



The Architect's Newspaper

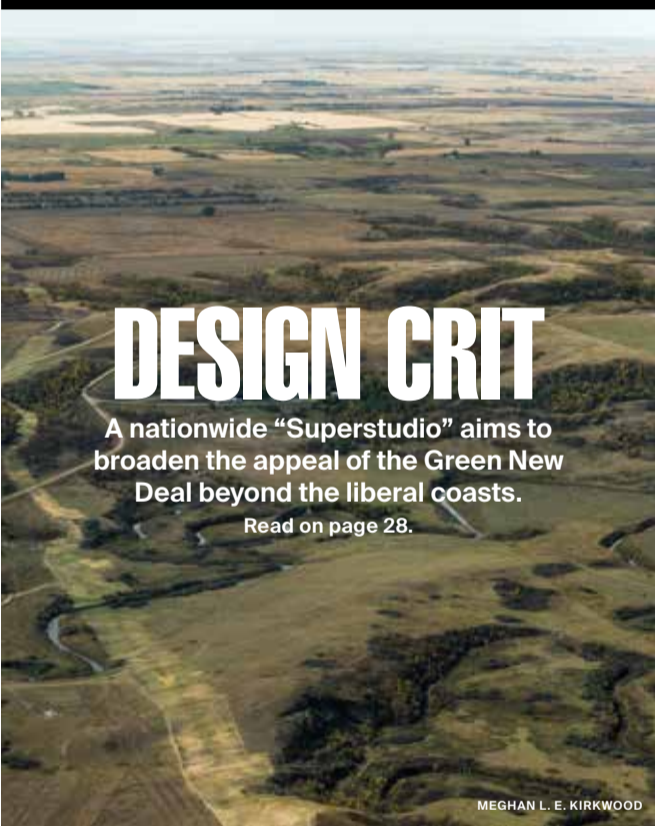
October/November 2020

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Put aside worries about Google Street View's surveillance capability, and its HD cameras will open up myriad strange and wonderfully immersive views into landscapes both out-of-the-way and under-the-radar. There's a privacy and an intimacy in clicking through those public, panoptic street scenes, as disembodied visitors form their impressions of a place based on a stranger's documentation.

The immersive format works especially well at sites like Philadelphia's Graffiti Pier, a disused coal bridge on the Delaware River that in recent years has gained notoriety as a mecca for aerosol art. Thanks to Street View user Mark Henninger, who documented the allée, as well as more than 14,000 Instagram tags, I can stroll under the pier's concrete arches to admire the colorful cartoon characters and writhing arabesques in high-res.

A place like Graffiti Pier is both an open-air gallery and a living monument to changing economics. The site was once part of the giant Port Richmond rail yard, a busy inland exchange where ships were loaded up with Pennsylvania anthracite for distribution along the Eastern Seaboard and on the other side of the Atlantic Ocean. Freight company and current owner Conrail bought the industrial area in the mid-1970s, **continued on page 10**

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Take it Outside

This year's outdoor products special section highlights the latest in planters, benches, downlights, and more. See page 44.



THE INVISIBLE WALL SYSTEM

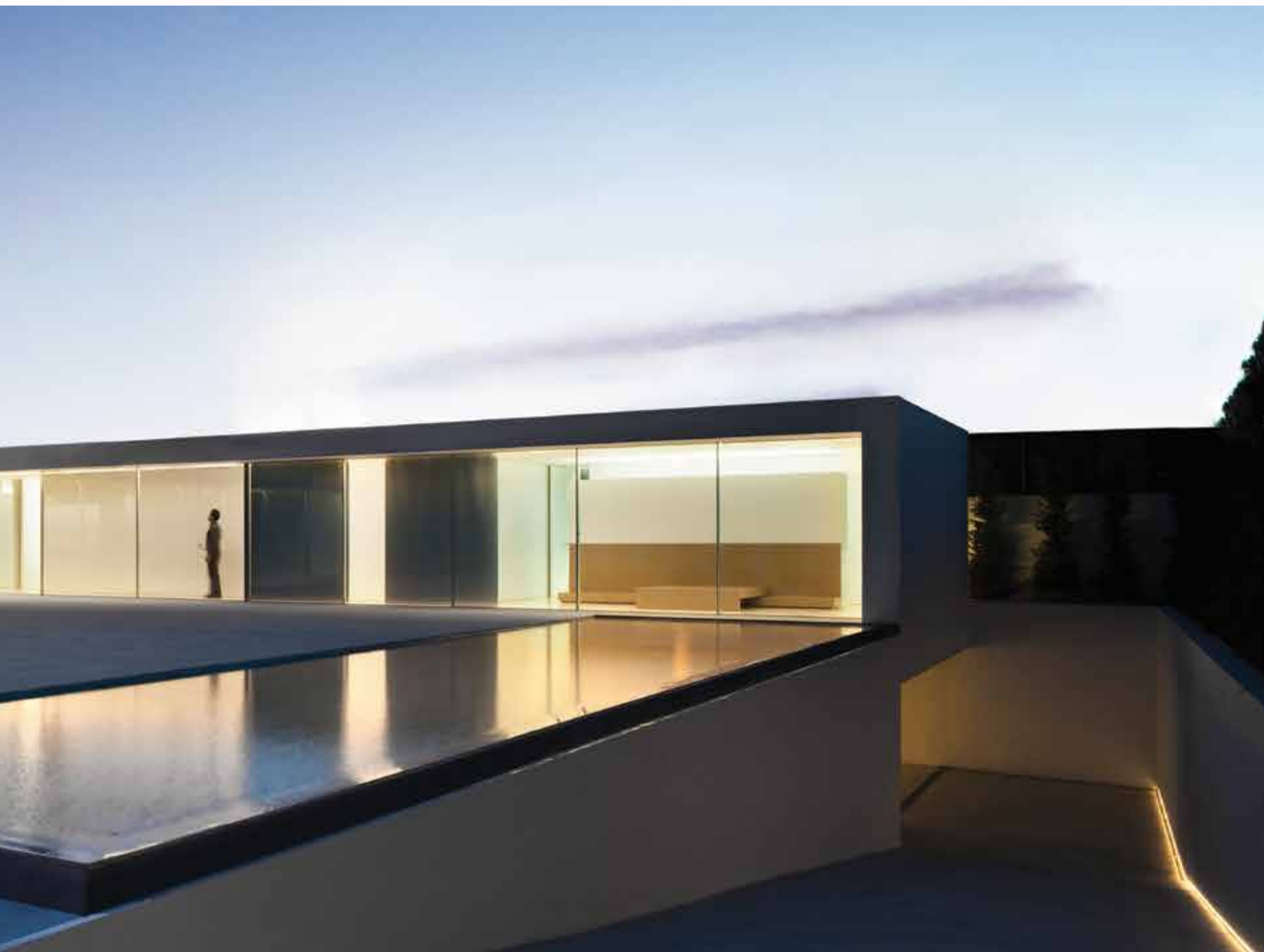


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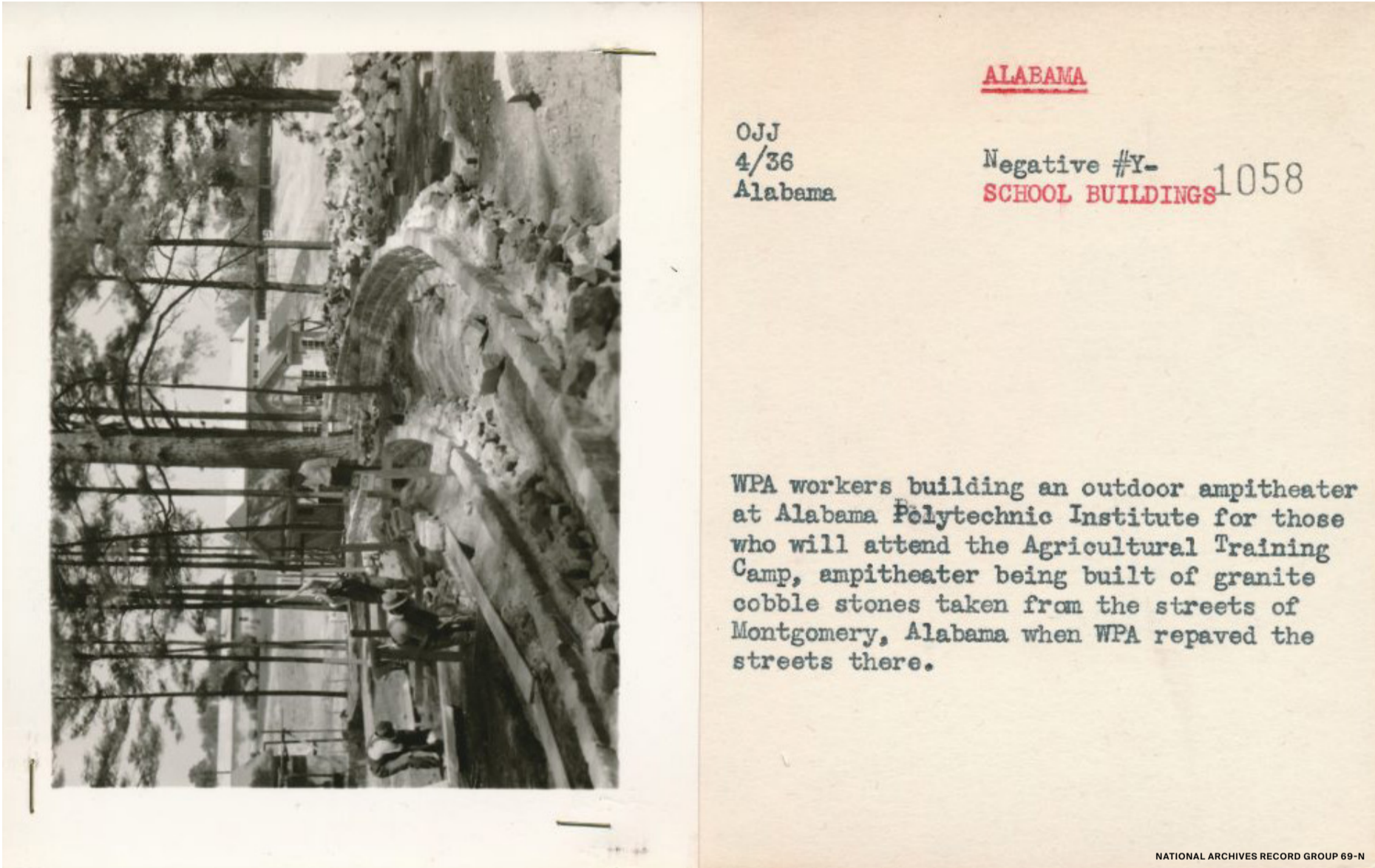


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Landscapes of the Possible



The Green New Deal Superstudio draws on the extant landscapes brought into being by the original New Deal.

As we were closing the issue you hold in your hands (or read on your screen), Hurricane Delta made landfall in Louisiana. It was the 25th Atlantic hurricane this year, and the fourth to hit Louisiana. Delta reached category 4 strength but was downgraded to a category 2 as it touched down near the city of Lake Charles, just six weeks after Hurricane Laura brought severe winds and rainstorms and knocked out power for thousands.

Delta, which killed four, pushed the 2020 Atlantic hurricane season into the history books, breaking the previous record for the number of landfalls. And yet news of the storm, and its aftermath, barely seemed to register in national headlines. The looming election, and the president's bout with COVID-19, had the effect of blotting out the sun, as it were. News junkies seem to have had their fill of doomsday climate projections, and of the everyday instances of climate change, preferring instead the beige gruel of Trumpian gaffes, bluster, and delirium. (Beware: You are what you eat?) Even the pandemic seems to have fallen off their—our—radar, as COVID enters its third wave, with the nation having lowered its guard.

Of course, one may be regularly tempted to find despair the only rational response to any of this—climate change, unrelenting storms, the pandemic, the farce of American electoral politics, zombie capitalism. But it need not be the only response, as the proponents of the Green New Deal (GND) argue. Promising both economic growth and ecological rehabilitation, while leaving patterns of development and consump-

tion more or less intact, the GND feels both utterly pragmatic and too good to be true. Washington partisans routinely sneer that the project is "utopian," while seemingly preferring the dystopian route unfolding before us.

Regardless, when one views the GND as an aspiration—a lodestar—its value becomes clearer. It is a prism of possibility, and as such, it collocates modes of settlement, industry, and energy that have been hitherto treated as separate. It recenters historical sites of disinvestment from the Sun Belt to the Rust Belt and empowers those segments of society to retake the reins over their own lives. "[T]he degree to how bad things get is still very much in question," Billy Fleming, the director of The McHarg Center in the Weitzman School of Design at the University of Pennsylvania, said recently in an interview, "and the ability for folks to be able to make for themselves fulsome, fulfilling lines in an era defined by climate change is very much still...possible."

Both Fleming and the Green New Deal figure in "Design Crit," one of two feature stories in this month's landscape-themed issue. Treating the GND as an organizing and mobilizing framework, collaborators in landscape architecture schools across the country have constructed a "Superstudio" with which to bring the good word to rural and urban communities alike. Participating studios—drawn from scores of schools, whose number only continues to grow—will over the course of the academic year work to develop designs based on live infrastructural projects or landscapes of contestation. What shape the students' projects will

take is as yet unknown, but they will be diverse, comprehensive, and likely a little all over the place. To attempt to tie a bow on these divergent, regionally specific responses would run counter to the realpolitik that governs the overall project. Its organizers, the Landscape Architecture Foundation among them, have intentionally downplayed the political signaling that the GND typically inspires and have instead amplified the tentpole goals of "decarbonization, justice, and jobs." In place of a manifesto, they have released a more or less dispassionate brief that is sure to avoid partisan divides among studio instructors and learning units.

"Friendly Fire," the issue's other feature, draws on the most recent spate of deadly, destructive wildfires in California and Oregon, whose smoke plumes have spread from Honolulu to Maine. Fire is often treated one-sidedly, as a tool of nature's caprice and wanton disregard for human life, when it should also be seen as an implement, the story's writer, Timothy Schuler, argues. Indigenous peoples of the West routinely maintained their lands through low-burning fires, a practice that was immediately discarded by expansionist surveyors and loggers looking to subject forests to industrial forms of cultivation and extraction. As wildfires intensify in our age of climate irregularity, landscape architects are looking to revive this age-old technique.

That these infernos have done little to undermine the operative logic of for-profit development speaks to deeper pathologies. There are parallels here to the intensifying storms and floods experienced in the Gulf

states and their aftermath, such as those discussed above. As photographer Virginia Hanusik has documented in an ongoing series about the American coasts, developers continue to build—and market their properties—as they have for the better part of a century, with little regard to the tumultuous ecological changes that carbonization has fomented. True, some developers make sure to avail themselves of the latest green-building credentials, but the net good these do is unclear and, if anything, they likely prevent us from changing our habits, and habitats, of mind. Hanusik gets at the problem in this month's Pictorial, "Living on the Edge," when she writes that the overarching rubric of "resiliency" ultimately "absolves us from attending to the pressing challenge at hand: dramatically restructuring how we inhabit space in a changing world."

Depicting precarious and sometimes precipitous dwellings on the coasts of California, Louisiana, and New York, Hanusik's photographs are a poignant end to an issue filled with questions, ideas, and practices that reexamine the meaning of landscape and how it shapes the way we see our surroundings. And before signing off, I want to point out that I use the term "we" advisedly, as it would be unseemly to do otherwise. To discount dimensions of class, race, and geography, or the power differentials that separate economic and political elites from their (would-be) constituencies, from contemporary society is to prevent that society from ever realizing transformative change. And yet, transform we must. **Samuel Medina**



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The views of our reviewers and columnists do not necessarily reflect those of the staff or advisers of The Architect's Newspaper.

Correction

The article "The Commons" in the September 2020 issue of *The Architect's Newspaper* contained an error in the project credits. Waggoner & Ball is the associate architect, not architect of record, on the project.

We corralled the top architecture and design stories buzzing about the internet this month.

Richard Rogers retires after 43 years

Pritzker Prize winner Richard Rogers is set to retire, ending a long and storied career. His name will be removed from Rogers Stirk Harbour + Partners (RSHP) in the next few months. Rogers officially left the RSHP board in June and will be retiring to his London home.

MVRDV reveals stacked Glass Mural complex for Detroit's Eastern Market

Details and visuals of Glass Mural, an office and retail building planned for Detroit's Eastern Market, have been unveiled by Rotterdam-headquartered MVRDV. Glass Mural is MVRDV's first project in the American Midwest. The building will be located directly opposite Detroit's historic commercial district's busiest and largest market hall.

Sagrada Família construction delayed even further by coronavirus

Construction at the Basilica of the Sagrada Família in Barcelona, Spain, is slated to restart after pausing in March, but the long-term impact of the pandemic will force the building's marathon construction timetable even further back. With ticket revenue and donations drying up, the basilica will miss the 2026 deadline the foundation overseeing construction had set.

New York's Pier 26 opens to the public

Four years after landscape architecture firm OLIN's plans for Pier 26 in Lower Manhattan were revealed to the public, the park, which cantilevers over the Hudson River, is finally open. The 790-foot-long concrete pier now features a variety of habitats along its walkway, including five sections representing different aspects of the native New York ecology.

Updated LACMA plans and renderings reveal the shape of the museum's galleries for the first time

The Los Angeles County Museum of Art has released a set of floor plans and new renderings of its campus redevelopment, the first images made available to the public since April 2019. The new images reveal a dynamic interior designed by Peter Zumthor.

Eric Owen Moss Architects takes home the AIA's 2020 Twenty-Five Year Award

The AIA announced that Eric Owen Moss Architects' Conjunctive Points – The New City in Culver City, California, won the group's prestigious Twenty-Five Year Award. In 1986, Eric Owen Moss was tapped to transform a blighted, formerly industrial stretch into a campus for developers Frederick and Laurie Samitaur Smith.

Renovations could close the Pompidou Center for three or more years

The planned renovations at Paris's Pompidou Center sound as though they will be even more involved than the ones that prompted a three-year closure in the late 1990s. Officials announced there may be either a three-year closure of the museum that would kick off in 2023 and cost roughly \$235 million, or a seven-year partial closure.

New York's MTA warns of dire 40 percent service cuts if it can't get a federal bailout

With ridership numbers in free fall owing to the coronavirus pandemic, and taxpayer-funded subsidies cut off because of the ongoing recession, the New York Metropolitan Transportation Authority announced that unless it receives \$12 billion in federal funding, the agency will be forced to take drastic action—what some are calling “doomsday cuts.”



TOM BONNER

NASA, Bjarke Ingels Group, SEArch+, and ICON team up to develop a lunar city

NASA is continuing the work started in its 2018 3D-Printed Habitat Challenge, which sought designs for radiation-shielding Martian shelters that could be 3D-printed using local regolith. For Project Olympus, the agency has tapped SEArch+, 3D printing startup ICON, and Bjarke Ingels Group to research how we might one day build on the moon.

The 2020 RIBA Stirling Prize is canceled due to coronavirus

The 2020 RIBA Stirling Prize has been canceled. It is the first time the award has been canceled since its start in 1996. The judging process required jurors to travel across the United Kingdom to see each potential winning building in person, which was deemed to be unfeasible at present.



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Boston Common master plan proposes sweeping upgrades to America’s oldest city park

Boston Common, a historic 50-acre public green space that doubled as a cow pasture until the 19th century, is set to receive a slew of new additions and upgrades as part of a master plan aiming to “serve the people of Boston and visitors alike while protecting this special place for years to come.”

Plans to develop former Amazon site in Long Island City collapse

A year and a half after Amazon canceled plans to build half of its “HQ2” in Long Island City, Queens, New York, it appears plans by the New York City mayor Bill de Blasio administration to build out the area have fallen apart. Reportedly, the requirement that developers pay \$75 million to relocate a municipal building led to the deal finally coming undone.

David Adjaye wins the 2021 RIBA Royal Gold Medal

Although the Royal Institute of British Architects has scrapped the Stirling Prize this year, it went ahead with the announcement of the 2021 Royal Gold Medal. Fifty-four-year-old Ghanaian-British architect and educator David Adjaye is the 2021 recipient.

Durst tapped for \$2.2 billion riverfront redevelopment scheme in Philadelphia

The New York City-based Durst Organization has been selected by the board of the non-profit Delaware River Waterfront Corporation to lead the ambitious redevelopment of Penn’s Landing in Philadelphia. Its plan centers on a 12-acre park that will cap a section of Interstate 95 and fuse a swath of riverfront real estate with the Old City district.

Adjaye Associates reveals new Princeton University Art Museum building

Adjaye Associates revealed its design for a new Princeton University Art Museum building, which will replace the existing museum with a new one twice its size. It will comprise three stories with seven main galleries. Most of the exhibition space will be on the second level, while the ground level will include outdoor terraces able to accommodate 2,000 people.

Governors Island could get a massive climate solutions center following rezoning

The Trust for Governors Island in New York City has revealed its plans for an enormous climate solutions center on the island. The center is intended to be a mixed-use hub drawing people to the island 24/7 and throughout the colder months. Renderings from WXY Architecture show a 4.2-million-square-foot campus with labs and conference areas.

Albert Frey and A. Lawrence Kocher’s Aluminaire House donated to Palm Springs Art Museum

Albert Frey and A. Lawrence Kocher’s historic Aluminaire House has been donated by the Aluminaire House Foundation to the Palm Springs Art Museum. The museum aims to begin reassembling the house in early 2021. The house was intended to be a mass-producible, affordable home of the future, made mostly of metal and glass.

Paul Rudolph’s Burroughs Wellcome headquarters building in North Carolina threatened with demolition

Paul Rudolph’s Burroughs Wellcome Company headquarters building in Durham, North Carolina, is at risk of being torn down. What was originally suspected to be asbestos abatement turned out to be site prep for a full demolition, which is slated to take place by the end of the year.

