparents or great-grandparents—might have owned their home. But now you can't get a loan to improve the house, because you look like me. So, you say, OK, I will sell it for $1.2 million and watch it become an OMA building. Or, if I try to keep it, I have to live in substandard conditions.

So there's a very complex infrastructure that is not as simple as people moving in and out. People are criticized for taking a payday, which significantly increases their quality of life. But, as a result, we do see neighborhoods start to shift and change. And material culture is lost.

In Little Haiti—as in Coconut Grove and Wynwood—Black legacy is disappearing. Little Haiti used to encompass much of what's now the Design District, one of the most affluent areas in Miami.

And it is being taken over by developers of the Magic City Innovation District, a massive $3 or $4 billion live/work tech hub. But it's at the expense of many people who call Little Haiti home. And Little River is maybe 30 or 40 percent under siege, because it's the next available location, slightly north of Little Haiti.

How is the city a laboratory for your teaching at the University of Miami?

In the School of Architecture, our focus usually includes resilience, because we're in a city on the water. But the way I identify resilience and teach resilience and practice around resilience is social resilience, not necessarily infrastructure and climate.

For me, it's how do we deal with the stratification of race and ethnicity in the built environment? And how are the ways in which our rituals, our cultural histories and legacies



The places inland that Black people were forced to live are actually the safest, should water rise up.

—Germane Barnes

are either promoted or stifled because of architecture, infrastructure, and urban planning?

I teach a seminar called Criminal Architecture, a survey from the Great Depression to today, that shows the ways in which the built environment has inflicted harm on people of color. And that's not just Black, it's Asian, Hispanic, and Native American. These are the infrastructures that were completely shaped by urban planners, architects, and landscape architects to say, we want you to live like this. I teach this to help students understand the ways in which the human body needs to be resilient within these larger infrastructures, or else we perish.

What are some historic examples of that planning?

In Miami, there are segregation walls that still exist. A public-housing complex in Liberty City, completed in 1937, was built in direct response to Overtown's overcrowding and disastrous living conditions, to provide shelter for at-risk people. But opposite it is a predominantly white enclave, and the response was, you're not building the housing here.

So the negotiation was, we'll allow it if you build a barrier—a 12-foot-tall wall that literally blocked everything from the white side to the Black side of the street. The land on the Black side is actually 4 feet lower than the white side's, so the wall was essentially a 16-foot-high barricade to splinter these districts.

They've knocked down most of it, but there's still the 4-foot elevation, and it's been turned into a linear park of sorts.

How did you begin your practice in the city?

I was fresh out of architecture school and began work on a project in 2013 with the Opa Locka Community Development Corporation (CDC), a Black-led community organization run by a visionary mayor, Willie Logan. He received a grant to redevelop a small area, less than two miles in diameter, called the Triangle—at one time, the Triangle had the highest murder rate in the country. So it was a real opportunity to figure out how art, architecture, infrastructure, and urban planning can help redevelop a community without displacing individuals. That was how I met [landscape architect] Walter Hood—and also [designer/artist] Olalekan Jeyifous, who were two other participants in the MoMA *Reconstructions* show.

Olalekan did the mural for the arts-and-recreation center, and I did the preliminary design. And then Walter Hood did the street. It was an amazingly large, urban-scale project: we built a park, an arts-and-recreation center, a gallery, and rental space. They have an arts charter school and an urban farm. And they're currently renovating some shipping containers to do a small marketplace.

You've taught architecture studios in Opa Locka as well.

I do studio projects in vulnerable communities, where the students have never visited, to remind them that these places exist and are as important as a Coral Gables or a Miami Beach—just so the students can get exposure and notice very small things. In Coral Gables, for example, there are tons of trees and shade—you don't mind walking down the street there—but go to Opa Locka, and you won't see a tree for a mile and a half. You will absolutely hate waiting in the sun at that bus stop.

I always tell people it's not my job to fix white supremacy. It's my job to educate about what has happened and is happening.

There are things that many people just don't understand. But, when we talk about resilience, it's more than just how far will the water rise? It's also about who are we taking advantage of, and who are we protecting within the built environment. ■

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Shoring Up Down in New Orleans

Slow to adopt new strategies, the city and Gulf Coast remain vulnerable to the Next Big One.

BY MARTIN C. PEDERSEN

Martin C. Pedersen, executive director of Common Edge, is an editor and critic who writes about architecture, design, and urbanism. After a decade of living in New Orleans, he and his wife moved back to New York in July.

Despite outward appearances of languor and ease, summertime in New Orleans can be a fraught affair. Weeks before the official start of the storm season—June 1, when some natives start flying hurricane flags, in an act of almost subversive defiance—the local mantra begins. "It's coming," they'll say at the first signs of summer—meaning the heat, the wall-like humidity, the threat of Gulf disturbances. Unlike other parts of the country, where oppressive heat is occasionally relieved by moments of real bliss, summer in the Crescent City arrives like an unwanted relative who hangs around for the better part of four months, completely overstaying his welcome.

In a city where it rains a lot—on average more than 60 inches a year—summertime is also the wet season. It's not uncommon for a late-afternoon July shower to dump 2 or 3 inches of rain in a Biblical torrent, and then for the sun to emerge minutes later. The engineers responsible for pumping water out of the city call these "rain events"—and, yes, they're becoming more frequent. As someone who spent his entire adult life in New York City, I didn't become obsessed with weather until I moved to New Orleans 10 years ago.

Tracking nascent storms during hurricane season became a weird, but necessary, hobby.

My wife and I were part of the late post-Katrina migration, lured to New Orleans by the irresistible combination of civic energy (they really had saved their city) and inestimable spirit and soul. T-Bone Burnett once said of Paul McCartney, "Music comes out of his pores." Exactly the same can be said of New Orleans. What other American city has drumming squads and brass bands as ambient sounds? In the years following the 2005 storm, the city had famously become an ideas lab for architecture and urban design—an invasion of good intentions, from Brad Pitt's now litigation-plagued Make It Right houses, to architecture and planning-school initiatives too numerous to mention, few of which had any lasting impact on the city.

Some of the best ideas that emerged out of that ferment involved water, the eternal issue for every New Orleanian. The metro area is roughly 5 to 10 feet below sea level, so the city must contend with water on three fronts: the levees, which failed after Katrina, flooding 80 percent of the city; the wetlands to the south, which act as a storm buffer but are disappearing at alarming rates, due to sea-level rise and subsidence; and the stormwater drainage system, an aging tangle of pipes and pumps, which are currently being repaired and replaced (driving on the torn-up streets now is like riding a covered wagon over the Rockies). The levees and the drainage system are century-old technologies, engineering marvels from a now-distant past. While absolutely necessary, they alone are not likely to fully protect New Orleans in the stormier years ahead.

And so the city must create a different—and less adversarial—relationship to water, one based on the Dutch model: more storage ponds, less pumping; more gravity, less concrete. Since the immediate aftermath of the big storm, no one has promoted this message more tirelessly than architect David Waggonner and his firm, Waggonner & Ball. The office convened the Dutch Dialogues in 2008, which brought experts from the Netherlands to Louisiana and resulted in a raft of initiatives. The firm produced the influential Greater New Orleans Water Plan in 2013. And after Waggonner brought then-U.S. Senator Mary Landrieu on an early fact-finding mission to the Netherlands, she played a key role in ensuring that future coastal restoration funding and planning would have a degree of insulation from politics.

Although the city became an acknowledged leader in all things water, there has in recent years been a lurch backward to what Waggonner calls the pump paradigm. "People just slide back into their old, everyday that's-the-way-we-do-things," he says. "So moving a city that's not inherently progressive, in a state that is not inherently forward-looking, to a sustainable future is hard. What we have now is a challenge to implementation."



The city must create a different—and less adversarial—relationship to water.

—Martin C. Pedersen

Nothing illustrates that impasse more starkly than Waggonner's seminal project, the Mirabeau Water Gardens. Developed during the Dutch Dialogues, the 25-acre water garden will eventually do double duty as infrastructure and public amenity, serving as a park, a water-filtration system, a 10-million gallon retention pond, and an education center. Though already funded to the tune of more than $100 million (much of it appropriated back during the Obama administration), it is yet to break ground, due in large part to the snarl of government entities involved (FEMA, HUD, the City of New Orleans).

That project has nevertheless had a transformative impact on Waggonner & Ball (the firm has now worked on similar HUD water-resilience projects in Bridgeport, Connecticut; Charleston, South Carolina; coastal Louisiana; and Norfolk, Virginia). Although the glacial pace of execution gives pause, New Orleans will almost certainly build the project. But Waggonner's larger message remains: the Crescent City doesn't just need a Mirabeau Water Gardens, it needs a dozen other water gardens, at different scales, scattered all over the city. "The truth is, people would be happier living in this dynamic environment if we took advantage of bringing more water into it," he says.

This slow rate of adaptation is hardly confined to Louisiana. Mustering the political will and funding for huge projects necessitated by climate change (seawalls, levees, retention ponds, etc.), and then executing them in a timely manner will be a test for governments everywhere. But nowhere is the timeline tighter than in Louisiana. To its credit, the state has a 50-year coastal master plan in place that's updated every six years. It also has a down payment on the huge eventual cost: written into the BP oil-spill settlement—at the insistence of Landrieu—was the stipulation that the funds, about $9 to 10 billion, must be spent on coastal restoration. As a result, river diversions and other land-creation projects are ongoing, and more are planned. How long those efforts will continue into the future, when the settlement money runs out, is an open question. Still, there is some cause on the coast for optimism.

A recent Army Corps of Engineers report on the levees in New Orleans was a classic good news/bad news story. The levees are in the best shape they have ever been in, the Corps reported, but significant parts of them are sinking, like the rest of the city, and will eventually have to be raised again, to the tune of about $1.7 billion. So, depending on your capacity to be upbeat, the city is either better prepared for the future—because of its resilient people and rebuilt levees—or it's just as vulnerable as ever.

This swampy, glorious city has always been uniquely susceptible to the Next Big One—a threat affecting every neighborhood, but one that leaves poor residents particularly exposed (the affluent evacuate ahead of a hurricane). But now, one could easily argue, so are Houston and Miami and Charleston and Norfolk and countless other coastal communities. And, as we know, it isn't just high waters—the parched American landscape looks equally terrifying, with much of the West in the middle of a drought that could last far into the future. The wildfires are every bit as menacing as Category 4 hurricanes.

According to David Waggonner, for New Orleans, the missing piece in the current strategies that still depend on early 20th-century solutions is staring the city right in the face. "The reliance on engineering systems and concrete has to be broken," he says. "We have to let gravity and nature work. We have to let water be where it needs to be. Our solution is inherently natural." ■

PHOTOGRAPHY: © LAURA STEFFAN (OPPOSITE); MARIA FRANK (TOP)



In Chicago, Lots of Vacant Lots

David Brown, director of the city's 2021 Biennial, discusses the design potential for abandoned spaces.

BY CATHLEEN MCGUIGAN

The fourth edition of the Chicago Architecture Biennial, opening September 17, will be a radical shift away from a central exhibition venue and will invite visitors instead to explore vacant sites in various Chicago neighborhoods that have been catalyzed by experiments in urban design, generated between community groups and selected architects and designers. The brainchild of artistic director ***David Brown****, an architecture professor at the University of Illinois at Chicago (UIC), the Biennial, entitled* The Available City*, is a culmination of his years-long research into the abundance of city-owned empty lots, typically in marginalized areas. Brown spoke to* RECORD *editor in chief Cathleen McGuigan about the Biennial and his ongoing work in this arena.*

How did you get started in your research on vacant land in cities?

The available-land concept is fascinating to me because, in a lot of places, people say there is no available land and that we don't have affordable housing because of soaring land costs. But the truth is, in many cities, it isn't lack of available land but where the land is.

Your most extensive project on vacant urban land has been in Chicago. How did you begin?

In 2009, I started to research the city-owned vacant land; it was a paper database then and, with students helping, we converted it into a spreadsheet so we could make a map. Now you can just download the information. With the finished map, we developed the urban-design approach, and exhibited the work in the Venice Architecture Biennale in 2012 and in the Chicago Biennial in 2015.

So how much vacant land is there in Chicago?

Today there are about 13,000 public vacant lots, and the city is actively continuing to acquire land through foreclosure, types of abandonment, and the demolition of abandoned houses. In total, all that land is close to the same area as the downtown Chicago Loop, but, of course, it's in 13,000 pieces scattered around the city. But 70 percent of that land is in just 18 underserved neighborhoods on the south and west sides—home to primarily Black and Brown communities, where the median income is lower than the city's median.

So isn't this a great opportunity to create more low-cost housing?

Housing is, in fact, a need in those locations, but I actually think there are other

needs in those same neighborhoods. I focus on providing resources within outdoor spaces to create a full community. When we say public space today, we think of parks and plazas, but how do you actually make a diversity of spaces? Some of them can be gardens, some can be play space, some can be workspaces—or be used for education or neighborhood gatherings. And I look at what organizations already exist in a neighborhood and what their interests and needs might be, and how those can inform designs of outdoor space that are new resources.

You're very interested in jazz—and that connects to how you think about the process of urban design.

Yes, my other longtime research focus is looking at improvisation, specifically at jazz, and asking, how do improvisors structure their work and how do they facilitate improvisation? Similarly, how do you develop an urban design that's trying to account for 13,000 lots when there is no way to gain knowledge or assess all of them? So the design is a general idea of what the lots can become, using a process where you really begin to engage communities for specificity, because the people who live there actually know what the relationships of those lots are and can be to the surrounding neighborhood.

How will the theme of available land and urban design be explored in the Biennial?

We're developing and implementing 16 projects, with 13 of them in four of the neighborhoods with high numbers of city-owned vacant lots. Some of the projects are intended to be permanent, and the majority of the sites have been identified by community organizations or are ones those organizations are already stewarding.



For the Biennial, you've brought in architects and designers to work with community groups on the projects you are highlighting. Can you tell us about a few of them?

One of the longer-term projects is in a permaculture garden—a garden where all the plantings work together to be, essentially, self-sustaining. It is a food source, and also a teaching garden. For the 2019 Chicago Architecture Biennial, I organized a youth studio wth a school to develop an idea for a classroom and gathering space to increase awareness among residents about growing food and healthy eating. I asked Antonio Torres, a colleague at UIC who is a founder of Bittertang, a design "farm" that creates an architecture based on plant matter, to lead the workshops. And Antonio and firm cofounder Michael Loverich have developed the design for this fall.



RENDERING (left) of Bittertang Farm's design for a gathering space in a permaculture garden.

> **When we say public space today, we think of parks and plazas, but how do you actually make a diversity of spaces?**
>
> **—David Brown**

Another project, right next to the garden, is with a young men's employment network called YMEN, though they engage women too. Their mission is job training, and they've started a bike-repair and rental space in shipping containers. They are also growing peppers that are the basis for a hot sauce that another group makes. On the same site, Sekou Cooke [architect and director of the Master of Urban Design program at UNC Charlotte] is working with YMEN to create a gathering space and places for small vendors to set up as well.

And nearby is the historic Central Park Theater—a movie palace built in 1917 that was the first air-conditioned theater in Chicago. It now houses a church. To engage the neighborhood's history, the Central Park Theater group is working with Swiss architect Manuel Herz on activating the parking lot with a few platform spaces, and creating a mural along the ground and the theater wall. During the Biennial, I'm interested in having the group involved in the theater's restoration continue a conversation with Herz about the interior.

The Biennial lasts for a few months. Of all these initiatives, what do you envision will be ongoing? What do you hope will be the outcome?

Another component of the Biennial will be workshops, where community organizations can continue to talk about creating new spaces, and we would try to match them with designers. The Biennial should be the starting point, to implement a few collective spaces with local organizations and ask how that interaction can spur thinking and catalyze action for developing more open space within Chicago's neighborhoods. ■

IMAGES: © MARCHELLO74/GETTY IMAGES (OPPOSITE); NATHAN KEAY (TOP); COURTESY BITTERTANG FARM (LEFT)

How to House the Homeless

The MacArthur Foundation has given $100 million to Community Solutions to reduce homelessness. Its leader, Rosanne Haggerty, tells RECORD about the plan.

BY JAMES S. RUSSELL, FAIA

ROSANNE HAGGERTY *opened Common Ground in 1990; it has become one of the nation's most successful builders of insightfully designed housing, with supportive services for the formerly homeless (*RECORD, *February 2002). Ten years ago, she founded the nonprofit Community Solutions and began to show how homelessness is a solvable problem using her organization's systematic, data-driven approach (*RECORD, *March 2013 and October 2018). One component of the organization is Built for Zero, a network of 89 communities pledged to end homelessness by aligning government agencies, policies, and mission-driven nonprofits so that there is a clear path and a community-wide commitment "to bringing every person home."*

Haggerty is a former MacArthur Foundation "genius grant" recipient; last April, the Foundation dramatically upped the ante by awarding Community Solutions the extraordinary sum of $100 million through its 100&Change program to advance the goal of ending homelessness in participating communities in five years. RECORD *contributing editor James Russell spoke to Haggerty about the potential of such a grant, and of her work now as the pandemic threatens mass evictions.*



The MacArthur grant enables us to expand to 110 communities, clear the path of dated policies, and to promote funding incentives to bring about large-scale reductions in homelessness.

—Rosanne Haggerty

You bring together government agencies and nonprofit organizations to develop a clear vision, relying on extensive data. How is this different from the way many cities confront homelessness?

When we were developing housing at Common Ground, we realized the need was to change the way problems are solved and the way organizations worked together. As we were building, we saw the problem was worsening. [That organization, now called Breaking Ground, continues its work.]

We asked why so many efforts fail to reduce homelessness and concluded that the people who are supposed to help don't have the information they need. Even before Covid, the country spent $12 billion annually reacting to this lack of housing. To solve any complex program, you need to understand it, how it is moving and changing, and everyone must be on the same page. The point-in-time count—an attempt by cities to enumerate everyone without shelter— is usually done once a year, in January, and has long been the data standard. Yet it's inaccurate, misleading, and hard to act upon.

Community Solutions helps cities and counties build an operating system, using data, to align their activities and understand what they need to do. When you know by name the people affected, you know how to get results—when to invest in housing or how to shift subsidies and other policies. Officials don't know what part of the solution is housing supply until they get their arms around the entire problem.

Has the model proved to be resilient during Covid?

In our 89 communities in Built for Zero, 14 have achieved functionally zero homelessness and another 40 made reductions, even through Covid.

Can you really track all the people lacking stable housing?

We're starting with the information communities already have: the age, military veteran status, all the characteristics that allow people to qualify for different housing resources. You look at individuals. Who is new to homelessness? Why did this person return to homelessness? That gives the opportunity to do qualitative interviewing where you can ask what kinds of resources are needed. You can catch early signs of problems that affect a number of people and formulate preventive programs.

Have you seen a big rise in homelessness during the pandemic?

Eviction moratoriums have been vital in keeping numbers down. The federal moratorium, which expired at the end of July, has been partially extended [at press time]. But there are impressive resources available to communities to avoid eviction. Congress has committed $51.5 billion in emergency rental assistance and an additional $5 billion to help people who are currently homeless. The challenge is getting the resources to those who need them.

What does the MacArthur Foundation grant make possible?

It allows us to operate on all cylinders for the next five years. It will enable us to expand to 110 communities, to expand our policy advocacy to clear the path of dated policies, and to promote funding incentives to bring about large-scale reductions in homelessness.

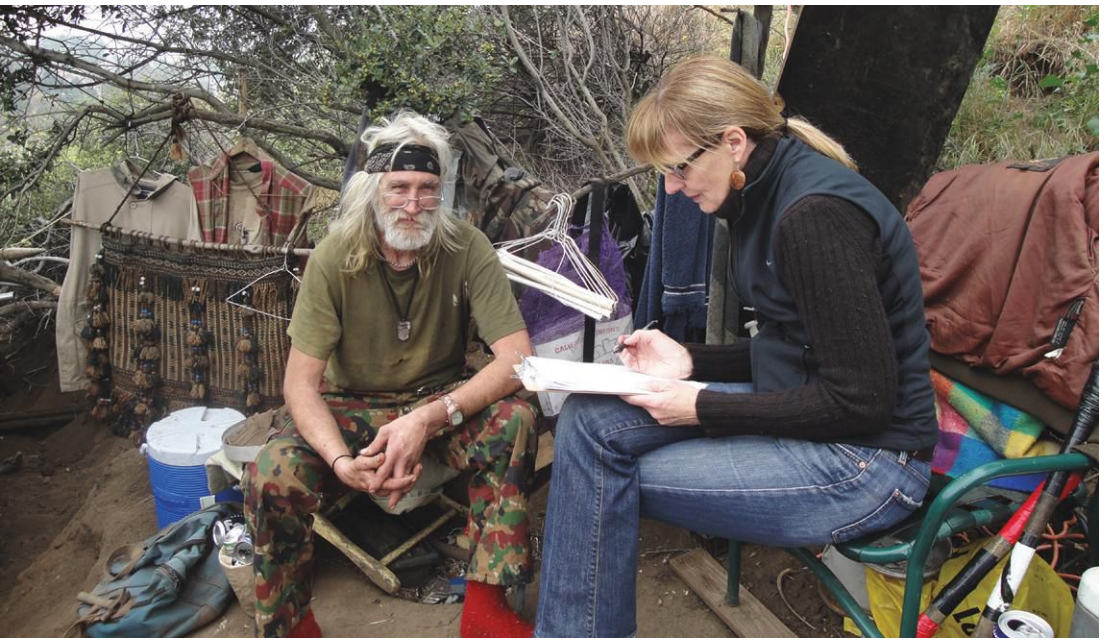
Isn't a huge increase in affordable housing essential in the country's most expensive cities with the most visible homeless problems?

I was impressed by a presentation I saw by Gainesville, Florida, officials. Determined to reduce homelessness, they changed zoning to streamline access to hotels that could be quickly converted for housing. They dealt with barriers within their grasp—ones that elsewhere cause delays, delays, and delays—and so created new housing and seized opportunities.

You say part of the MacArthur grant could be used to advocate changes in federal policy. Are you hoping to make more affordable housing available for everyone in need, not just the homeless?

All the levers intended to improve afford-

IMAGES: © JOHN LAMPARSKI/GETTY IMAGES; RUDY SALINAS (OPPOSITE, TOP); COURTESY COMMUNITY SOLUTIONS (OPPOSITE, BOTTOM)



Outreach worker Kerry Morrison surveys a homeless man in Hollywood, California, for a Community Solutions initiative.

ability are disconnected. Communities, states, and the national government must realize all kinds of disparate activities are at cross purposes and therefore achieve limited results. There are dozens of requirements, zoning impediments, and funding hoops. That an affordable-housing developer has to go to 10 or more different funding sources is insane. Homelessness is not the problem, it's a symptom of the broken housing-production system.

Is that the reason Community Solutions finances its projects with a "social-impact model" that draws on private philanthropy?

Yes. We use these much nimbler capital sources to get projects built faster.

How do you make the entire spectrum of housing production, finance, and regulation work?

Understanding the whole system is key. Cities have eviction policies, so how come people are still being evicted? In city after city, veterans walk around with a federal housing voucher [rent subsidy] and they can't find housing. You can educate landlords differently, enforce fair-housing laws differently. All those opportunities get buried if all you see is a homeless issue.

During Covid, we have done three conversion projects. Speed is important to get ahead of other investors competing for these properties. We successfully repurposed the Santa Fe Suites, a 120-room extended-stay hotel, to house a variety of residents with precarious housing situations. Another example is Centra Villa in Atlanta, an aging 132-unit apartment complex that has been renovated for veterans with a mix of incomes. And we've converted a shelter for homeless veterans in Detroit into permanent supportive housing.