Snøhetta will design the Theodore Roosevelt Presidential Library

After three competing designs were revealed for the Theodore Roosevelt Presidential Library, to be built in the Badlands of North Dakota, a winner has been chosen. Snøhetta’s timber-framed structure will rise from the rugged landscape like a natural rock formation one and a half miles from the town of Medora.

London’s Hammersmith Bridge is at risk of falling down

A handful of London’s 35 bridges that span the river Thames are in rough shape. Two are partially closed to traffic and a third, the Hammersmith Bridge, has been fully sealed off because of an “increased risk to public safety due to a sudden deterioration in key parts of the suspension structure.”



The E.U. could build a “European Bauhaus” as part of coronavirus recovery

One year after the Bauhaus centennial spotlighted the German design school and its contributions to just about everything, European Commission president Ursula von der Leyen called for a new “European Bauhaus.” She said it should launch the architectural style of a climate-neutral Europe.

Architecture Research Office brings the Rothko Chapel closer to its creators’ vision

Houston’s Rothko Chapel is open again following a meticulous update by Architecture Research Office. The chapel debuted in 1971 and is part of local philanthropists John and Dominique de Menil’s cultural legacy, which also includes the neighboring Menil Collection art museum.





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Generational Lines in the Sand

Fallout from firing of AIA Chicago executive vice president Zurich Esposito points to wider crisis in professional culture.



When the Board of Directors of AIA Chicago fired longtime executive vice president Zurich Esposito in August, it surprised many in the city’s architecture community, for whom Esposito had been a successful and effective chapter leader. His abrupt dismissal left many questions in its wake, foremost among them, what motivated the board’s decision. Some answers are coming to light only now after the board hosted a September 25 call with AIA members. The fallout from the meeting has exposed a wider split within the membership along generational lines, pitting differing conceptions of workplace culture and ethical practice against one another.

According to several people on the call, the leadership explained that its decision to terminate Esposito was based on dozens of complaints of harassment, discrimination, and bullying directed at staff over a ten-year period, and on the results of a subsequent investigation. The AIA Chicago Board of Directors confirmed to *AN* that the following statement—which divulges no details but refers to the existence of workplace complaints—was presented to members on September 25:

“The board is required by Illinois law and the chapter’s handbook to maintain certain information as confidential. While we can’t disclose all the details, we can say that the board received complaints from numerous current and former employees, and investigated those complaints promptly as required to by the chapter’s employee handbook. After the investigation was complete, the full board of directors determined that board responsibilities and chapter policies will be updated and improved, and also determined that improvements must also be made in the workplace. Mr. Esposito refused to acknowledge that any improvements were necessary to create an equitable and inclusive workplace. Based on the review of the investigation reports and Mr. Esposito’s conduct during and after the investigation, the

full board of directors took a vote of no confidence in Mr. Esposito, which passed with an overwhelming majority.”

Nancy Temple, Esposito’s lawyer, contends that the allegations “were fabricated as a pretext to fire Zurich.” According to Temple, an investigator retained by the board told her and her client “that the allegations were unfounded.” She said she is not planning any legal action at the moment and hopes the situation can be resolved amicably. Temple also said that the real reason for Esposito’s termination is part of an “ongoing investigation” and that she had not seen any details of the board’s probe.

Architect Carol Ross Barney was on the September 25 call. A long-standing member of AIA Chicago, Ross Barney told *AN* that in her estimation “Zurich Esposito is the best [executive vice president] we’ve ever had.” Some of the more well-established, high-profile chapter members share a high opinion of Esposito. In late August, this group signaled its support for him via a petition urging that his “role in our community should be restored.”

There is wide agreement among the membership that Esposito has been an effective representative of Chicago architects. Katherine Darnstadt of Latent Design, who spoke in support of the board’s decision on September 25, said Esposito’s firing “doesn’t mean there hasn’t been great work done by Zurich, which there absolutely has, but in the end, you have a board that said they’re dealing with dozens of complaints from unique individuals that could go a variety of different legal pathways. I don’t know how any firm could tell me they could assume that risk and keep that employee hired.”

Esposito’s success as executive vice president is beside the point, said Ann Lui of Future Firm, who was on the member call as well. “One thing that’s important for me is not framing the conversation about whether or not we like Zurich, but whether or not we

believe that people who work with us as architects have the right to a fair and humane workplace,” she said. The relevant question, she explained, is, do I believe that staff who work for the organization I’m part of deserve to work free of harassment, bullying, and discrimination?

Out of privacy and confidentiality concerns for staff and others, the board did not disclose details of any allegations. “It’s a head-scratcher if you’re not at the board table,” said Ross Barney. She’s known AIA Chicago staff for decades, she said, and “there’s never been any indication that there was any strife in the workplace.”

While many on the membership call spoke about the need for transparency, “for me what’s important is the right to privacy of the staff,” Lui said. This is complicated by the fact that AIA Chicago is a small organization, with only six staff members (not counting the executive vice president) listed on its website. Releasing details of complaints could indicate who made them.

Lui said she was most disappointed that through the course of the conclave, only one other member—Darnstadt—spoke up explicitly for the staff. “Many people spoke about how Zurich had served them personally without noting that the staff had not been served personally by Zurich,” said Lui.

For her part, Darnstadt read the following statement in support of AIA Chicago staff at the meeting: “The same way your designs are not made by one firm leader, the diversity that our chapter celebrates now is not solely because of Mr. Esposito, it is because of the staff who create and run the programs, author the magazine, elevate these voices, a volunteer board that we elect and you can run for, and members who push our industry forward.”

Lui points squarely to a failure to align with the board’s professional values as the reason for Esposito’s dismissal. “The [executive vice president’s] role is to work col-

laboratively with the staff on behalf of the membership,” she said, “and consequently, if the board is bringing to the [executive vice president] values that are organized around inclusion and equity, and a fair workplace, and the [executive vice president] can’t get on board with that, I don’t understand how there could be a relationship going forward.”

Here, Lui echoed the sentiments of John Syvertsen, an architect who succeeded Esposito as AIA Chicago executive vice president on an interim basis. Syvertsen told *Crain’s Chicago Business*, “There’s no question in my mind Zurich’s dismissal was the inescapable duty of the board.” Syvertsen declined to comment on the matter for *AN*.

The recipient of AIA Chicago’s 2019 Lifetime Achievement Award, Syvertsen is widely admired by the younger designers who backed the board’s decision, as well as the older set that has been insistent about reinstating Esposito. Some senior-ranking members have explicitly cast the conflict in generational terms, saying that the relative youth of the current AIA Chicago board has made it an unrepresentative body. As reported by *Crain’s Chicago Business*, petition signer Margaret McCurry wrote to members: “Those of us over 40 are not represented and that is at least half of the total membership. There are instances where older FAIA members and firm partners have expressed an interest in joining the board and have been rebuked. This is an insidious pattern that has culminated in a board that has overreached its authority, acted unethically, and brought shame on the chapter.”

On the September 25 membership call, 149 members rebuked the board with a vote to have it reconsider its decision on Esposito. The vote failed, however, with 104 siding with the board and 57 abstaining. A majority was required to force a reassessment of the decision.

Considering that AIA Chicago has nearly 4,000 members, a relatively small percentage pressed the board to reevaluate its actions. “There’s no majority of membership pushing for this,” said Darnstadt. “It’s a majority of a very privileged group of members who can take two hours out of their day and pay their own lawyers to look at stuff and have these arguments.”

Even so, the way this conflict transpired has signaled a wider crisis of professional culture for Lui. “I felt completely alienated by the organization,” she said about the membership call. “At this moment, of all times, with everything going on in the world, that the thing they want to organize around is defending somebody who was active in a discriminatory, bullying, and uncollaborative way—it doesn’t matter who leads. There needs to be a change in the values overall.”

With Esposito’s dismissal, Darnstadt said she saw parallels in the ways that architecture firm culture frequently brushes off claims of toxicity and abuse by insisting that the creative output of visionary leaders can excuse such behavior or is more important than them. “Somebody yelled at someone or maybe talked down to them or was sexist or discriminatory—but look at that building! Who cares? There’s probably a lot of firms that have similar issues, and it’s [deemed] OK because we like their buildings. That’s still an ongoing discussion in our industry.” **Zach Mortice**



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Site Sensitive

Thanks to a design coalition with ties to the community, a Philadelphia street art landmark is set to live on as a public park.



The New York-based landscape firm Studio Zewde is behind the design for a revitalized Graffiti Pier. The plan aims to make site upgrades without detracting from its niche appeal.

continued from front page at the nadir of the state’s coal output, and all but abandoned the southern portion of the waterfront in 1991—a decision that de facto opened the pier to street artists. Now, thanks to a non-profit that stewards the city’s waterfront, and a coalition between the New York-based landscape firm Studio Zewde and the Philly taggers who have made it into a destination, Graffiti Pier is slated for yet another transformation.

The proposal from Studio Zewde walks a tightrope: Make the area accessible to a wider public and protect it from climate change, but don’t erase the pier’s offbeat spirit in the process. “The design moves that we’re proposing are really an act of preservation,” explained Studio Zewde principal Sara Zewde. “But in order to keep the space feeling the same way, you have to change it.”

Renderings of the six-acre site depict interventions so minimal as to be indistinguishable from the photos on Google and social media. In one image, a stylish woman in a pinstripe dress and a young boy sit on top of a rail bridge covered in wildflowers, while in others the yawning coal bridge trellis stretches out toward the river in both directions.

Despite its newfound online exposure, the pier isn’t easy to find—something that Studio Zewde’s plan seeks to address. Currently, visitors arriving at the pier from nearby neighborhoods Port Richmond and Olde Richmond must traverse the barren undercroft of Interstate 95 or the rail yard’s overgrown industrial flatlands. A big goal is to make a more legible entrance to the future park and to improve the paths along-

side and beneath the coal bridge for ease of use. Access means little, however, if the pier is underwater, a real likelihood with fiercer storms and higher tides in the coming years. To mitigate potential ruin, Studio Zewde is considering seeding intertidal wetlands both to control flooding and to add a visual barrier between the pier and a massive townhouse development underway in Port Richmond.

Investments like these in the site, said Zewde, were the only way it could survive, essence intact, amid a changing environment and development pressures. “A lot of the new development is sleek, clean, and sterile, and people said they didn’t want an aesthetic that relates to a lot of the new development. And so our approach to designing something gritty, and that feels found, is a challenge to that aesthetic.”

Consensus around the approach, Zewde added, mobilized artists and community groups to get involved in the planning process. The project team—which, apart from Studio Zewde, includes the nonprofit Delaware River Waterfront Corporation (DRWC) and the public space advocacy firm Amber Art and Design—expressly avoided the conventional box-checking approach to community outreach, in which public meetings are a rubber stamp to move projects along the pipeline. DRWC in particular hopes the relationships it has forged with Philadelphians through its decade of greening the waterfront have built goodwill and buy-in for the pier transformation.

“Every project we do is for the city, not just for people who live nearby,” said Karen Thompson, DRWC’s director of planning. “This project really has these three audienc-

es—near neighbors, people interested in art, and people who make art.”

Shortly after winning its contract in September 2019, the team convened an advisory council with an even split among seats for community development corporations and higher-profile artists, who helped provide connections to underground street artists, who are harder to reach. Occasionally these smaller groups met in bars, because some of the street artists—owing to the illicit nature of their work and negative public perceptions of graffiti—prefer a level of anonymity that would be hard to maintain at a larger public event.

Zewde and Thompson both shared some insight into the on-the-ground process: At one of the first public meetings, Thompson said, the team asked artists what they thought was the best thing that could happen at the pier (“How do we keep this a place that feels found?”) and the worst thing that could happen (accelerating gentrification). The G-word came up often, but she noticed it was invoked around the fear of losing a place that feels secret and undiscovered amid new development in the neighborhood.

For Zewde, being on the other side of these exercises is what got her interested in urban planning and landscape architecture in the first place. She grew up in Louisiana and, as a college sophomore, started going to community planning meetings after Hurricane Katrina hit. “I was frustrated by the gap between what I knew the place to be and what the designers were saying,” she recalled. “That was what made me feel like I should learn what they learned and see why there’s this huge gap [in understanding].”

It all ties in to a holistic approach toward shaping space. “My research and practice are really held together by a central inquiry, an expanded mode of what landscape architecture can be,” Zewde explained. “It is designing places and building places that make people feel like they belong in this world.” **Audrey Wachs**

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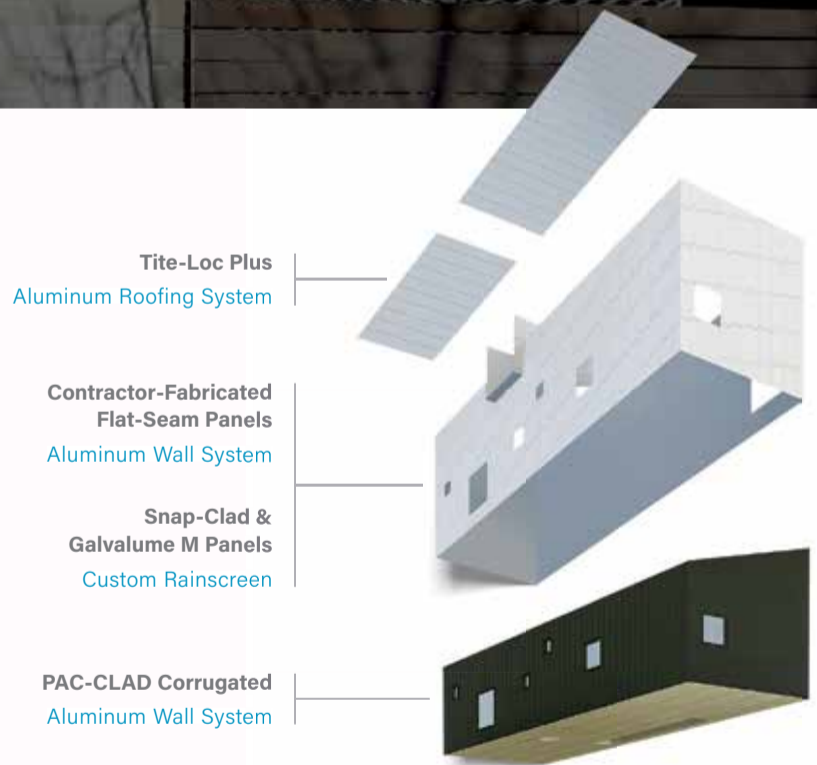
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Remnant Schools

At Tulane, faculty are repurposing the legacy of Jim Crow across Louisiana.



The current decrepit state of Sabine High School (SHS) in Many, Louisiana

Throughout the South, hundreds of mid-century “equalization schools”—public schools built in the 1950s following *Brown v. Board of Education* in a desperate effort to maintain segregated “separate but equal” facilities—sit abandoned and crumbling.

Two faculty members at the Tulane School of Architecture, Laura Blokker, interim director of and lecturer of preservation studies, and Andrew Liles, AIA adjunct assistant professor of architecture, received the biennial Richard L. Blinder Award in August, given through the trustees of the James Marston Fitch Charitable Foundation, to document equalization schools in Louisiana and provide innovative adaptive reuse strategies for the building type. A knee-jerk reaction to this project is the question Why should an effort be made to preserve buildings that were created for the express purpose of upholding segregation? Wouldn’t that honor the legacy of Jim Crow in the United States? No, not exactly.

Sabine High School (SHS) in Many, Louisiana, is one such equalization school that alumni are fighting to preserve and revitalize. In 2019, Sandra Garner-Coleman, Connie Levo-Howard, Mae Mallard-Moore, Syporia Garner-Turner, Patsy Garner, and other alumni joined forces with the 12th District #3 Association, a collective of 17 churches in Sabine Parish that gained control of the SHS campus in 2002 to create the Sabine High School Revitalization Project. Founded in 1928 as an eight-teacher Rosenwald school (as the forerunners to equalization schools were called), what later became Sabine High School served students in grades 1 through 12 and provided a holistic education for African American students until desegregation began in 1970.

“SHS was and is a significant part of my life. It was a major part of my foundation that has shaped my life to this day,” said Mallard-Moore. “The educators, cafeteria staff, custodians, and bus drivers made me feel included and special.... It along with the church was the center of the African American community.” The dedication of

educators like T. A. Maxie, principal of Sabine High School, provided students with support, inspiration, and opportunities, despite the harsh realities of the segregation-era South.

Louisiana’s educational past is a divisive issue, and Blokker affirms that the justification for projects such as this rests on the desires of local communities. “What is important is what [the school] represents to the community and its alumni,” said Blokker. “If alumni of these schools wanted them torn down and destroyed, then I would think that’s what should happen, even though I’m a preservationist...but it’s quite contrary to the feelings many alumni shared with me.”

Blokker has worked with many alumni groups from Louisiana equalization schools, such as John S. Dawson High School in St. Francisville, Arcadia Colored High School—later Crawford High School—in Arcadia, and Sabine High School, to list their school buildings on the National Register of Historic Places. Even though Rosenwald schools have inspired a great deal of historic preservation research and advocacy, their midcentury successors have nearly been forgotten. Blokker and Liles’s survey of equalization schools, coupled with the production of handbooks for preservation and new design, will be instrumental in reclaiming these buildings for their communities.

Garner-Turner was a student at Sabine High School during its expansion into an equalization school. “I received my education in the Rosenwald building until my senior year. The new building was constructed between my junior and senior year. The spirit of excellence displayed by everybody, in every area, every day was transferred from the old building to the new one.” The midcentury Sabine High School building represented a tradition of excellence forged in spite of imposing obstacles.

Ultimately the SHS building was converted into Many Junior High School, which remained open until 2001, when the building was abandoned and fell into disrepair. Un-

fortunately, the hostile environment during desegregation nearly erased the legacy of Sabine High School, as its resources and identity were entirely absorbed into Many High School. Only four SHS teachers were hired at Many High to assist students in the transition; the rest of the SHS faculty and staff had to search for employment elsewhere. “Every time I see the building, my heart bleeds,” said Garner-Turner. “It once was a stately building that was the pride of the community, [but] is now a blighted, worn, broken structure.”

The abandonment of equalization schools by state and local governments displays a flagrant lack of recognition for the culture and communities that thrived in these schools. “The schools that served African American children in the state of Louisiana were abandoned and left in ruins. Laura and Andrew’s work will shine light on what actually happened during desegregation in 1970,” said Garner-Coleman, chairperson for the Revitalization Project Exploratory Committee.

“I don’t think society knows the impact it made on African American students. Was it an attempt to wipe out the identity of African American students? Our school’s name and mascot were dissolved—it was like an attempt had been made to stamp us out like we did not exist.”

Community created the cultural importance of equalization schools, fostered the impetus for the preservation of these midcentury buildings, and is central to the rehabilitation and revitalization case studies to be performed by Blokker and Liles. Through thoughtful documentation, research, and adaptive reuse, the ethos of many African American equalization schools can be reclaimed and revitalized for alumni and their communities.

“We are acutely aware that this is a listening project,” said Liles. “It’s a service role. We will be presenting communities with the tools to reuse these spaces as they see fit through the case studies in our project.”

The public benefit of thorough documentation is that more alumni will be made aware of the condition of their old schools and can consider rallying support to revitalize the buildings. “I frequently get outreach from alumni asking how they can raise money for a project at their former school. The idea is to provide a resource that is readily available to answer a lot of these questions people have when they begin a project,” said Blokker. “Sometimes it’s hard for the alumni spearheading a project to convince their communities of the promise of a rehabilitation project. Using Andrew’s skills to render possible visions for old equalization schools is something that people can look at and see why the building is significant and the amazing things you can do with it.”

The Sabine High School Revitalization Project hopes to create a community space with programs and services that will sustain Sabine Parish. “This should be a collaborative effort with community partnerships and joint ventures involving churches, businesses, schools, parents, and the children in the town of Many and surrounding townships in Sabine Parish,” said Connie Levo-Howard. “This kind of leadership will increase visibility to the area, attract more cultured retirees, provide a sustainable workforce, create new jobs, and bring economic prosperity back to our community.”

Anna Marcum

If you are an alumni of a southern equalization school and would like offer information or learn more about the project, please contact Laura Blokker, Interim Director of the Master of Preservation Studies Program, or Andrew Liles, AIA Adjunct Professor in Architecture: architecture.tulane.edu/people/laura-blokker architecture.tulane.edu/people/andrew-liles

For more information on the Sabine High School Revitalization Project visit the initiative’s website, where you can also make a donation or purchase a membership: sabinehighschoolrevitalizationproject.com



The SHS Revitalization Project aims to recover the school's history and upgrade its buildings and grounds. Pictured: The SHS marching band, circa the mid-1950s.



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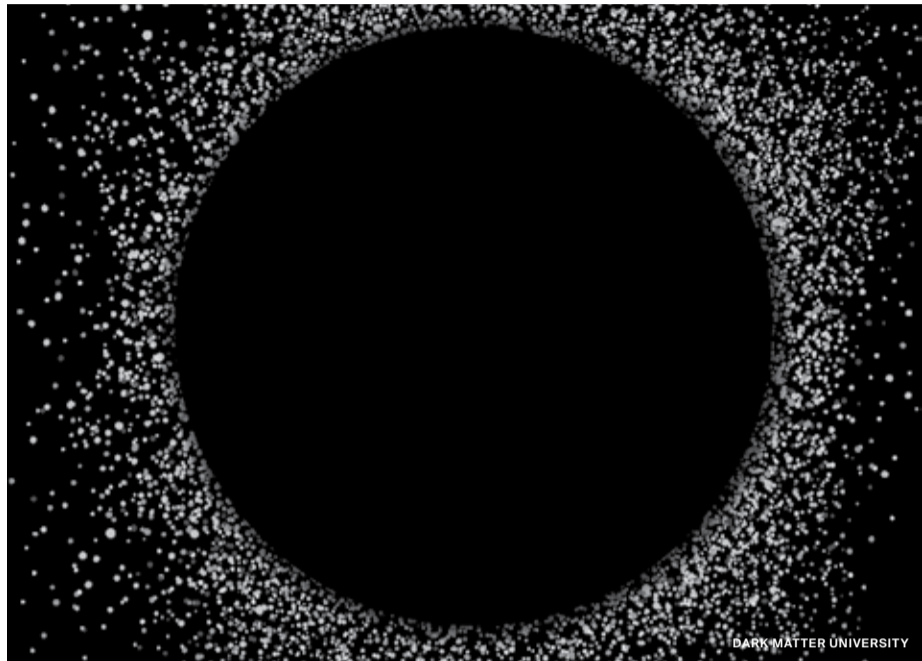
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Toward a More Just Built Environment

Dark Matter University brings a new model of architectural education to light.



Dark Matter University, a self-described "antiracist design justice school," launched in August.

The shift to remote higher learning during the coronavirus era has been messy, improvisatory, and for many students and professors, highly difficult. Yet with this swift pedagogical reshuffling have also come silver linings. The geographic constraints attached to traditional academic venues like lecture halls have been ripped away, and the opportunity to bring new voices—voices that might have been otherwise inaccessible owing to pesky practicalities like physical location—into the now-virtual classroom has spurred creative new directions and made the once limited seem limitless.

A case in point is the 100-level course (Intro to Careers in Architecture and Construction) offered to first-year undergraduate students at the Robert R. Taylor School of Architecture & Construction Science at Tuskegee University in Alabama, one of a handful of historically Black colleges and universities (HBCUs) offering an accredited architecture program and home to the oldest construction baccalaureate program in the United States. While the course is led by Associate Professor Roderick Fluker, his role has transitioned into largely that of a faculty host as a rotating group of BIPOC design educators take command throughout the semester from far-off locales such as Minneapolis, Cleveland, and New York City.

"[Tuskegee's architecture department] happened to have the opportunity to really innovate and experiment," explained Justin Garrett Moore, an urban designer and executive director of New York City's Public Design Commission who is one of the five educators presenting content as part of the school's reimagined intro course. "This happened very fast, and they found the resources to do it in a way that frankly much better situated and privileged institutions have not necessarily made happen."

Moore, who is also an adjunct associate professor of architecture at Columbia GSAPP's urban design and urban planning programs, initiated the dialogue with the school as he was already working on a planned trans-institutional GSAPP/Tuskegee seminar. As Moore explained to AN: "Knowing that we were going to be in this virtual format for some time, I wanted to

see if there'd be an opportunity to connect and teach."

This is where Dark Matter University (DMU) comes in.

Seeking new forms

A wholly collaborative BIPOC-led organization—or "democratic network," as it refers to itself—DMU began to take shape in the days following the May 25 death of George Floyd at the hands of police officers in Minneapolis. From the beginning its mission was to "work inside and outside of existing systems to challenge, inform, and reshape our present world to a better future."

The origins of DMU, per Moore, were "very fluid and truly collective." Two distinct yet interrelated parallel factions—people in architecture and design focused on addressing social injustice issues as part of Colloqate's Design as Protest collective, and a more informal network of architects and designers who were already teaching—merged in a WhatsApp chat to promote ideas, vent frustrations, provide support, and attempt to answer the question "How can we move built environment design toward justice?" As Moore noted, these conversations eventually led to formalization efforts and establishing a name for the nascent group: Dark Matter University.

At the core of DMU—a volunteer effort divided into three key working groups: People, Content, and Opportunity—is an urgent push for an antiracist model of design education and practice achieved by creating new forms of knowledge, community, institutions, practice, and design itself. Roughly 30 BIPOC designers and architects are formally part of DMU, while a roster of over 80 design educators and practitioners have, to quote Moore, "endorsed our vision and mission, and committed to education/learning and practice that align with our work."

The freshman intro course at Tuskegee is one of several DMU-affiliated courses planned or underway at several architecture schools across the country. It's also (save for an upcoming trans-institutional seminar between Yale University and Morgan State University, also led by Moore) the only ar-

chitecture program at an HBCU for which DMU has created content to date.

Moore recounted the powers that be at Tuskegee relaying to him that "we would like for DMU's network of black, indigenous, people of color designers to help bring new ideas and thought into our curriculum." He added: "We essentially put a call out to people, and the course was literally created in two weeks."

Joining Moore (virtually) at Tuskegee for the fall semester are Jennifer Newsom, a Minneapolis-based architect and artist who is one half of creative practice Dream the Combine and also an assistant professor at the University of Minnesota School of Architecture; Jerome Haferd, a cofounder of Harlem-based design practice BRANDT : HAFERD and an adjunct assistant professor at Columbia GSAPP; Venesa Alicea, founding principal of NYVARCH ARCHITECTURE and adjunct assistant professor at the Spitzer School of Architecture at the City College of New York as well as president of the college's architecture alumni group; and Quilian Riano, an architect and urban designer who currently serves as associate director of the Cleveland Urban Design Collaborative at Kent State University's College of Architecture and Environmental Design.

Prior to the formation of DMU, Haferd noted that the members of the larger network "all kind of knew each other but hadn't necessarily had meaningful collaboration with each other before."

"It's actually a small world," he added. "In one way or another we were already embedded in academia but [are] now connecting with each other and using our knowledge of the system to create something new and different in collaboration with one another."

At Tuskegee, each of the five members of the DMU network has crafted single educational sessions reflective of their own individual—and hyper-diverse—professional backgrounds. According to Moore, the sessions are designed to provide students with "different takes and approaches to the design and construction field, and act as a kind of an anchor to that course."

"We really wanted to have diverse representation among us—there's a lot of differences and also a lot of parallels," remarked Alicea, an architectural licensing guru who comes from a self-described "more traditional background" than her cohorts. In turn, her session drew upon her own professional experiences and strengths.

"I think [the Tuskegee undergrads] are really compelled by the variety and really widening their understanding of what architecture is, what it can be, and all the different ways you can practice it and ways you can be engaged with it," added Newsom.

Riano, whose session centered on his own background in civic/social projects that foster community and promote political engagement, noted that the diversity of the group aided in demonstrating to students "the possibilities of multiple ways in which you can practice within architecture without having to compromise your principles and also taking multiple paths."

"An opportunity to see a path"

While all five educators have already led or will lead individual virtual sessions at Tus-

kegee, during the first class of the semester they all appeared together as a group and each gave, in the words of Alicea, "mini-speed presentations of our careers so that the students had a good sense of who they were going to be talking to" over the course of the semester. After each session, students were invited to fill out online surveys that "help to inform future content," added Alicea.

"When we gave the PechaKuchas on the first day, I think we were really all just so excited to be talking with them," recalled Newsom. "Reflecting on our own experiences—kind of projecting ourselves onto where they are right now, just starting out—how fortunate we would have felt to be exposed to a wide variety of practitioners who are all doing such interesting things and really carving out their own voices in a discipline that, as we know, has a lot of issues dealing with difference. For them, I think it was an opportunity to see a path: Here's somebody who has gone before me, this is what they've encountered, this is how they found a way to navigate through, and this is how they are establishing their own voices in this discipline."

"I think that's been really the most incredible part of this: seeing that kind of light of realization come over their faces in realizing that they can bring their full subjectivity and full individuality to this pursuit," added Newsom.

Haferd also remarked on the potent impact of the inaugural session, noting: "There were so many beautiful and cathartic things about that first session with the students, and it was such a perfect course to be the first one where there's an array of us doing it in real time together, and demonstrating in real time this communal paradigm that we've come together."

With most—but not all—of the sessions conceived and presented by Newsom, Alicea, Haferd, Riano, and Moore having taken place over the previous weeks, another unique component of the DMU-organized course is underway as a group of young Tuskegee alumni (five in total) step into the role of educators for the first time to share their own content and lead conversations with students within this new format.

"We're maybe more established, but part of the way we structured things was to make sure that people that maybe aren't as well established also have the opportunity to get into the field and get into education," said Moore.

Although the end of the COVID-19 pandemic more often than not feels far beyond the horizon, colleges and universities will eventually shift back to more traditional formats. Lecture halls will be filled once again.

But as evidenced by the DMU-affiliated course at Tuskegee University, students—namely BIPOC architecture students considering a profession that's long been marked by racial disparities—are eager to embrace new models of hybrid learning where real-world representation is just as important as the curriculum that comes along with it. And where there are eager students, there are also eager design educators looking to impart wisdom.

"DMU and other similar projects out there are showing how we as designers can come together and organize," said Riano. "And there's a desire to teach these kinds of processes." **Matthew Hickman**





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This Brutal World

Public opinion seems to have softened its views on Brutalism. But that isn't enough to stay the wrecking ball.

Many years ago, long before I became an architecture critic, I was a 14-year-old stuck in the back of a Buick crossover whose driver, my mother, had taken a wrong turn while looking for the Goshen, New York, Dunkin Donuts. We ended up in the parking lot of the most extraordinary building I had ever seen—Paul Rudolph's Orange County Government Center, more commonly known as the Goshen Building.

In 2009, the Goshen Building was in rather dire straits in ways immediately apparent (the concrete exterior bore the sad traces of rain and snow, the parking lot sprouted grass) and not (the roof leaked inside). Despite the outward signs of disrepair, the breath seized in my chest, and as my eyes drifted over the compression and expansion of the building's extruded masses, I realized that I had stumbled upon something extraordinary. I asked my mother, who grew up in Goshen and was visiting relatives there, if she knew what the building was. She rolled her eyes and said, "Ugh, that's the DMV."

When we returned home to North Carolina from our family reunion, I took to the computer and searched for the Goshen, New York, Department of Motor Vehicles. Some clicking got me through to the Wikipedia page for Paul Rudolph, a midcentury architect who was once the dean of the Yale School of Architecture. It was at that point I fell in love and became obsessed—not only with Rudolph's work but with architecture as a whole. My life is marked by a threshold of before and after Paul Rudolph.

I spent a good deal of my bizarre and lonely adolescence sitting in my bedroom, listening to Steve Reich and browsing SkyscraperCity threads and Flickr archives devoted to Brutalist architecture. Wanting to become a classical musician and composer, I wrote entire pieces for strings commemorating individual buildings. I drew doodles of extruded cubes in the margins of my notes. In 2010, I had stumbled on a news article about the pending demolition of the Goshen Building. I was devastated.

I got into many arguments with my mother, who at the time shared the majority opinion of Goshenites and thought the building an unlovable eyesore. I decided to do everything that I, a high school sophomore hundreds of miles away, could to save it. I wrote letters to Goshen politicians, my first-ever writings on architecture; I donated my babysitting money to Docomomo; and I got involved with local North Carolina efforts to save the state's modernist architecture through the preservation nonprofit Triangle Modernist Houses (now US Modernist). The fight dragged on for years, and by the time it was over, I was a freshman in college. I was beginning graduate school when Orange County finished lobotomizing Rudolph's building with a horrific contemporary addition. Reflecting on the loss years later, I can't help but be upset.

With the exception of Minoru Yamasaki (who designed both Pruitt-Igoe and the original World Trade Center), Paul Rudolph is perhaps the unluckiest architect in the history of American modernism. His career was by all accounts successful. Born in rural Kentucky to a housewife and an itinerant preacher, Rudolph studied architecture at Auburn University before earning himself a spot in the coveted gradu-



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Top: The interiors of the Burroughs Wellcome headquarters were featured in the 1983 sci-fi film *Brainstorm*. **Bottom:** Rudolph's Orange County Government Center in Goshen, New York, was partially demolished in 2015.

ate design program at Harvard, where he studied under such luminaries as Walter Gropius. After school, Rudolph shipped out to Sarasota, Florida, to work with architect Ralph Twitchell on small residences and public buildings. Even at this early stage of his career, Rudolph made waves. He and Twitchell, along with a few contemporaries, were responsible for establishing an entirely new idiom deemed the Sarasota School of Architecture, exemplified through the clean lines and open-air plan of his Riverview High School (demolished in 2009). Rudolph opened his own practice in 1952 with modest success, and by the late '50s, he had begun receiving higher-profile commissions. In 1958, he was appointed chair of the architecture department at Yale, his students including Richard Rogers and Norman Foster. Rudolph designed numerous houses around the country and a great many important projects, including the Yale Art & Architecture Building, the Boston Government Service Center, and numerous buildings for the University of Massachusetts at Dartmouth. However, Rudolph lived long enough to see the tide turn against modern architecture and his reputation tarnished as a result. The wrecking ball soon tore through Rudolph's portfolio. Riverview, Buffalo's Shoreline Apartments, houses in Connecticut, Rhode Island, and Florida, and the Christian Science Organization Building rank among the fallen, while the Boston Government Service Center and the Milam Residence are under grave threat. The latest victim in this saga of devastation is his Burroughs Wellcome building in Durham, North Carolina.

Opened in 1972, Burroughs Wellcome is one of Rudolph's most famous projects, popularized by its role in the 1983 sci-fi film *Brainstorm*. The elevation drawings of the building have served a lesser role as my computer's desktop background for ten years. Imagine my delight as a teenager, having discovered this fantastic architect whose buildings defy comprehension, and learning that he built a major project an hour from my house. At that point, around 2010, the Burroughs Wellcome campus had been purchased by United Therapeutics, with tentative plans to turn it into a museum. These came to naught, and the property was cordoned off and left to fester. I begged my father, who was going to Durham to look at an old radio he had seen on Craigslist, to take me with him so we could pay the building a visit. I still remember pulling to the side of the road, craning my neck to get a glimpse of those emergent, geometric concrete forms looming over the landscape on delicate pillars, perfectly still and yet in motion. I asked my dad if we could get a closer look, but he said that would be trespassing. I should have pressed him.

I never did get to see the building up close, much less its interior, and now that its wholesale destruction is imminent (parts of the campus were razed in 2014), I feel a profound sense of regret and an even stronger indignation. Over and over, I think of how public opinion has come so far in terms of appreciation for "late" modernism that this shouldn't be happening.

Back in the early 2010s, the Brutalist Renaissance had not yet kicked off. If you wanted to read about Brutalism, you had to turn to out-of-print monographs by Reyner



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Banham or thumb through out-of-print anthologies by Charles Jencks (the latter at least held out the promise of color photography). The current phenomenon of endless decorative pillows, glossy coffee-table books, expensive prints, and internet memes devoted to Brutalism was a long way off, and the style was treated with a kind of morbid fascination rather than aesthetic zeal. Not that I count myself as immune. I scan my bookshelf and spot copies of *This Brutal World* and *Concrete Concept*, big Taschen volumes exalting the use of concrete as a building material, and laudatory tomes about Rudolph and his contemporaries. I scroll through Twitter and see memes about Brutalism being good and a Tumblr feed of crisp black-and-white pictures of Czech Paneláks, Yugoslav monuments (the subject of a 2018 banner show at the Museum of Modern Art), and British council housing. I read over the copy of what I've written about the architectural movement on my blog McMansion Hell, revisit speeches I've given at symposia devoted to Rudolph in New York City and Buffalo, dig up a creased Library of Congress program from its 2019 celebration of Rudolph's centennial.

I do these things and think that I am a fool for believing that the tide of public opinion has turned enough to have prevented a major work of architecture from being carelessly demolished. I am an even bigger fool for believing that public opinion is what stops the destruction of works of art—that the core problem is awareness rather than money. Burroughs Wellcome sits on a very nice parcel of land in Durham's Research Triangle Park, the Silicon Valley of the South. Its owners are an immeasurably wealthy pharmaceutical company, whose power puts them above the law, but in this case, they don't even need to wield that power, because what they are doing is perfectly legal. It doesn't matter if Burroughs Wellcome is priceless, unique, a work of spatial, formal brilliance. To its owners it is a burden, a resource sink, a negative sign on a spreadsheet, a broader metaphor for the chief role architecture plays in capitalist society: It is an asset of business, an object whose use value will always be subjugated to its exchange value, a temporary blemish on the shrinking commodity that is land, and nothing more.

Most works within the Brutalist canon (including Rudolph's government centers in Orange County and Boston) are despised because of their association with the state. Burroughs Wellcome was the home of a major international company, a titan of capitalism, and that did not save it; in fact, it made its existence more precarious.

We think we have come so far with our niche coffee-table books and expensive framed prints and high-follow-count Instagram pages, that we have finally, through institutions big and small, centralized and individual, destigmatized an architectural style that has been contested from birth, and therefore there will be no more needless destruction; but when the news came out about Burroughs Wellcome, a measly Change.org petition, and the anguished protest from the same institutions involved in the fight for the Goshen Building years ago, were all we got. It turns out that image sharing is easy and activism is hard and, as



HENRY L. KAMPHOEFFNER, NORTH CAROLINA STATE UNIVERSITY COURTESY THE PAUL RUDOLPH HERITAGE FOUNDATION



HENRY L. KAMPHOEFFNER, NORTH CAROLINA STATE UNIVERSITY COURTESY THE PAUL RUDOLPH HERITAGE FOUNDATION

Top: The Burroughs Wellcome headquarters was purchased by United Therapeutics in 2012. Parts of the campus were bulldozed in 2014.
Bottom: If the campus is razed in its entirety, it will be the latest in a string of demolished Rudolph-designed buildings.



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Building Blocks

When health crises shut down urban life, domestic spaces should step in to fill the gap, argues SO – IL cofounder Florian Idenburg.



Over several projects spanning the better part of a decade, the Brooklyn-based architecture firm SO – IL has sought to pose alternatives to the double-loaded corridor, a model that is prevalent in New York and other major cities. At the Las Americas complex in León, Mexico, SO – IL is finally realizing such an alternative.

Above: Within the complex, the single-loaded corridors are open to light, air, and greenery. **Right:** One of the building's two courtyards pictured amid construction.



Almost immediately, the pandemic threw our most cherished spatial habits into question. Six feet became the standard from which human cohabitation took its cues (goodbye spin class and dive bar), while stay-at-home orders forced us into potentially antisocial behaviors (hello #doomscrolling). It seemed as though the crisis would spell the collapse of the civic realm, until racial justice protests in late May and June put the lie to this idea. Shaking us out of our urban perches, these mobilizations offered a timely reminder of the importance of streets and squares to the health and maintenance of civil society.

The contradictory demands to privately isolate and publicly assemble have produced an especially charged dynamic, one that has revealed key fissures in the urban polity. Namely, that at the first sign of a health scare or public unrest, those with privilege retreated to beach houses and forest hideaways, while those without were stuck in dense housing, with little to no social outlet. The challenge of the current moment, then, is to create spaces that sustain the life of the city by safely keeping people in it. Doing so will require that architects deepen their un-

derstanding of the contours of urban life and the innumerable in-between spaces that regulate it. Windows, balconies, hallways, corridors, lobbies, portals—these, I suggest, are the modest ingredients of a more generous building condition.

Here, the old modernist credo of “light and air” still matters. More extensive, high-performing glazed openings and French balconies are places to start. Visibility and air circulation should be taken together, not made mutually exclusive. And at a time when enclosed spaces breed infection and fear, the street needs to find its way into apartment blocks. This may sound somewhat counterintuitive when limiting exposure is the goal, but it's pivotal to making the route from apartment to street and back less claustrophobic.

Housing conventions, however, conspire against these desiderata. In the double-loaded corridor, which is the de facto model for multifamily housing in New York and other major cities, developers found a financial sweet spot between cost, revenue, and code. With apartments straddling a central, often underlit, and surveilled walkway, the model offers a lugubrious atmo-

sphere and an impoverished “economy” for residents even as it raises profits for real estate developers. Can we imagine the journey from apartment to street as joyous and celebratory, filled with daylight, fresh air, and lush plants? Not a furtive flight but a languid promenade, with spaces for repose along the way?

The irony is that building laws implemented a century ago were crafted to ensure that “light and air” reached into every home. In New York, various tenement laws made outward-facing windows, proper ventilation systems, indoor toilets, and fire protection standard, and the energy code required homes to be more energy efficient. But while these regulatory frameworks do many things right, they intrinsically restrict innovation in building design.

Not only do fire codes, for example, prohibit the use of a sustainable material like wood for facades or structures, more to the point they limit windows in places (party walls, corridors) that would benefit immensely from them. The stipulations of an increasingly ambitious energy code make it impossible to produce nonclimatized intermediate spaces, such as winter rooms or log-

gias, inside apartments, which, owing to pro forma considerations, are overly deep and big and thus expensive. A host of other rules, meanwhile, discourage spatial connections to the exterior, like courtyards or semiexposed egress; moreover, the New York “street wall” hinders articulation and porosity in building facades. To top it all off, parking requirements take away ground floor space that could be given over to social functions.

With too many provisions irregularly enforced or defined, the city effectively suggests that approval is discretionary rather than mandatory. One can only imagine the hassle and, therefore, the cost and corruption associated with navigating this dense regulatory swamp—something planners are aware of but have not yet been able to overcome.

Beyond the proscriptions of code, New York's building culture is lethargic and immune to ideas even slightly outside the norm, the result being that dwelling conditions unacceptable elsewhere are here witlessly perpetuated. Narrow sites with limited frontage offer minimal light and produce dark circulation spaces and bathrooms with no air or ventilation. Types designed for traditional household configurations are



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COURTESY SO - IL



COURTESY SO - IL

SO - IL is developing the idea for implementation in the Brooklyn neighborhood of Gowanus. **Left, top and bottom:** A collaboration with the New York development start-up Tankhouse, 450 Warren Street offers a dense arrangement of apartment units linked together by three open-air courtyards.

Above: The building corridors ring two of these courtyards, while the third is given over to entry. The arrangement makes possible large terraces and gives every apartment outdoor exposure on three sides.

co-opted, leading to roommates sharing homes designed for families. The cost of building in the city is such that there is no incentive to build housing that isn't luxury. As the default is so universal, there is an unfamiliarity in the city with alternative models that perform amazingly well in other places. Most apartments do not have outside spaces, something that would be unthinkable in many European cities, where exterior balconies are mandatory and retrofitting older housing with them is big.