California has the least affordable markets in the country. But you admire its Homekey program. Why?

Homekey created a substantial pool of $600 million in funding and is waiving notorious environmental-review statutes that slow up housing enormously. You've got to address the factors that can completely thwart housing-affordability aspirations. They were able to quickly acquire some 6,000 units and turned them into permanent affordable housing.

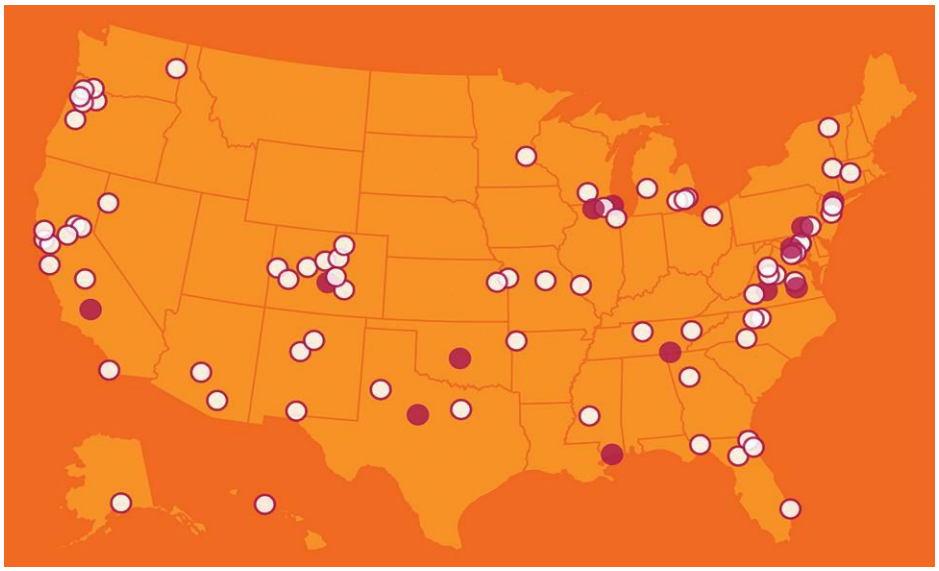
How should architects be involved?

Architects need to step up and show that homeless housing is not automatically a negative if it is a thoughtful, contextual building. In that role, they can allay fears of proposed new projects.

Architects need to go to the community meetings. Too often the debate is dominated by those who are more vocal and organized in shouting down a project. All of us should be invested in a housing system that makes our communities open and flexible, well designed, and inclusive. If we don't do that work, we leave the field to the naysayers.

What should America's overarching housing goals be?

We would be in a different place if every community understood that their housing policy should include ending homelessness. And no one should be paying more than 30 percent of their income for safe and healthy housing. ■



A U.S. map of Community Solutions' Built for Zero targets. The red dots indicate places where homelessness for certain populations has ended; the white dots show where the process is ongoing.

Why is the Housing Market Insane?

Systemic dysfunction drives home prices out of reach for too many.

BY JAMES S. RUSSELL, FAIA

AS THE ECONOMY shut down in the early weeks of the pandemic, homebuilders girded for the worst. And sales did collapse—briefly. But by late spring 2020, rental and sales activity rebounded, especially in desirable suburbs and lower-cost, amenity-rich cities like Boise, Idaho.

Since then, prices have spiraled upward—rising more than 13.2 percent last March alone—four times the robust figures for 2019, according to *The State of the Nation's Housing 2021*, the much-watched annual report from the Harvard Joint Center for Housing Studies. Prices are up not just in the most expensive markets but by double digits in 85 of the 100 largest metro areas. Rents for moderately priced apartments are going up almost everywhere, even in the face of the mass-eviction crisis that may develop as moratoria expire.

Some of the price pressures may be temporary, due, for example, to the initial pandemic flight of former urbanites flooding the suburban housing market. But today's head-spinning housing costs mostly reflect a growing systemic dysfunction, as prices continue to outstrip both inflation and wage growth. The market now mainly serves the affluent, with lower- and middle-income buyers and many renters increasingly shut out.

For years, steep housing costs afflicted high-wealth cities and suburbs that limit affordable developments via restrictive zoning and environmental rules that empower NIMBYs. Recently, constricted supply and rapidly rising costs have become a national phenomenon, affecting even such moderately priced cities as Minneapolis, which famously opened its predominantly single-family neighborhoods in 2018 to multiunit residential properties to increase supply (see our section on multifamily housing, page 97). The little-discussed systemic issues that drive soaring prices must be addressed, or we'll continue to see more people forced to compete for a declining number of existing, low-quality units in undesirable locations—not to mention greater homelessness.

Investors versus shelter seekers

Over time, tax policies that once served a broad range of incomes have evolved to award more benefits to affluent owners and investors. Both groups have incentives to keep prices rising to deliver the largest returns in dividends, fees, and tax shelters. That puts investors at odds with people simply seeking an affordable place to live.

Well-heeled buyers can deduct mortgage interest and property taxes, which means that the U.S. Treasury picks up a chunk of the tab for ownership. Most owners of modest means can't itemize deductions and so lose these subsidies, and market-rate renters get no subsidies or tax benefits at all.

In many cities, buyers flush with cash can pay more than middle-income families for an aging starter house in a desirable neighborhood. The better-off buyer is likely to tear down or expand his or her purchase, removing yet another unit from the affordable stock. In fact, rapidly advancing property values are a plus for such buyers because a gain at sale is taxed at a much lower rate than ordinary income.

Real-estate development and investing is among the most heavily subsidized industries, a status enhanced in the 2017 tax overhaul. "There's probably no special interest that's more favored by the tax code than real estate," says Steven M. Rosenthal, a real-estate tax specialist and senior fellow at the Urban-Brookings Tax Policy Center. A panoply of tax tools allow deductions for losses and depreciation. Even further tax devices offset taxes that should accrue when property gains value.

The special status of housing investment has drawn a wide variety of actors, especially private equity, which swept into a housing market devastated in the Great Recession that began in 2008—itself a crisis created by the abuse of lending standards for housing. Wall Street investors and private-equity firms such as Blackstone, Cerberus, and Colony Capital acquired hundreds of thousands of moderately priced houses at fire-sale prices in markets devastated by foreclosures, and have rented them out—many to the very people who lost them. With rising demand and constrained supply, these companies are now selling such investments at much higher prices, while sheltering profits from taxes.

Housing in short supply

The pandemic home-buying bulge surprised builders who were already struggling to serve a housing market that had finally awakened after a long post-recession swoon. After millions lost their homes in the Great Recession, the percentage of Americans owning homes continued to decline, bottoming in 2016 at 63.5 percent—the lowest level in decades—after peaking at 69 percent in 2004. After the subprime lending excesses of the early 2000s, lenders tightened standards for creditworthiness so that only the well-heeled could borrow. Millennials, entering traditional peak homebuying years, were shut out of the market (until recently) by rising student debt and stagnant incomes. Younger buyers who sought urban options were limited by the land costs and the higher price of infill construction—constraints unaddressed by fiscal policies. The moderate-priced-condo market, which should be an attractive choice, has remained weak, saddled with higher lending costs and quality problems that have attracted lawsuits and repelled builders.



Landon Bone Baker Architects has created affordable and integrated housing on scattered sites in Chicago's Humboldt Park and Logan Square.

Given such headwinds, many builders left the market and laid off staff. Not until 2018 did the demand for new houses start growing—but "all of the recent growth in homeownership has been among households with higher incomes"—$150,000 and up—according to the U.S. Census American Community Survey, while owned houses declined by 2 million between 2013 and 2019 among those earning less than $75,000. Households of color were among the chief victims of subprime mortgage schemes, and ownership continued to decline after recovery began. "The Black-white homeownership gap is now larger than it has been in decades, at fully 31 percentage points," according to the Harvard report.



New York architects Peterson Rich Office and the Regional Plan Association propose renovating and expanding New York City Housing Authority buildings such as Cooper Park Houses in Brooklyn.

Experts have called for reducing barriers to housing supply in the vast territories across cities and suburbs where only single-family houses currently can be built. In some cities, especially in California—where punishingly expensive housing is a chronic statewide crisis—almost anyone can induce costly delays on environmental grounds. Serial abusers of the process ensure that months, even years, are added to the permitting process. No one should underestimate the degree to which affluent homeowners will resist greater density if they perceive any loss to their home's value—another reason to decouple the house as investment vehicle from the home as primarily shelter. Battles against affordable and multifamily housing in single-family neighborhoods have consumed decades. And yet many pundits focus only on zoning as a key to affordability.

Unfortunately, increasing supply alone is no panacea, experts on the ground say, since new market-rate units serve higher incomes almost exclusively. At best, supply can temper the rate at which prices rise.

National policies fail

With the market abandoning middle- and lower-income buyers and renters, you get scenes like one in the aging Highland Village complex in affluent Bellevue, Washington, where tenants joyfully screamed, hugged each other, even rolled in the parking lot when the King County Housing Authority announced in May 2017 that it would buy the suburban Seattle development after a townhouse developer withdrew. The authority promised to preserve modest rents.

The celebration captured just how fierce the competition now is in many cities for what's called "naturally occurring" affordable stock, with the hot real-estate market driving local housing agencies into bidding wars with private investors and "flippers" for the purchase of decades-old apartment complexes needing extensive work.

That leaves a beleaguered set of antiquated local and national subsidy programs to serve, not just those most in need, but people whose earnings not long ago would be enough to rent without aid.

Rent-subsidy vouchers (known as Housing Choice or Section 8) are especially beneficial to low-income families seeking to move to safe neighborhoods with better schools (which are remarkably predictive of future life success), but Congress has consistently underfunded the program, leaving out many potentially eligible tenants. Public housing—new projects built and operated by government—are next to nonexistent, and extant projects are in deep disrepair in most cities, leading many housing agencies to tear down all or part of their stock.

What's called "affordable" housing, built and operated by private for-profit and nonprofit developers, is strangled by an unnecessarily byzantine and capricious financing model that is extremely expensive and leads to extensive delays. As a result, very few units are produced by these means. Overall, the panoply of programs that are supposed to knit together a housing safety net reach only about 25 percent of those eligible. Just half of families with incomes near destitution receive government housing aid. No such rationing applies to those who earn comfortable incomes and receive real-estate subsidies via tax advantages.

These systemic problems can be fixed if Congress and communities choose to address them. Here are just a few ways:

- Shift tax and other policies to reward those seeking shelter—especially at the lower end of the income spectrum—and discourage predatory investors and oversubsidized owners who drive up prices to fatten profits.
- Penalize exclusionary zoning and ease permitting processes.
- Ease unnecessary barriers to homeownership, such as excessive down payments, closing costs, and interest rates. These are especially high barriers for Black people and others of color who have faced systemic burdens to homeownership since the advent of both amortizing mortgages and redlining in the 1930s, in spite of fair-housing laws enacted in the civil-rights era. America's economy will be stifled without expanding the universe of those who can gain the wealth-building benefits of ownership.
- Align policies to reduce the cost of infill development in established communities, especially multifamily housing aimed at lower price points.
- Make both market and submarket multifamily housing easy to finance and build.

If localities and Congress do not address these inequities, we should not be surprised to see record levels of housing stress, an even greater decline in the supply of affordable housing, and, most sadly for the wealthiest nation on earth, seemingly intractable homelessness. ■

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A Variety of Strategies

Projects from around the country reflect an array of inventive affordable approaches.



Argyle Gardens Portland, Oregon

Argyle Gardens, in Portland's Kenton neighborhood, aims to be a stepping-stone on the path out of homelessness, with rents as low as $300 a month. A long, rectangular building contains 35 200-square-foot studio apartments, as well as community gathering spaces. It faces three small buildings, each containing 12 100-square-foot single-room-occupancy units, six upstairs and six downstairs, along with two bathrooms and a communal kitchen on each floor. Ingeniously, each building can be described as a pair of six-bedroom apartments, so the design can be employed anywhere duplexes are permitted, says Dave Otte, principal in charge of the project for **Holst Architects**.



Funded with Oregon Low Income Housing Tax Credits, the complex was built on a tight budget. The units were prefabricated right in Portland, lowering construction costs significantly and reducing shipping expenses. Otte clad the buildings' stairwells in translucent polycarbonate, an inexpensive material that creates a lantern effect at night and maximizes solar gain by day. (That keeps the stairwells warm in winter. Insulation and ventilation keep them cool in summer.) The architect created attractive front facades by simply varying the color of paint on fiber-cement board. *F.A.B.*

Assemble Chicago

A challenge announced by C40, a global consortium of major cities fighting climate change, intrigued Chicago architect Jeanne Gang. "Its goals are really ambitious—things that make people say, 'It can't be done.' I was attracted to that," says the founder of **Studio Gang**. C40's Reinventing Cities competition asked architect-developer teams to design affordable, equitable, and sustainable housing for real sites. Studio Gang entered with The Community Builders, a self-described "mission driven" developer. The team won in June with its plan for Assemble Chicago, a 20-story building on an empty lot within the city's downtown Loop. The area has "a lot of workers making between $25,000 and $35,000 a year," says Gang, describing the target market for the 207-unit building, which is expected to cost $102 million. The studio, one-bedroom, and two-bedroom apartments will be rented to those making between 30 and 80 percent of the median income for the Chicago area, now about $90,000 for a family of four. The tower will rest on a podium, called NeighborHub, featuring a food hall for minority-owned restaurants, office and meeting spaces for nonprofit groups, a health clinic, and a grocer. Such measures as modularizing the facade and building it in a factory will keep costs down, Gang says.

Using glazing on just 25 percent of its envelope, the tower offers proper daylight without excessive heat loss or gain and keeps operational energy use low. Reducing embodied energy is also in the mix, literally: concrete will be made with industrial byproducts in place of much of the cement. The building's footprint is too small for a meaningful array of PV panels, so it will join nearby buildings in a community solar grid. Gang embraces C40's goal of replicability. "The building," she says, "should be an example people can point to." *Fred A. Bernstein*

IMAGES: © STUDIO GANG (TOP); CHRISTIAN COLUMBRES (BOTTOM)

West Adams Co-Living Los Angeles

An alternative to traditional multifamily housing, co-living projects offer unrelated people the chance to have their own bedrooms and baths while sharing cooking and living spaces. Aimed mostly at young professionals accustomed to using car- and apartment-sharing apps, such projects are more affordable, because fewer kitchens and living rooms need to be built.

Tighe Architecture, which recently completed three co-living developments in Los Angeles and has more on the boards, designed West Adams Co-Living as a set of five townhouses sitting on top of a parking podium and looking onto a raised courtyard in the center. Each three-story townhouse has six bedrooms and one common kitchen and living area.

"The project provides a sense of community," says Patrick Tighe, founder of Tighe Architecture. "Residents share not just common spaces, but common interests and values. And because the project allows for higher density, it's more affordable," adds Tighe.

Respecting the scale and massing of buildings in this mostly residential part of Mid-City Los Angeles, Tighe designed the 17,800-square-foot project as a cluster of Monopoly-like houses with gable roofs, white stucco walls, and punched windows. The complex reads as a small village, immediately communicating the notion of community. The courtyard on top of the concrete parking podium offers a variety of tables, chairs, and couches for residents of all the townhouses to share. By raising the residential blocks above the courtyard and podium, Tighe provided bedrooms with unobstructed views of the Hollywood Hills, Downtown L.A., and Culver City.

"The simplicity of the West Adams building form takes cues from the stucco gable-roofed building typology familiar throughout Los Angeles," says Tighe, who founded his firm in Santa Monica in 2001 and has deep roots in the city.

The units are fully furnished and include utilities, Wi-Fi, on-site washer/dryer, and weekly cleaning, so they work well for people new to the city or those who will be in town for limited periods. Rents for the bedrooms range from $1,100 to $1,385, according to a recent listing, compared to $2,100 for a traditional unfurnished studio apartment in the West Adams area. *Clifford A. Pearson*



Side By Side Cleveland

Designed for people of different ages and capabilities, Side By Side offers a number of twists on the co-housing model. Instead of targeting a single type of resident, it provides shared housing for families and singles, able-bodied people and those with physical and developmental issues. The project, designed by the New York firm **Brandt: Haferd**, was the winning entry in a "zero threshold" competition run by the nonprofit North Coast Community Homes, which operates more than 200 group homes for developmentally disabled people in Northeast Ohio. The five-unit building occupies a double lot in the mixed-income, racially diverse Old Brooklyn neighborhood of Cleveland.

The architects K. Brandt Knapp and Jerome Haferd conceived of the project as a pair of three-story houses connected by a large double-decker elevator inspired by the movable room at the center of Rem Koolhaas's Maison Bordeaux (1998). Communal spaces wrap around the central elevator, encouraging residents to interact with each other. A large kitchen on the lowest level, a deck on the roof, and a garden in the back serve as additional areas for people to socialize in.

While the competition called for a project on two lots, Brandt and Haferd included a community garden and park on an adjacent third lot. They even added a bus kiosk at one end of the garden to further tie their project to the surrounding neighborhood. "We wanted to use domesticity to deal with urban issues, such as the lot," says Haferd, who approached the project as one piece in an urban puzzle. Organizers of the competition are still raising funding and gathering a broader coalition of partners, but plan to move forward, says Haferd. *C.A.P.*



IMAGES: © NICHOLAS WU (TOP); BRANDT: HAFERD (BOTTOM)

Reese Davidson Community, Venice, CA

The Venice Canal Historic District (VCHD), on L.A.'s west side, is a picturesque enclave, with single-family cottages along serene waterways with overarching trees, rowboats, and little bridges. Originally a themed resort area, begun in 1904, Venice (which includes VCHD) declined between the 1940s and '90s, leaving it gritty and rundown—though affordable to emerging artists. Now it's a hip, trendy place with soaring real-estate values—as well as a large homeless population. When two nonprofits, Venice Community Housing and the Hollywood Community Housing Corporation, engaged **Eric Owen Moss Architects** to design a 140-unit mixed-use residential compound for homeless and low-income locals, the need was already overwhelming. Among Venice's nearly 40,000 residents, an estimated 2,000 people are "unhoused." Still, the future complex, the Reese Davidson Community (RDC)—which received L.A. City Planning approval in May—has proven controversial.

Its 2.65-acre site—a longtime city-owned parking lot—straddles a canal across Venice Boulevard from the historic district. RDC's buildings—two sand-toned stucco-clad full-block structures, rising three stories and totaling 104,000 square feet—will provide half of its units to homeless people (with supportive services), 25 percent to low-income artists, and 25 percent to other low-income households. The estimated $75 million compound will include a community arts center, a café, small-scale retail/microenterprise space, roof decks, and both residential and public parking. Instead of outwardly expressing the individual units, architect Eric Moss says he favored "big, warping, morphing gestures," with smaller, idiosyncratic conditions, such as scooped-back gallery spaces, within the sweeping forms.



Those large gestures, however, have prompted opposition. Some neighbors, while supporting affordable housing, object to the scale jump from the historic district to RDC's monolithic sloping, geometrically hyperbolic walls, which some liken to fortresses. Others question the concentration of units in one place instead of dispersing them around Venice. And, despite the town's progressive leanings, NIMBY-ism exists. The project still has hurdles ahead, including more public hearings and full L.A. City Council review. *Sarah Amelar*

Mueller Row Homes Austin, Texas

Habitat for Humanity mainly builds single-family homes, "but single-family shouldn't be the model for housing everywhere," says Michael Hsu, founder of **Michael Hsu Office of Architecture** in Austin, Texas. The firm, best known for stylish stores and restaurants (and Austin's South Congress Hotel), proved his point with a row of 11 attached houses in Mueller, a planned community on the site of the city's old airport. Austin Habitat for Humanity's first multi-family project, it had to satisfy a design-review board, the Mueller New Construction Council.



At the same time, Hsu aimed to give residents a sense of ownership. "We wanted to make sure it didn't look like quote-unquote affordable housing," Hsu says. "But on these jobs, every dollar counts. There is no fluff." So, to give each unit a distinctive look, he had to be resourceful. Unable to vary the massing of the three- and four-bedroom units, he customized them with a range of cladding materials, including tile, brick, and fiber-cement soffit boards, whose ventilation holes he used as a decorative element. Residents (all of whom committed to 30-year mortgages) helped choose the tiles and paint colors for their entries. Many of the facade materials were donated by manufacturers, as were the cabinets inside. The houses sold for an average of $186,000, at a time when the median home price in Austin is more than $500,000.

To enhance the townhouses' presence on the street, Hsu tucked parking in the rear and placed a sidewalk and a gravel path for pedestrians and bicyclists in the front. *F.A.B.*

IMAGES: © ERIC OWEN MOSS ARCHITECTS (TOP); CHASE DANIEL (BOTTOM)

Tracking the Pulse of the City

Will big data create a more equitable built environment?

BY MATTHEW MARANI

THE RISE OF BIG TECH and the proliferation of digital information is often cast in dystopian terms; consumers unwittingly consent to the hoovering of reams of private data by corporate overlords, who, in turn, customize product offerings through algorithms that apparently know us better than we do ourselves. Lost in this dialogue is the ongoing application and potential of data in solving intractable inequities that hamper urban sustainability and overall prosperity.

The MIT Senseable City Lab in Cambridge, Massachusetts, has been grappling with these issues since its founding in 2004. According to Carlo Ratti, director of the lab and founding partner of the architecture firm Carlo Ratti Associati, the wealth of data produced daily is a gold mine for the future understanding of cities. "If we want cities to be structured as well-functioning, human-scale mixed-use neighborhoods—or '15-minute cities,' as Paris mayor Anne Hidalgo would put it—we need to start from a better understanding of today's imbalances," says Ratti. "Big data can help us review the existing layouts of different neighborhoods and tweak them on a case-by-case basis. But, of course, flexible, data-informed policy should follow."

Toward that end, the lab's work, as demonstrated by recent projects such as *Liminal Ghettos*, which was featured at the 2021 Porto Design Biennale, builds upon two types of data. "Opportunistic data," generated as a byproduct of our digitally augmented lives, include those produced through social-media use, self-tracking apps, and anonymized records. The second, broader, category are gathered by sensors, which, for example, can track air quality on city streets or monitor human viruses and wastewater throughout a municipality's sewage system. Both forms of data are analyzed by the lab and visualized to gauge where interventions are most appropriate to advance equity.

The inspiration for State of Place, an urban design data and predictive-analytics software company, was the personal experience of its founder and CEO, Mariela Alfonzo. Growing up in low- and middle-income suburbs of Miami, Alfonzo witnessed firsthand the detrimental effects of the built environment and urban design on residents' quality of life. For her, addressing such systemic issues required the development of a tool to measure the independent variables that can be adapted to improve urban precincts and entire cities.

The software collects approximately 300 micro-scale aspects of the built environment's features—such as the density of trees, quality of the sidewalks, access to healthful food—and ranks that particular neighborhood within the State of Place Index. The team then takes those qualities and predicts how their improvement could positively impact health and environmental problems, such as diabetes and lung disease, as well as the economic position of municipalities. The company has collaborated with cities across the world, including Irvine, California, on evaluations of redevelopment opportunities, and Oslo, on the walkability of its Økern district. In Philadelphia, in collaboration with SmartCityPHL, State of Place led a pilot project that collected data on approximately 15,000 city blocks and demonstrate that a slight increase in an area's Index score, through improved public space or greater access to bike lanes, could reduce the prevalence of chronic diseases like obesity and asthma.