The idea—one that has animated our practice for some time—is that an imaginative use of basic architectural elements to open up, rather than close off, social interaction could improve not just housing conditions but city life itself. For years, we attempted to illustrate this strategy through housing projects for various contexts and were met with skepticism by developers at every turn. Partywall (2010), a design for student housing in a run-down area in downtown Athens, Greece, proposed a typological solution for small lots. By organizing the massing along the lot line and shifting the backyard toward the side, a more porous and soft urbanity emerges, allow-

ing a pedestrian-scale connection between city and home. Access to each dwelling unit is through an open, shared balcony, enhancing exchange between the building's youthful inhabitants. This project informed tiNY (2015), our entry to Mayor Michael Bloomberg's adAPT NYC competition, which was eventually won by NARCHITECTS / Monadnock Development. Our mini-tower's semienclosed circulation affords the units ample daylight from both the corridor as well as the balcony side, with floor-to-ceiling openings providing views and access to the exterior.

These earlier concepts are only just now beginning to bear fruit. In León, Mexico, a growing city a few hours northwest of the capital, we are overseeing the final construction stages of our Las Americas project, which we hope will serve as a launchpad for the type of opportunistic housing I've sketched out above. The 54 affordable two- and three-bedroom units are set within a generous building frame comprising open hallways, supplementary stairs, and shared interior and exterior spaces throughout. Windows run from floor to ceiling, and cross ventilation through the verdant court-

yards reduces cooling loads. Ironically, the complex is an adaptation of an earlier proposal for an at-market housing project in San Francisco's Tenderloin district that did not pencil out. Something too expensive for techies in one of the world's most overheated housing markets proves affordable for migrant workers in Mexico.

Finally, we are bringing these lessons home to New York City, where we have partnered on two apartment buildings with the development start-up Tankhouse. The further along of the two, 450 Warren Street, bordering the Gowanus neighborhood of Brooklyn, proposes 18 units with three-sided exterior access and an external circulation system through a series of courtyards. Getting this novel typology to work financially was a heroic effort on the part of Tankhouse founders Sam Alison-Mayne and Sebastian Mendez. "The capital markets that are required to support a project at an early phase (both debt and equity) are typically 'design agnostic' and have, at the time of acquisition, essentially figured out the project using conservative, easily understandable design intentions," Alison-Mayne explained to me. Recuperating what he

identifies as "loss-factor spaces"—the dark hallways and corridors or parsimonious lobbies that are the bane of most new housing developments in New York—is the galvanizing force behind our collaboration.

Innovation is hard in a rigid urban setting like New York, yet today's crisis might open up a portal of possibility. If the palette of allowable spaces and openings were expanded, we could imagine a finer urban gradient than the simplistic dichotomy of public versus private. We could embed our buildings with other areas for community and social engagement, even as we bring greater efficiency to individual units. A porous architecture with more courtyards, light, air, landscape, and connectivity to the city. Houses with multiple exposures and orientations, even on small or single-sided sites. Indoor/outdoor terraces, balconies, shared areas, stoops, entryways, exposed egress. These qualities belong to an expanded definition of luxury. This could be the moment.

Florian Idenburg is cofounder, with Jing Liu, of Brooklyn-based architecture firm SO - IL.



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Natural's Sorta in It

Heatherwick Studio and MNLA bridge structure and botany at Little Island.

Architect: Heatherwick Studio
Architect of record: Standard Architects
Landscape architect: MNLA

Construction manager: Hunter Roberts
Construction Group
Structural engineer: Arup
Marine contractor: Weeks Marine
Prefabricated concrete fabricators: Mueser
Rutledge Consulting Engineers (piles),
The Fort Miller Company (tulip pots)

New York Harbor, where the mighty Hudson River empties into the Atlantic, is one of the largest natural harbors in the world. It is at the same time a highly engineered environment. Drawing on both these facets—the natural and the man-made—is Little Island, which is transforming a former industrial jetty into idyllic public parkland, at a cost of \$250 million.

Little Island rests aloft the remains of Pier 55 on Manhattan's West Side on hundreds of stepped bulbous concrete piles. When it opens next spring, the hilly landscaped refuge will offer visitors walking trails, a public plaza, and a pair of performance stages, among other recreational spaces. Delineating these uses will be a smorgasbord of native flora, ranging from dozens of tree and shrub species to hundreds of types of grasses and perennials, all nestled atop the giant concrete “tulip pots.”

The London-based design firm Heatherwick Studio was awarded the project in 2013 following a design competition chaired by Barry Diller and Diane von Furstenberg. While the idea of a levitating park was plenty whimsical, the architects showed real concern about disturbing marine life habitats, for which Pier 55 functioned as scaffolding. Working with the New York firm Standard Architects, Heatherwick Studio determined to leave the decayed wooden piles in place, lofting the undulating park over them. The varying heights of the new concrete piles—the tallest reaches 62 feet above the Hudson—should allow sunlight to reach those very habitats.

To fill in the landscaping details, Heatherwick Studio tapped local firm MNLA, which had previously worked on retrofitting Piers 25 and 42, as well as designing Hudson River Park. Still, the topsy-turvy 2.4-acre park presented MNLA with a host of challenges, said founding principal Signe Nielsen. “What consumed the most time and effort—and [was] perhaps the most anxiety-producing—was ensuring that the design conformed to the shifting profile of the piles and the swoop of the concrete pots.”

But any landscape features and the requisite infrastructural supports would place a significant load on the concrete structural system. Anticipating this challenge, Heatherwick Studio and MNLA consulted with collaborator Arup, which used 3D parametric scripts and digital models to calculate whether too much weight was being put on any cluster of columns. For instance, the process helped guide MNLA to select and situate the plantings, which skew toward evergreens to avoid wind loads associated with dense canopies of foliage.

Although they appear to be of a piece, the constituent piles and pots were fabricated by different hands in different places. The engineering firm Mueser Rutledge designed the 267 piles from its New York office, then sent the digital files over to Coastal Precast's Chesapeake, Virginia, factory for production. Upon fabrication, the piles were delivered by

barge to Pier 55 and slowly driven into the bedrock over the better part of a year. (Gaps were left in the installation period to accommodate seasonal fish migration.)

As for the tulip pots (which actually comprise several distinct concrete “petals”), they were fabricated by The Fort Miller Company and two of its subsidiary companies out of Greenwich, New York. Hundreds of unique molds were needed to form the pot modules and scores of steel plates to fasten them together (in groups of four). All the parts were then transported to the Port of Coeymans, just south of Albany, for assembly by marine contractor Weeks Marine and subsequently placed in barges for shipment down the Hudson River.

After the superstructure came together on-site, MNLA moved ahead with plotting the landscaping elements. All that plant life required extensive drainage and soil bedding. MNLA devised a complex system that accounted for the extreme grade changes; rising sequentially from the concrete slab is a ¾-inch drainage mat, followed by an 18-inch layer of gravel, anywhere between 12 inches and 2 feet of geofoam, and, even more dramatically, 18 inches to 6 feet of soil. Downspouts located at the junction of four pot intervals prevent the park from becoming a pool.

MNLA sourced trees from three separate nurseries. The trees were tagged in the fall and winter of 2019 and planted this past spring and summer. According to Nielsen, each tree was weighed upon delivery to the site and, based on its size—the largest had a 12-foot root diameter and weighed 20,000 pounds—was assigned particular cranes for lifting and insertion. The Hudson is prone to severe winds, especially in winter, and the design and engineering teams countered the risk of trees uprooting by tying the root structures to a mesh of steel cables predrilled into the concrete slab.

“This is by far the best collaborative experience I have had in my career,” said Nielsen. “Every decision derived from continual dialogue and [was] designed to account for rising sea levels, I am totally confident [Little Island] will stay out of harm's way.” **Matthew Marani**



COURTESY MNLA



COURTESY MNLA

Top: Little Island rises above the decaying wooden piles of Pier 55.

Middle: Evergreen trees break winds coming over the river.

Bottom: The topsy-turvy profile allows light to infiltrate the marine life below the elevated park.

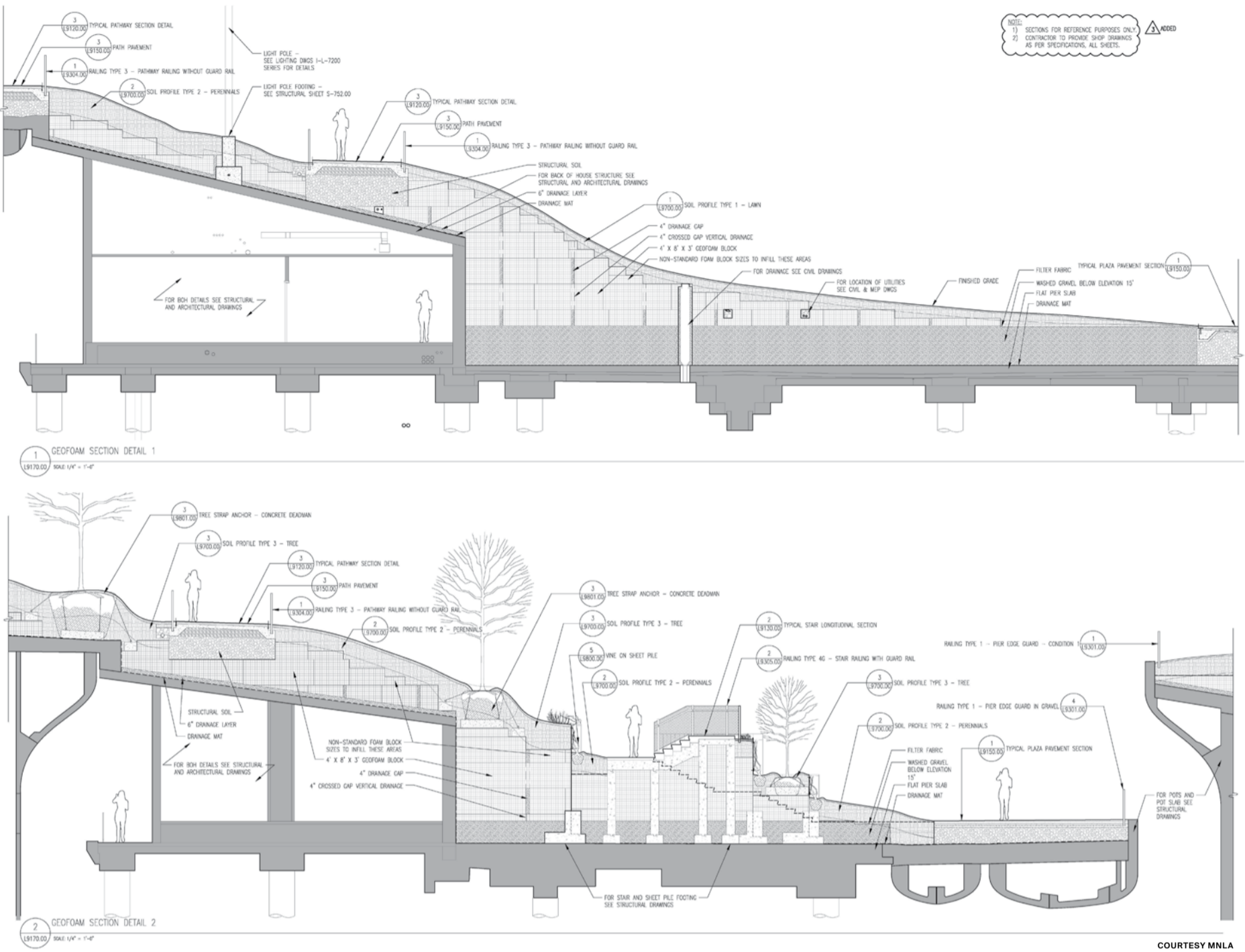


MICHAEL GRIMM



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COURTESY MNLA



Top: MNLA developed an extensive soil and drainage system consisting of a drainage mat, gravel, geofoam, and soil. The load was then analyzed by the structural team at Arup.

Left: The design rises upward on the north and northeast elevations to obscure the West Side Highway and frame views of the Statue of Liberty and the Manhattan skyline.

Above: Little Island is accessed by two newly constructed piers connecting to the waterfront esplanade.



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TERREMOTO

The California-based studio's members talk about designing landscapes that are both conceptual and principled. By Jack Balderrama Morley

California landscape firm TERREMOTO enjoys scrambling people's expectations of what landscape design can be. It does so partly by refusing to adopt a house style and instead opting for a disparate vision.

"We try to make projects that are about ideas and concepts, which allows our projects to look different," said TERREMOTO cofounder David Godshall.

What's more, Godshall suggested, the underlying order or systems in the firm's landscapes, gardens, backyard terraces, and more are often inscrutable.

"We as a civilization and as a design office need to acknowledge that perhaps the way we've been building our cities and building our gardens and making landscapes might be wrong, given the perilous state of the world. I think there is an opportunity to embrace illegibility and prioritize ecology over a design that's easy to read," Godshall said.

The 15-person office, led by Godshall

in Los Angeles and Alain Peauroi in San Francisco, has completed mostly small-scale residential projects and is now turning to larger work while maintaining its distinctive approach.

"We just had this interesting, wonderful heart-to-heart as an office where we decided we need to double down on ethics right now and not promise clients inappropriate things and not bow to the whims of rich people and really focus on building gardens that we believe in," Godshall said.

That doesn't mean that the studio is moving away from its conceptual foundations.

"You can make a garden that's conceptual and principled at the same time," Godshall said. "The two aren't mutually exclusive for any reason."

As TERREMOTO's recent work shows, the studio's members have no problem toying with the norms of their profession.



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1 Marinship

For the long-term temporary use of a lot in Sausalito, California, that might be more permanently developed in the coming decade, TERREMOTO deployed a landscape kit of parts informally around the site. The resulting space, which surrounds temporary artist studios in shipping containers, has a high-low duality. The loose array of potted trees, boulders, and sculptural benches scattered across a gravel bed is “like a Japanese garden that can float and drift as the site takes shape,” Godshall said. “And it’s also, to be honest, kind of a big parking lot.” The project began in 2018 and is still evolving.

2 Forest House

For this project from 2015, a client wanted a pathway to connect cabins in a Northern California forest where the ground is dust in the summer and turns to mud whenever it rains. The client wanted to disturb the precarious landscape as little as possible and also conserve materials. To accomplish such a delicate operation, “we realized that the only way to successfully create what we needed to create was to design and build it on-site,” Godshall said. “Even a good survey doesn’t capture the nuance of a forest floor.”

3 Test Plot

TERREMOTO began this self-funded project last winter in Los Angeles’s Elysian Park near the studio’s Echo Park office. With the approval of the city’s department of parks and recreation and in coordination with landscape maintenance company Saturate L.A. and the Citizens Committee to Save Elysian Park, the firm is rejuvenating small patches of a landscape “that was once native and ecologically meaningful and has since been destroyed and pillaged through human manipulation,” Godshall said. The work includes weeding out invasive species, not by using chemical herbicides but by relying on extensive manual labor. The group has started work on four plots so far with plans to expand to more this winter.

4 Platform Park

The owners of a mall in Culver City, California, next to the Los Angeles Metro’s Expo Line were interested in developing a nearby plot of land beneath the elevated light rail tracks into a usable public space. TERREMOTO designed Platform Park, as the space is now known, by embracing the tough site’s constraints. Plantings sit in raised beds above the poor-quality existing soil, and boulders are clustered around the railway’s concrete piers, as though the infrastructure were emerging from a natural rock formation. Appropriately for a site integrated into a regional transit network, the designers sourced most of the project’s materials from within 100 miles of the park, which opened last year.





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SHIFTING GROUND

WHETHER THROUGH FLOODS OR WILDFIRES, CLIMATE CHANGE IS INCREASINGLY PUTTING COMMUNITIES ON THE DEFENSIVE. NOT FOR NOTHING, THEN, THAT LANDSCAPE IS THE MOST EXCITING VENUE FOR ARCHITECTURE AND DESIGN TODAY.

Fire and fire control is a central point of study for UCLA's newly launched ArcDR3 (Architecture and Urban Design for Disaster Risk Reduction and Resilience) Initiative.

HONGCHI ZHANG

FRIENDLY FIRE

IT'S TIME FOR DESIGNERS TO
EMBRACE FIRE AS THE ECOLOGICAL
AND CULTURAL FORCE THAT IT IS.

Stephanie Rolley, a professor of landscape architecture at Kansas State University, maintains her 130-acre property through controlled burning.

Spurred by disasters like Hurricane Katrina and Superstorm Sandy, cities across the country have, over the past 15 years, learned to “live with water.” After more than a century of filling wetlands, damming rivers, and diverting streams and stormwater flows into concrete channels, public officials, influenced by a coterie of landscape architects and planners, have embraced the opposite strategy, investing in open space networks that use dynamic natural systems to slow, store, and absorb floodwaters.

Out of this shift has sprung an entire vocabulary: rain gardens, sponge parks, living shorelines, hydrologic urbanism. Inspired in large part by Dutch planners, many of these terms are now part of the American planning lexicon. The idea of living with water is mainstream. Now, there are glimmers of a similarly paradigmatic shift taking place around another destructive force: fire.

Wildfires have become a startling fixture

of life in the West. As I write, not one but three of the largest wildfires in California history are raging just outside of San Francisco, blanketing the city in smoke and giving the sky a preternatural, ghostly red glow. Smoke from still other fires has inundated Los Angeles, Portland, and Seattle, keeping pandemic-weary residents trapped indoors. In California alone, the fires have killed at least 25 people and gobbled up more than 2 million acres, an increase of 2,000 percent over 2019 figures. In Oregon, air quality dipped so low that it fell below the recommendations of the EPA's Air Quality Index. By mid-September, the smoke from the fires stretched from Hawaii to Newfoundland.

These increasingly predictable megafires—as wildfires that exceed 100,000 acres are termed—do more than endanger human lives and property. They damage ecosystems, threaten city water supplies, and, most worrisome of all, fuel a dangerous feedback loop.

In 2018, wildfires accounted for 15 percent of California's total carbon emissions. Those emissions exacerbate global warming, which in turn creates prime conditions for huge-scale wildfires.

As with catastrophic flooding, however, the causes of these deadly conflagrations are largely anthropogenic. Fire is a natural part of many ecosystems. From the oak woodlands of the California coast to the longleaf pine forests of northern Florida, these plant communities coevolved with fire, and periodic burns remain crucial to the health of keystone species. Native peoples across North America knew this well and used controlled burns to manage their lands. “Yosemite Valley was shaped not only by natural forces but by native people setting fires,” explained Irene A. Vasquez, a member of the Southern Sierra Miwuk Nation in California.

As a child, Vasquez learned about traditional plants and the benefits of what she

calls “good fire.” She had an awareness of the other kind; her father was a wildland firefighter. But Vasquez has since studied the effects of Indigenous practices like prescribed burns on native plants like tule, a marsh grass used in traditional Miwuk basketry. “Native culture, our traditional foods—they're all dependent on fire,” she said.

Frank Lake, a research ecologist with the U.S. Forest Service and a descendant of the Karuk tribe, put it even more succinctly: “For many indigenous people, fire is medicine.” Lake is also a cultural adviser to the Indigenous Peoples Burning Network. Historically, lower-intensity fires not only aided ecosystems but also reduced the risk of uncontrolled blazes, Lake explained. The dispossession and displacement of Indigenous peoples, followed by a century of fire suppression, has allowed forests to fill in, generating unprecedented fuel loads. Meanwhile, continued development on the fringes of cities and



An instructor initiates a fire crew in the practice of spotfire training.

suburbs, a zone known as the wildland-urban interface, or WUI, has combined with rising global temperatures and shifting precipitation patterns to make each fire season more dangerous than the last.

Design and planning professionals are not ignorant of the threat that wildfires pose to communities. However, many responses rely on defensive strategies deployed at the residential scale—using nonflammable materials and landscaping, for instance. There is mounting evidence that communities need to literally fight fire with fire, embracing periodic burns as a way to protect public health and safety. During last year’s devastating fire season in Australia, a period that became known as the Black Summer, wildfires consumed close to 45 million acres but were noticeably less severe in predominantly Aboriginal areas. As *The New York Times* reported, Aboriginal use of “cool burns,” i.e., low-intensity fires, helped halve the number of destructive wildfires.

Architects and urban designers can help cities think through the spatial implications of wildfires. This fall, UCLA participated in launching the ArcDR3 (Architecture and Urban Design for Disaster Risk Reduction and Resilience) Initiative, a new global design studio and series of symposia led by Hitoshi Abe, director of the school’s xLAB. The multidisciplinary partnership includes 11 universities located along the Pacific Rim and aims to establish “an international platform for the production and exchange of knowledge on environmental design that reduces the risk of recurring disasters.” UCLA’s Jeffrey Inaba, who with David Jimenez Iniesta is leading a studio focusing on fire, pointed out that wildfires have the potential to reshape large swaths of cities like Los Angeles, as land values in those areas that are most desirable but also wildfire-prone plummet. “The potential impact of fire is huge, not just to the hillsides but to all of L.A., because it’s going to mean a

reorganization of the hierarchy of land value in the city,” he said.