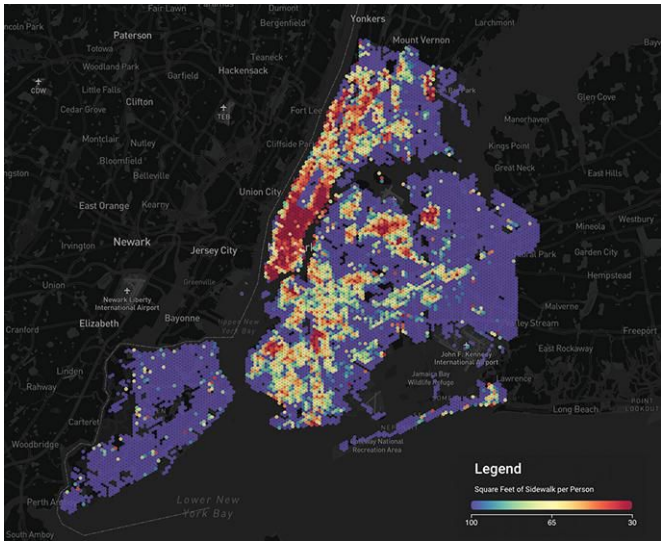
"Data are a way to help break up departmental silos," explains Alfonzo. "You can start to objectively show that, through interdepartmental collaboration, cities are more cost-effective and their key performance indicators improve. The real-life implications of that approach are happier and healthier residents."

In New York, KPF Associates' Urban Interface think tank is probing similar questions, and is developing interactive web tools that empower non-expert stakeholders to freely explore data to their advantage. The team is applying data analytics and custom evaluation applications to gauge the impact of their own projects within urban contexts, such as the Midtown Manhattan supertall One Vanderbilt, where daylight and pedestrian-flow studies informed both the massing of the tower and the layout of public spaces. For the latter, the team is developing a new toolkit to guide public-space design that addresses time-specific use demands.

"We map the flows of pedestrian volume in relationship to daylight, thermal comfort, and vehicular traffic to create a shared street schedule," says KPF director and urban interface leader Luc Wilson. "By allowing the street and sidewalk spaces to be used more flexibly, for example, to accommodate distinct surges and lulls in pedestrian traffic, temporal design helps maximize the usability of the public realm and, in effect, gets more space for meaningful programming without having to building anything new."

The use of data in city planning has come a long way since the pioneering epidemiologist John Snow's campaign of disease mapping in 19th-century London, and the inexorable march of big tech is sure to produce ever greater caches of information on how cities, spaces, and infrastructure are being used or underutilized by residents. The existential question is whether those resources can be harnessed to establish more equitable and successful cities. ■

Matthew Marani, studying city and regional planning at Pratt Institute, writes about architecture and urban design.



A tool developed by KPF predicts the contribution of residents, workers, and others to "sidewalk stress" at different times of day.

IMAGE: COURTESY KPF

Revitalization of the Civic Realm

Various proposals nationwide show how parks and common areas can be created from a torn urban fabric.



L.A.: Light-rail leads to lookouts and art display

Los Angeles's Crenshaw Boulevard is often considered the premier artery of African-American commerce and culture in the western United States. "Crenshaw is to L.A. what 125th Street is to Harlem," as one local leader put it. Yet when plans were unveiled, in 2011, for a new light-rail line down the center of that boulevard, the Black community rightfully felt blindsided. Without any warning, the county had decided to drive 1.3 miles of track through the heart of Black L.A., right at grade—even though much of the remaining Crenshaw/LAX Line will run underground. Worse yet, the plan included no stations or stops along that stretch. "It felt like an updated version of the ways freeways and tracks had torn through underprivileged neighborhoods in the '40s, '50s, and '60s," said Jason Foster, who'd worked elsewhere in L.A. to reclaim such infrastructure-damaged communities. "Suddenly, it was happening all over again."

But this time, the community mounted a strong response, determined to turn adversity to advantage. Local councilman Marqueece Harris-Dawson spearheaded the formation of a visionary advisory council, made up of area artists, activists, business owners, ordinary citizens, and other stakeholders. With active community input, "Destination Crenshaw" was born. Foster became its president and COO. The $100 million project, due in June 2022, will create, along its 1.3 miles, 10 much-needed pocket parks, walkable sidewalks, two train stops, and installations, both permanent and rotating, by more than 100 emerging and world-renowned L.A. artists (to be announced) of African descent. "It's cultural infrastructure that also embraces the ongoing renaissance in Black art," says Foster. Locals will form much of the construction workforce. And reforestation will add 822 new trees to replace the 400-plus sacrificed in building the rail. Sculptural elevated walkways (top) will overlook the landscape and



art—including "The Wall" (above), a long-existing, continually evolving neighborhood mural. **Perkins + Will** will be the project's architect, and **Studio-MLA** its landscape architect.

Proudly celebrating the community's legacy and spirit, Destination Crenshaw will be, as Foster puts it, "unapologetically Black." African Giant Star Grass—which lined slave ships as bedding, and thrives despite diaspora and adverse conditions—will unify the project: a living metaphor for a shared strength and resiliency. "We're committed to righting the wrongs of harmful decisions, to bettering our community, and creating a model for other neighborhoods," says Foster. And, as its name suggests, it won't be a neglected fly-through but a real destination.

Sarah Amelar

IMAGES: COURTESY PERKINS + WILL

Pittsburgh: Brownfields and mills become parks

This spring, the Seattle-based landscape architecture firm **GGN** completed the two-acre Hazelwood Green Plaza in Pittsburgh. The small rectangular plaza, which features framed lawns, a flexible hardscape, and a tiered water feature, belies the outsize importance of the project, which sits along the Monongahela River.

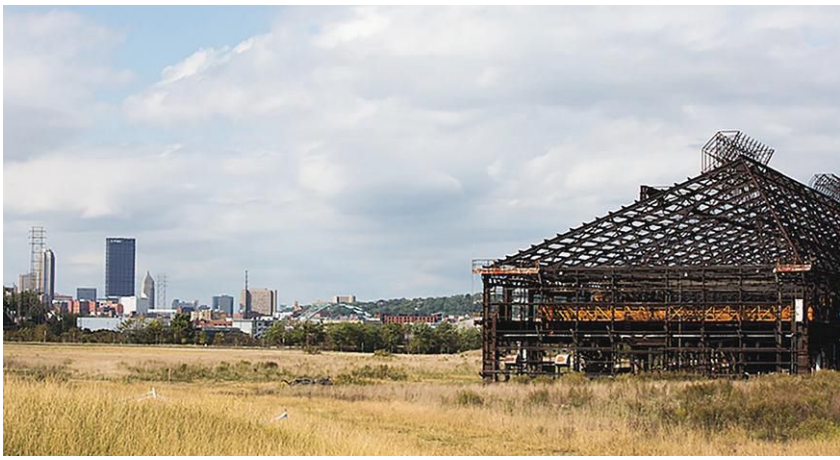
The plaza is the heart of a 178-acre, 1.3-mile-long redevelopment project, which will restore access to the riverfront and transform a former steel-mill site and brownfield into a new center for light manufacturing, with public outdoor space and commercial, office, and residential opportunities.

"What drew us to this project was the significance of the site itself," says GGN founding principal Jennifer Guthrie. "It was a chance to be part of the next generation of Pittsburgh." The architects designed a sloping lawn that terminates to the north at Mill 19, which was built in 1943 and ultimately stored coke oven brick before its closure in the 1990s (right). Today, its original steel skeleton houses a mix of tenants, such as Carnegie Mellon University's Manufacturing Futures Initiative (below).

For the plaza lawn, GGN created concrete steps and grassy berms that focus views toward the mill. Farther south, a water feature made of granite slabs has seat-height edges for relaxing; the water can be turned off for public programming.

Walls that run north–south along the plaza are made of reclaimed stone. GGN created a native-plant palette to set the tone for future development, as well a pollinator garden that will help with stormwater management. The landscape architects specifically selected trees for the size of their leaves, so they would act as an air-purification system.

The overall project required Guthrie's team to use its imagination to envision a vibrant waterfront community where, as she says, there are currently "178 acres of emptiness." Luckily, passionate advocates from the surrounding neighborhood had plenty of ideas for programming the plaza. "There was an incredible attitude of, 'if you build it, they will come,' " says Guthrie.

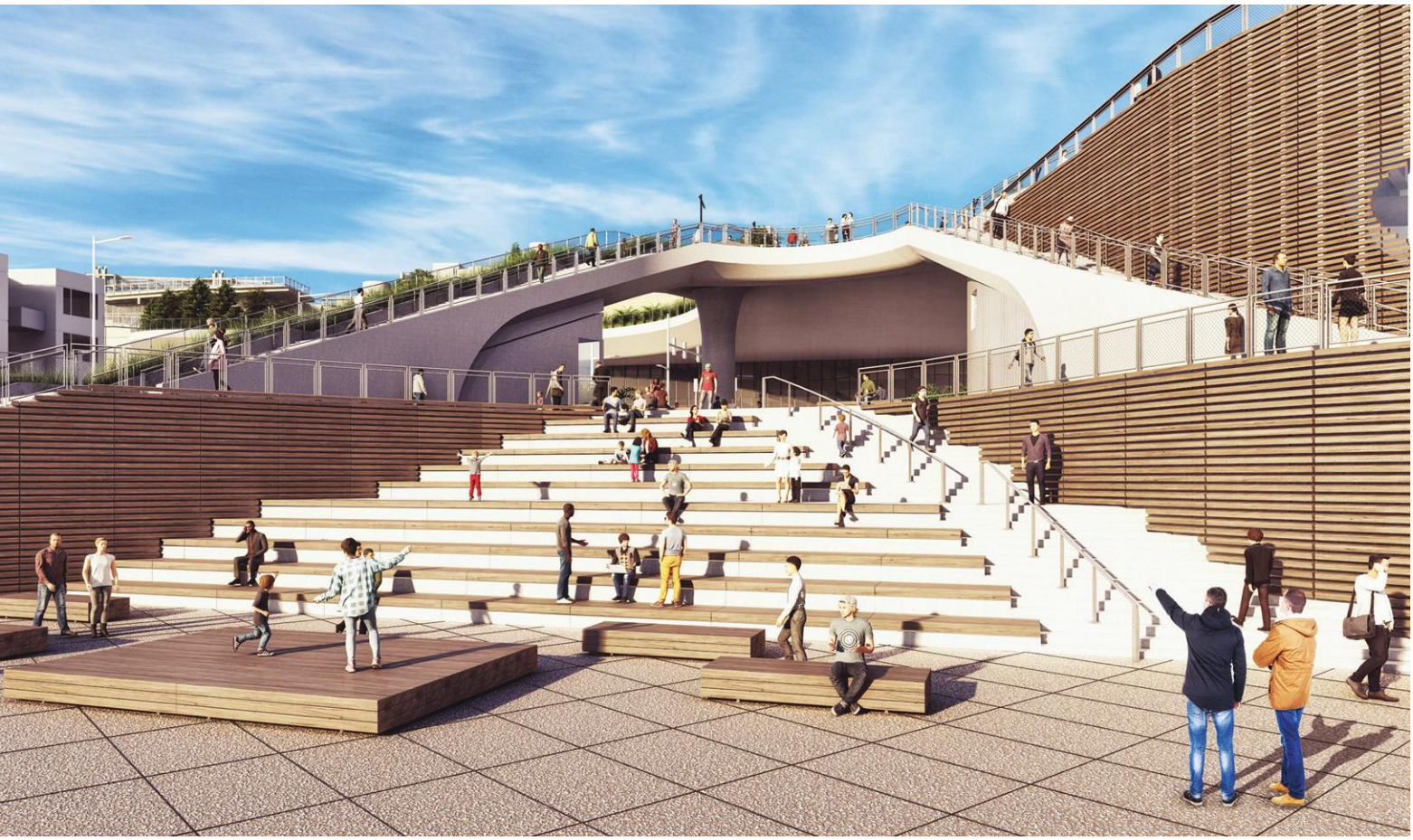


GGN also looked for inspiration from the stakeholders' mixed attitudes about Pittsburgh's industrial past—older generations associated the former mill site with pollution, job loss, and disenfranchisement, while younger people tended to romanticize the mill's former prowess.

"We wanted the plaza to feel as big and as monumental as a two-acre site could feel, to match the importance of the steel industry, for better or worse," says Guthrie. "We look forward to watching the world come up around it." *Laura Raskin*



PHOTOGRAPHY: © ANNIE O'NEILL/COURTESY ALMONO LLC (TOP); HAZELWOOD LOCAL (BOTTOM)



IMAGES: © COURTESY JAMES CORNER FIELD OPERATIONS

Seattle: Major changes on the waterfront

In 2010 **James Corner** and his landscape architecture firm **Field Operations** began to transform Seattle's waterfront, which was blighted by the grim presence and constant din of a highway viaduct. In addition, the highway and the adjacent seawall at the edge of Elliott Bay were at a high seismic risk. In a series of expensive urban musical chairs, the seawall was replaced with a $410 million one calibrated with sea-level rise in mind. (Corner configured the underwater sections to appeal to migrating salmon and other species.) After a $4 billion, 200-foot-deep replacement highway tunnel was bored, demolition of the viaduct took place in 2019. Only then could construction begin in earnest on one of the most ambitious shoreline transformations in America, costing $781 million.

The 1.6-mile shoreline esplanade shifts local car and bus traffic inland to make room for a wide walkway along the seawall (right), where views of the bay alternate with commercial activity in preserved vaulted timber structures. Some piers along the way are being repurposed to host public events. In contrast to the prevailing hardscape of streets and skyscrapers, Corner introduces habitat strips of trees, native shrubs, and natural storm-water-management installations, intertwined with bike paths. He also interrupts the new seawall with "habitat beaches" that emulate predevelopment conditions. The combination juxtaposes the urban and the natural in surprising ways. The project includes art by native tribes and interpretive information about the history and culture of the people who nurtured this place before white settlers arrived. Tendrils of the park extend up the side streets, to draw people from this waterfront amenity to the canyon of skyscrapers just uphill.



The boldest element of the plan comes at the northern end, where a series of stairs, planted roofs, and ramps ascends a 110-foot-high bluff to link the waterfront to the famed Pike Place Market. It is an acrobatic architectural journey that begins in curving stairs (top) that wrap a new pavilion (designed by LMN) for the bayside aquarium. Called the Overlook Walk, its terraces offer ever-expanding views of Elliott Bay and the Olympic mountains.

The project, a welcome transformation for a downtown severely affected by Covid office and retail shutdowns, will open in stages and be fully complete before the end of 2024. *James S. Russell, FAIA*

L.A.: New facility recharges the 'hood.



Robertson Recreation Center, completed by **Kevin Daly Architects** in December 2020, occupies a narrow wedge at the intersection of ethnically and socioeconomically contrasting communities. They include the Crestview neighborhood, more than 60 percent Hispanic or Black, as well as Beverlywood, an increasingly upper-middle-class Orthodox Jewish enclave. A Sikh temple and a Coptic Orthodox church are just across the street, with their followings nearby. "It's a microcosm of contemporary L.A.," says architect Kevin Daly, "and an example of the contested nature of the limited public space available in this city."

The project replaces "Rob Rec," a beloved mid-20th-century city Parks & Recreation facility that was dilapidated beyond repair. Its main space—a less than regulation-size basketball court—was vital to a largely underserved community. It produced such professional players as Nick Young, formerly of the L.A. Lakers and Golden State Warriors, and Cedric Ceballo, whose multi-team career also included the Lakers. But rebuilding was no simple matter—prior plans had been defeated by neighborhood opposition. And competing concerns persisted—whether or not racial undercurrents existed, the stated issues involved increased traffic, potential crime, protection of existing mature trees, and a desire for park, rather than parking, space.

Finally finished (left), the 12,000-square-foot, $11 million gymnasium-and-community center—spanning from busy Robertson Boulevard to quieter residential streets—navigates some of those issues while achieving a regulation-size indoor basketball court and a half-size outdoor one. Visually light, the undulant-walled metal-clad building—almost residentially scaled—bends around existing Melaleuca trees. Given the facility's access to transit lines, parking was kept to a minimum. Also sustainable, the interior relies on daylight and natural ventilation. Though Covid restrictions have postponed the official opening, Young, who has championed both the old and new "Rob," informally inaugurated the building by shooting the first basket. "And if they want me to host a youth basketball camp when it opens, I'm in," he told Daly. "This was where it began for me." *S.A.*

Buffalo: Banishing the highway for open space



Since it was constructed in the early 1960s, the 3.6-mile Scajaquada Expressway has sliced through Buffalo's Delaware Park, the crown jewel in a celebrated park system designed by Frederick Law Olmsted. The state highway, Route 198, replaced two tree-lined streets and was contested from the start. In addition to destroying Olmsted's vision for the hourglass-shaped park, it segregated surrounding neighborhoods, especially communities of color. Traffic polluted the air and the adjacent Scajaquada Creek, creating adverse environmental and health effects. Then, in 2015, a vehicle traveling westbound on the highway killed a 3-year-old boy. The Department of Transportation responded with a plan to reduce speed limits and build medians, but the community roundly rejected it as simply not enough to counter 198's deleterious effects.

Now momentum and consensus are building behind a plan to eliminate the highway altogether—a move that other U.S. cities, from Rochester to Detroit, have completed or considered. The Scajaquada Corridor Coalition (SCC), a diverse group of local organizations, is leading the call for removal, backed by renderings for the highway's reenvisioning by **CannonDesign**'s Buffalo office. Two of its architects, Michael DeLuca and Mark Nowaczyk, sit on the SCC design committee and are passionate advocates for the plan. The renderings represent numerous improvements, including a widened and restored Scajaquada Creek; a reconnected Delaware Park; bike lanes and pedestrian paths; increased recreational space; and renewed connections between neighborhoods and job, commercial, education, and health-care centers.

The rendering (above, right) depicts SUNY Buffalo State College dorms and the creek. Students would have access to the waterfront and a pedestrian bridge connecting them to a local business district.

The Greater Buffalo-Niagara Regional Transportation Council is developing a final plan for the highway by March 2022. "We're hopeful that this community dialogue will lead to a plan that is very similar to what we've shown," says DeLuca.

Decreased speed limits and reduced traffic because of the pandemic have already improved the quality of life for area residents and provided a glimpse of what removal could mean. Also in the plan's favor: $100 million of state funds have been allocated to the project, as well as federal infrastructure funds geared to removing highways that divide communities. *L.R.*

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A New Lease on Life

As vacancy rates rise, developers and architects transform outdated office buildings into residences.

BY KATHARINE LOGAN

AMONG THE MANY aspects of daily life that the pandemic has transformed, perhaps irreversibly, is the expectation that corporate office work takes place in a corporate office. More than a year of widespread working from home has shown just how adaptable workers and work itself can be. It turns out people can get a great deal done from a corner of their living room, their kitchen table, or—oh! luxury—an actual home office with an actual door, all while being more present for their family and personal projects, not to mention the laundry.

Recent analysis by McKinsey Global Institute suggests that more than 20 percent of the workforce could work remotely three to five days a week just as effectively as from an office—that's three to four times prepandemic levels. Major companies, including Amazon, Capital One, Facebook, and Ford, have announced permanent remote-work options for eligible staff. Office-vacancy rates have hit new highs—around 19 percent in Manhattan, 22 percent in Chicago, and 24 percent in Los Angeles, with office space available for sublease nationwide up 40 percent at the end of 2020 over the year before. Most affected are older, less desirable buildings as tenants migrate to higher-quality premises. With some experts predicting that vacancy rates will continue rising through 2022, the implications for commercial real estate are profound. So are the possible knock-on effects for municipal tax revenues, transportation, retail, and the vitality of urban centers. It's no surprise that pundits are pondering whether converting surplus office space to housing can help.

When the pandemic started shutting down projects in Gensler's corporate workplace practice, the firm asked building-owner clients if there was something that would be helpful in the interim. "We honestly thought they were going to ask us to design some stickers on the floor to keep people apart," says Steven Paynter, a principal and regional practice area leader for office buildings at Gensler. "Instead, they asked us to help them regain some confidence in their real-estate portfolios."

Clients in the Canadian oil industry center of Calgary, Alberta, were especially concerned. With pandemic-related vacancies compounding effects of the 2015 energy-sector crash and this year's cancellation of the Keystone Pipeline, Calgary's downtown office-vacancy rate is hovering around 32 percent. That translates to an astronomical 12 million square feet of empty real estate. "They realized they weren't going to see it bounce back," Paynter says. "They really needed to do something."

Starting with a single client's portfolio, and then rapidly expanding at the request of Calgary Economic Development to include more than half of the downtown core, Gensler's Toronto studio developed a system for scoring office buildings' suitability for conversion to housing as, Paynter says, a data-based way out of decision paralysis.

Drawing on consultations with 56 cities internationally as well as its own in-house research, Gensler created an algorithm that uses readily available data to compare an office building with best-in-class residential buildings. The algorithm runs over 50 variations for each building, tabulates its percentage of similarity to top-performing residential developments, and displays the results in a user-friendly dashboard format. It then tests the top picks, accounting for typical net-to-gross ratios, allocating average unit sizes based on location, estimating numbers of units to a building, and calculating how many elevators and what size service risers are required. "And it's doing that in about five minutes," says Paynter. "It's allowed us to do half of Calgary in two weeks." The speed of the analysis, along with $160 million from the City of Calgary in downtown revitalization funding (of which $36 million is earmarked specifically for this type of repositioning) has so far enabled about a dozen conversions to get under way.



IMAGES: © BINYAN STUDIOS; VISUAL HOUSE (OPPOSITE, TOP); JULIUS SHULMAN, J. PAUL GETTY TRUST, GETTY RESEARCH INSTITUTE, LOS ANGELES, 2004.R.10 (OPPOSITE, BOTTOM)

Key factors the algorithm assesses include the building's context, with maximum points going to buildings with cultural or heritage value that are located in mixed-use neighborhoods with access to green space, amenities, and transit. Building form also matters, with orthogonal shapes preferred. Among site-related factors, buildings on corner lots having at least 65 feet to adjacent mid- or high-rise neighbors have an advantage. Windows are ideally located on at least three sides, with extra points for south-facing glazing that covers at least 40 percent of the wall area. Floor plates with a minimum 40-foot depth, 8,000-square-foot area, and 9-foot floor-to-floor height, served by multiple elevators, earn top marks. Structure and servicing, ease of required upgrades, and adequate parking garner additional points.

THE FORMER Los Angeles International Design Center (right), a 1960s building, is being expanded by Olson Kundig to create a 40-unit condominium (above and opposite).



A redevelopment completing construction this fall in Los Angeles, designed by Olson Kundig Architects with Large Architecture, ticks many of those boxes. Originally designed by Midcentury Modern architect Richard Dorman and built in 1964 as the Los Angeles International Design Center, the 10-story 8899 Beverly Boulevard is the tallest building in its dynamic, increasingly walkable neighborhood. Its conversion will create 40 condo-



minium units, with eight new townhouses as a separate structure. "This type of project is the future of development in dense urban-infill areas, where undeveloped land is virtually nonexistent," says Tyler Siegel, cofounder of Townscape Partners, the conversion's developer. "And, in some respects, it represents the ultimate sustainable project, in that the entire building is recycled."

Along with the building's location, where the city has created incentives to boost residential and mixed-use development, factors such as the mid-rise height, generous floor-to-floor spans (by residential standards), views, and even balconies made what Siegel calls the perfect starting point.

From a design perspective, "the biggest challenge was also the most exciting," says Tom Kundig, design principal: "how to maintain the integrity of the original Dorman building, but tie it in with a new function as a residential building." The redevelopment expands the building footprint to 17,000 square feet (from a minimally viable 8,500) "while keeping the form of the original building legible, creating a dialogue between old and new," Kundig says. Ribbon windows have been replaced with floor-to-ceiling triple glazing, much of it operable, with minimized frames and continuous flooring enhancing continuity between unit interiors and the balconies, terraces, and views beyond. Interior details, such as Kundig-designed leather-wrapped bronze door handles, honor the building's historic association with design and its location in a design-branded district.