There is potential, in other words, for practitioners to begin treating fire the same way they do water—as an organizing framework. Call it pyrologic urbanism, or “living with fire.” Already, communities are waking up to the benefits of prescribed fire. In Ashland, Oregon, the fire department has partnered with the Nature Conservancy and the Lomakatsi Restoration Project to selectively burn portions of the forest immediately surrounding the city to reduce the risk of wildfire and protect the town’s water supply. In Tulsa, Oklahoma, controlled burns will soon be part of the maintenance regime for a 600-acre urban wilderness preserve master-planned by Michael Van Valkenburgh Associates (MVVA). And in Mariposa County, California, near Yosemite National Park in the foothills of the Sierras, Design Workshop is leading what’s thought to be the first-ever wildfire resilience

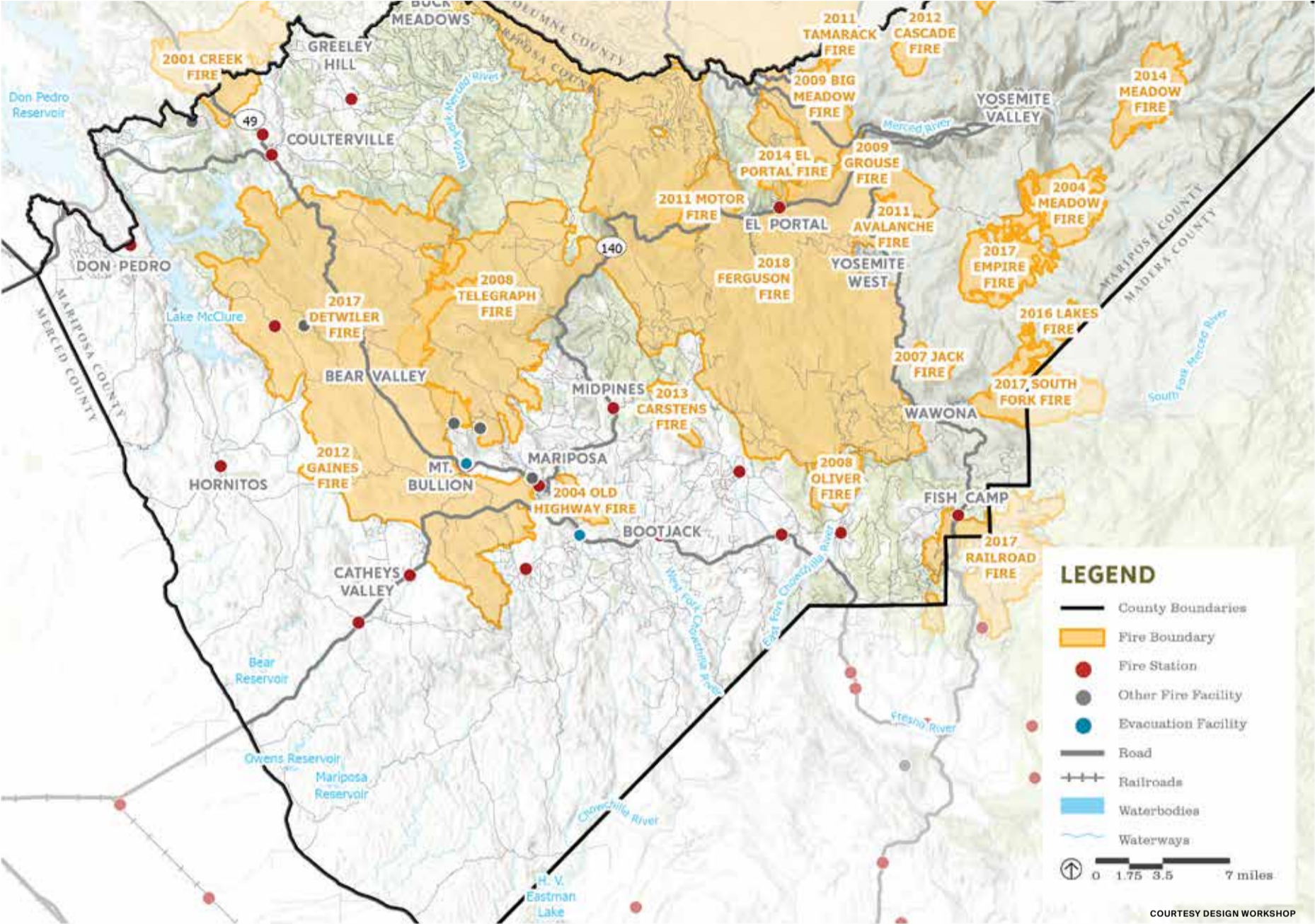
and recreation master plan, working with the Southern Sierra Miwuk Nation to weave wildfire mitigation strategies, including prescribed burns, into planning for new parks and trails.

“Communities are becoming more accustomed to the idea that fire, and incorporating it as a part of the maintenance and overall management of the land, is a really beneficial thing,” said Stephanie Grigsby, a principal in Design Workshop’s Lake Tahoe office, adding that rural communities in places like the Sierras have been overlooked in discussions about climate resilience. “A lot of climate planning work tends to be very coastal-oriented” and therefore ignore threats like wildfires. The Mariposa County master plan, a draft of which is expected by the end of this year, is an opportunity to “think about ideas of climate change and resiliency in a different way,” she said.

In Tulsa, fire became foundational to the master plan for the existing 600-acre Turkey

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WILDFIRE HISTORY & FIRE FACILITIES



The Lake Tahoe office of Design Workshop is heading up what’s likely the first-ever wildfire resilience and recreation master plan for Mariposa County, California.

Mountain Urban Wilderness Area when designers at MVVA discovered that fire traditionally played a critical role in the Cross Timbers ecosystem. The Cross Timbers is a unique landscape type that occurs where Ozark forest meets tallgrass prairie. Historically, areas like Turkey Mountain would have been a patchwork of forest glades and open grasslands, but thanks to decades of fire suppression, “what you have today is just a thick, thick, thick overstory of trees, mostly invasive,” explained Scott Streeb, a principal at MVVA.

MVVA plans to return Turkey Mountain to something more akin to its historic condition through periodic burns, beginning in 2021. The benefits are immense, Streeb said: “You get more plant and animal diversity, you control wildfires, you control invasives like cedars, and water quality is improved.” Plus, he added, the reality is that “if you don’t do it in a controlled way, someone—or nature—is going to do it in an uncontrolled way, and all of a sudden you’re

going to have 600 acres on fire.”

Prescribed burns aren’t suited only to large, undeveloped landscapes. In Kansas, where pasture burning is a common practice among ranchers and land managers—again, inherited from Indigenous people—the parks departments of cities like Wichita have been burning their public parks for years. “People are appreciating more and more that landscapes are complex and that what would seem to some to be detrimental is, in fact, helpful,” said Rod Harms, a custom homebuilder in Manhattan, Kansas, who, with his wife, Stephanie Rolley, a professor of landscape architecture at Kansas State University, has annually burned their 130-acre residential property since the mid-1990s.

Still, controlled burns present novel challenges, especially for the entities that implement them. “When you conduct burns it has to be a day-of decision,” Streeb said. “You really need to know the exact site conditions. So

your crew truly needs to be local and have the knowledge and the skill set so that they can just be ready to burn when it’s time.” In Tulsa, MVVA helped assemble a team of River Parks staff and volunteer firefighters and divided the site into 120 geographic units, which will be burned sequentially over five years to limit the impact of smoke on adjacent neighborhoods. Harms and Rolley, whose neighbors initially were “nervous as cats,” Harms said, have learned over the years that the best way to alleviate concerns (and prevent the local fire department’s phone from ringing off the hook) is to “bring a fire truck out and just park it on a highly visible street with its lights on. Then nobody calls.”

Fire-savvy design frameworks are not a substitute for efforts to reduce global carbon emissions or policies that disincentivize sprawl. But just as many waterfront parks function simultaneously as civic and stormwater infrastructure, open space networks can

reduce wildfire risk if managed appropriately. Even the smallest urban meadows can be seasonally burned, Streeb said, as a public demonstration, an inoculation against the idea that fire inherently brings devastation.

Perhaps most importantly, the reclamation of fire as an element of landscape management and a tool of urban design can bring new awareness of the value of Indigenous knowledge and support for cultural land management practices. “As we learn to live with wildfire, what is of benefit to Indigenous culture, as fire-dependent people, is also of benefit to society and the public,” said Lake, the research ecologist. “And where we find alignment, that’s where we’ll find traction and the ability to increase the pace and scale to really serve the needs of all.”

Timothy A. Schuler is an award-winning magazine journalist based in Honolulu.

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DESIGN CRIT

A NATIONWIDE “SUPERSTUDIO” AIMS TO BROADEN THE APPEAL OF THE GREEN NEW DEAL BEYOND THE LIBERAL COASTS.



MEGHAN L. E. KIRKWOOD

During the Great Depression, the policy makers pushing the New Deal sought out conservative areas most suspicious of the plan and signed them up for buckets of federal funding first, effectively turning detractors into supporters. The New Deal’s would-be 21st-century sequel, the Green New Deal (GND), will have to overcome these coalition-building challenges and many more if it’s to meet with anything resembling success. A sweeping new pedagogical project spanning 140 design studios at scores of colleges and universities hopes to enlist a rising generation of landscape architects and designers in this cause.

The starry-eyed hope of the Green New Deal Superstudio is that the design disciplines can broaden the appeal of the GND while tiptoeing along the partisan divide. Unprecedented in its scope and ambition, the Superstudio is an effort to coordinate design studios across the entire country for fall semester 2020 and spring semester 2021, focusing on conceptual and actionable projects that align with the Green New Deal’s mandate for economy-wide decarbonization and racial and economic justice. While the Superstudio is open to all built environment

design fields, it emanates squarely from the landscape architecture discipline, with key organizers including the Landscape Architecture Foundation (LAF), The McHarg Center at the University of Pennsylvania, the American Society of Landscape Architects (ASLA), the Council of Educators in Landscape Architecture, and the Center for Resilient Cities and Landscapes at Columbia University. The work produced during the Superstudio’s run will be featured at LAF’s fall 2021 summit.

The Superstudio accepts the bill introduced last year by U.S. Representative Alexandria Ocasio-Cortez and Senator Ed Markey as an RFP of sorts, defining the scope of the GND and asking for collaborations on projects. A critical factor, outlined in the Superstudio brief, is that the GND is aimed at “merging interests of blue-collar workers, climate activists, and frontline communities”—to move beyond the realm of elite technocrats and into the homes and businesses of people who often feel left out of the political process.

And no matter how alien the world of public policy can seem to designers, the sort of visualization and planning only they can provide is a critical part of building inroads into grassroots

groups that span the racial and socioeconomic diversity of America. The Superstudio is encouraging teams to work with policy makers and to ask them to promote schools’ plans as concrete examples of what the GND looks like in their communities. “The visual material is so visceral and tactile for them to engage with in ways that a 30-page policy brief or a piece of legislation is not,” said Billy Fleming, director of The McHarg Center.

In the short term, Fleming explained, on top of getting the attention of policy makers, one measure of success will be getting the plans that come out of the Superstudio into the hands of a wide swath of climate and economic justice activists, so that “Waterloo, Iowa, [can] compete with Brooklyn, New York, for the same pool of funding.”

That would be a boon to Jessica Canfield, a landscape architecture professor at Kansas State University. Her school is leading three GND studios, examining the legacy of redlining in Kansas City and on the city’s peri-urban edge, with a focus on food, energy, housing, and climate change. “The issues that we’re talking about transcend disciplines and borders,” she said. “[It’s] going to require

communities and politicians and professionals to come together and engage in dialogue and work in ways that might be atypical or even uncomfortable.”

Longer term, the Superstudio will have to overcome fierce opposition to building the sort of omnipresent public design client the GND demands, which would require the coordination of new political coalitions, which is itself a design challenge. For now, it’s left to the Superstudio’s organizers and academics to accentuate or downplay any partisanship.

“In the beginning, we suffered so much [wondering], ‘Should we call it the Green New Deal? Is it too political?’” said Barbara Deutsch, CEO of LAF. “But what do you call it if you don’t call it the Green New Deal? Is it sustainability? Yawn. We want designers to be facile with these ideas and how the process works and who the decision makers are so they can be more engaged and influential.”

“When we’re talking about these things in class, we don’t always say, ‘Green New Deal,’” said Charlene LeBleu, landscape architecture professor at Auburn University in Alabama. “We talk about decarbonization, environmental justice, jobs.” LeBleu and colleague Thom-



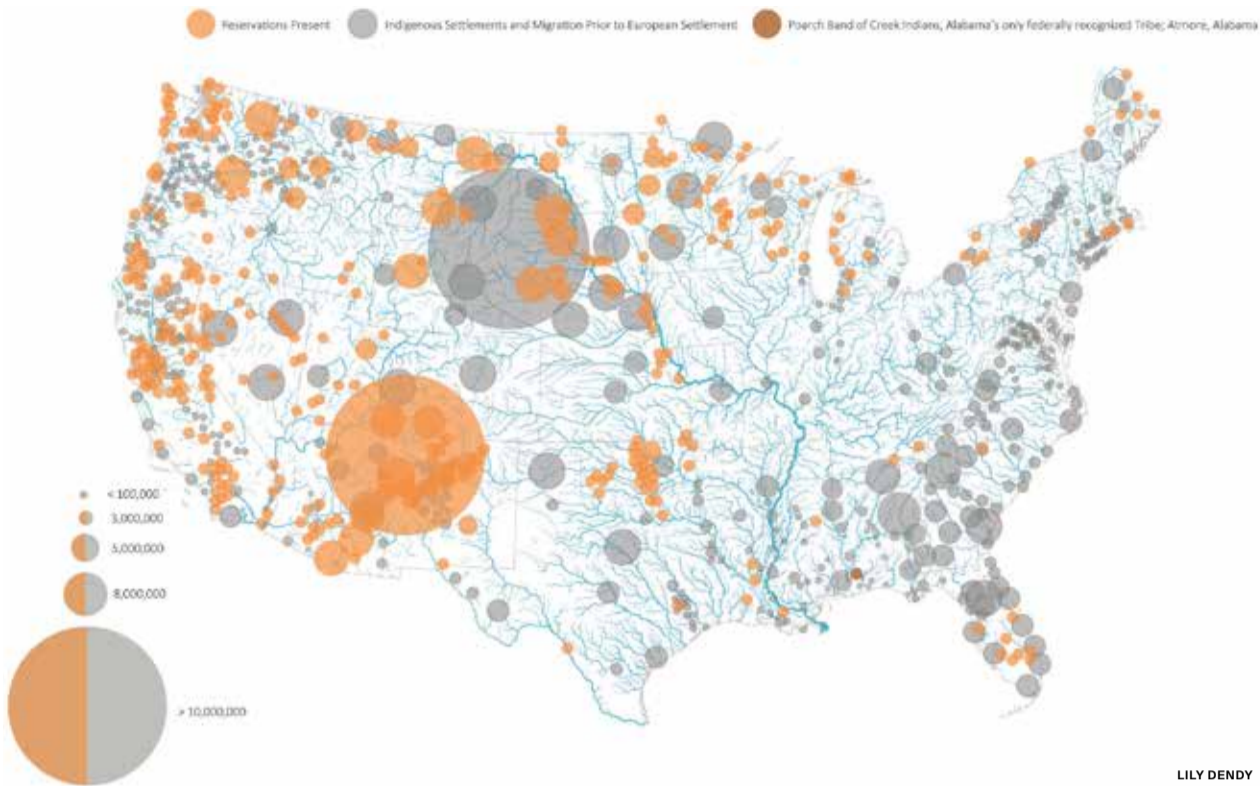
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Launched in July, the Green New Deal Superstudio enlists the participation of landscape architecture schools across the country. New graduates and design professionals may also participate in the yearlong initiative. The Superstudio will culminate in September 2021 with a summit. At the time of writing 140 studios had signed on.

Right: Auburn University studio instructors Charlene LeBleu and Thomas Hogge have tasked their students with examining how Auburn’s Donald E. Davis Arboretum might fit into the GND. Pictured: Auburn masters student Lily Dendy mapped how the share of Indigenous lands have diminished over time.

Previous page and below: Dominic Fischer’s studio at North Dakota State University will seek to reveal the connections between the state’s economy and ecology. Pictured: Extending across the North Dakota and Montana statelines, the Bakken oil fields were the site of a fracking boom several years ago. Bakken has since become a byword for the environmental disaster brought on by deregulation.



LILY DENDY



MEGHAN L. E. KIRKWOOD



MEGHAN L. E. KIRKWOOD

as Hogge’s studio is examining how Auburn’s Donald E. Davis Arboretum might fit into the GND, probing climate change, inequality, and (considering the school’s legacy as a land grant university that seized land from Indigenous populations) “bigger thematic questions of reconciliation [and] resilience,” Hogge said. From talking to a handful of participating academics, one gets both the sense that presenting the GND Superstudio in explicitly partisan terms is unlikely to benefit anyone and the contradictory realization that its work is already explicitly political. “We are inherently designing political spaces, not just ‘public’ spaces,” noted Hogge. North Dakota State University landscape architecture professor Dominic Fischer teaches in a staunchly conservative state, but he’s quick to point out a still-extant spirit of prairie populism that complicates this picture: To this day North Dakota maintains a state-owned bank and grain mill. “We have these histories here that we don’t really talk about,” Fischer said. His studio will examine the troubled intersection of North Dakota’s economy and ecology. One of Fischer’s design briefs con-

cerns the flood management of the Red River, which runs through Fargo, North Dakota, and Moorhead, Minnesota, the hope being that the studio will generate alternatives to the \$2.75 billion, 36-mile flood diversion channel currently underway. As in much of the Midwest, wetlands in the Red River Basin have been drained in favor of agricultural fields that don’t slow and retain precipitation but rush water downstream into population centers, causing catastrophic flooding. Instead of turning to mono-functional gray infrastructure, Fischer and his students will study how flooding can be managed by harnessing natural ecosystem services, such as remediated wetlands that can hold and slow floodwaters or plantings that can filter and purify water. Fischer especially wants to see how these processes can aid economic development. “If we’re going to spend \$3 billion, is there a way we can connect that to better jobs?” he said. Fischer presents this pedagogy through the concept of “economic sustainability,” he elaborated, as framed by Paul Hawken’s book *The Ecology of Commerce*, which posits an economy where the private market can work in harmony with ecological values. To align with

the priorities of North Dakota governor Doug Burgum (a former Microsoft executive), Fischer is also framing the GND as an innovation driver. “Making an ecologically sustainable economy is something innovative that would bring more stable and better-paying jobs,” he said. And precedent shows that designers are significant beneficiaries of economy-changing federal works. It’s common to think of the New Deal as something like a blue-collar jobs guarantee, but Fleming points to the dozen-plus government agencies that spent funds on landscape architects and architects, spelled out in Phoebe Cutler’s 1985 book *The Public Landscape of the New Deal*. To correct the grave errors of the New Deal (like leaving Jim Crow unchallenged in the South), Fleming said, the GND will “require the sharing of power with historically disempowered, disenfranchised communities at the state, local, and national level.” And this means changes in how design is practiced. Fleming added that this necessitates a pivot away from the traditional private-sector fee-for-service model, which predominates in all design professions and largely serves narrow, unaccountable interests, in favor of

a new coupling with a reinvigorated public sector and movements for racial, economic, and climate justice. “We should embrace the idea that a larger, better funded, more activist, more powerful state that’s attuned to the interests of the people in our communities does offer a lot of really exciting opportunities for designers,” he said. This would require commensurate changes in design school pedagogy as well, like teaching public management and political theory. “It’s not enough to be a good designer,” said LAF’s Deutsch. “You have to be an activist designer.” This activist model of practice is also a way to teach students to examine their own discipline. “I hope we’re teaching students to be critical of how they work, where they work,” Auburn’s Hogge said, “and who they serve.” **Zach Mortice is the web editor of *Landscape Architecture Magazine*, which is published by ASLA.**



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CLAIRE ANDERSON/UNSPLASH

Another Breach in the Paywall

Recent court decisions on the business of building codes are a boon for open-access advocates.

A Supreme Court decision last April strengthened the hand of organizations striving to broaden access to building codes. In a 5–4 ruling, the court found for the defendant in *Georgia v. Public.Resource.Org* upholding the right of a not-for-profit watchdog group to post the Official Code of Georgia Annotated online—not only the laws themselves, including building codes, but their nonbinding annotations, created by private contractor Matthew Bender & Co. (a division of research database firm LexisNexis) and adopted by the state legislature’s Code Revision Commission.

The reasoning involved the authors’ role working on behalf of the legislature: Though the annotations are not themselves law, their adoption by the legislature defines them as the product of a public process. They are also essential to practical interpretation of the law, as they include judicial decisions and indicate where certain sections of the text have later been found unconstitutional. As a related case involving UpCodes, a San Francisco firm whose products put searchable codes online and include a Revit add-in, awaits an appellate verdict, the *Georgia* precedent helps clarify the border between private property and the public domain, with implications for architects using or considering such products as well as advocates of nonmonetized availability of code information.

Standards development organizations (SDOs) such as the American Society for Testing and Materials (ASTM), the International Code Council (ICC), the National Fire Protection Association (NFPA), and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers have long treated both codebooks and annotations as their

intellectual property, subject to copyright and paywalls (see “The International Code Council Goes to Court Over Free Access to Building Codes,” *AN*, July 9, 2019).

Under the Constitution’s copyright clause, Congress protects intellectual property “[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries,” making copyright a temporary instrumental monopoly rather than an absolute, unlimited right. *Wheaton v. Peters*, the Supreme Court’s first ruling on copyright, ensured that the court’s own opinions could not be copyrighted by a reporter. The new *Georgia* decision, citing *Wheaton*, among other precedents, establishes both the codes and annotations as “government edicts,” in the legal vernacular, outside the scope of copyright.

The ICC, plaintiff in a suit currently before Justice Victor Marrero of New York’s Southern District, *International Code Council v. UpCodes*, interpreted the *Georgia* decision as actually favoring its copyright, describing the government-edicts doctrine as “a narrow exception” to copyright protection that does not apply to its international codes (I-Codes), which are used or adopted by 50 states, 12 other nations, and the United Nations. In a statement provided by director of communications Madison Neal, the ICC said, “In our view, the Georgia decision means that courts considering the issue of privately authored model codes ultimately should find that the Code Council’s I-Codes are copyright protected because they are authored by private parties who lack the authority to make or interpret the law.” Georgia’s annotations met

the decision’s two-part test (“copyright does not vest in works that are (1) created by judges and legislators (2) in the course of their judicial and legislative duties”); the ICC’s position is that its I-Codes, “regardless of whether they are later adopted into law,” differ qualitatively from Georgia’s annotations and do not meet the two-part edicts test. “Copyright protection and the ability to sell the model codes,” the ICC statement continued, “is integral to ICC’s ability to fund its code development mission.”