Working with an existing building often presents unique hurdles. In this case, the most significant was an extensive structural upgrade to meet current building codes—a necessity triggered by the building's change of use. New 2-foot-thick concrete shear walls and column-reinforcing concrete wrap achieved current seismic standards. The decision to expand the floor plates with post-tensioned concrete slabs and new supporting columns, and to add a penthouse with a cantilevered steel structure, necessitated a new 5-foot-thick mat foundation beneath the entire building. Meeting design tolerances and resolving the junctions of old and new took painstaking attention to detail throughout. "Difficulty level 10," says Siegel, pointing to a ½-inch base reveal for the glazing track, which required the old and new slab elevations to marry perfectly, as just one example.

Despite those difficulties, the renovation is achieving multiple values: giving a distinctive

IMAGES: COURTESY CETRARUDDY; © KATHERINE MARKS (OPPOSITE)

building (and its embodied resources) a new lease on life, darning a hole in the city's fabric, and helping a neighborhood evolve. "This project presented an opportunity to reimagine an existing midcentury building for a changing urban landscape," says Kundig. "I'm interested in architecture that tells an evolutionary story—reflecting changes in how we live, and how we plan cities."

The reference to an evolutionary story is a useful reminder: although pandemic-related vacancies and the buzz around conversions may suggest that a real-estate revolution is under way, adapting workplaces to housing is in fact nothing new. Nineteenth-century warehouses and manufacturing facilities have become coveted lofts. Daylit and naturally ventilated office buildings from the early 20th century have become desirable apartments. In most cities, these building types have now been largely converted, and office buildings from the second half of the 20th century are cycling in. "With existing buildings, you're mining whatever stock is there," says John Cetra, a principal at New York–based CetraRuddy Architecture, a firm that has completed some 4 million square feet of commercial-to-residential renovations in its 30 years of practice.

Buildings from the mid-20th century, with characteristically deep floor plates and a reliance on electrical lighting and mechanical ventilation, present a new set of challenges for adaptive reuse. CetraRuddy's renovation of 20 Broad Street, built in 1956 as an extension to the New York Stock Exchange and converted into 535 rental apartments in 2020, illustrates some of the problems that are typical in adapting buildings from this period. The 30-story building, whose wedding-cake layers provided scope for prized outdoor terraces, has extremely large floor plates: 20,000 square feet at the base, with 40- to 45-foot lease spans (the distance from the outside wall to the core), compared to the 30-foot spans more typical for residential developments. That means 20 Broad's interior depths are a long way from daylight, and although New York State's building code permits dwelling spaces to be mechanically ventilated, bedrooms are still required to have an operable window.

In response, the design activates in-unit corridors with galley kitchens, office/sleeping alcoves, storage closets, and laundry facilities. Space in and around the building's central elevator core is used for tenant amenities, such as fitness facilities, a children's playroom, library, game room, and lounge. In addition to spatial and programming solutions, outdated mechanical systems were replaced, as were windows to get them opening again, and a chilly corporate lobby was warmed up with bookshelves, layered lighting, and decorative brass grillwork. "It's really the creativity you bring to it," says Cetra. "In residential design, a lot of buildings are very similar on the inside. When you start with a building that has interesting and unique characteristics—volumetric, shape, and setbacks—it's a lot of fun to work with them."





IN LOWER Manhattan, CetraRuddy has converted a midcentury office tower into a rental apartment building (opposite), warming up the lobby with domestic touches such as bookshelves (top), and taking advantage of in-unit areas far from windows for sleeping alcoves and kitchens (above).





A DATED 1970s Philadelphia office tower, with a precast facade and strip windows (above), was recently revamped by Gensler and is now a sleek, glass-clad residential building (left).

All of the units at 20 Broad are market rate, as are those at 8899 Beverly Boulevard. "Unused office buildings in urban environments often seem like great opportunities to create much-needed new affordable housing," says Cetra, "but it can be difficult to reach the necessary levels of efficiency to make a conversion like this feasible." Hotels, on the other hand, which typically have very efficient floorplates with shorter lease spans, are much better candidates for conversion to affordable housing, he says.

Philadelphia-based real-estate developer Ron Caplan, president of PMC Property Group, agrees. "There's no way that I'm aware of for a developer to build low-income housing in a conversion without significant subsidy," he says, pointing out that most office buildings suitable for conversion are in city centers, with purchase prices that reflect their location. "Creating a high-rise conversion is simply expensive."

PMC recently renovated Franklin Tower (completed in 2019), a long-vacant 605,000-square-foot, 24-story office tower that was built in the late 1970s in Philadelphia's Logan Square neighborhood as part of a hotel complex but subsequently severed to flounder on its own. Its environmental-control systems were no longer viable, its floor plates were inconsistent with contemporary office design, its retail level was recessed at the back of a gloomy arcade, and its facade—precast concrete with strip windows—was just plain repellent. "The issue—and frankly it's a societal issue—is, what are we going to do with all the office buildings that become outdated over time?" says Caplan.

The conversion, designed by Gensler's New York office, completely reclad the previously uninsulated structure, replacing 4-foot window openings with full-height double glazing—an improvement in energy performance—and recessing it to create balconies. It brought the retail level out to meet the street, with an indoor basketball court on the corner. And it used core spaces formerly occupied by large double-gang restrooms and utility rooms to provide an array of amenities, including a yoga studio, spinning room, movie lounge, and work spaces (prescient, given what was coming). In addition, there's a dog park, and a rooftop lounge—complete with fireplace, kitchen, and fitness center, adjacent to an outdoor terrace with another kitchen, a grill, and picnic and lounge seating. "It's arguably over-amenitized, if that's possible these days," says Robert Fuller, a principal at Gensler and the project's design lead. "There's a great quote from our client: 'I want them to rent the apartment before they even see the apartment.'"

The strategy was sound: all the building's 549 units leased in just 16 months. "This was an old dog of a precast relic. It's now a sought-after property," says Fuller. "As a firm committed to sustainability, we see this as a great example of trying to do more with what we have rather than knocking it down."

The adaptive reuse of Franklin Tower takes place in the context of Philadelphia's successful history of urban revitalization, says Paul Levy, founding chief executive of the Center City District, a business-improvement association that, since its inception in 1991, has helped to catalyze the conversion of about 4.5 million square feet of vacant workplaces in the formerly 9-to-5 downtown. As a measure of the success of these changes, Levy compares the impact of recessions on the district's assessed property value: in the early 1990s, pre-conversion, it fell 26 percent; between 2008 and 2010, it actually rose. "Diversification of downtown land use has been absolutely key to the fiscal health of the city," he says. As for the future of office buildings, Levy predicts that workplaces will continue to fulfill a critical function in city centers. Looking back on the historic impacts of pandemics, he says, "you find that cities bounce back in a remarkable way." ■

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Learning Objectives

1. Discuss the implications of rising office vacancy rates for the health and vitality of urban centers.
2. Outline the characteristics that would make a particular office building a good candidate for conversion to housing.
3. Describe the structural retrofits that are sometimes necessary when converting an office building to housing.
4. Identify strategies for providing access to daylight and fresh air when adapting a large-floor-plate office building to housing.

AIA/CES Course #K2109A

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IN 1971 twelve African American architects from different parts of the country met, some for the first time, during the AIA National Convention in Detroit. What these professionals recognized was the desperate need for an organization dedicated to the development and advancement of minority architects. That was the beginning of the National Organization of Minority Architects. NOMA today champions diversity within the design professions by promoting the excellence, community engagement, and professional development of its members. Over the past five decades, NOMA has grown to over 2,500 members in over 120 professional and student chapters in North America. We invite you to join us online and in Detroit as we honor our history, relish present-day accomplishments, and build a brighter future for our profession and our communities.

the NATIONAL ORGANIZATION of MINORITY ARCHITECTS

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MULTIFAMILY HOUSING

98 Edifício Náutico, Cascais, Portugal
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116 Battersea Power Station, London
122 Florence Mills Apartments, Los Angeles



PHOTOGRAPHY: © FERNANDO GUERRA

EDIFÍCIO NÁUTICO BY SUBVERT STUDIO, IN CASCAIS, PORTUGAL



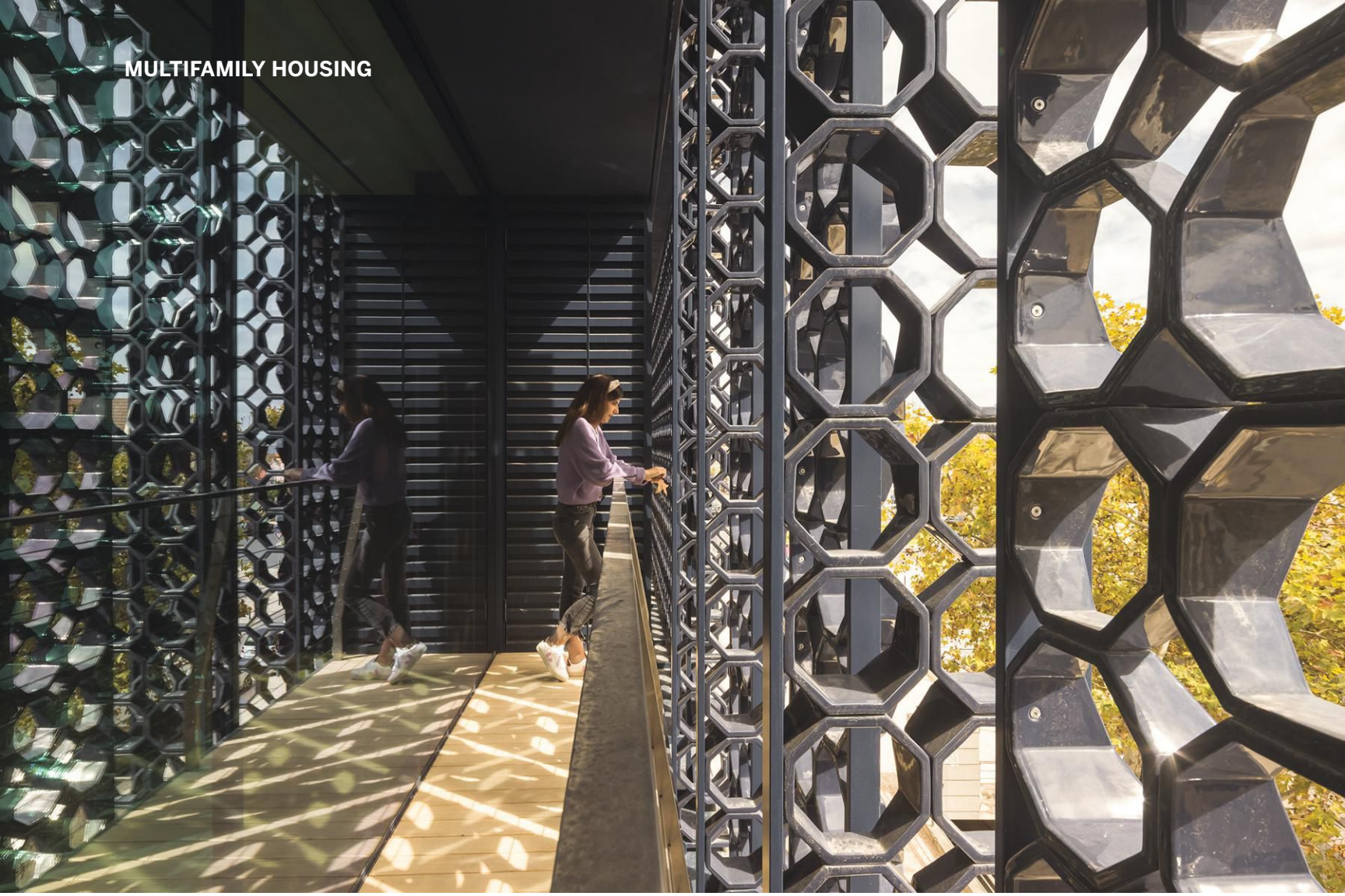
Sea Change

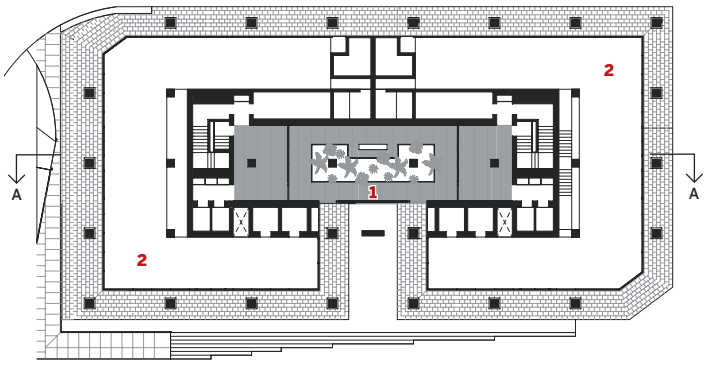
Subvert Studio's apartment building in Cascais, Portugal, takes its cues from the ocean and the town's maritime heritage.

BY JENNIFER KRICHELS
PHOTOGRAPHY BY FERNANDO GUERRA

FACING THE OPEN Atlantic just west of Lisbon, the village of Cascais is known for its beaches and for a busy marina that hosts major sailing events, including, in 2011, the America's Cup World Series. But, however popular it is with visitors, Cascais prides itself on its historic identity as a fishing village and maritime hub. Tiago Rebelo de Andrade, founder of Lisbon-based Subvert Studio, spent much of his childhood in Cascais, and, with Olympic sailors in his family, is keenly aware of that aspect of the area's culture and history. He began looking at the village and started to consider

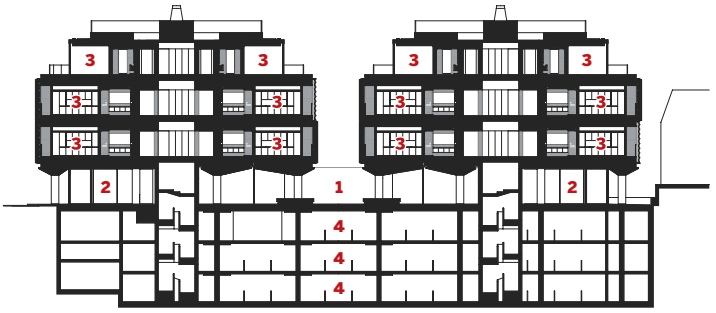
BY PULLING the ground floor of the building back under an arcade, the architects have created sheltered public space at street level.





GROUND-FLOOR PLAN

0 30 FT.
10 M.



SECTION A - A

1 ENTRY COURTYARD
2 RETAIL
3 DWELLING UNIT
4 PARKING

how to bring its nautical heritage to contemporary architecture in 2015, when Subvert entered a competition to develop a piece of property at the town center that had been abandoned for nearly 15 years. The firm presented a proposal for residential development to compete against those for hotels.

"We decided it would be best to build a housing project in Cascais because there aren't many new ones," says Andrade, adding that the process of gaining municipal approval for residential construction can take up to four years in the region, resulting in critical housing shortages in Lisbon and surrounding areas. When the Cascais mayor posted the hotel and residential proposals on social media, locals overwhelmingly supported a plan for creating an apartment building. "This hap-





RESIDENTS enter through a central courtyard (right). Pivoting ceramic screens (opposite) are glazed a deep blue, a hue that evokes the ocean and is repeated in a stairwell (right, bottom).

pened because we created a great solution for the site. Our renderings showed a high commitment to the surroundings as well as a new identity for the block," says Subvert project manager Marta Pinheiro de Almeida. While the apartments were to be developed as market-rate units, and many were likely to be purchased as vacation homes, the architects also hoped to create a neighborhood feeling for full- and part-time residents alike.

Once the commission was secured, the developers' first question to the architects was whether the existing concrete building on the site could be reused. "It was not made for a residential project but for offices, and we spent a lot of time trying to prove that it was not as good," says Andrade. While it was ultimately deemed unsuitable for adaptation, due to structural deterioration, Subvert's initial work was based on the proportions of the office building, including its generous 11½-foot floor-to-floor dimensions, resulting in a happy outcome for the final project: "We were supposed to take advantage of the existing structure, so you have a huge ceiling height in all the apartments."

Located near the train station that connects Cascais with Lisbon, the site had untapped potential as a welcoming gateway for visitors and residents. The architects proposed reducing the new building's volume by 20 percent, compared with what had been there previously, to create more public space at its base. Now the set-back concrete and steel structure faces wide sidewalks, where pedestrians will be able to visit street-level stores and a restaurant with outdoor seating. Using the overhanging apartment floors above, the architects designed sheltered outdoor areas that they think of as a series of front porches. The commercial spaces and the three floors of apartments are split into two raised cubes, each with one corner shorn off, bisected by an entrance courtyard. There, native plants grow in beds of volcanic rock from the Azores, the mid-Atlantic Portuguese archipelago, "a reminder of the sailing achievements Portugal has made," says Andrade.

With Cascais's heritage always in mind, the architects were inspired by sailing culture and the ocean. The vaults of the white-columned arcade at street level have a slightly peaked form modeled, the designers say, after the angle of a boat's hull, and, perhaps most strik-





THE TWIN apartment blocks (opposite) sit less than 20 feet apart. Inside, the units have pine floors and recessed lighting throughout (left, top and bottom).

ingly, the facade above was painstakingly prototyped to evoke, when light filters through it, the chopped surface of a wind-blown sea. More than 29,000 hexagonal ceramic pieces make up the building's exterior skin; these elements are fastened to 856 frames, each 13 feet tall and approximately 20 inches wide, with top and bottom pivoting points to create operable screens. The components take their cues from *cobogós*, the lattice-like terra-cotta walls popular in modern Brazilian architecture that provide ventilation and privacy and modulate sunlight, explains Almeida. The hexagonal pieces were fabricated in nearby Caldas da Rainha and finished with deep blue glaze reminiscent of traditional blue Portuguese ceramics. From the interior, residents can open sliding glass doors and step onto private balconies to move the facade screens. Depending on the time of day and orientation, the screens cast an array of shifting shadows and light across nearby surfaces, indoors and out.

When designing the building's two volumes, the architects created centralized stairs and elevators and grouped bathrooms and kitchens together to free exterior walls and corners for glazing, allowing more light into living spaces. Though Andrade points out that studio and one-bedroom apartments have been popular among developers worldwide for their profit potential, Subvert felt strongly that the building should appeal to families and ultimately convinced the clients to include a mix of unit sizes: eight studios, 16 two-bedroom apartments, and four three-bedroom apartments on the top floors. All of the units were purchased before completion of construction, according to the architects.

"We tried to have a true sense of community here," says Andrade. When residents exit elevators, they are greeted by pine floors and recessed lighting that continue into each apartment. "When you open the doors, the units will look like a part of one house," he says. Because of the distance between the twin residential blocks' being less than 20 feet, the facade panels can pivot closed for privacy or open for a community feeling. "It's as if you're living in Old Lisbon," says Andrade. "If your neighbor needs salt, you can almost open your door and pass it." ■

Jennifer Krichels is a Brooklyn-based writer.



Credits

ARCHITECT: Subvert Studio — Tiago Rebelo de Andrade, founder; Marta Pinheiro de Almeida, Sofia Travassos, Beatriz Brinco, architects; Diogo Ramalho, designer

GENERAL CONTRACTOR: Alves Ribeiro

CONSULTANTS: HETC (structure, plumbing); Espaço Energia (mechanical, electrical); Get Out, Arquitectura Paisagista (landscape)

CLIENT: Inovar Cascais

SIZE: 110,000 square feet

COST: $14.2 million

COMPLETION DATE: June 2020

Sources

CERAMIC FACADE: Molde

ROOFING: Moninhas Alumínios

WINDOWS: OTIIMA

WOOD DOORS: Deleme, Forma Perfeita

HARDWARE: Formani

KITCHENS: AGGS

PLUMBING FIXTURES: Sanitária

LIGHTING: Astratec

ELEVATORS: Orona

Iron Curtain

Keeping its ornate facade intact, Shigeru Ban transforms a 19th-century Manhattan commercial building into luxury residences.

BY PILAR VILADAS
PHOTOGRAPHY BY MICHAEL MORAN

WHEN YOU FIRST see Shigeru Ban's latest project in New York, you might not know that he designed it. Unlike his strikingly modern Metal Shutter House there (RECORD, September 2011), Cast Iron House, a luxury condominium building at 67 Franklin Street in the Tribeca neighborhood, is, on the outside, exactly what its name implies: a cast-iron facade, designed by W. Wheeler Smith and completed in 1882. It is registered as a New York City Landmark facade and is on the National Registry of Historic Places. But behind this fully restored facade is essentially a new building that is as contemporary as you would expect from the Tokyo-based architect.





THE RESTORED facade of this converted commercial building (right), including its elaborate columns, is prominent even from the apartment interiors (left).

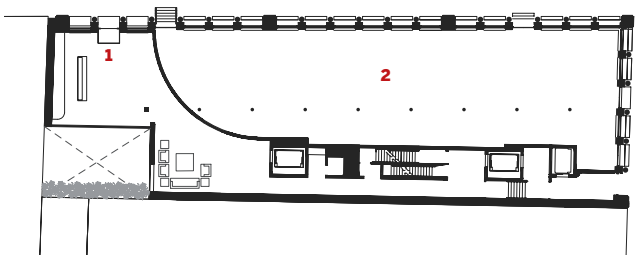
Indeed, the Pritzker Prize–winning Ban says of the project, which he designed with his New York partner, Dean Maltz, its executive architect, "To do a project in a landmark building presented a great opportunity and a challenge. I wanted to pay respect to the history, so I treated the existing facade as a relic. I designed the interior as an independent structure, with the facade as a screen." Thus, he says, "I was able to express my own idea while maintaining the historic architecture."

The corner building—once called 361 Broadway and designed for the textile trade that flourished in the area at the time—has a large retail space on the Broadway side, so the architects moved the residential lobby around the corner to the former loading dock (which was not landmarked), adding a stainless-steel and glass canopy and lowering the floor to make the space, with its 20-foot-high windows, accessible. The original building's six floors became seven, and two duplex penthouse units were added to the roof, to create 13 duplex apartments—a low-rise counterpart (in a mostly low-rise neighborhood) to the city's ever-taller new residential towers.

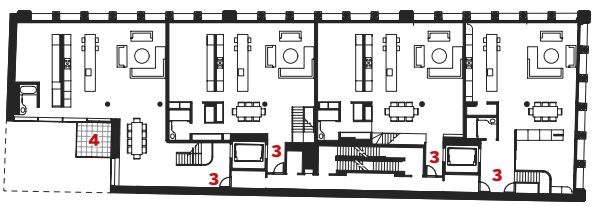
Maltz likens the insertion of the new structure into the existing facade to putting a ship in a bottle. The existing floor system, he explains, was "structurally overweight" and had extremely tall floor-to-floor heights. By replacing existing floor slabs—which were around 3 feet deep and made of steel beams with brick arch vaults and concrete—with lighter, thinner ones, made of new steel beams, metal decking, and concrete—


LAFAYETTE ST
ONE WAY
BROADWAY
N ST
ONE WAY
FRANKLIN ST
ONE WAY
ONE WAY

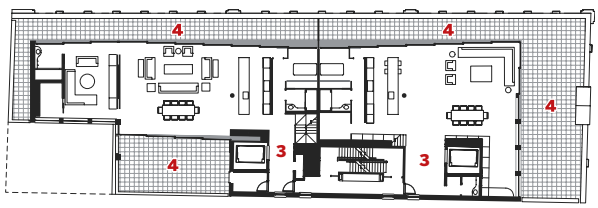




GROUND-FLOOR PLAN

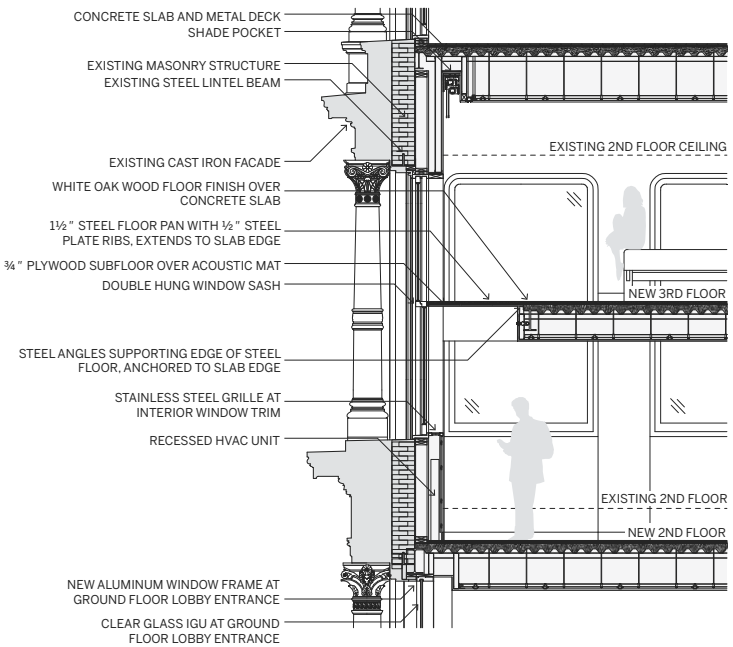


FOURTH-FLOOR PLAN



PENTHOUSE PLAN

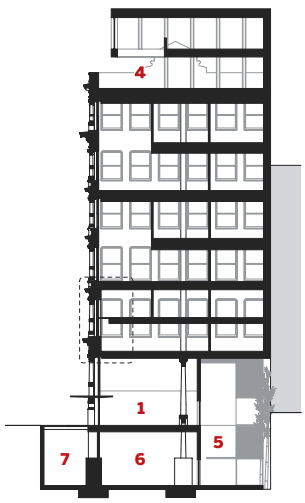
0 30 FT.
10 M.



SECTION DETAIL

0 5 FT.
1 M.

A TWO-STORY penthouse structure added to the original building (opposite) is set back to avoid views of it from the street and allow for a terrace (above).



1 LOBBY
2 RETAIL
3 APARTMENT ENTRANCE
4 TERRACE
5 COURTYARD
6 FITNESS CENTER
7 DANCE/YOGA STUDIO

COMPOSITE SECTION

0 30 FT.
10 M.

it was possible to add a seventh floor to the original six. Floors were detached from the facade in some places to allow for additional floor plates and to create the double-height spaces in each apartment that the architects originally envisioned. But the added floor—which involved lowering the second floor and raising the third—would have created a misalignment between the windows and floors, which would not have passed muster with New York City's Landmarks Commission. Therefore, at the third-floor level, a 1½-inch-thick horizontal steel plate attached to the floor slab aligns invisibly with the center mullion of each window. The windows themselves are 5 feet 8 inches wide, and range in height from 10 feet 2 inches on the second floor to 7 feet 10 inches on the sixth floor of the original building.

Atop the building, the architects set the two-story, white metal-and-glass penthouse structure back from the parapet; the penthouse's upper-floor cantilevered Vierendeel truss allows its lower floor's telescoping sliding glass doors to open fully, making the upper floor appear to float above it. An independent structural system carries the added load of the penthouse through new steel columns to the existing foundation. Not only did the Landmarks Commission approve this design, they cited it as a model for similar projects.

In the lobby, a glass wall on the south side overlooks a courtyard planted with bamboo trees, at the subcellar level (which also houses amenities like a spa, gym, game room, and children's room). The lobby, with its white marble and Venetian plaster walls, and a seating area with tables designed by Maltz, has a single original cast-iron





BAMBOO trees planted in a lower-level courtyard are visible from the lobby, where a marble pedestal supports an original column and a screen design by Ban adorns a wall (above).

column that, because of the lowered floor, is now supported on a white marble pedestal. The wall to the left of the entry—which has an artwork by Ban that uses the "module H" aluminum-screen system he designed for the French luxury brand Hermès—leads to the two elevators that open directly into each apartment.

In the apartments behind the original facade, there are double-height living room/kitchen areas, and the partial second floors have windows and openings that offer views to the outdoors and the spaces below. The original windows offer a nice contrast to the rather spare new interiors, with their sleek spaces, cabinetry and details, and Ban-designed aluminum door handles. The lofty penthouses have continuous upper-level



THE UPPER LEVELS of the duplex apartments have views to the public spaces below (opposite, bottom). The generously sized windows, some as tall as 10 feet, provide ample daylight to both levels (above).

windows; on their lower levels, floor-to-ceiling glass doors open onto a terrace and the parapet, where a glimpse of the original pediment, even seen from behind, is welcome. While Ban's design is emphatically contemporary, a bit more texture might have been in order, although minimalism has been the dominant style in new high-end apartments for some time. Ultimately, however, Cast Iron House amply demonstrates, as Ban says, that it's possible to respect history and still be modern. ■

Pilar Viladas writes about design and architecture for a variety of publications.

Credits

ARCHITECT: Shigeru Ban Architects

EXECUTIVE ARCHITECT: Dean Maltz Architect

ENGINEERS: Robert Silman Associates (structural); ICOR Associates (m/e/p)

GENERAL CONTRACTOR: Certified of NY

CONSULTANTS: Front (facade); Tillotson Design Associates (lighting); Higgins Quasebarth & Partners (landmarks); Jam Consultants (code); Van Deusen & Associates (elevators); Cerami (acoustics/AV/security/IT)

CLIENT: Bridgestone Capital Assets

SIZE: 80,500 square feet

COST: withheld

COMPLETION DATE: September 2021

Sources

CURTAIN WALL: M.C. Creative (GFRC); Morin Corrugated Panels (metal panels)

WINDOWS: Artistic Windows (historic double-hung wood frame); Schüco (metal frame)

PLUMBING: Toto, Dornbracht

Breath of Fresh Air

Peris+Toral's timber social housing in Catalonia brings the outside in.

BY ANATXU ZABALBEASCOA
PHOTOGRAPHY BY JOSÉ HEVIA





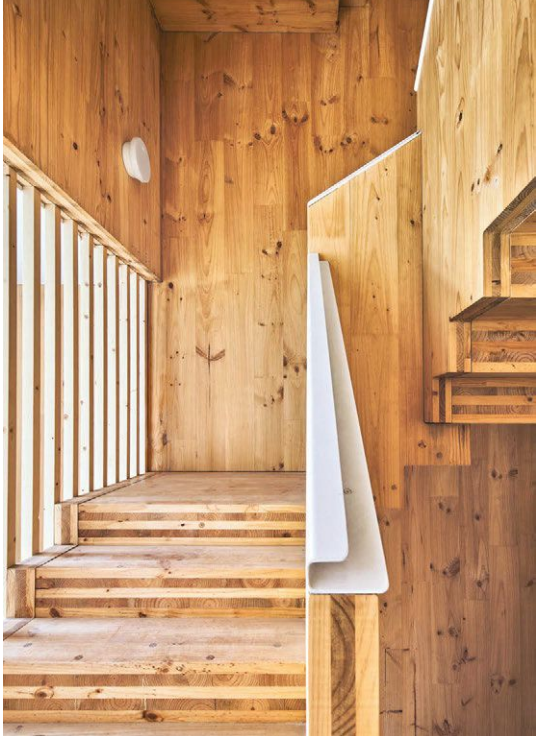
THE BEST PUBLIC housing is conceived, and planned, from the inside out. The design of such apartment buildings should be driven by a deep knowledge of the inhabitants' specific needs as well as a desire to create a sense of place. This housing does not exist in a vacuum as an iconic structure but, rather, must aim to integrate itself into the existing urban fabric. And, not least, these projects almost always need to heed a tight budget. This is why there are so few examples of extraordinary public housing. Many architects and builders have tried, yet very few have been able to finesse the acrobatics required by all these constraints.

Overcoming the odds, Barcelona-based Peris+Toral Arquitectes has just completed an extraordinary public-housing complex in the municipality of Cornellà, in the Catalonian capital's outskirts. Holding the distinction of being the largest timber residential building in Spain—a trend rapidly gaining traction here—the social dwellings thoughtfully consider the needs of residents while helping connect them to the neighborhood.

These aims are clear from the moment you enter the five-story building: you pass through a common courtyard that is both public and private—it remains open during the day, acting like an extension of the street, though a calmer and cleaner version. This liminal space isolates the apartments acoustically and physically from the city's noise and heat, providing open space and enabling cross ventilation through the building (all units have dual orientation). At the same time, the building reinforces the connection to place by paying tribute to the memory of the beloved old Copisa movie theater that previously occupied the site. (Space has been reserved in the basement to, one day, open a small, public movie theater.) Both physically and sentimentally, the project achieves its aim of respectfully inserting itself into the town's fabric.

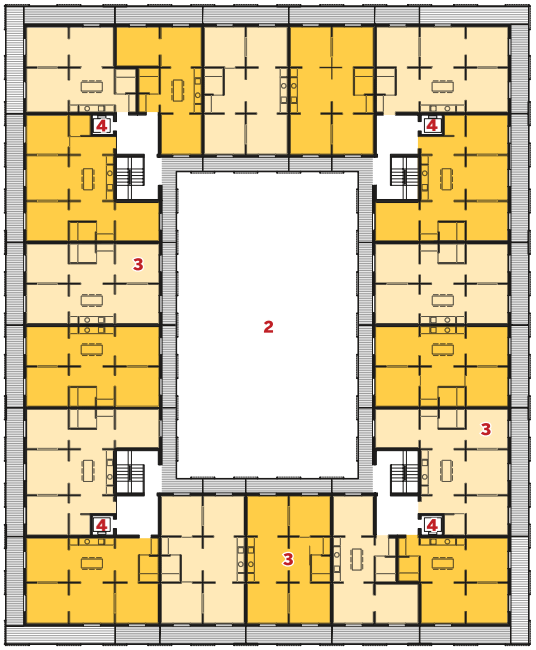
An elevator and wood staircase anchor each corner of the courtyard. These provide direct access to inward-facing exterior corridors and the 85 apartments that occupy the building's four volumes, which sit atop ground-level retail and basement parking below that. Built out of reinforced concrete,

RESIDENTS enter through a central courtyard, which extends out to the street, linking the building and its inhabitants to the neighborhood.



these two lower levels act as the building's structural base. On top, the team used a lighter wood structure for the apartments. "Working with wood, we reduce the construction time and make the whole process more sustainable," says partner José Toral, noting the material's superior acoustic insulation. Wood is also visible in the finishes—on the floors and ceilings, for example—and plays an invisible role by absorbing humidity, odors, and noise as well as helping to keep a stable ambient temperature in the interiors.

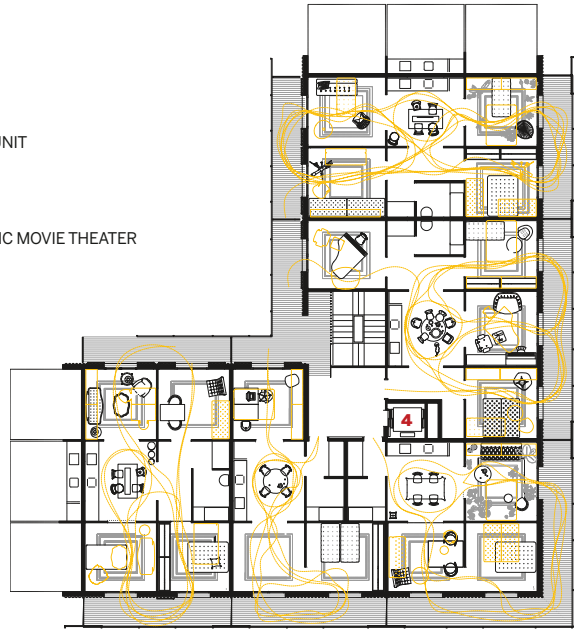
Just as the central courtyard is the heart of the building, inside the units—configurations consist of either five or six interconnected rooms forming two- or three-bedroom apartments—the kitchen plays a similar role, forming the center of the domestic realm. And just as there are no public interior corridors connecting the individual units, there are no corridors inside the apartments to connect the rooms; eliminating circulation maximizes the usable space for each tenant. The rooms are all similar in size—about 140 square feet—which implies that there is no hierarchy among them. This is a truly demo-



TYPICAL FLOOR PLAN

0 30 FT. 10 M.

1 MAIN ENTRY
2 COURTYARD
3 APARTMENT UNIT
4 ELEVATOR
5 PARKING
6 FUTURE PUBLIC MOVIE THEATER



UNIT FLOOR PLAN DETAIL

0 10 FT. 3 M.

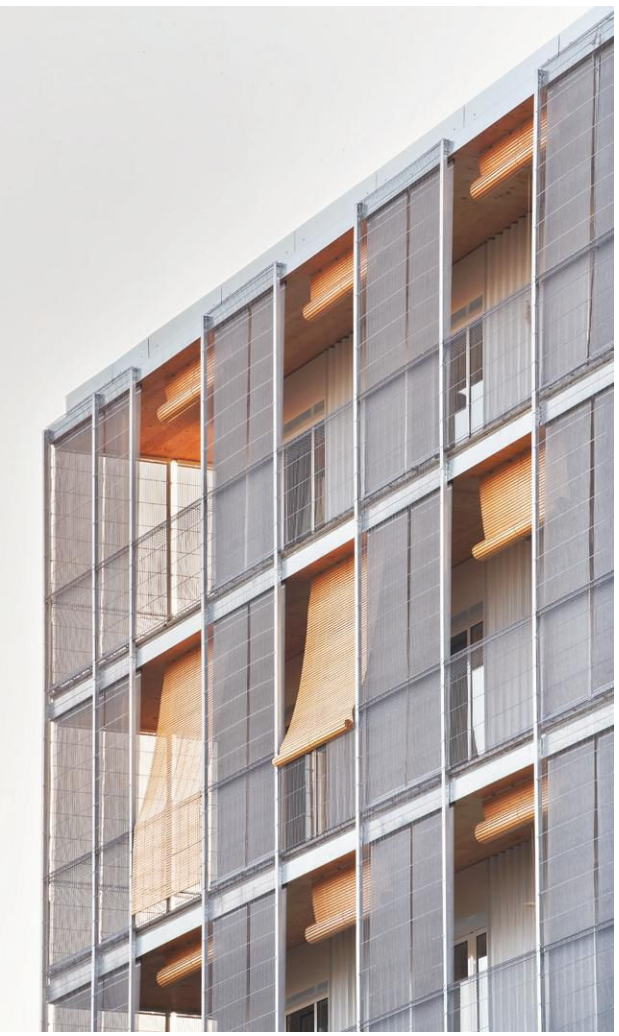


SECTION A-A

0 20 FT. 5 M.

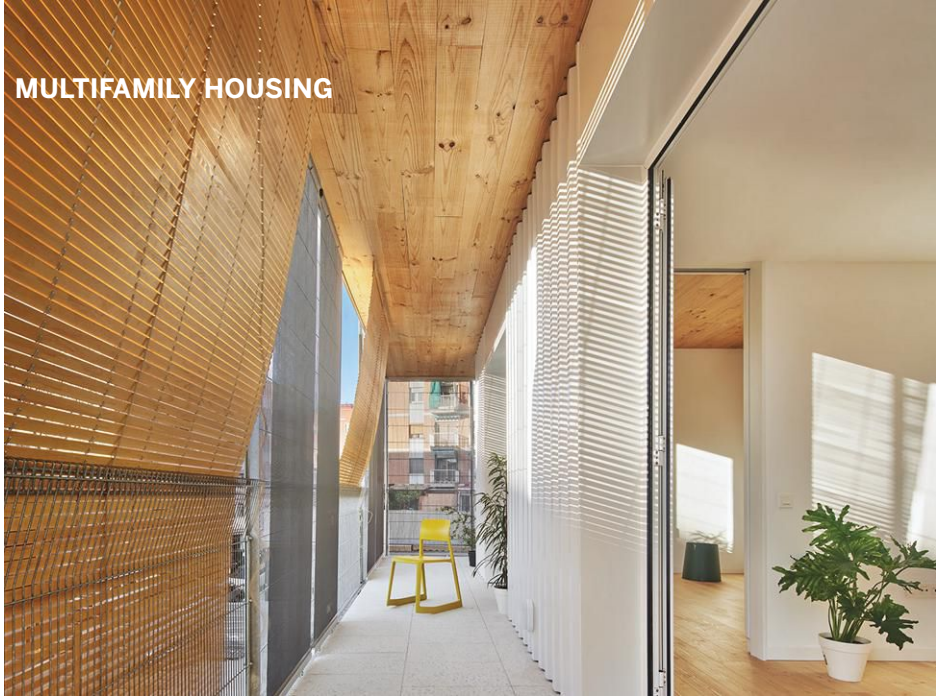
cratic layout—and it is flexible as well, allowing residents to slide open doors to connect rooms and create one larger one, or to slide doors closed, to isolate spaces and afford privacy. (One apartment in each of the building's four volumes has an additional access door leading from the balcony, which can be used for an independent studio space or business.) Toral and his partner Marta Peris maintain that increasing porosity is a logical approach for urban apartments. "Eliminating enclosed spaces and interconnecting rooms allows for changes in circulation patterns and therefore encourages the use of space in a freer way," says Toral.

A continuous narrow balcony on the apartments' outward-facing sides, in addition to the inward-facing exterior corridors, pro-





ALL APARTMENTS have dual exposures; most look both outward (above) and inward to the courtyard (right). Wood stairs anchor each of the building's corners (opposite).





vide added circulation while flooding the interiors with daylight. These in-between spaces expand each unit's functional square footage, allowing residents to see and be seen, sunbathe, dine al fresco, or dry laundry. (In Spain, to qualify for social housing, applicants must first meet the criteria for income level and then participate in a lottery system.) Steel balustrades, steel mesh, and wood roll-down Barcelona blinds shroud the outward-facing terraces, enabling seclusion and air-flow while unifying the structure and providing a sense of urban scale.

"We tried to make homes that are flexible—ones that admit the good things the outside has to offer: air, light, vegetation, or history," says Peris. With a strong sense of openness and connection—both inside the individual apartments and reaching out to the neighborhood—as well as privacy, the social dwellings in Cornellà achieve a rare balance of bringing dignity both to the residents within and the city beyond. ■

Anatxu Zabalbeascoa is the architecture critic for the Spanish newspaper El País.

Credits

ARCHITECT: Peris+Toral Arquitectes — Marta Peris, José Manuel Toral, principals; Guillem Pascual, Ana Espinosa, Maria Megias, Izaskun González, Miguel Bernat, Cristina Porta, team

ENGINEERS: Bernúz Fernández (structural); L3J Tècnics Associats (m/e/p); Àurea Acústica (acoustics)

GENERAL CONTRACTOR: Vias y construcciones

CONSULTANTS: Joan March i Raurell (project management); Societat Orgànica (environmental); AB Pasatgistes (landscape)

CLIENT: Metropolitan Institute of Land Development and Property Management (IMPSOL)

SIZE: 138,000 square feet

PROJECT COST: $10.9 million

COMPLETION DATE: December 2020

Sources

STRUCTURAL SYSTEM: Egoin

EXTERIOR CLADDING: Europerfil, Serge Ferrari Group, Persianas Barcelona, Bianchini Maccaferri Group

WINDOWS: Cortizo

INTERIOR FINISHES: Tarkett, Bodelec, Mobiliari Font Room

LIGHTING: Lamp, Escofet, Performance in Lighting

ELEVATORS: Orona





STEEL balustrades and lattice (on which vegetation can grow), and wood roll-down Barcelona blinds provide shading and privacy (opposite). Units have no corridors; rooms can open to or close off from one another with sliding doors (above and left).

Supercharged

WilkinsonEyre's reimagining of London's Battersea Power Station debuts with its first residential units.

BY TIM ABRAHAMS
PHOTOGRAPHY BY HUFTON + CROW



SWITCH HOUSE WEST is the first of three residential sections to be completed in a remarkable transformation of the landmarked Battersea Power Station, in London, that will eventually include retail, hospitality, event, and office space as well. While it provides a relatively small number of new apartments—just 94—Switch House West represents a key moment in the redevelopment of this culturally significant, gargantuan building. It gives an early positive indication that what is effectively a sensitive rebuild, rather than a restoration, has been successful.

Made famous by a Pink Floyd album cover and numerous films (cult favorite *Dr. Who and the Dark Knight* among them), the genuinely iconic Power Station is an enduring urban presence on the approach to London from the west, albeit one that now has new high-rise residential towers that are part of the wider Battersea Power Station redevelopment clustered around it. The existing building was originally designed by J. Theo Halliday and Giles Gilbert Scott and constructed in two phases, one between 1929 and 1935, and the second in a more drawn-out process that concluded in 1955.

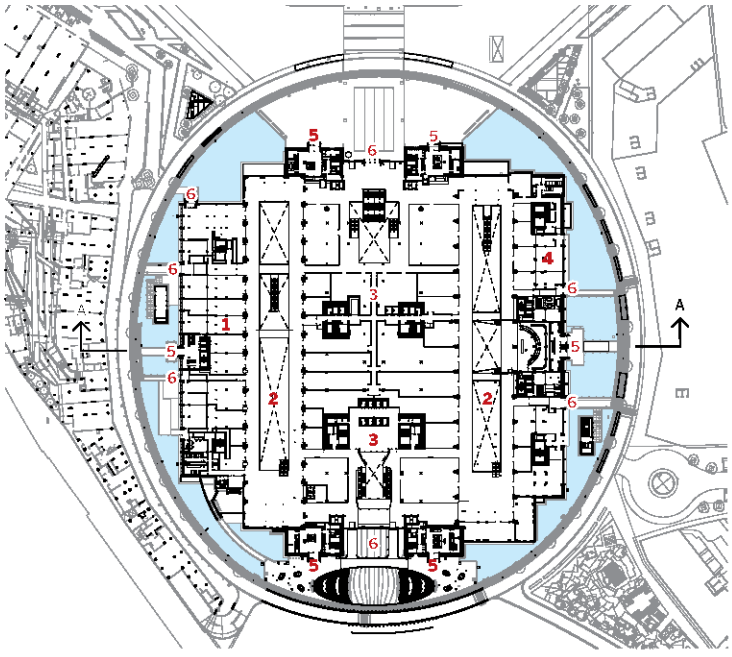
After it was decommissioned in 1983, the power station suffered. The nearly 2 million-square-foot building and surrounding development site of 8 million square feet has changed hands numerous times since that date, all while the structure slowly deteriorated. One early scheme to turn the power station into a theme park, including a skating rink and a roller coaster, got as far as removing the roof to strip out the machinery, leaving the building exposed.