The *Georgia* precedent, say other commentators involved in this and related suits, solidifies the public-domain status of construction standards and supports the position that accessibility is a weightier public priority than material incentives. Carl Malamud, the technologist/author/activist who founded Public Resource in 2007, has posted government documents for decades, including the U.S. patent database, the Securities and Exchange Commission’s Electronic Data Gathering, Analysis, and Retrieval (EDGAR), U.S. Court of Appeals back files, and multiple state codes. His group’s victory over the state of Georgia, he noted, is the culmination of a prolonged battle over a principle he finds self-evident: that “the law in the United States belongs to the people.”

“The way I have done things for a long time,” Malamud recalled, “I don’t want to sneak around and put it on BitTorrent and Tor. I bought the Georgia code, I scanned it, I posted it on the internet archive and on my website, and I sent a letter to the attorney general and the Speaker of the House of Georgia with a little peanut thumb drive that had their full code on it and said, ‘You will be pleased to know that the citizens of Georgia now have

full access to the Official Code of Georgia Annotated.’ Did the same thing in Mississippi. Got nasty letters back from both.... Georgia sued me, and they actually accused me of the practice of terrorism in their district court complaint.”

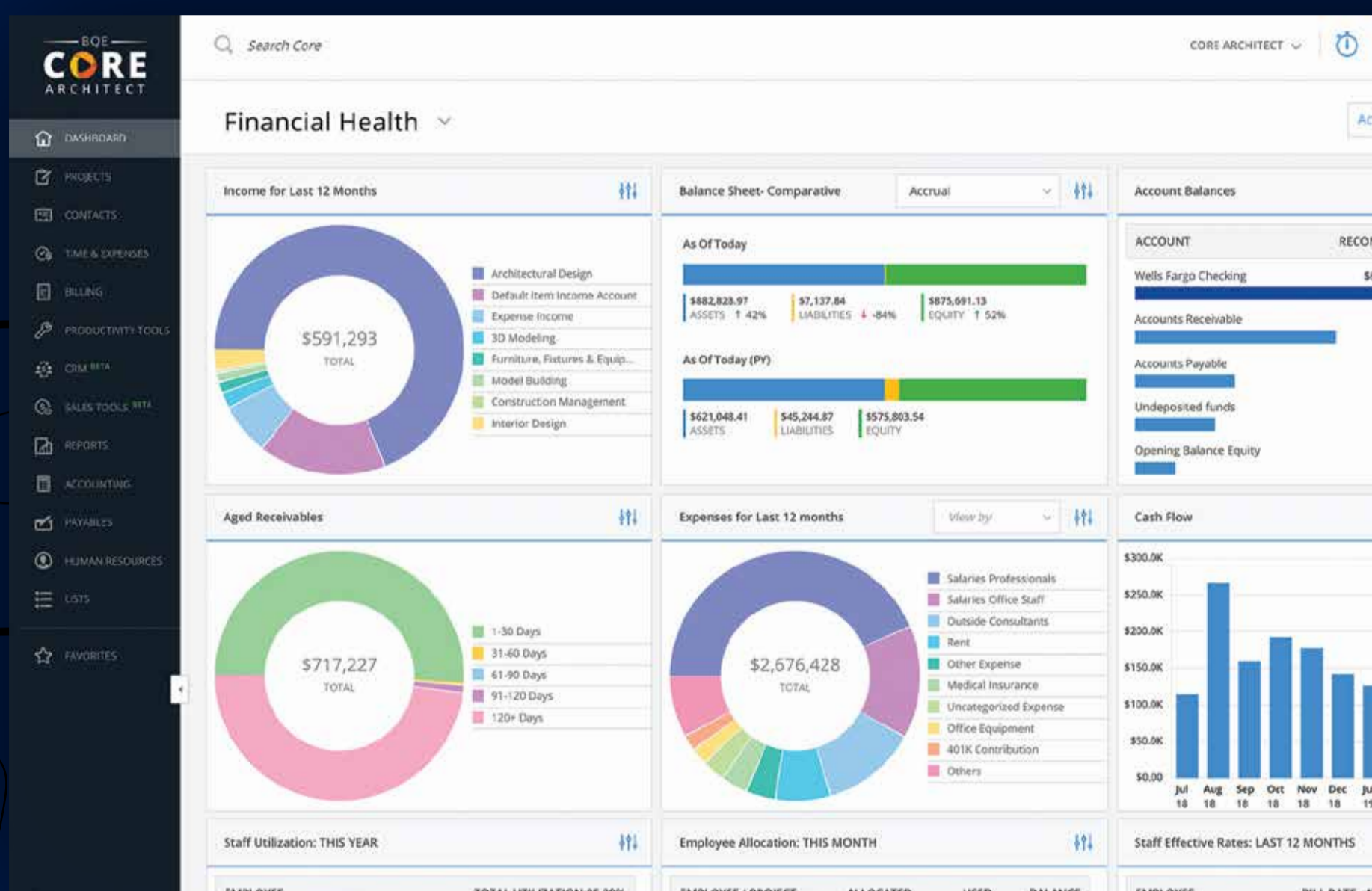
After back-and-forth verdicts, including a pro-copyright decision at the district level and a pro-public-domain decision in the 11th Circuit Court, the case reached the Supreme Court; Public Resource and its counsel acquiesced to certiorari, reasoning that the issue deserved the highest court’s attention. “Georgia brought in 13 attorney generals with them,” Malamud recalled. “Most of those states are Lexis clients, so there’s no surprises to the lineup there. We had 19 amicus briefs on our side; we had the Cato Institute and the Center for Democracy and Technology, so we had right and left. We had every librarian [and] library association in the country, we had distinguished law professors, we had...the director of the Office of the Federal Register” and others. Amicus briefs on the petitioners’ side represented a comparable range of parties, including the ASTM and other SDOs, Matthew Bender, the National Association of Home Builders, and the Copyright Alliance. Chief Justice John Roberts wrote the majority opinion in a decision that split by age, not ideology: The five youngest justices, including Republican appointees Neil Gorsuch and Brett Kavanaugh, ruled for Public Resource, the four oldest for Georgia.

The decision to deny copyright to the annotations surprised some parties who potentially stand to benefit from this precedent. Scott and Garrett Reynolds, cofounders of UpCodes, view *Georgia* as “actually a much



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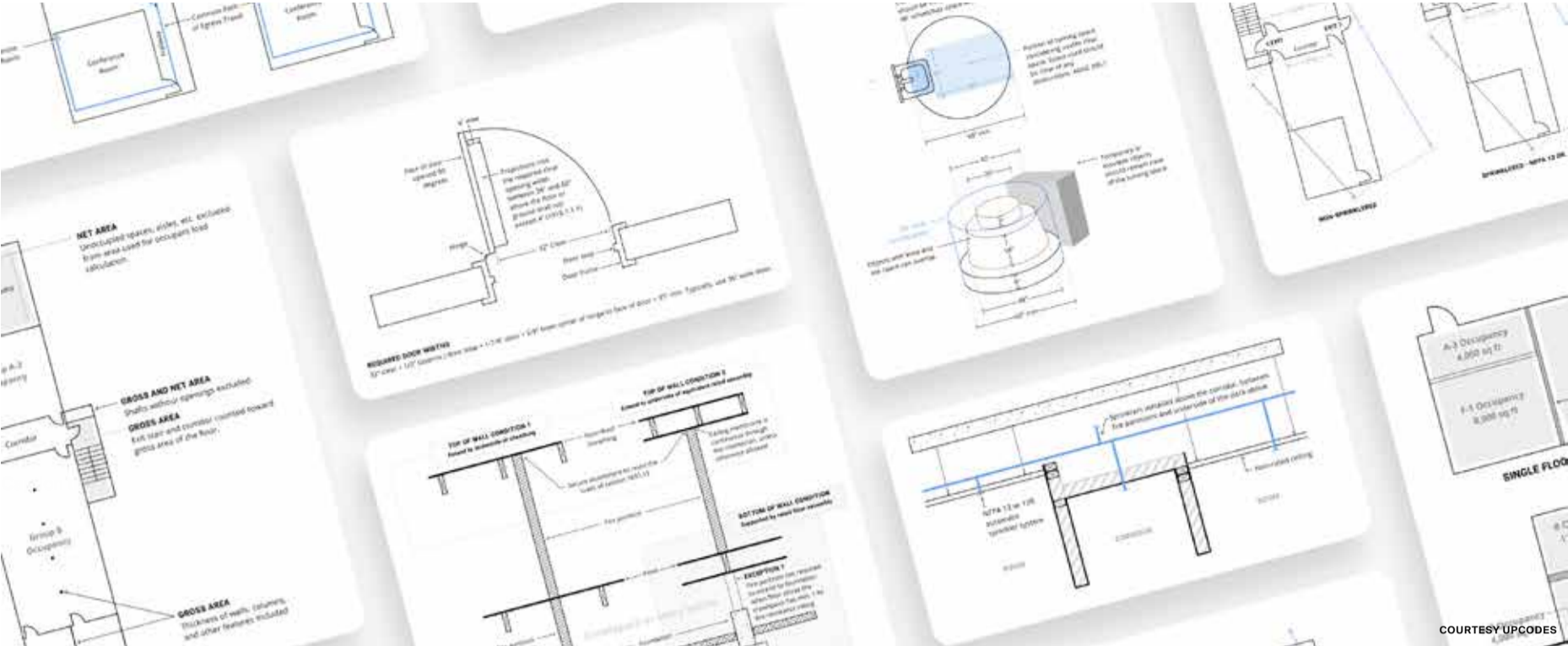
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more ambitious case than our own,” Scott Reynolds said. “All we argue is that the law is in the public domain.... It’s really helped our legal fight, but I think where it’ll have the most impact is on other initiatives and innovations in the space.”

Justice Marrero gave open-access proponents a second victory in May, dismissing the ICC’s motion for summary judgment (along with UpCodes’ cross-motion) and sent the case forward for trial, with comments reaffirming that the codes are in the public domain. “The court is not persuaded that ICC’s need for economic incentives can outweigh the due process concerns at issue here, especially knowing that ICC will not stop producing its model code in the event of a contrary holding,” wrote Marrero.

“People aren’t scared of the ICC anymore,” commented Garrett Reynolds, “and I think part of that is because the ICC, or the organizations that became the ICC, have litigated this case before” and lost, particularly in *Veeck v. Southern Building Code Congress International*, addressing model codes incorporated into law. (The ICC was created in the 1994 merger of three SDOs: the Building Officials and Code Administrators International, the Southern Building Code Congress International, and the International Conference of Building Officials.) “This culture of fear of the ICC in the past has prevented a lot of initiatives [from] getting off the ground that people never even know about,” he continued.

The ICC responded to the Southern District’s dismissal of summary judgment within nine days by suing UpCodes on different grounds: false advertising. Approximately two dozen flaws in UpCodes’ publicly posted codes, the ICC held, invalidated the firm’s claim that its site keeps information up to date and accurate. This assertion may backfire, the Reynoldses contended. “We have now found over 400 sections on their site where they have either an error or they haven’t kept the code up to date,” noted Garrett. In an online repository of court documents and its own commentary on the cases, UpCodes has posted detailed responses to the charges in the second suit.

“When ICC tries to assert themselves as a gatekeeper of the code,” Scott Reynolds said, “they’re attempting to put all the onus on them, so then they would need to create the systems to keep things up to date—and from what we’re seeing on the site, they simply don’t have that ability or haven’t been able to meet that requirement. So the opening up of the laws into the public domain allows companies like our own to come in and specialize in certain areas, like creating tools that can update the codes.”

The ICC’s position that impingement on codebook copyrights will harm its revenue



Top: UpCodes puts searchable codes online and includes a Revit add-in. **Above:** Public Resource, a 501(c)(3) nonprofit corporation, released the Official Code of Georgia Annotated on its website.

enough to impair the code development process, the Reynoldses added, does not square with its own Internal Revenue Service filings; nonprofits like the ICC, a 501(c)(6) business league, report tax information publicly with IRS Form 990. “You can go see this in their Form 990: Most of their revenues come from program services, not from selling books,” said Garrett. “Consulting, certification, evaluation, things that don’t rely upon limiting access to the law—that’s where they make most of their money.” The ICC’s revenue rose steadily through 2018, the last year for which a 990 is available; UpCodes launched in early 2016. The statement by the ICC describes many forms of code-creation expenses borne by itself and other SDOs (hosting hearings, maintaining IT platforms for public comment, editorial and publication costs), while not indicating proportions dependent on copyrighted material or supported by other sources.

Malamud called attention to a different aspect of the SDOs’ publicly reported finances, finding their executive compensation unusually high for nonprofits. “Pull up the Form 990 for ANSI [American National Standards Institute] and you’ll see not only \$2.2 million for the president.... Look at the rest of the executives. You’ll see half a dozen making a half a million a year or hundreds of thousands, in a nonprofit, and it’s a \$40 million-a-year operation. They spend 20 percent of their revenue compensating senior managers, which is outrageous.” (Public Resource is

a 501[c][3] supported substantially by the U.K.-based Arcadia Fund; Malamud’s own compensation appears on its 990 in the low six-figure range.)

He believes the SDOs’ financial well-being is unthreatened by open access. “If you’re NFPA, you can sell the National Electrical Code, but you’re the official creator of the National Electrical Code; you can sell certification and handbooks and redlines and special training; you have the gold seal of all 50 states of the United States saying the National Electrical Code is the Bible. If you can’t monetize that without putting the damn thing behind a paywall, you’re just not trying real hard.”

“The purpose of copyright is to create incentives for creators,” said senior staff attorney Mitchell Stoltz of the Electronic Frontier Foundation (EFF). “When you’re talking about laws, and in particular building codes and so on, that incentive’s not needed. Governments [and] municipalities...have a need for building codes and thus an incentive to see that they are created and updated. And SDOs have an incentive to have their standards adopted as well, because it gives them prestige and the ability to sell some follow-on materials; it gives them influence. And so they don’t need a copyright incentive either.” Standards development is largely performed by uncompensated volunteers from industry and government, he continued, “which suggests that claims about why these organizations need to paywall their standards in order to fund their creation

[are] simply not true.”

SDOs continue to defend their copyrights energetically, arguing that they are essential to code development and thus construction integrity. Georgia’s charge of “terrorism” is not the only example of heated rhetoric around these disputes; NFPA president and CEO Jim Pauley, for example, has attacked the public-domain movement for encouraging “people flooding the market with counterfeit versions of our standards, riddled with inaccuracies and peddled for profit without regard to the harm they cause to public safety.” “You’re hearing that in the UpCodes case,” Malamud added, boiling down the ICC’s position to “Oh my God, if we let these guys get away with it, this is the end of public safety. Babies will die if you rule in favor of UpCodes.”

The more realistic outcome, Malamud suggested, is that code access and interpretation will come within reach of more students, members of the general public, and communities burdened by codebook costs. “The County of Sonoma spends \$30,000 every code cycle buying the California codes that they have to enforce. It’s a huge budget item,” he said. “So we’re fighting this concept that public safety standards with the force of law must be available. And we’re doing it on a global basis, and we’re hoping to establish that these technical laws are just as important as sedition or income tax or the other laws that are on the books. And in many ways, they are our most important laws. Most people don’t care about sedition; everybody cares whether electricity in their house is safe or not, whether they can build a deck according to code, or whether the building inspector is full of it when the building inspector comes and says, ‘No, you can’t do that.’”

The EFF represents Public Resource in another pending case, *American Society for Testing v. Public.Resource.org*, which may hinge on questions of fair use under copyright rather than government-edict status. After an appellate hearing in his case, Malamud recalled, he was able to explain his argument in one minute to an Atlanta bartender, whereas the opposing position took about 20; she intuitively grasped it (and comped his drink). “I think that’s significant,” said Stoltz, despite the intricacies of the legal process, “because the simple explanation is the correct one here, and the simple explanation is also the one that courts have mostly reached.” After years of conflict in this area, the fat lady has yet to sing, but she appears to be warming up.

Bill Millard is a contributor to AN, Oculus, Architect, Metals in Construction, LEAF Review, ICON, Content, and other publications.



Tech+: Rising Complexity

Join AN’s latest virtual conference to learn about the promising ways technology is changing the way we build.

On October 22, AN will spotlight the latest innovations in design and construction at “Tech+: Rising Complexity.” A continuation of our national Tech+ conference series, the daylong virtual symposium will feature case studies and expertise from AEC firms across the country. The program is cochaired by Dr. Negar Kalantar, an associate professor at California College of the Arts (CCA) and a codirector of its Digital Craft Lab.

Two hour-long keynotes—delivered by Arup director/Americas digital services leader Fiona Cousins, and Clark Pacific modular segment lead and SCI-Arc professor Greg Otto—will anchor the program. Cousins will draw on her experience at Arup to discuss how to overcome barriers to introducing digital innovation to the construction site. Otto, meanwhile, will present novel advances in prefabrication construction he is overseeing at his places of work. Both keynotes will be followed by moder-

ated discussions, in which audience members will have the opportunity to drill down into the subjects with greater specificity.

The remainder of the program will unfold across three panels, each one examining a different facet of the construction process. First up in the morning is “Breaking Ground: Advances in Construction and Project Management,” which will highlight tech-led construction strategies and project management tools that promise enhanced economic and environmental efficiency. The midday panel, “Digital Toolbox: Tracking Progress on the Cloud,” will offer practitioners ways of cutting down on time spent reviewing drawing sets and 3D-building models by applying more intuitive, cloud-based management practices. Finally, the afternoon panel, “Gaming the System: Harnessing Graphic Engines at 9 DeKalb,” will look behind the scenes of an unlikely collaboration between a major New York

architecture firm and a San Francisco-based video game software developer.

Participants can expect insights from thought leaders at architecture firms SOM, SHoP, and Sasaki; engineering firms Walter P Moore and DLR Group; construction firms Sciamme and Lendlease; and software development companies BQE Software and Unity Technologies. Additionally, sponsor representatives will be on hand throughout the day to discuss new construction tools and their potential applications. (See the full sponsor list below.)

“Rising Complexity” is the latest installment of Tech+ Virtual and showcases the most promising AEC technological innovations, from smart building systems to the use of graphics engines to navigate and render projects. Much like AN’s national conference series, Tech+ Virtual puts practitioners and manufacturers in the same room, giving them unparalleled opportunities for exchange. You

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For further information regarding “Tech+: Rising Complexity,” visit the following URL: <https://techplus.co/events/virtualconference20/>

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Tunable Lighting

Tunable lighting provides kind-to-the-eyes illumination that can elevate interiors anywhere.
By Gabrielle Golenda



D3 Downlight Ketra

This family of downlights comes in fixed, adjustable, and wall-wash versions. All are capable of full-spectrum color and can deliver white, saturated, and pastel light. It is now available with an adapter kit for thick ceilings and in four trim options: white, black, bronze, and silver.

ketra.com



BRM9L TUWH Linear Acuity Brands

This tunable white fixture creates cycled, or circadian, lighting that mimics the shifts of daylighting. It can be used to create scenes and modes aligned with activities that require occupants to be more focused, calm, or active.

acuitybrands.com



Cadiant Dynamic Lighting Experience Cree Lighting

This LED daylighting product delivers the dynamic sensory experience of being under a natural sky. A wall-mounted touch screen provides control over multiple luminaires with dawn, morning, midday, afternoon, and evening lighting settings, as well as manual control for tailored illumination.

creelighting.com



SpectraSync Hubbell Lighting

Whether for hospitality, residential, or education, this tunable lighting system is designed to meet the requirements of a variety of applications, needs at different times of the day, and the preferences of those within a space. Hubbell's diverse lighting brands connect with controls that offer fixed tunable color and circadian lighting options.

hubbell.com



Ledalite ArcForm Signify

This recessed fixture has a batwing-shaped body that creates symmetrical light free of color shifts, hot spots, and glare. Equipped with AccuRender, it provides CRI 90 illumination at the WELL Building Standard.

signify.com



WoodWorks USAI Lighting and Armstrong Ceilings

LED manufacturer USAI Lighting and ceiling purveyor Armstrong Ceilings paired up to launch integrated downlight solutions for WoodWorks ceiling systems. The result is a pre-fitted slat ceiling with integrated downlights. It is offered with static white light as well as Color Select and Warm Glow Dimming technologies that allow users to personalize lighting color and temperature.

usailighting.com



Home Automation

Turn on, tune in, and connect appliances, plumbing, heating/cooling, lighting, and more—at the touch of a button (or via an app)! By Gabrielle Golenda



Wi-Fi Smart Lock August

August’s updated smart lock has Wi-Fi capability and a voice assistant. It attaches directly to dead bolts so homeowners can keep their existing keys. The device gives users control over who is coming and going with remote locking and unlocking, as well as digital guest keys.

august.com



July

This Wi-Fi-enabled air conditioner can be controlled from anywhere and scheduled to turn on anytime via an app or a voice assistant. It comes in three styles.

july.ac



radiant Smart Plug-In Outdoor Switch, Wi-Fi Legrand

This outdoor circuit switch safely removes power from its line when it has a potentially dangerous ground current in excess of six milliamperes. Designed with ground-fault circuit interrupter function, the switch protects fuses and circuit breakers that otherwise cannot protect people from electrical shock.

legrand.us



Ring Smart Lighting Ring

Ring’s Smart Lighting can be remotely controlled anytime with an app. It is available in floodlight, path light, step light, and spotlight applications. Its connected motion sensor can link to Ring video doorbells and cameras for added security.

ring.com



DoorCam 2 Remo+

This wireless over-the-door camera streams continuous live video and stores footage for up to three days. It alerts smart-phones or tablets when it detects motion. The Remo+ app provides two-way talk and remote access for up to five users.

remoplus.co



Family Hub Samsung

In addition to turning on lights and unlocking doors, the Family Hub allows users to create shopping lists, share notes and photos, play music, stream content, and more. This year’s update includes AI-enhanced cameras inside the refrigerator and new meal planning and recipes customized to personal preferences.

samsung.com



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In 2020, precast concrete has never looked better as a building envelope option thanks to innovations brought to the North American market by AltusGroup and its member partners.

AltusGroup is an international collaboration of advanced precast concrete companies dedicated to speeding up and perfecting the development of precast technologies that improve the built environment. AltusGroup members work together to bring advanced technology to market, then compete against one another for work.