By the beginning of this century, the main part of the building, the Boiler House, was effectively a shell. The turbine halls on either side were in a slightly better condition but still needed a huge amount of labor just to consolidate the brickwork, even before reinforcing the structure to support reuse. Steered by the project's lead architect, WilkinsonEyre, the construction team restored the building's fabric, adding new brick, which has been

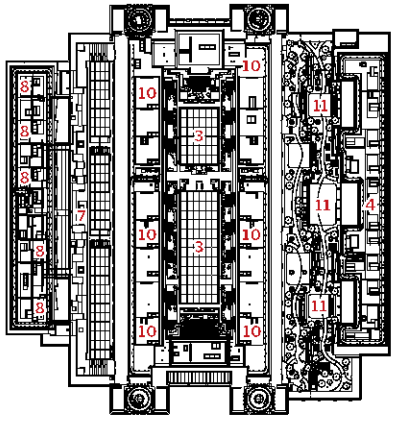


THE WEST-FACING FACADE of the renovated landmark (opposite and this page) displays the building's new fenestration and glazed addition.



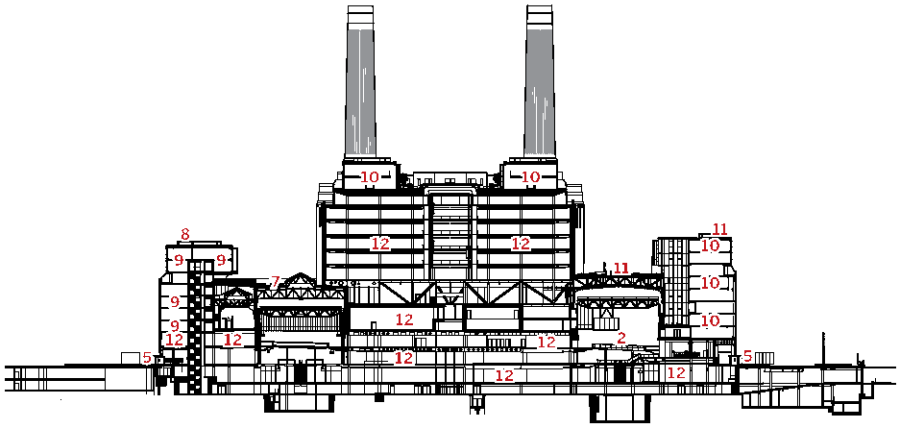


GROUND-FLOOR PLAN



ROOF PLAN

0 150 FT. 50 M.



SECTION A - A

0 100 FT. 30 M.

1 SWITCH HOUSE WEST
2 TURBINE HALL
3 BOILER HOUSE
4 SWITCH HOUSE EAST
5 RESIDENTIAL ENTRANCE
6 COMMERCIAL ENTRANCE
7 COMMUNAL ROOF TERRACE
8 PRIVATE ROOF TERRACE
9 RESIDENCE
10 FUTURE RESIDENTIAL SPACE
11 FUTURE GARDEN
12 FUTURE COMMERCIAL SPACE



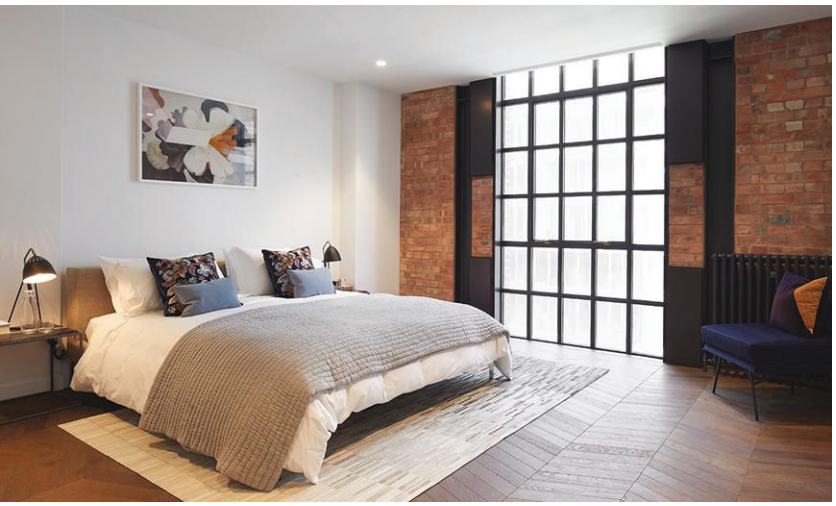
SWITCH HOUSE WEST sits next to the main power station, across from the development's Phase 1 by SimpsonHaugh and Partners (opposite). New steel structure in the lobby (above) is embedded in the brickwork.

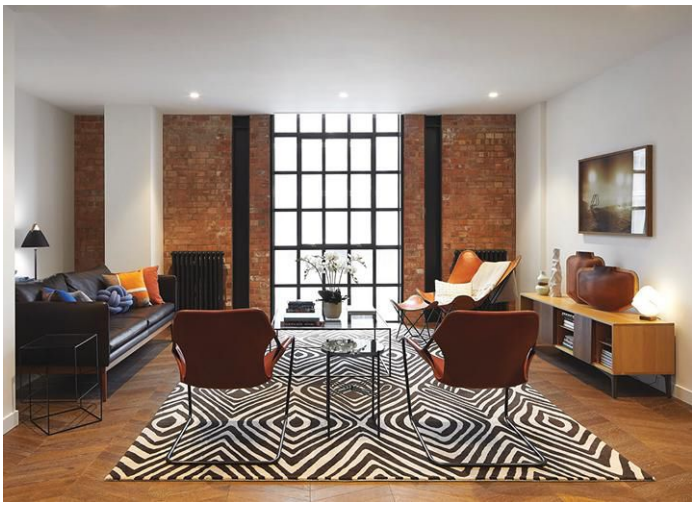
patched perfectly into the old. The majority of these 1.75 million bricks needed for the renovation were made by the same company that provided the 6 million original pieces in the early 20th century. Because the construction of the building took place over 20 years and the blend of brick used during this time varied, three different combinations of 10 colors were created to match the existing condition.

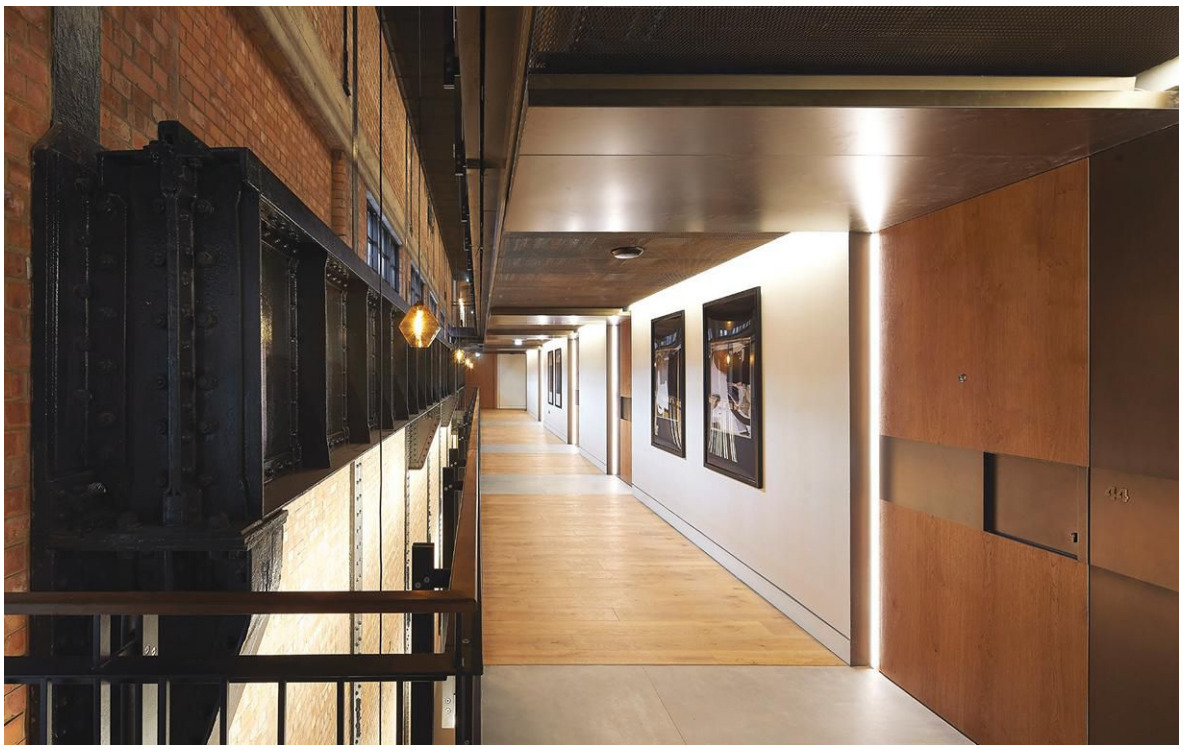
The two switch houses, on the far side of each turbine hall, contained the switch gear and battery and assembly rooms necessary to direct the generated electricity onward. Today, the switch house on the east is still being restored and converted for residential use, while the one on the west is ready to welcome its first occupants. Known as Switch House West, it is within the historic structure of the Power Station, but the architects were allowed to add three glazed floors on top of the old brick structure, creating nine floors in total. A landscaped courtyard was created on the roof of the adjacent Turbine Hall for the new residents. The all-new upper floors are legible as a separate section and consist of apartments on one or two levels, with as many as four bedrooms, most with their own private terraces, roof gardens, or both.

To establish the new floors and walls for Switch House West, the architects inserted a central concrete core and a grid of steel columns and beams that they connected to that core; this system also reinforces the facade. Steel frames have been inserted into the facade to create narrow slot windows (46 feet long and 5 feet 5 inches wide). These frames are bolted and welded to the new steel grid and then wrapped very tightly in brick, the same way as in the original structure.

Much work has been done to make the building's scale amenable to habitation. The Switch House is 492 feet long, and enclosed corridors along that distance would have been monotonous. To remedy that effect, the architects left a narrow gap in the flooring of the corridors at each level on the side of the building adjacent to the Turbine Hall.







THE EXISTING BUILDING'S new windows provide floor-to-ceiling glazing in its apartments (above and above, left). The corridors were set back to reveal the expanse of wall that separates Switch House West from the adjacent Turbine Hall (left), while the three-story addition overlooks a communal garden on the Turbine Hall roof (opposite).

This allows for a full appreciation of the building's height at each floor, as passersby look up at the exposed wall.

The windows are particularly ingenious additions, as they are effectively vertical extrapolations of original, smaller mullioned windows. From the exterior, the fenestration around the facade rises from the second to sixth floor, with its units 10 feet 6 inches apart. This interrupts the daunting mass of brick and accentuates the Art Deco finned brick detailing of the original building. From the interior, they provide floor-to-ceiling glazing to each apartment.

In the new section above, the apartments are larger and have more private outdoor space. Accommodation within the existing walls of Switch House West consists of studios and one-, two-, and three-bedroom apartments, including some duplexes, all featuring the brick and steelwork that date back to the 1930s. Exposed brick creates an instant visual cue of loft living, which prompts an industrial decor.

Bronze paneling, concrete, timber floors, and metal-mesh ceiling tiles dominate the communal areas, lobbies, and corridors. Inside the apartments, the interior architect Michaelis Boyd has created several palettes for finishes that draw on existing details from the original building, such as the dark herringbone-parquet flooring in one of its control rooms. This design scheme is complemented by custom brass light switches and Art Deco–style door handles, designed by WilkinsonEyre, used throughout Switch House West and planned for the rest of the Power Station build-out.

If Switch House West is any example, the Power Station will be a Gesamtkunstwerk of thoughtful historical reuse—from the detailing of its hardware all the way up to the massive structural support work—guided by a sensitivity that relies as much on imagination as on histori-



cal fact. The retail component in the two former turbine halls and the offices in the old Boiler House are set to open in spring 2022.

It is strange that this historical sensitivity has not been reflected in the massing of the new construction around it. Residential buildings now crowd the Power Station, particularly Phase 3A, which comprises 1,300 apartments designed in an eyewatering partnership between Norman Foster and Frank Gehry. Given the attention to detail in the historical fabric of the Switch House—in the ingenious and very successful use of a series of brick blends on the facade, for just one example—it is incongruous that little consideration has been given to the legibility of the historical structure within the surrounding area. ■

Tim Abrahams, a former editor at the Canadian Centre for Architecture, is a critic based in the UK.

Credits

ARCHITECT: WilkinsonEyre — Sebastien Ricard, director in charge; Jim Eyre, director; James Llewellyn, associate director; Chris Davies, Helen Floate, Ivan Subanovic, James Barrington, Marwan Abdo, associates

ENGINEERS: Buro Happold (structural/facade/fire); ChapmanBDSP (m/e/p)

INTERIOR DESIGN: Michaelis Boyd

CONSULTANTS: Speirs Major (lighting); LDA Design and Andy Sturgeon (landscape); Mace (construction manager)

CLIENT: Battersea Power Station Development Company

SIZE: 1.9 million square feet

COST: withheld

COMPLETION DATE: May 2021

Sources

GLAZING: Focchi (curtain wall and rainscreen systems); Seele (windows); Cantifix (skylights)

CONVEYANCES: Schindler

BRICKWORK: Thorp Precast



South Central Anthem

The legacy of Black performer Florence Mills lives on in KFA's affordable-housing complex in L.A.

BY SARAH AMELAR
PHOTOGRAPHY BY JIM SIMMONS

WHEN VAUDEVILLE singer, dancer, and actress Florence Mills died in New York in 1927, at age 31, nearly 10,000 fans flocked to the funeral home to pay their respects. Soon, both Duke Ellington and Fats Waller dedicated songs to her; and in South Central Los Angeles, the 1912 Globe Theater, in the city's then-vibrant jazz district, was renamed in her honor. Yet, decades later, the theater languished as a burnt-out shell, and the collective memory of Mills was virtually lost. But now, on that site, the legacy of this legendary Black performer, whose parents had been enslaved, is reemerging in larger-than-life ways.

On that parcel, along with several adjacent ones, the nonprofit Hollywood Community Housing Corporation (HCHC) has recently completed a mixed-use, 74-unit affordable-housing complex, infused with music. The organization had always planned to name the building for the late singer, but then its designers, Culver City–based KFA Architecture, took the tribute further. "We hit on the idea of leaving two exterior walls as blank 'canvases' for murals," recalls KFA partner John Arnold, "and presented the concept with vintage photos of Florence Mills, as building-scaled placeholders for the final artwork." HCHC ran with it, engaging the community in the process.

The organization soon took a booth at the neighborhood's popular Central Avenue Jazz Festival, inviting attendees to vote on photos of the entertainer as inspiration for the murals. Participation was enthusiastic. With the top-ranked images, HCHC elicited proposals from four California muralists and, for the final selection, reengaged community stakeholders. The commission went to 31-year-old Los Angeles artist Myisha Arellano for two electric-hued murals that integrate

Mills's likeness at billboard scale, along with quotes in her own handwriting. One painting also refers to the vocalist's personal anthem, "I'm a Little Blackbird, Looking for a Bluebird," a protest song asserting that everyone, regardless of color or creed, is entitled to seek and find "the bluebird of happiness."

The completed murals are about three-stories tall and highly visible at a busy Central Avenue intersection. "I want people to look up and be curious about Mills's history, her legacy, her art," says Arellano. Working with an irregularly shaped corner site, KFA gave the 125,600-square-foot building a rectilinear, backward-S plan that wraps around two open-ended, tree-planted courtyards. "Back in the '90s, when affordable housing was fortress-like, closed off from the surroundings, it was grim, hard to love, and quickly grew derelict," says Arnold. "To succeed, housing needs to feel open, engaging, and optimistic, not barricaded and introverted." Though only residents and their guests can actually access the protected outdoor spaces, he explains, generous sight lines from the street were important.



VIBRANT murals of Florence Mills, by Los Angeles artist Myisha Arellano, enliven the building (above). Rather than turning its back to the community, the housing engages with the the street (left).

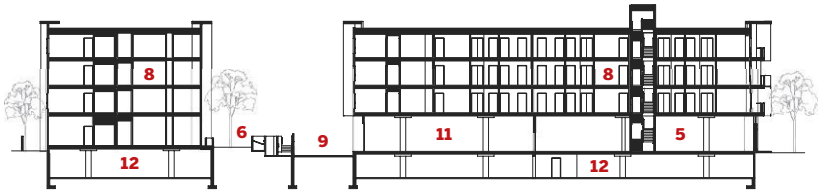


GROUND-FLOOR PLAN

0 30 FT.
10 M.



TYPICAL-FLOOR PLAN



SECTION A - A

A $25.2 million construction budget (or about $200 gross per square foot)—largely publicly funded—meant a modest material palette, including ordinary stucco exterior walls over structural wood framing, but the architects used that surface, in neutral gray, as a foil for more animated elements. Besides the vibrant murals is the sinuous, zigzagging rhythm of green corrugated-metal balcony surrounds. Textured components—such as slatted wood screens around an exterior stair and along open-air passageways, and perforated-steel balcony face plates—invite the play of light across the facades.

Inside, the mostly double-loaded corridors open onto one-, two-, and three-bedroom units. Qualifying tenants must meet specific low-income thresholds, among other criteria. For example, 13 one-bedroom apartments are for homeless veterans who earn less than 30 percent of area median income (AMI) and are eligible for government subsidies. Other apartments are reserved for low-income homeless, or otherwise financially distressed, families. Light-filled and airy, each unit has durable, wood-like vinyl-plank floors, solid-surface countertops, large windows, and its own balcony.

On track for LEED Platinum certification, the building also includes rooftop solar panels, plus a 5,000-square-foot ground-floor commercial space. Its tenant is the nonprofit Young Musicians Foundation (YMF). This pairing, though not originally planned, has the makings of a remarkable fit. Through an innovative partnership with HCHC, YMF will offer free music classes, instrument use, and recording/sound technology training to residents of Florence Mills, as well as another HCHC property, the affordable Paul R. Williams Apartments, across the street.

With considerable buzz around Florence Mills, nearly 4,000 people applied for its 74 units through a lottery-and-evaluation process. (Recognizing the enormous need,

1 ENTRY PLAZA
2 LOBBY
3 COMMUNITY ROOM
4 CLASSROOM
5 COMMERCIAL SPACE (YOUNG MUSICIAN'S FOUNDATION)
6 COURTYARD
7 PLAYGROUND
8 RESIDENTIAL UNITS
9 RAMP DOWN TO RESIDENTIAL GARAGE
10 COMMUNITY GARDEN
11 COMMERCIAL GARAGE
12 RESIDENTIAL GARAGE





CORRUGATED metal, painted green, and slatted wood screens invite the play of light against the facades, which wrap around open-ended courtyards (above and left).







BALCONIES have direct sight lines to the street (opposite). Community spaces (left, top and bottom), as well as individual units (center), are light-filled and airy.

HCHC has other buildings across L.A., completed or in the works.) Since the official opening, last June, "people have been telling me how life-changing this has been for them," says HCHC executive director Sarah Letts. "One formerly homeless vet described what it's been like to finally have a home where he can feel safe, something we tend to take for granted. And a single mom with four kids—who had a job, but was still homeless—was telling me how transformational this has been for her entire family."

Among the many positive aspects so far, says Letts, are the "unexpected synergies—from naming the building for Florence Mills to creating the murals, to getting a music nonprofit to occupy the ground-floor space, to the fact that we're right on Central Avenue, the historic hub of jazz and culture in South L.A. It all came together, some of it through luck and some through sheer determination." ■

See page 82 for a case study on HCHC's more extensive work in the neighborhood.

Credits

ARCHITECT: KFA Architecture — John Arnold, partner in charge; Allison Massett, project manager; Morgan Haley, project archtect

ENGINEERS: PE&C Civil Engineers; Englekirk Engineers (structural); Donald Dickerson Associates (m/e/p)

CONSULTANTS: AMJ Construction Management; AHBE Landscape Architects; John Labib & Associates (Shoring); Veneklasen Associates (acoustical); Alternative Energy Systems (energy)

GENERAL CONTRACTOR: Walton Construction

CLIENT: Hollywood Community Housing Corporation

SIZE: 125,580 gross square feet

COST: $40.2 million (project); $25.2 million (construction)

COMPLETION DATE: June 2021

Sources

METAL PANELS: ATAS International

FIBER-CEMENT PANELS: James Hardie

MOISTURE BARRIER: Tremco

WINDOWS: Alpine, Arcadia

ROOFING: Johns Manville

GLAZING: Vitro Architectural Glass

INTERIOR FINISHES: USG, Vista Paint

PLUMBING: American Standard, Symmons, Moen

APPLIANCES: GE



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Photo courtesy of Mitsubishi Electric Trane - US


p132

Designing Efficient Multifamily Housing

Sponsored by CRL, Mitsubishi Electric Trane HVAC US (METUS) and Tamlyn

CREDIT: 1 AIA LU/HSW

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Photo courtesy of Rooftops Silicone Distributors, Inc.


p140

Testing and Specifying Metal Roofs in High Wind Areas

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p143

Reducing Embodied Carbon in Concrete

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Creating efficient, attractive, and economical multifamily housing involves measures for efficiency in construction and energy performance, which can include meeting the Passive House standard achieved for this 28-unit building in Boston, Massachusetts.

Designing Efficient Multifamily Housing

Strategies to improve energy performance, construction efficiency, and operations

Sponsored by CRL, Mitsubishi Electric Trane HVAC US (METUS) and Tamlyn

By Peter J. Arsenault, FAIA, NCARB, LEED-AP

Multifamily housing is often comprised of complex combinations of living units and public spaces that can sometimes seem to defy the nature of true efficiency. Multiple households with varying lifestyles plus common amenity areas with varied occupancy throughout the day all need to be contained within the architectural design and construction of the facility. Add in the desire to provide buildings that are healthy and appealing to live in while also achieving high levels of energy saving performance and it's easy to see that design professionals face a complicated task. This course looks at several ways to break through and perhaps simplify the design and decision-making process for excellence in multifamily housing. A particular focus is on the ways to create multifamily projects that excel in energy performance using the Passive House standard as a reference (https://multifamily.phius.org/). In recent years, this standard has seen a dramatic growth in use particularly for multifamily housing since it provides a climate specific, density related means to assess and achieve cost-effective energy reductions.

CONTINUING EDUCATION

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Learning Objectives

After reading this article, you should be able to:

1. Investigate some of the energy and environmental efficiencies addressed by the Passive House standard for multifamily buildings.
2. Assess air-source heat pumps with VRF technology for providing high-efficiency, all-electric solutions for multifamily housing buildings.
3. Explain the significance of designing drainable wall assemblies for efficiently draining and drying those assemblies.
4. Determine ways to incorporate high-performance, large-scale sliding or folding glass doors into multifamily buildings to increase light, ventilation, and wellness.

To receive AIA credit, you are required to read the entire article and pass the quiz. Visit **ce.architecturalrecord.com** for the complete text and to take the quiz for free.

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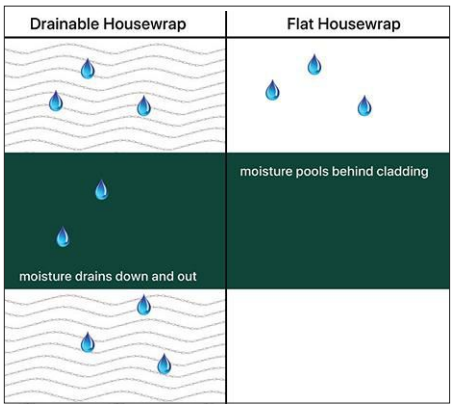
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BETTER BUILDING FACADES

Part of the reason for the success of Passive House in the United States, as used in multifamily construction, is the emphasis on fundamental principles associated with both physics and good building practices. That is strongly evidenced in building facades or enclosures where the importance of thermal control is coupled with the significance of air and moisture control. In that light, the use of quality water resistant barriers (WRBs) and rainscreen assemblies is addressed which allows for both resistance to water and the ability for air-induced drying should any moisture be present in the construction assembly. There are, of course, multiple ways to configure exterior walls to achieve water resistance and air drying.



Photos courtesy of Tamlyn



Drainable building wrap provides a barrier between the WRB and the cladding to assist with moisture control and drying. It provides these attributes whether installed behind a single cladding or even multiple cladding materials on the same project.

Drainable Building Wrap

One approach that has been in use for more than 10 years is the use of drainable building wraps that enhance the capabilities of WRBs. Specifically, a drainable wrap provides non-compressible elements thermally bonded to a high-quality WRB that provides the necessary water hold-out and air hold-out to create a drainable gap between the WRB and cladding. This type of product pairs very well with fiber cement, which is still a widely used material in the multifamily sector from affordable to market rate.

When properly used and installed, this innovative product effectively removes excess moisture and mitigates the damaging effects it can cause, including mold and rot. The effectiveness of drainable building wrap has been shown to remove on the order of 100 times more bulk water from a wall and can drain it away twice as fast as standard housewraps. This is achieved through the gap created by 1.5-millimeter spacers bonded to a high-performance housewrap. This gap design provides a true drainage space or capillary break between the sheathing and cladding material. It is also available as a vapor permeable product, meaning that it can repel bulk water but allow any moisture that is behind it to migrate out and drain away harmlessly. Overall, this single product provides the drying capability of a 3/8-inch rainscreen.

While this approach offers considerable efficiencies in moisture control and drying, it also helps to streamline construction. The pre-installed raised texture allows the wrap and the drainage to be installed in one step. The most cost-effective products can even be installed in any position: horizontally, vertically, or diagonally.

Beyond the product itself, sealing the edges and seams properly and fully without undue penetrations from staples or nails is critical for good performance and code compliance. Some manufacturers offer full sealing systems that use a compatible adhesive, sealant, or tape. This allows the edges to be held permanently in place, usually by using a hard roller or hand applicator to press the wrap and the tape together. Such products may also use fasteners with plastic heads that minimize the impact of the fastener penetrations and help maintain the barrier continuity.

Equally important are the details of how the drainable building wrap deals with openings in the wall such as doors and windows. Being able to flash and seal the wrap properly with window and door flashing materials will assure that water draining down the face of a drainable WRB will flow away properly and not enter behind other building elements into the wall. It will also maintain the continuity of the air barrier in the overall system.

Since these types of products are commonly used, their installation is well known among the trades, however it is always recommended to follow manufacturer's instructions and best practice guidelines. (see Best Practice Installation Case Study).

Photo courtesy of Tamlyn



Installation of drainable building wrap should always follow manufacturer's instructions and general best practices.

Non-Compressible Mat Rainscreen

An enhanced version of drainable building wrap is also available for projects seeking even greater efficiency and performance. This product has non-compressible round posts that are on the order of 6.3 millimeter (1/4 inch) or 10.1 millimeter (3/8 inch) between



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Architect: MVE + Partners
Glazier: Rountree Glass Co.
Photo: Chipper Hatter

Photo courtesy of Tamlyn



Extruded aluminum trim can be used to help secure and frame exterior cladding edges using either 1-piece or 2-piece product offerings.

two layers to enhance drainage efficiency, drying proficiency, and improve construction expediency. This makeup provides a more substantial air cavity between the cladding and the sheathing material by creating a larger drainage and drying space than drainable wrap products. These non-compressible mat rainscreens help the wall sheathing (i.e., OSB with WRB, coated OSB, etc.) to dry faster and last much longer than usual. The back of any cladding (i.e., stucco, fiber cement board, stone, metal panels, etc.) can also be dried more efficient since the 6.3-millimeter-thick filament is uncompressible and can act essentially as furring strips. This helps reduce the installation time and cost as well as the associated liability of other systems.

Exterior Panel Trim

With the WRB and drainage addressed, holding cladding in place is another opportunity for simplification and efficiency. Typically, some sort of trim has been applied to accomplish this using wood, composite, or plastic based materials. While those are effective and can be good for some buildings, their width, bulk, and ongoing maintenance can make them less desirable for use and detract from the overall facade design. An alternative to traditional exterior trim is the use of thin, extruded aluminum trim systems. When used to hold the edges of exterior wall panels, or siding, it provides architects with a unique means to detail corners, vertical and horizontal joints, and material transitions.

In particular, two-piece extruded aluminum profiles are recommended for greater construction efficiency in handling tougher detailing situations. The two-piece design permits application of the base part first and then installation of the cover cap afterward. In tight fit situations this may be more efficient compared to using the standard trim pieces for inside or outside corners or for transitions. Due to the natural expansion and contraction of aluminum, all two-piece caps must be secured by adhesive or other means as approved by the manufacturer.

Aluminum trim, in both one-piece and two-piece solutions, can be specified in common thicknesses and profiles to suit any of the lightweight cladding materials commonly in use. Extruded aluminum trim can even be provided in sizes and styles that work with multiple panels enabling architects to vary the material choices within their facade designs while still keeping details that will have a similar language. The variety of available extrusion profiles can create a recessed reveal between cladding panels or can project outward to accentuate the lines of the design. Used in any of these ways, it has typically been shown to be less expensive with a more elegant look of clean lines than with other options.

EFFICIENT VRF AIR-SOURCE HEAT PUMP SYSTEMS

In multifamily buildings, energy use in each unit can vary widely based on occupant lifestyle and preferences. In order to achieve better control of energy use (and the costs associated with it) an energy-efficient, high-performance HVAC solution is needed. An increasingly popular solution is to use Variable Refrigerant Flow (VRF) systems for both cooling and heating of the dwelling units. The nature of these systems is to use an external heat pump connected to ductless or ducted indoor units that deliver heating or cooling.

System Options

As VRF zoned systems have become more popular, the range of choices for their installation has increased. By now, the "mini-split" system with a wall-mounted indoor unit has become familiar to many design professionals and consumers. However, there are many other options available including ceiling cassettes that can be surface-mounted or recessed and ducted styles such as compact air handlers. At least one manufacturer offers a cassette system that recesses between ceiling joists to provide a clean, flush-mount appearance. The slim body design fits into the shallow ceiling framing cavities, making it a desirable solution for renovation projects or new buildings that use wood framed construction. High/low ceiling airflow settings and automatic vane control features allow for personalized room comfort when using these systems.

The capacity range of VRF systems is also appealing, particularly for buildings that are already designed to meet high standards of energy performance. Passive House multifamily buildings, for example, are designed and constructed to dramatically reduce energy demand for heating and cooling to begin with. As such, the heating and cooling output requirements of an HVAC unit for an individual living space can be much lower. Finding and matching appropriately sized equipment to the energy needs of those dwellings is much easier with VRF zoning systems than with other types of heating and cooling equipment.

Zoning and Controls

The efficiency of VRF systems comes not only from their all-electric, high-performance technology, but also from the ability to create zoning and control solutions

Photo courtesy of Mitsubishi Electric Trane HVAC US



This multifamily renovation project in Macon, Georgia uses recessed ceiling cassettes, which fit between standard 16-inch joists to provide efficient, attractive, and economical heating and cooling.



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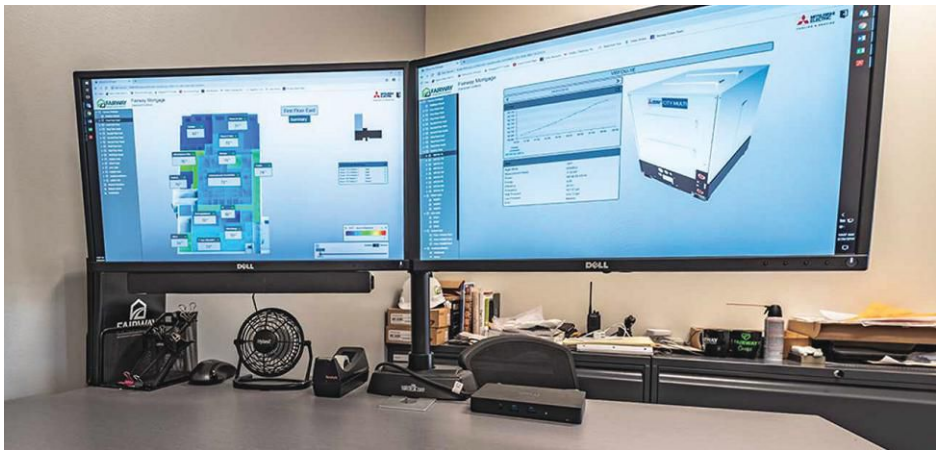
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The control of VRF systems can be centralized for large buildings and tied directly into a whole-building energy management system.



The outdoor components of a VRF system are commonly much quieter and more compact than conventional heating and cooling systems.

that suit occupants' unique needs in each room or space. That means only the precise amount of energy needed to heat or cool a space is used, which can significantly improve a building's overall efficiency. With zoning capabilities, occupants in multifamily buildings can enjoy individual comfort control with no impact from neighboring apartments or condos.

For common spaces, community areas, or amenity locations, VRF heat pumps combined with air handlers and heat recovery equipment can meet spaces' specific needs with comparable efficiency. In these cases, comprehensive controls solutions for VRF systems allow building owners to manage energy usage and streamline maintenance needs on a large scale. Seamless interfaces are possible for whole-building controls solutions which can integrate the control of VRF technology with energy recovery ventilation equipment and other third-party systems. If certain amenities and community areas are closed overnight, for example, airflow can be turned off or the temperature set back during off hours and automatically restarted in the morning. Similarly, airflow and temperature can be adjusted to meet occupancy needs in high-trafficked public areas, such as lobbies or gyms, during peak times. On the tenant level, certain VRF system controls can be configured for accessibility via smart phone-based apps. These individual control solutions can be compatible with modern smart home technologies to ensure residents have individual comfort control right at their fingertips.

Design Coordination

Part of the design appeal of VRF systems is their design flexibility and varied styles, which can meet a range of aesthetic and spatial conditions. Outdoor units, regardless of tonnage, often boast a smaller footprint than conventional outdoor compressors, allowing for more usable rooftop or building-side space for amenities. Ultra-quiet sound levels allow tenants to enjoy nearby amenities without the distraction of sound. Inside the building, conditioned refrigerant is transferred to indoor units via small-diameter piping minimizing the space needed for piping runs. For ducted situations, only short or compact duct runs are typically needed. All of this means that usable building space is maximized by reducing the need for bulkheads or additional plenums. Perhaps most notably, the units are distributed rather than centralized, which means space requirements for mechanical rooms are also reduced. Architects can utilize all these design considerations to demonstrate how the use of VRF systems can actually lead to overall construction cost savings. For instance, buildings that no longer require plenums for ductwork can be designed to be shorter, requiring less materials and labor, but still have the same amount of livable space.

Dennis Cobb is the senior director of business development at Mitsubishi Electric Trane HVAC US. He has seen firsthand the impact that these types of HVAC systems make on efficiency in multifamily buildings. He notes: "All-electric VRF systems are an ideal solution for multifamily projects. Tenants can enjoy custom comfort control that's unavailable to them in apartment buildings with traditional systems, as well as cost savings thanks to system's efficiency.

Continues at ce.architecturalrecord.com

Peter J. Arsenault, FAIA, NCARB, LEED-AP *is a nationally known architect, continuing education presenter, and a prolific author advancing more efficient building design through better design. www.pjaarch.com, www.linkedin.com/in/pjaarch*

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Mitsubishi Electric Trane HVAC US

Photo courtesy of Mitsubishi Electric Trane HVAC US



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The ductless EZ FIT® Recessed Ceiling Cassette is ideal for multifamily applications looking to maximize tenant space and meet varied design aesthetics. The cassette fits flush to the ceiling between standard 16-inch joists, appealing to retrofits as well. With adjustable airflow, the unit is effective regardless of ceiling height.

www.mitsubishicomfort.com

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Photo courtesy of Tamlyn

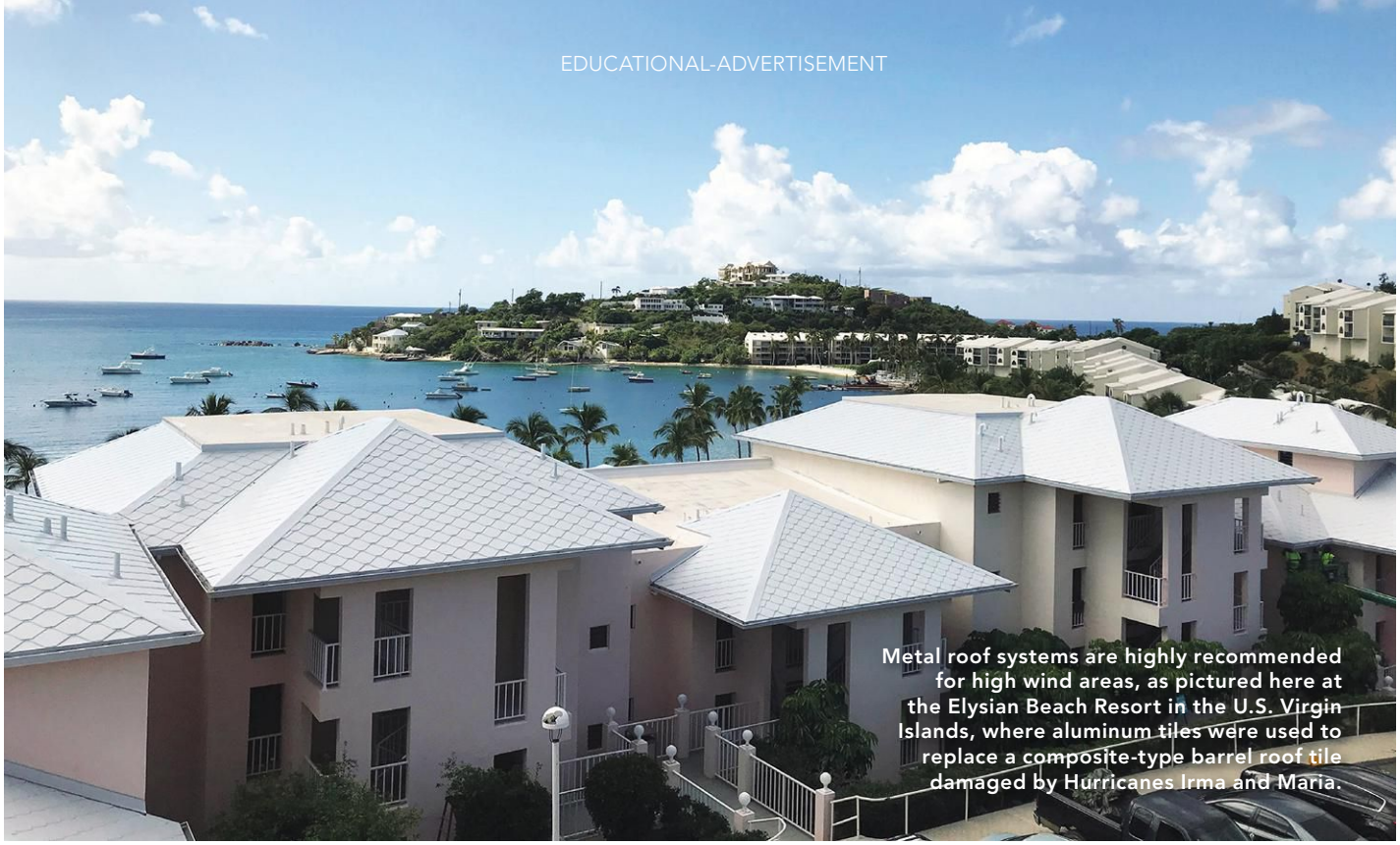


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EDUCATIONAL-ADVERTISEMENT



Metal roof systems are highly recommended for high wind areas, as pictured here at the Elysian Beach Resort in the U.S. Virgin Islands, where aluminum tiles were used to replace a composite-type barrel roof tile damaged by Hurricanes Irma and Maria.

Photo courtesy of Rooftops Silicone Distributors, Inc.

Testing and Specifying Metal Roofs in High Wind Areas

By verifying the roofing systems pass key wind-related tests and carefully following product manufacturer's installation details, project teams can best ensure their buildings withstand high wind events

Sponsored by ATAS International | *By Barbara Horwitz-Bennett*

When designing and installing metal roofs, the stakes are high in hurricane- and tornado-prone areas.

The eastern seaboard and Gulf States from upper Maine all the way down to Texas are contending with a significant increase in the frequency and intensity of hurricanes. And tornadoes are pounding the Midwest and South with alarming regularity.

In 2017 alone, damage from hurricanes were off the charts. Texas bore the brunt of Hurricane Harvey which caused a total of $125 billion in damages. Hurricane Maria hit the Caribbean in September with a $91.6 billion price tag on the heels of Hurricane Irma, which ravaged through the Caribbean and Florida earlier that month causing $77.5 billion in damages, according to the U.S. National Hurricane Center.

Just last year, the U.S. documented a record of seven tropical cyclones and 13 severe storms.

Causing death, injury, and unprecedented property damage, the 2020 billion-dollar disaster report from the National Oceanic and Atmospheric Administration's National Centers for Environmental Information documents an astounding $1.3 trillion in damages from storms and cyclones since 1980.

For buildings, the first line of defense against these intense forces of nature is the roofing system.

"Because roof covering damage has historically been the most frequent and costly type of wind damage, special attention needs to be given to roof system design," said Tom Smith, AIA, TLSmith Consulting in the National Institute of Building Sciences Whole Building Design Guide's (WBDG) "Wind Safety of the Building Envelope."

From the assorted materials and systems available on the market, high-quality metal roofing is arguably one of the best choices for protection from high winds.

CONTINUING EDUCATION

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Learning Objectives

After reading this article, you should be able to:

1. Identify the types of metal roof panels and their performance capabilities, as well as the key test methods used to evaluate these systems for wind resistance impacting occupants' safety and security.
2. Utilize other important roofing tests and code requirements for metal roof and perimeter edge systems.
3. Analyze the effects of high winds on the roof and building envelope, and common causes of failure due to inadequate installation.
4. Optimize metal roofing specifications for enhanced durability and occupant safety based upon testing data and real world performance.
5. Gather best practices for ensuring durable and secure roofing designs gleaned from experience in the field and working closely with metal roofing manufacturers.

To receive AIA credit, you are required to read the entire article and pass the quiz. Visit **ce.architecturalrecord.com** for the complete text and to take the quiz for free.

AIA COURSE #K2109L

Says the Metal Roofing Alliance, "Metal roofing is in high demand in hurricane-prone regions, due to its exceptionally long-lasting durability and protection against heavy rain, hailstones, and hurricane force winds."

With larger interlocking panels, and fewer seams and overlaps than other roofing systems, there is less opportunity for the wind to penetrate. In the event that some wind manages to get in between the metal covering and the underlayment, metal's ability to breathe and expand enables it to endure a high level of wind pressure. Consequently, many metal roofs are rated up to 150 miles per hour—the equivalent of a major Category 4 hurricane and an F2 tornado.

"Out of all the roofing types that are out there, you have got the best chance of survival with a properly installed metal roof," stated Jim Bush, Metal Construction Association Chairman (MCA) and a member of the Roofing Industry Committee on Weather Issues (RICOWI) wind investigation teams.

Photo courtesy of ATAS International



Underwriters Laboratories (UL) 580 tests and assigns a category based upon the roof deck and coverings' level of uplift resistance.

INSTALLATION AND TESTING STANDARDS

While high-quality metal roofing systems have been engineered to deliver enhanced durability and longevity, their performance is ultimately dependent on professional installation by roofing experts who are familiar with these systems and committed to following the manufacturer's installation instructions.

William A. Hayward Jr. AIA, CSI, CCCA, LEED Green Associate, a senior associate and architect with Michael Baker International's Tampa location, stated, "If designed and installed properly, then metal roofs perform well in Florida. The key to success is in the details regardless of the material type/product."

But before a commercial roofing project reaches the installation stage, architects are strongly advised to ensure that the metal roofing systems they select meet several key testing protocols. By understanding these tried-and-true wind resistance tests and standards, and better visualizing how high winds can impact product performance, architects will be much better informed when designing metal roof systems. As well, this knowledge is valuable to the specifiers when creating the project specifications.

In addition, an analysis of roofing successes and failures in the aftermath of a high wind event provides valuable lessons learned in approaching the next tornado and hurricane season.

METAL ROOFING PANEL TYPES

Prior to delving into the details of the different tests and standards that the metal roofing industry relies upon, an overview of metal roofing panel types is in order.

Mechanically Seamed Standing Seam – One of the more popular metal roofing systems, mechanically seamed panels offer a sleek, modern appearance. Because the panels are seamed together mechanically and are installed to the roofing substructure with clips, the surface has no exposed fasteners and is therefore better protected from moisture, UV rays, and other elements that can cause the fastener to wear over time.

Snap-Type Seam – A type of standing seam roof, the male and female legs of the panel are snapped together creating the seam, with no need for mechanical seaming. They require less labor and are less expensive to install than mechanically seamed panels.

Batten Seam – In a metal batten panel roofing system, a vertical leg is formed as an extra water barrier, with a wide batten seam creating bold aesthetics.

Two-part Batten or Standing Seam – the two panel legs are roll-formed and then butted one next to the other. A metal cap, batten, or standing seam style, is then used to create a seam. As the seam is a separate component of this system, designers can select contrasting colors for the panels and caps, if desired.

Shingles – Lightweight metal shingles help buildings better blend in to surrounding structures, while still benefitting from the durability, longevity, and thermal performance properties of a metal roof.

Shakes – Mimicking the look and style of wooden shingles, shake-inspired metal roofing panels offer a more classic look.

Continues at ce.architecturalrecord.com

Barbara Horwitz-Bennett *is a veteran architectural journalist who has written hundreds of CEUs and articles for various AEC publications. www.bhbennett.com*

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The DESIGN:ED Podcast by *Architectural Record* takes you inside the profession through informal conversations with the field's leading architects and designers.

Hosted by Austin, Texas–based architect Aaron Prinz, *Architectural Record*'s DESIGN:ED podcast features the most renowned architects of our time—such as Thom Mayne, Kengo Kuma, Vivian Lee, and Glenn Murcutt, as well as rising professionals in the next generation, such as Michael Murphy, Jenny Wu and Pascale Sablan.