Founded in 2003 under a “co-opetition” model, AltusGroup companies engineer, manufacture, validate, and market precast innovations such as the award-winning CarbonCast line of products, ultrathin and light ARCIS precast prestressed panel technology

for rainscreens, and Graphic Concrete technology for placing unique images and distinctive patterns on concrete faces.

AltusGroup’s advanced precast technologies deliver real performance benefits to architects and owners.

Energy Efficiency

Continuous insulation delivered by C-GRID carbon fiber grid shear connectors in CarbonCast enclosure systems allows users to realize the full R-value of insulation and avoid thermal transfer through walls. Less energy is required to heat or cool buildings, and less expensive HVAC equipment can be used depending on specification and design.

Iconic Aesthetics

Precast is the ideal palette to express your aesthetic vision. Choose from a wide range of aggregates and pigments, finish treatments, articulations, formliners, and embedments such as thin brick, tile, terra-cotta, and stone. And you can use Graphic Concrete to impart any image, pattern, or design permanently to the precast face.

Unparalleled Resilience

No building material is more durable or longer lasting than precast. An investment in precast technology and design pays dividends for decades. Your vision lasts longer with precast.

Superior Life Safety

Not only does precast provide exceptional occupant comfort during normal conditions, it is an ideal exterior for extreme weather and a changing climate. Unlike combustible materials such as wood and plastics, concrete is inherently fire resistant. You can rest assured that occupants of your building are safe and secure when surrounded by precast concrete.

Advanced technologies from AltusGroup precasters give you the versatility, performance, and resilience that make precast concrete more viable and valuable than ever before.



Top: Capitol Federal Hall, University of Kansas School of Business in Lawrence, Kansas. Architect: Gensler. Precaster: Enterprise Precast Concrete

Bottom left: The Pearl Apartments in Tampa, Florida. Architect: Place Architecture. Precaster: Metromont

Bottom right: Murphysboro High School Performing Arts Center in Murphysboro, Illinois. Architect: Hurst-Rosche. Precaster: Enterprise Precast Concrete

The Ideal Exterior Envelope for Any Application

A Healthy, Beautiful Exterior

The 44-bed Marshfield Clinic Health System Hospital and Cancer Center is a “micro tertiary hospital” in Eau Claire, Wisconsin, that provides specialty health care in a smaller space. The architect decided early in the project design that precast panels could serve as a primary building element and as an artistic expression of the adjacent winding river and rolling hills of the site. Each CarbonCast panel is composed of a series of undulating planes that cast varying shadows as the sun moves along the sky. These deep shadows avoid the standard monolithic precast appearance and are similar in the vertical plane of the panels to the natural shadows moving across the hills and river.

Honoring Lady Liberty

The one-of-a-kind Statue of Liberty Museum and Statue of Liberty Secondary Screening Facility in New York leads precast structures into a new level of strength and beauty. Merging building into landscape, the design eschews formality in favor of an asymmetrical composition that embraces its dramatic setting and changes of form as visitors move around it. The vertical patterning of the CarbonCast concrete sandwich panels was inspired by the Palisades cliffs along the Hudson River with a deeply textured, irregular pattern, which creates dramatic shadows. The high thermal mass and continuous insulation of the concrete panels contribute to maintaining interior temperatures and minimizing the effects of outdoor temperature swings.

Staying in Style

The full-service Hilton Des Moines Downtown convention hotel is located in its city’s downtown and connects to the city’s skywalk system. The simple, modern exterior materials and composition are inspired by the state’s agrarian landscape and are enhanced by the unique lighting elements. The CarbonCast Insulated Architectural Cladding envelope is 10 inches thick with 3 inches of integral continuous insulation. This composite wall panel system utilizes the C-GRID carbon fiber shear grid connector system, and the insulated wall panels are supported from the cast-in-place structure and post-tensioned slabs. The three exterior integral precast colors have an acid-etched finish that exposes similar fine aggregates to create a consistent appearance between the white, gray, and charcoal colors.

Anything but Industrial-looking

Manufacturing buildings are utilitarian structures. Though many in the last half-century have been constructed with precast concrete, most designers are not given the budget to take advantage of precast’s unique properties to add enhanced architectural details. The Universal Alloy Light Press Plant in Ball Ground, Georgia, is an exception. The CarbonCast panels have painted vertical accent stripes that align with sawtooth tops. This creates a 3D illusion that the panels project in and out like an accordion, making for an eye-catching facade. The insulated wall panels have a three-inch face wythe backed up by three inches of expanded polystyrene (EPS) breadboard with a four-inch back wythe of concrete for an R-value of R-12. It’s energy performance delivered with flair.



COURTESY ALTUSGROUP



COURTESY ALTUSGROUP



JACIA PHILLIPS



COURTESY ALTUSGROUP

Top: Marshfield Clinic Health System Hospital and Cancer Center in Eau Claire, Wisconsin. Architect: HDR. AltusGroup precaster: Gage Brothers

Above left: Statue of Liberty Museum and Statue of Liberty Secondary Screening Facility in New York. Architect: FXCollaborative. AltusGroup precaster: High Concrete Group

Above right: Hilton Des Moines Downtown in Des Moines, Iowa. Architects: DLR Group, RDG Planning & Design. AltusGroup precaster: Enterprise Precast Concrete

Left: Universal Alloy Light Press Plant in Ball Ground, Georgia. Architect: Wakefield Beasley & Associates. Facade Design: Querkraft Architects. AltusGroup precaster: Metromont

Educational Facilities Have Never Looked Smarter



Beautiful Performance

The 310,000-square-foot Sandy High School is located in the growing community of Sandy, Oregon. The design team and school district were seeking to incorporate as many sustainable features as possible in the new school. For a portion of the exterior walls, they found that the most cost-effective and efficient option was CarbonCast High Performance Insulated Wall Panels. The 140 CarbonCast panels gave them a fully insulated, low-maintenance, and aesthetically pleasing option for the exterior of the building. The precast panels also had to incorporate the Sandy Style design standard of the local community. The designers created a custom stone liner at the base of the panels and a shiplap liner for the upper portion.

A Strong Business Case

While terra-cotta tile had been embedded in smaller, non-insulated panels on a handful of projects in the United States, the Henry W. Bloch School of Management in Kansas City, Missouri, was the first large-scale application on conventional, fully insulated sandwich wall panels. Budget was one of the driving factors. Cladding was originally conceived as a conventional rainscreen system with a steel frame and an air barrier. A comprehensive cost analysis by the general contractor concluded that in this application a traditional rainscreen would cost 25 percent more than terra-cotta cast in an insulated precast sandwich panel. A five-color, random blend terra-cotta tile pattern was installed in the precast production



facility, and the precast provided an excellent rain barrier. Carefully recessing the precast joints concealed them in a way to give the illusion of a traditional rainscreen. The panels incorporated three inches of extruded polystyrene (XPS) insulation to achieve an R-Value of about R-17. Extensive preconstruction testing by the precaster validated the panel concept.

Living Proof of Precast's Benefits

To meet the project's truncated schedule and to move labor and staging from a tight urban site to the manufacturer's plant, the design/build team for the Piedmont Central Student Housing and Dining Hall in Atlanta, Georgia, opted to use precast concrete for

this 1,150-bed, over-250,000-square-foot project. The structure was erected by a six-person crew; loads were delivered just in time, and only the space to park two loads was required on the job site. The total precast structure used an innovative design with CarbonCast load-bearing, thermally efficient insulated wall panels for the exterior. The wall panels had an R-value that exceeded the energy code. Their back sides were hard-troweled and painted, and were the building's ultra-durable interior surface. The precast structure was erected in six months, allowing the general contractor to jump-start all trades and interior finishing to complete the dormitory for the start of the school year.



Above left: Sandy High School in Sandy, Oregon. Architect: Dull Olson Weekes Architects. Precaster: Knife River Prestress

Above right: Henry W. Bloch School of Management, The University of Missouri-Kansas City in Kansas City, Missouri. Architect: BNIM. Precaster: Enterprise Precast Concrete

Left: Piedmont Central Student Housing and Dining Hall in Atlanta, Georgia. Architect: Cooper Carry. Precaster: Metromont

The New Standard in Precast Exterior Walls

By using C-GRID carbon fiber grid as a shear connector between the inner and outer wythes of concrete, CarbonCast High Performance Insulated Wall Panels from AltusGroup precasters deliver exterior wall panels with continuous insulation and full composite action.

Thermally Efficient

CarbonCast High Performance Insulated Wall Panels are composed of two concrete wythes separated by continuous insulation. With very low thermal conductivity, the high-strength C-GRID connectors help deliver a sandwich wall panel with insulation values up to R-37 depending on the thickness and type of foam insulation. Continuous insulation helps you meet ASHRAE 90.1 requirements and, more importantly, save energy to heat and cool the building, delivering all-year performance.

Full Composite Action

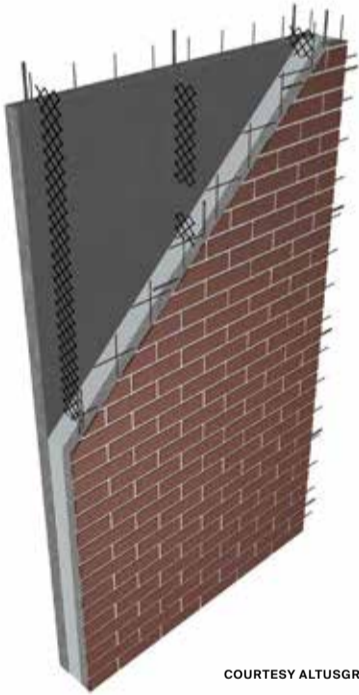
Extensive research has proven the outstanding load-bearing performance of CarbonCast High Performance Insulated Wall Panels. The C-GRID shear trusses can render a panel with full structural composite action. For example, a panel with 4 inches (102 millimeters) of insulation between two 2-inch (51-millimeter) concrete wythes will behave structurally as if it were an 8-inch (203-millimeter) solid panel.

Additional Features and Benefits

- Energy efficient and lighter in weight. They use less concrete and more insulating foam to reduce energy use and lighten panels—and deliver superior insulation values for enhanced thermal efficiency.
- Superior at load bearing. Load-bearing vertical panels can eliminate the cost of perimeter columns and increase usable floor space.
- Dry, mold-free, and noncombustible. CarbonCast panels have no voids or cavities where air or water can combine to support mold and mildew growth. The inherent fire resistance of concrete provides additional peace of mind.
- Designed to deliver comfort. Very little sound is transmitted through the walls, limiting the intrusion of exterior noise. And the lack of cold spots provides a more comfortable environment.
- Prefinished on the inside wall. They can be ready for paint or wall covering and are ultra-durable.
- Code compliant. They have an evaluation report (ESR#2953) from ICC Evaluation Service.
- Aesthetically versatile. Select from hundreds of pigments, aggregates, textures, surface treatments, formliners, and embedded finishes such as thin brick, medallions, and tiles to meet nearly any design vision. Or create an iconic facade with our exclusive Graphic Concrete imaging technology.
- Integrated fenestration. Work with AltusGroup precasters to preinstall windows in window-punched panels for exceptional speed and quality.



JACIA PHILLIPS



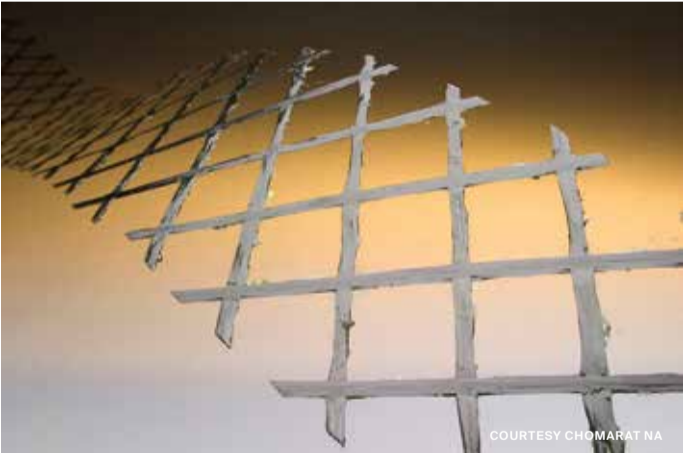
COURTESY ALTUSGROUP



COURTESY SPANCRETE



COURTESY MID-STATES CONCRETE INDUSTRIES



COURTESY CHOMARAT NA

Top: Globe Life Field for the Texas Rangers in Arlington, Texas. Architect: HKS. Precaster: Enterprise
Above left: Rendering of CarbonCast High Performance Insulated Wall Panel with EPS insulation and thin brick finish
Above right: Outagamie County administrative complex in Appleton, Wisconsin. Architect: McMAHON. Precaster: Spancrete
Bottom left: Hempstead High School Addition in Dubuque, Iowa. Architect: FEH Design. Precaster: Mid-States Concrete Industries
Bottom right: C-GRID wythe connectors used in CarbonCast precast walls

Forty Percent Lighter. All the Benefits of Precast.



The only thermally efficient precast architectural panel on the market utilizing carbon fiber, CarbonCast Insulated Architectural Cladding offers weight reductions of about 40 percent compared with solid, six-inch-thick precast and is engineered to deliver insulation values of R-8 or more. With a design based on the extensively tested CarbonCast High Performance Insulated Wall Panel, it is intended for horizontal and vertical placement as a non-load-bearing spandrel or column cover.

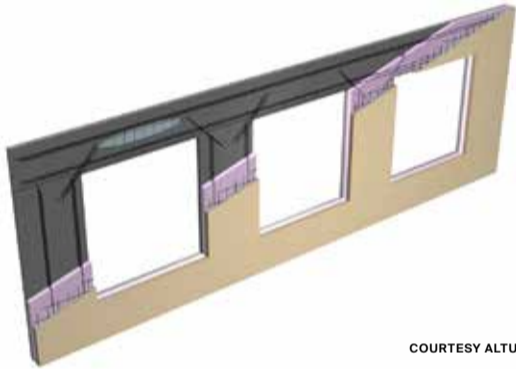
Lightweight (and Durable) Precast Walls

CarbonCast Insulated Architectural Cladding features inner and outer wythes 1¼ inches thick or thicker (depending on reveal depth) for a total concrete thickness of 3½ inches or 40 percent less concrete than a conventional

6-inch precast panel. The wythes sandwich a layer of insulation, usually 2 inches or more depending on R-value demands. Less weight allows you to save significantly on superstructure and foundation, transportation, and crane costs.

Continuous Insulation for Energy Saving

C-GRID shear trusses connect the inner and outer wythes of concrete. CarbonCast Insulated Architectural Cladding can also incorporate C-GRID into the exterior face should concrete cover requirements such as deep reveals limit the use of welded wire mesh. The negligible thermal conductivity of C-GRID enables continuous insulation to meet ASHRAE 90.1 requirements and deliver insulation R-values starting at R-10 with two inches of XPS insulation.



Above: 371 East Paces Ferry Medical Office Building in Atlanta. Architect: Rule Joy Trammell + Rubio. Precaster: Metromont.
Top right: Rendering of CarbonCast Insulated Architectural Cladding with XPS insulation.
Right: The Heights, Montclair State University, in Montclair, New Jersey. Architect: PS&S. Precaster: High Concrete Group



Get Started on an Iconic Finish



Above: Dollar General distribution center in Bessemer, Alabama. Architect: LEO A DALY. Precaster: Metromont.
Top right: South Christian High School in Byron Center, Michigan. Architect: AMDG. Precaster: Kerkstra Precast.
Middle right: Millwright Building in Minneapolis, Minnesota. Architect: Ryan Companies. Precaster: Gage Brothers.
Bottom right: Murphysboro High School Performing Arts Center in Murphysboro, Illinois. Architect: Hurst-Rosche.



COURTESY KERKSTRA PRECAST



COURTESY GAGE BROTHERS



COURTESY ALTUSGROUP

The versatility of precast concrete gives architects almost unlimited creative freedom with color, texture, articulation, embedded materials, and imagery options on a surface renowned for its durability and resilience. Additionally, the controlled manufacturing environment enhances quality by giving manufacturing teams a predictable setting in which to integrate the finish into the exposed wall or enclosure surface. Precast also limits the presence of on-site trades and additional construction personnel, which is especially important amid the pandemic and with distancing requirements in effect.

Components

The primary components of concrete—cement, aggregate (sand and stone), and water—have a major impact on the finish. The aggregate and cement color can be selected to achieve both functional and aesthetic results. Pigmentation refers to additives to the mix design that incorporate color integrally. Aggregates further affect the look of the

final product. Coarse aggregate yields a rough, bulkier texture and more sedimentary appearance, while finer aggregate yields a smoother look and feel. Aggregate color, composition, and texture can vary widely based on geographic availability. Color generally refers to a surface-level treatment, such as an applied paint or stain, applied to the precast surface in the factory or in the field.

Treatments

A number of processes after panel fabrication can modify the precast finish and express the mix design. Sandblasting yields a softer, coarser concrete surface. Finishes of exposed aggregate give a rough, pebble-like look to the surface and are achieved by application of a chemical retarder. Polishing, as the name suggests, leads to a smooth, shining, reflective surface similar to granite. Acid wash involves using acid and high-pressure water to blast and etch the surface, leading to a sugar cube look, a smooth sand-textured surface that resembles limestone or sandstone. Multiple finish

techniques can be incorporated into a single project.

Processes

Another group of finishes originates during the casting process: those created by forms and formliners. A formliner sits inside a precast form and displaces wet concrete in the mold to the appearance of the form. Typically fabricated from polymers, formliners impart enhanced texture, such as a repeating pattern or single design element, and add depth to the panel face. A variety of more conventional architectural forms like reveals, bullnoses, cornices, and other projections enable architects to integrate accents, relief, and patterns into precast facades.

Embedding or Treatments

A third group of precast finishes comprises embedded materials or veneers. These include thin brick, stone, terra-cotta, and tile that are cast into the panels during fabrication. By

incorporating these finishes during casting, architects can avoid the use of pins, anchors, or connectors that would be used to secure the stone to the substructure. Precast offers a faster, more durable, and sustainable method to incorporate these finishes into a facade.

Graphic Concrete

Available exclusively from AltusGroup precasters, Graphic Concrete allows you to place any image, design, or pattern on the precast surface to render a stunning, iconic look. The technology transfers custom or stock patterns as a surface retarder via a membrane placed at the bottom of the form. Concrete is cast atop the membrane. After the concrete is cured and extracted from the form, the retarder is washed away with a high-pressure washer, revealing an image that results from the contrast between the fair-faced and the exposed aggregate surface. It is just as low maintenance and permanent as any of the other precast concrete finishes.

Your Go-to Resource for Advanced Precast Technology: altusprecast.com



Top: CarbonCast products have undergone more than 15 years worth of third-party research to verify their performance characteristics.
Bottom left: AltusGroup offers a collection of technical briefs on topics ranging from sustainability to acoustics and insulation.

AltusGroup brings together the best and the brightest of the precast concrete industry to advance precast knowledge and innovation. We readily share our knowledge, insights, and research with the architectural community to enhance the way precast improves the built environment.

We invite the building team to learn from our materials and collaborate with us at altusprecast.com/technical-resources.

Continuing Education

- We offer two 1-hour webinars (1 AIA LU/HSW) through CE Strong:
- **Specifying High-Performance Precast: Creative Aesthetic Possibilities.** Learn how to unleash the full creative, aesthetic possibilities of architectural precast concrete exteriors. The webinar showcases the vast finish options of precast concrete, including surface treatments, pigments, color/aggregate selection, formliners and other articulations, embedded elements such as thin brick and tile, and graphic imaging technology that imparts any image or pattern to the face.
 - **Composite Design for Efficient High-Performance Precast Enclosures:** Learn how high-performance, fully composite insulated sandwich wall panels can be designed to reduce energy costs, enhance life safety, and streamline the job site, especially amid COVID-19 restrictions.

We also offer additional self-paced online courses and engaging lunch-and-learn presentations nationwide upon request.

Technical Briefs

- Our technical briefs have been developed to deepen your knowledge and understanding of precast concrete exteriors. Topics include:
- Precast Wall Systems and the Evolution of Sustainability
 - ASHRAE 90.1 and Accurate R-Value Determination for Precast Wall Panels
 - Insulation Options for CarbonCast Enclosure Systems

- Thermal Efficiency and Eliminating Thermal Transfer
- Enclosure Systems for Educational Applications
- Designing for Military Applications

ICC-ES Documentation

CarbonCast High Performance Insulated Wall Panels manufactured by AltusGroup precasters have an evaluation report (ESR#2953) from ICC Evaluation Service (ICC-ES), providing evidence that the CarbonCast wall panels can meet code requirements. CarbonCast High Performance Insulated Wall Panels with C-GRID shear truss connectors and rigid foam insulation were tested in accordance with ICC-ES Acceptance Criteria AC422. The report was originally issued by ICC-ES in February 2014, then updated and reissued in February 2020.

EPDs from PCI and CPCI

Through our membership in PCI, we provide an environmental product declaration for insulated wall panels and architectural precast manufactured by Canadian Precast/Prestressed Concrete Institute, National Precast Concrete Association, and Precast/Prestressed Concrete Institute members.

Research Reports

- Nearly \$3 million in independent laboratory testing has affirmed CarbonCast's performance characteristics. More than 30 reports are available through AltusGroup precasters including:
- CarbonCast axial load and flexure performance plus full-scale load testing
 - ASTM E119 and NFPA-285 fire tests
 - CarbonCast 50-year wind load fatigue test
 - Missile impact test
 - C-GRID tensile strength and cross-shear strength
 - C-GRID behavior under sustained loads and fatigue behavior
 - Effect of temperature on C-GRID used for shear transfer

Technical Brief

Precast and resilience: a comprehensive look

The concept of sustainability in construction has been undergoing constant redefinition.