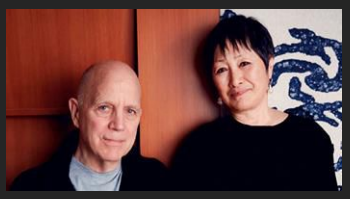
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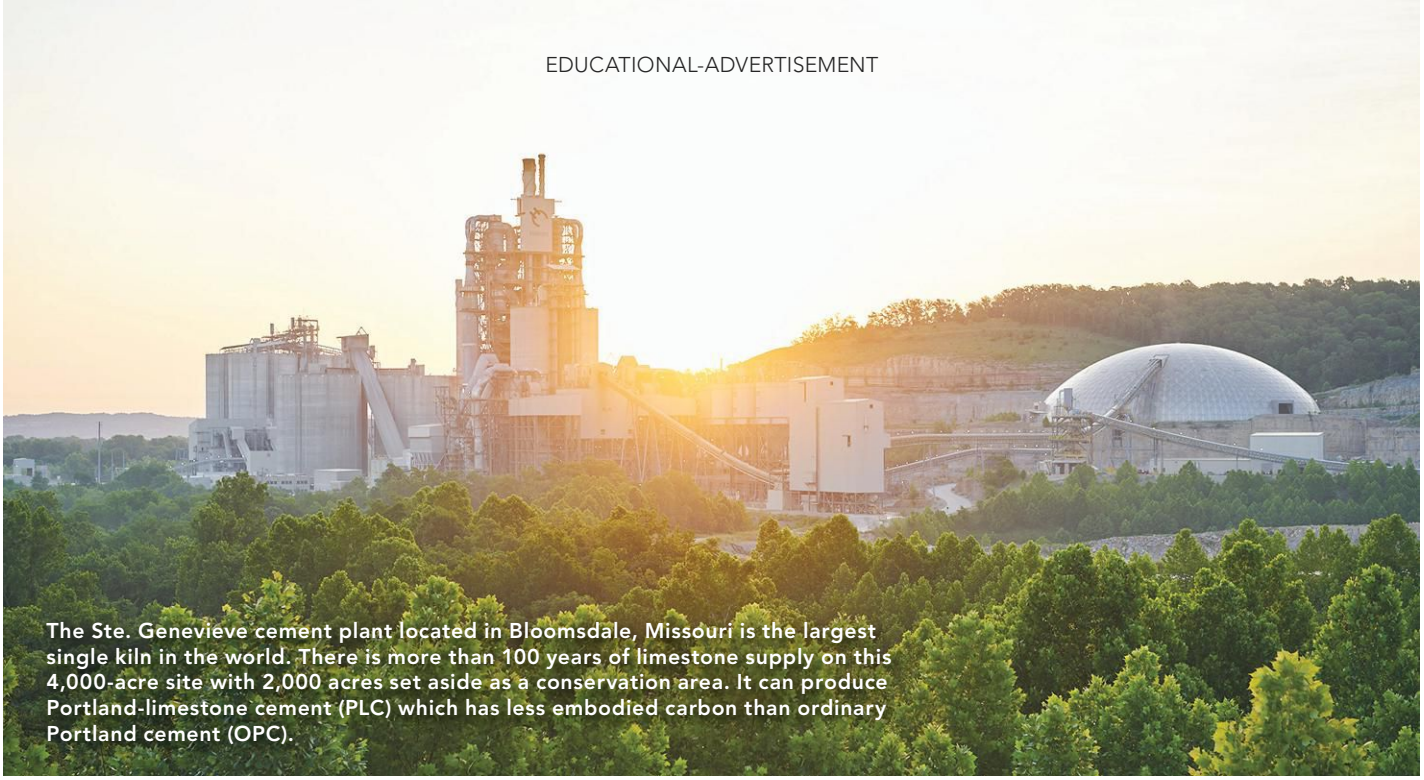
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Charles Brooks, Rouben Mohiuddin, and Barry Long
Rebuilding Paradise After the 2018 Camp Fire

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The Ste. Genevieve cement plant located in Bloomsdale, Missouri is the largest single kiln in the world. There is more than 100 years of limestone supply on this 4,000-acre site with 2,000 acres set aside as a conservation area. It can produce Portland-limestone cement (PLC) which has less embodied carbon than ordinary Portland cement (OPC).

Photo courtesy of LafargeHolcim

Reducing Embodied Carbon in Concrete

Specifying Portland-limestone cement makes a significant difference

Sponsored by LafargeHolcim | *By Peter J. Arsenault, FAIA, NCARB, LEED-AP*

Concrete has been used widely in buildings for centuries because it is a remarkable material that when newly mixed is plastic and malleable but strong and durable when cured and hardened. Its ubiquitous presence attests to its strength, versatility, durability, and utility as a primary construction material. However, the production and creation of concrete, primarily the cement used to make it, emits large amounts of CO_2 into the atmosphere. This course looks at the use of Portland-limestone cement (PLC) as a proven alternative to ordinary Portland cement (OPC) in concrete. The addition of supplemental cementitious materials (SCMs) such as fly ash, slag, and natural pozzolans are also addressed. These strategies have been recognized as a way to significantly reduce the amount of CO_2 embodied in the concrete.

THE EVOLUTION OF CONCRETE AS A BUILDING MATERIAL

In order to understand the nature of concrete and its significance in construction, we take a quick look at what it really is and where it came from. Fundamentally, concrete is a mixture of aggregates such as naturally derived stone, sand, or other materials that are held together using a hydrated paste made from cement and water.

Continues at ce.architecturalrecord.com

Peter J. Arsenault, FAIA, NCARB, LEED-AP, *is a nationally known architect, consultant, and a prolific continuing education author advancing embodied carbon reduction through better specifying.* ***www.pjaarch.com , www.linkedin.com/in/pjaarch***

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Learning Objectives

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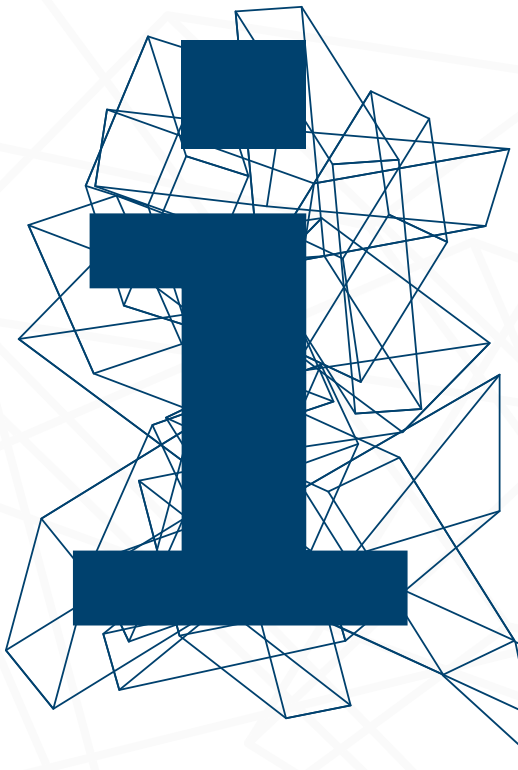
1. Explore the evolution of concrete and supplemental cementitious materials (SCMs) as they relate to safely designed and constructed buildings.
2. Investigate the environmental issues related to using concrete as a primary building material, particularly in terms of embodied carbon.
3. Assess Portland-limestone cement (PLC) as an alternative blended cement with reduced embodied carbon that helps create more sustainable buildings.
4. Specify Type IL Portland-limestone cement into project specifications consistent with approved standards for safety and performance.

To receive AIA credit, you are required to read the entire article and pass the quiz. Visit **ce.architecturalrecord.com** for the complete text and to take the quiz for free.

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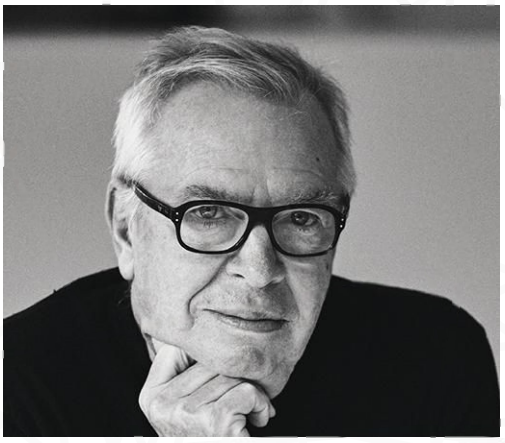
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Upcoming Exhibitions

The Towers of the WTC:
51 Years of Photographs by Camilo José Vergara
Washington, D.C.
September 4, 2021–March 6, 2022
This new exhibition is dedicated to those who perished, responded, and have been rebuilding since September 11, 2001. Spanning from 1970 to 2021, it includes 52 of Camilo José Vergara's images. As part of the 20-year collaboration between the photographer and the National Building Museum (beginning with *Twin Towers Remembered* in 2001), Vergara's images of the World Trade Center will be displayed on the second floor of the museum before going to his archive's permanent home, the Library of Congress. See nbm.org.

Light Lines: The Architectural Photographs of Hélène Binet
London
October 23, 2021–January 23, 2022
The upcoming display of approximately 90 of Binet's images, which have captured over 20 projects by 12 architects, will be housed in the Jillian and Arthur M. Sackler Wing of Galleries of the Royal Academy of Arts's Burlington House. Engaging with themes of light, shape, and form, the exhibit will highlight the work of the renowned Swiss-French photographer over the past 30 years, including her photographs of the architecture of Le Corbusier, Zaha Hadid, Daniel Libeskind, Jørn Utzon, and Peter Zumthor. For more, see royalacademy.org.uk.

Ongoing Exhibitions

Kéré Architecture, Berlin
Arbre à Palabres
Berlin
Through September 9, 2021
In collaboration with AW Architektur & Wohnen, Aedes Architecture

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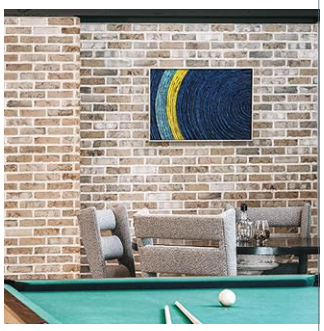
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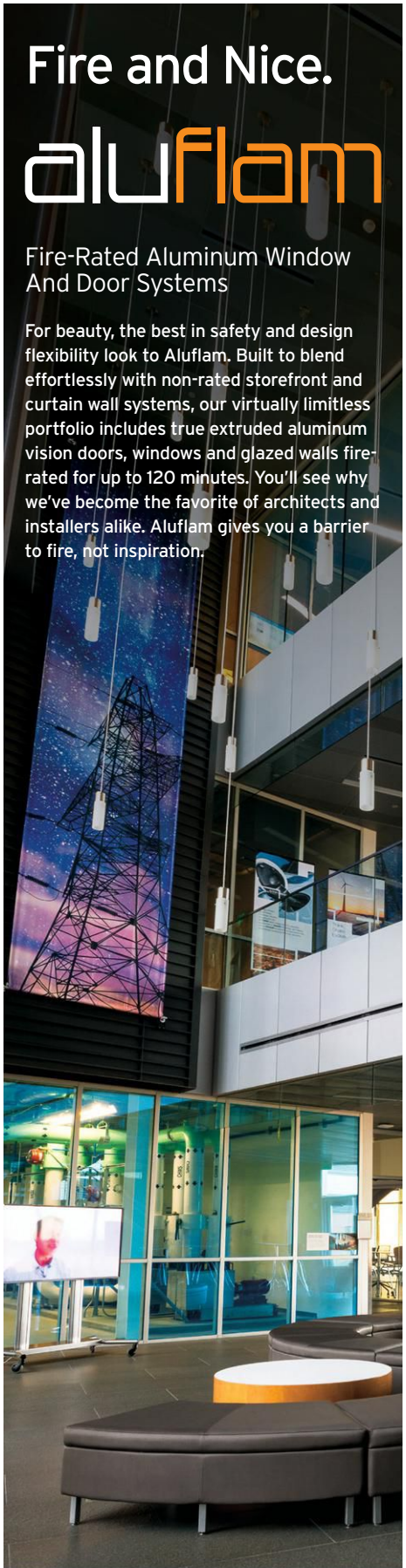
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DATES & Events

Forum presents projects both planned and built by Francis Kéré and Kéré Architecture—recipient of the AW Architect of the Year award for 2021. Within the *Arbre à Palabres* installation (an abstracted kapok tree "under which people meet to learn from one another"), the exhibition, which opened in July, showcases the Burkina Faso–born, Berlin-based architect's works of "radical simplicity." The exhibited projects—which include National Park of Mali, Burkina Institute of Technology, Taylor Bridge, Freie Waldorfschule Weilheim, and buildings of the national assemblies of Benin and Burkina Faso—explore aspects of West Africa's ancient democratic practices, social structures, and educational infrastructure, as well as cultural dialogues across the African and European continents. See aedes-arc.de.

Helmut Jahn: Life + Architecture
Chicago
Through October 31, 2021
The Chicago Architecture Center's Skyscraper Gallery has organized a career retrospective celebrating the life and work of the late architect Helmut Jahn (1940–2021). The new exhibit, which opened in July, includes photography, models, and sketches of the design and engineering processes behind trademark projects like Chicago's James R. Thompson Center (1985) and Berlin's Sony Center (2000). *Life + Architecture* follows the journey of the German-born architect after arriving in Chicago to study at the Illinois Institute of Technology in 1966 and covers his work from early projects like the Michigan City Public Library (1977) to recent designs such as the Pritzker Military Archives Center. See architecture.org.

Justice is Beauty: The Work of MASS Design Group
Washington, D.C.
Through September 25, 2022
The National Building Museum's exhibition displays the MASS Design Group's portfolio, including applied research, proposals, and completed buildings related to the architecture of health. It incorporates photographs, videos, renderings, and models and is accompanied by *The Gun Violence Memorial Project*, an installation by the artist Hank Willis Thomas in collaboration with the Everytown for Gun Safety Support Fund and Purpose Over Pain. The memorial comprises four "houses" of glass bricks containing mementos representing lives lost to gun violence in America. See massdesigngroup.org.

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Events

Healthcare Facilities Forum
Virtual
September 9–10, 2021
The 2021 forum, put on by AIA California, aims to look at long-term effects of Covid in the field of health care. Speakers will examine the challenges and opportunities presented to health-care facilities amid the pandemic, discussing issues of flexible space, telemedicine, impact cost, facility design, and care delivery. See aiaca.swoogo.com/hff2021.

Architecture & Design Film Festival
New York
September 29–October 3, 2021
The 13th edition of the world's largest film festival devoted to architecture and design will launch with the world premiere of the documentary *MAU,* about the career of designer Bruce Mau, as part of New York's month-long Archtober, with the designer and directors present. The films will screen at the Directors Guild Theater before touring across the U.S. and Canada. For more information, see adfilmfest.com.

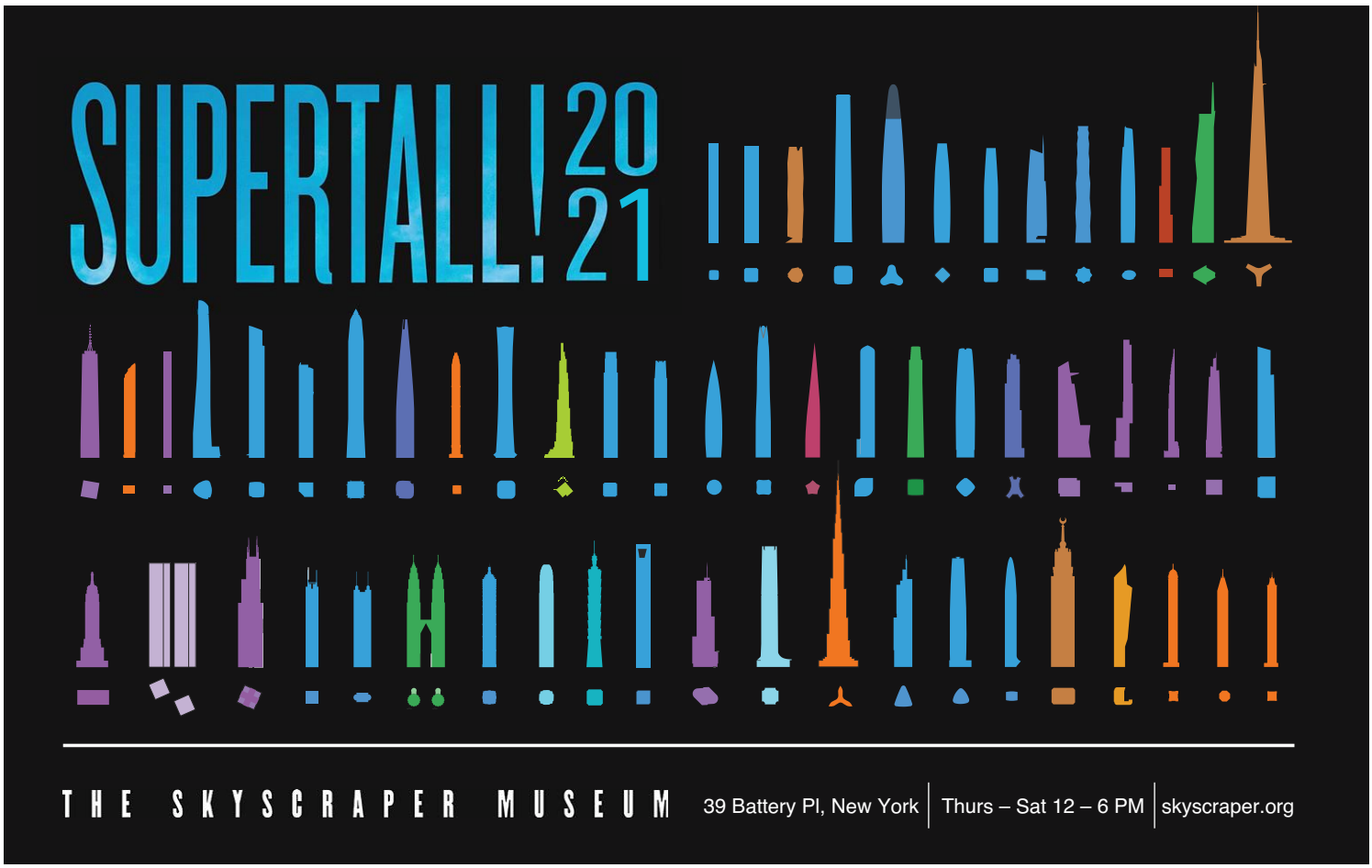
Monterey Design Conference
Virtual
October 21–22, 2021
This year's virtual biennale of AIA California will include speakers Emmanuelle Moureaux, Eduardo Souto de Moura, Amanda Levete, Joshua Aidlin, David Darling, William Leddy, Marsha Maytum, Meejin Yoon, Eric Höweler, Reed Kroloff, Oonagh Ryan, as well as Kristen Sidell and Rudabeh Pakravan (2021 Record Vanguards). For more information, see aiaca.swoogo.com/mdcontheroad.

Venice Architecture Biennale 2021
Venice
Through November 21, 2021
The 17th International Architecture Exhibition, curated by architect Hashim Sarkis and organized by La Biennale di Venezia, includes over 100 participants from 46 countries. "Meetings on Architecture," composed of a series of lectures and programs with architects and scholars from around the globe, addresses the title question, "How Will We Live Together?" Topics include the challenges of climate crisis, the role of urban space in public uprisings, changing forms of collective building, the architecture of education, and the relationship between curation and architecture. See labiennale.org/en.

Competitions

Tile of Spain Award 2021
Deadline: October 28, 2021
The Spanish Ceramic Tile Manufacturers' Association has announced a call for entries for their 20th annual award for architecture and design. Carlos Ferrater, founding partner of the Office of Architecture in Barcelona, will chair the jury for the awards. Winners of each category—Architecture, Interior Design, and Final Degree Project—will receive a cash prize. See tileofspainawards.com.

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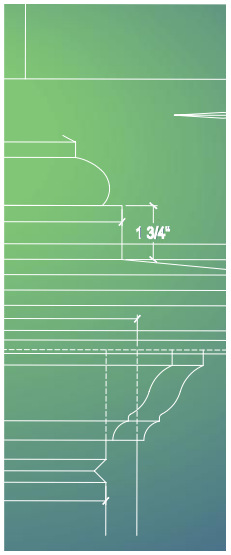


Composed of 16 glue-laminated timber arches separated by a glass roof and walls, the undulating South Cloister corridor of Oxford's Cohen Quad, by Alison Brooks Architects, creates a light-drenched meeting place for students and faculty. The 77-foot-long passageway, ventilated by operable windows, is ellipsoidal in section—16 feet high at its peak, with smaller, more tightly spaced arches at its beginning and end. Alison Brooks's 65,000-square-foot S-shaped building, which was completed in 2020, is now home to 90 graduates plus three fellows who live and study behind its walls. The quad includes seminar spaces, music practice rooms, a learning commons, a special-collections archive, café, roof terrace, and auditorium. Throughout the building and grounds, the architect took care to sensitively reimagine the age-old Oxford quadrangle for the 21st century within the context of the 700-year-old campus. The cloister, steeped in monastic tradition, "really symbolizes the whole project," says Brooks of the corridor. "Every space in the building has been designed to enable students, fellows, and the wider college community to gather." *Ilana Herzig*

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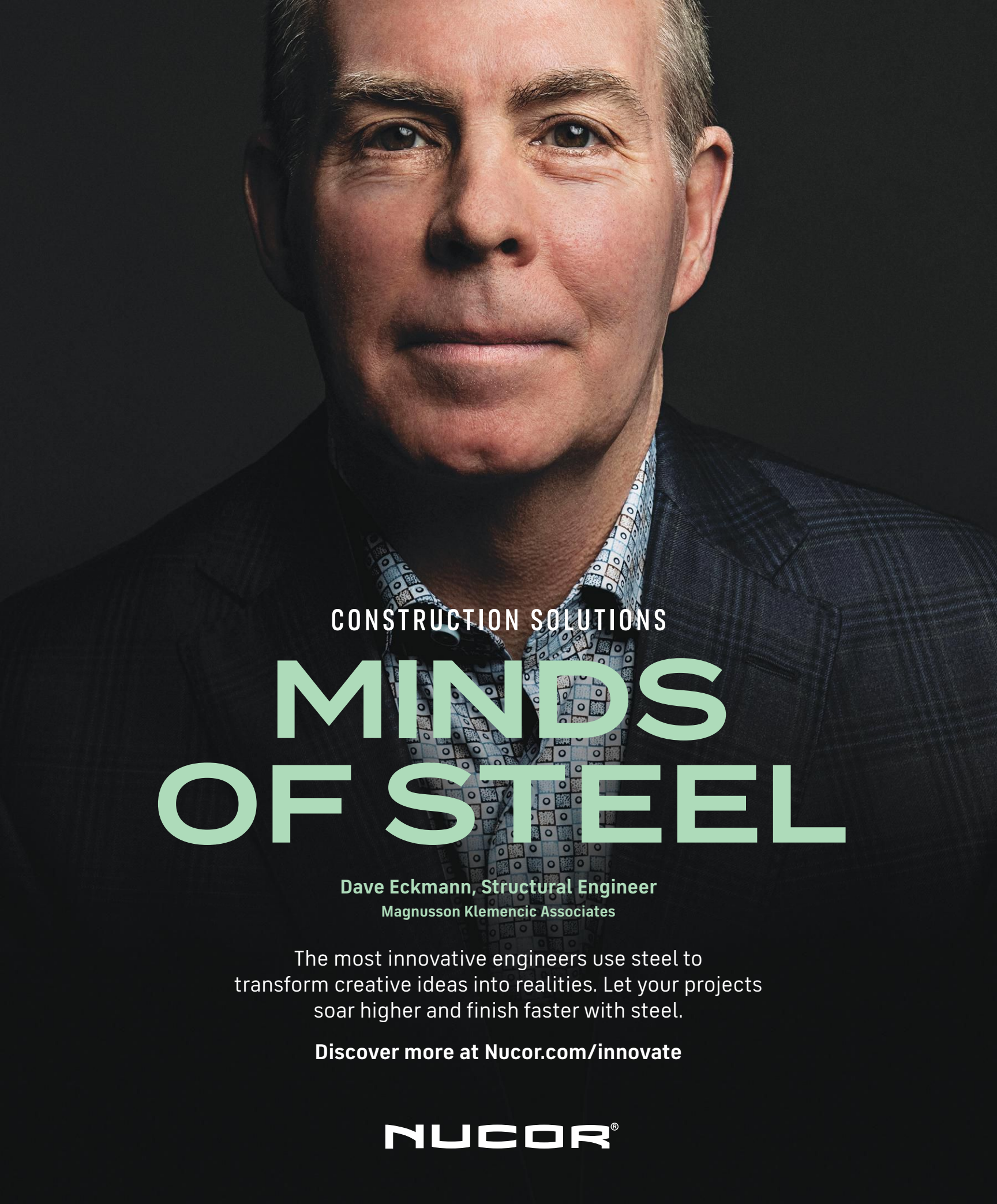
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