Originally, much of the debate about sustainable building products revolved around the environmental friendliness of the manufacturing process. Where did the raw materials originate? Were they virgin materials or recycled? How much energy was used in their manufacture and transport to the job site? And how much waste was generated during production and installation? *continued*

Reduce Energy Costs, Simplify Construction, and Improve Life-Safety using Precast Exteriors with Composite Design and Carbon Fiber Technology

CE|STRONG™ Live Webinar

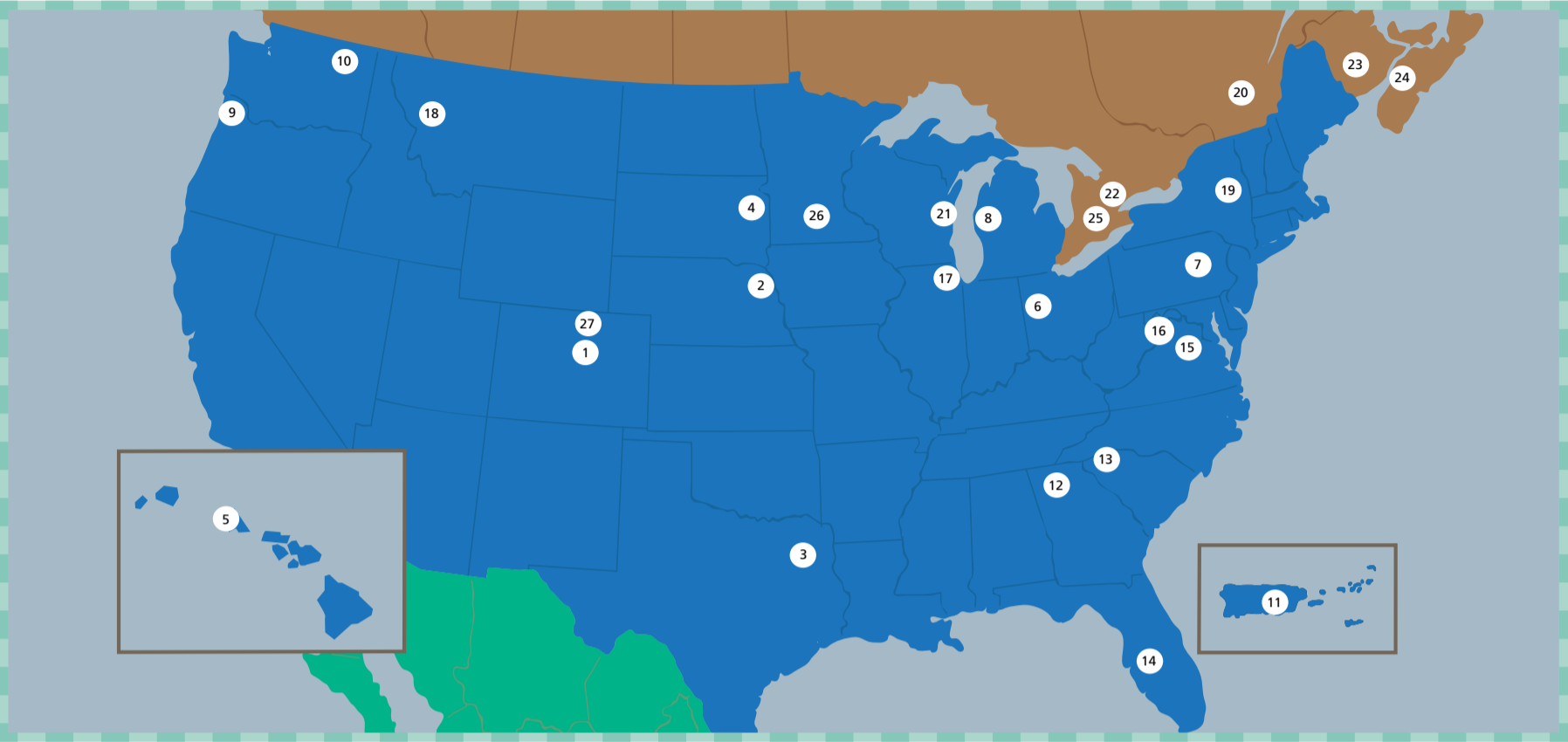
Rethink Your Exterior

From factory fabrication that limits on-site trades to thermally efficient designs that save on energy costs, there’s never been a better time to specify precast envelope systems from AltusGroup members.

Our precasters and Innovation Partners are committed to advancing precast enclosure technology in North America. You can count on our members to deliver exceptional engineering assistance, helpful insight, and outstanding customer service.

We’re constantly exploring and researching new technologies—such as integral windows, carbon footprint reduction options, and ultra-high-performance concrete (UHPC) thin panels—to bring even more options to the architectural community.

Now is the time to rethink your exterior enclosures. AltusGroup members have the solutions you need—and we simply build better.



EnCon—Stresscon
enconunited.com

1 Colorado Springs, CO

Enterprise Precast Concrete
enterpriseprecast.com

2 Omaha, NE
3 Corsicana, TX



Gage Brothers Concrete Products
gagebrothers.com



4 Sioux Falls, SD

GPRM Prestress
gracepacific.com/subsidiaries/
precastprestress-concrete

5 Kapolei, HI



High Concrete Group LLC
highconcrete.com

6 Springboro, OH
7 Denver, PA



Kerkstra Precast
kerkstra.com

8 Grandville, MI



Knife River Prestress
kniferiver.com

9 Harrisburg, OR
10 Spokane Valley, WA



Marxuach Precast Solutions Corp.
mpsprecast.com

11 San Juan, Puerto Rico



Metromont Corporation
metromont.com

12 Hiram, GA
13 Greenville, SC
14 Bartow, FL
15 Richmond, VA
16 Winchester, VA



Mid-States Concrete Industries
msprecast.com

17 South Beloit, IL



Missoula Concrete Construction
missoulaconcrete.com

18 Missoula, MT



Oldcastle Infrastructure
oldcastleinfrastructure.com

19 Selkirk, NY



Saramac
saraschok.com

20 Terrebonne, QC



Spancrete
spancrete.com

21 Valders, WI



Spring Valley Corp.
springvalleycorp.com

22 Ancaster, ON



Strescon Limited
oscoconstructiongroup.com/
concrete/precast/walls

23 Saint John, NB
24 Bedford, NS
25 Brampton, ON



Wells Concrete
wellsconcrete.com

26 Wells, MN
27 Brighton, CO



INNOVATION PARTNERS

ALP Supply
alpsupply.com

JVI
jvi-inc.com

Master Builders Solutions
master-builders-solutions.com

Command Suite
finfrock.com/technologies/
command-suite

Kawneer
kawneer.co

Meadow Burke Products
meadowburke.com

Graphic Concrete
graphicconcrete.com/en

Lehigh White Cement
lehighwhitecement.com

Owens Corning
owenscorning.com

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COURTESY ARTEMIDE

This year’s outdoor products special section highlights some of the premier objects and projects changing the way we live, work, and relax in the open air. Whether you’re looking for an avant-garde lighting system or an inspiring adaptive reuse precedent, the following pages are sure to provide a breath of fresh air.

HANOVER® PORCELAIN PAVERS



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MEDITERRANEAN COLLECTION,
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NEW!

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WOODLAND COLLECTION
BARNWOOD GREY



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Providence River Pedestrian and Bicycle Bridge

Architect: INFORM Studio
Location: Providence, Rhode Island

Structural engineer: Buro Happold
Civil engineer: CDR Maguire
Lighting designers: INFORM Studio, CJL Engineering
Lighting manufacturers: Wagner (Lumenlinear), Philips (ColorGraz), SENSO (Cutlass)
Railing fabricator: Future Fabricating
Wana wood panel fabricator: SITU Fabrication
Ipe decking supplier: General Woodcraft
Furniture fabricator: Millwork One

Though the gently curving wood surfaces of the Providence River Pedestrian and Bicycle Bridge evoke the ships that once sailed into this New England port, the bridge is physically connected to the history of a much less picturesque form of transportation: Interstate 195. That's because the new crossing stands on the granite piers that supported one of the highway's viaducts before the interstate was rerouted in the 1990s. Rather than spend \$2 million to remove the old piers, the city used them for a new pedestrian bridge, which opened last year and links two new waterfront parks on the edges of the Jewelry/Innovation District and the Fox Point neighborhood.

Detroit- and Chicago-based practice INFORM Studio designed the bridge to be

more than just an urban link. Built-in benches, a wildflower garden, and terraced seating leading down to a lower-level deck all invite passersby to pause, gather, and take in the surrounding cityscape.

The designers chose ipe decking for horizontal surfaces because of its durability, important in a high-traffic environment, and wana wood for the bridge deck's vertical siding because it's flexible enough to handle those surfaces' complex curves. Even so, wana wood is resistant to steam bending, so craftspeople at SITU Fabrication used a kerfing technique to make members more flexible. All of the siding is segmented into 250 demountable modular panels that can be easily removed for maintenance of the under-

lying structure.

Other details—like the custom railing crafted by Michigan-based Future Fabricating and the atmospheric lighting using Wagner, Philips, and SENSO products—add to the bridge's warmth and distinct sense of place.

"The bridge has become a visual symbol of renewal within the city," said INFORM Studio principal Cory Lavigne, who was the design director and project architect. "[It] has become a precedent for several cities considering the economic feasibility of reusing abandoned infrastructure to reconnect and revitalize their communities." **Jack Balderrama Morley**



STEVE KROODSMA/KROO PHOTOGRAPHY



STEVE KROODSMA/KROO PHOTOGRAPHY



STEVE KROODSMA/KROO PHOTOGRAPHY

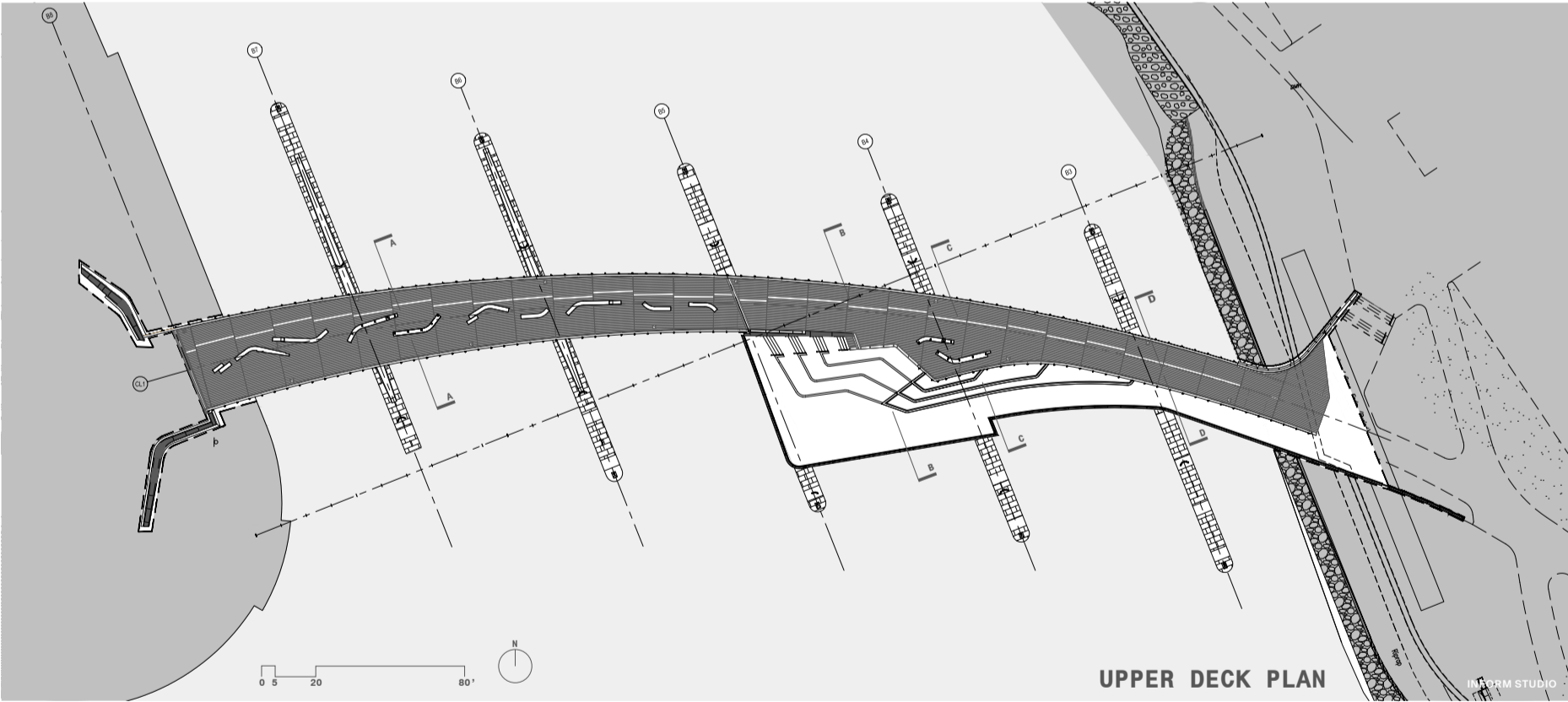


THE GARDEN ROOF® ASSEMBLY
HELPING YOU HARNESS THE POWER OF RAIN™





STEVE KROODSMA/KROO PHOTOGRAPHY



UPPER DECK PLAN

INFORM STUDIO

Facing page, top:
The bridge connects to the Jewelry/Innovation District, which has been revitalized after I-195 was re-routed.

Facing page, bottom left: Parametrically designed wana wood panels clad the bridge's sides.

Facing page, bottom right: The design team created custom railings and built-in seating.

Top: The bridge flares to include terraced seating with a wild-flower garden.

Above: The bridge reuses the old granite piers of a demolished I-195 crossing.



THE GARDEN ROOF® ASSEMBLY
HELPING YOU HARNESS THE POWER OF RAIN™



Nonporous, antislip surfaces

Pedestrians don’t have to tread carefully on these engineered surfaces. Designed with lightly textured surfaces for traction, they are elegant and surprisingly smooth outdoor solutions. *By Gabrielle Golenda*



Dekton Grip+
Cosentino

Dekton Grip+ can be used in residential, hospitality, and commercial projects. It comes in 16 colorways and will gradually be incorporated into other tones in the Cosentino product range.

cosentino.com



Anthology
Lea Ceramiche

These porcelain pavers, designed to resemble marble and other stones, feature a three-dimensional surface that feels like natural materials when touched. The collection is available in five colorways: white, desert, earth, gray, and dark. It comes in thicknesses of 9.5 and 20 millimeters, and has an R11 grip surface finish option for patios, balconies, and pool decks.

leaceramiche.com



Loft
Ceramica Rondine

Inspired by industrial concrete flooring, this porcelain paver is offered in six rugged colors: dark, gray, light gray, white, beige, and taupe. The engineered stone measures 40 inches by 40 inches and 20 millimeters thick and features a structured surface for safe passage. Loft pavers can be dry-laid on top of grass, gravel, or sand, or used to create floating installations on decks, patios, and more.

ceramicarondine.it



Megeve
Cerdisa

This product features veins and knots that emulate natural hardwood flooring. The surface comes with a grip (R11 A+B+C) finish for exterior applications, measuring 8 inches by 48 inches and 9.5 millimeters thick. Finish pattern options include iroko, teak, and rovere.

ricchetti-group.com



Strata Argentum
Neolith

Strata Argentum is inspired by silver travertine marble. Its veined surface consists of a variety of light grays and is available in a river-washed finish, which mimics the texture of the natural stone.

neolith.com



2CM Pavers with Thermo-HEXX snowmelt system
Bison Innovative Products

When paired with Thermo-HEXX's snowmelt system, Bison's 2CM Pavers are a safe surface for rooftop decks, outdoor areas, and surrounding pools, year-round. Slip-, stain-, and fade-resistant, it is available in three textures: wood, stone, and concrete.

bisonip.com



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ORDINARY ROOFS WASTE ME.
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St. Pete Pier



Design landscape architect: Ken Smith Workshop
Design architect: Rogers Partners
Location: St. Petersburg, Florida

Executive architect: ASD/SKY
Executive landscape architect: Booth Design Group
Design structural engineer: Thornton Tomasetti
Structural and MEP engineers: TLC Engineering Solutions
Civil, marine, and environmental consultants: Stantec (Tampa & Coral Gables)
Coastal engineer: Humiston & Moore Engineers
Geotechnical engineer: Terracon
Lighting design: Renfro Design Group
Environmental permitting: Landon, Moree & Associates
Fire protection and life safety code consultant: FP&C Consultants, Inc.
Construction manager: Skanska
Landscape contractor: BrightView

The city of St. Petersburg, Florida, has been home to one sort of pleasure pier or another jutting into Tampa Bay since at least the late 1800s. The last, completed in 1973, consisted of a long road with a vaguely nautical (and Soviet-style) five-story inverted pyramid stuffed with shops and restaurants at the end of it. Although locally iconic, the pier in recent years had become unprofitable and underutilized.

The new \$56 million St. Pete Pier, which opened in July 2020, is a far cry from its “deadly boring” predecessor, to quote New York-based landscape architect Ken Smith of Ken Smith Workshop. Tapped in a city-sponsored design competition to revitalize the pier, Smith, along with the New York offices of architecture firms Rogers Partners and ASD/SKY, has created a public asset that is more than just the sum of its parts, offering a rich, varied waterfront experience. There is the

requisite pier and a spectacular pierhead designed by the Rogers team, but also a number of landscapes and programs—including an education center and a dining pavilion, both by Rogers—that, per Smith, “stretch all the way to the end.”

Smith oversaw the creation of a beach and four major landscapes at the 12-acre St. Pete Pier, three of them cultural—the Lawn Bowl, the Tilted Lawn, and the Grove at the Pier Plaza—and the fourth, the Coastal Thicket, wilder in nature. An early component of the plan from the competition phase, the Coastal Thicket was briefly envisioned as a mangrove forest, although that idea was eventually vetoed in favor of a lush coastal landscape of native trees, shrubs, and grasses, including wax myrtle, palmetto, sabal palms, and sea oats, lifted up into a platform container. Stretching nearly 900 segmented feet long and 30 feet wide along the northern leg of the pier, the Coastal Thicket features a meandering, generously shaded boardwalk with planks fabricated from synthetic wood decking, which feature an imprinted wood grain on the plank face. The planks were installed by landscape contractor BrightView face side down to conceal the fake grain; they also tilt upward and project out over the edge of the structure to give them a feeling of floating above the immersive landscape, as detailed by Smith.

The Coastal Thicket is just one element of the St. Pete Pier that gradually reveals itself as one proceeds farther out over the water.

Starting at the Pier Plaza, the landscape lifts slightly and shifts the horizon, forcing the eye level upward and “editing out much of the middle experience,” said Smith. “It’s the seduction of bringing you out part of the way and then opening up and starting to show you something else and then enticing you to come out farther. It’s a subtle thing that I don’t think most people would quite recognize, but it’s actually quite effective in manipulating the special experience.” **Matt Hickman**



Top: The St. Pete Pier's Tampa Bay Watch Discovery Center with the pierhead building, both designed by Rogers Partners, in the background.

Above: Looking back at downtown St. Petersburg from the end of the St. Pete Pier, with the Coastal Thicket landscape on the right.

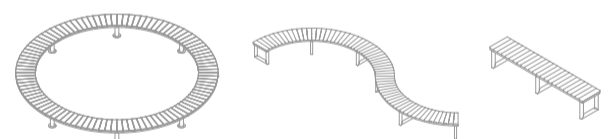


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Benches

New takes on the classic bench bring long-lasting comfort to the great outdoors. *By Gabrielle Golenda*



Hopper AA Extremis

Made entirely from aluminum, Hopper AA is a picnic table with four pass-through zones, eliminating the need to climb over seats to access the table. It is available in five colors and three sizes.

extremis.com



Pleat Made in Ratio

Molded from a single piece of Corian, Pleat features overlaps at each end that create a structurally sound form. The bench is suitable for both indoor and outdoor applications.

madeinratio.com



Folly Magis

Conceived by Israeli industrial and architectural designer Ron Arad, the Folly bench has an undulating, sculptural form. Molded from durable polyethylene, the seat and back surfaces are completely seamless.

magisdesign.com



Pixel Collection Maglin Site Furniture

Inspired by how a square pixel can be the base unit for a seemingly infinite number of compositions, these interchangeable blocks and tops are meant to be arranged and rearranged as large platform seating, benches, planters, tables, and more. They are available in a variety of colors, sizes, styles, and materials.

maglin.com



blocq solar mmcité

This large bench is equipped with solar panels and safety glass, which covers the seat. It can power electronics via USB sockets and a wireless charging point.

mmcite.com



CORNER bench Vestre

The CORNER bench is a flexible seating series designed to wrap around edges. Its wood and steel composition is designed to provide comfort throughout the seasons.

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Planters

Create lush landscapes using the latest planters. Designed to be combined with different modules, these green systems lend themselves to outdoor applications of every type. *By Gabrielle Golenda*



DYN-18
Victor Stanley

Fashioned from recycled steel, the Dynasty series planter strikes a classic pose. The design is available in three sizes and in ten powder-coated finishes, but each iteration maintains the correct proportions, based on the precise spacing of the vertical bars (1.5 inches apart).

victorstanley.com



Biasca
Swisspearl

This free-form, handmade Willy Guhl–designed planter is reminiscent of a nun’s upturned cornette. Available in a variety of colors and even custom configurations, Biasca is part of Swisspearl’s SOFTLINE fiber-cement series, making it ideal for interior or outdoor use.

swisspearl.com



Muro
VONDOM

This soberly geometric planter is outfitted with a self-watering system. The design is modular, and its components can be combined to create a network of landscaping solutions.

vondom.com



Offset Series
Kornegay

This series of planters is defined by a craftsmanly attention to surface and proportion. That’s because the set, available in various heights and widths, is cast in solid concrete by the New York ceramicist Ian McDonald.

kornegaydesign.com



Quadra Seating System
FORMS + SURFACES

Billed as a “minimalist modular family,” Quadra emphasizes durability and customizability. The base high-performance concrete can be complemented by various insets (FSC-certified reclaimed teak hardwood, powder-coated aluminum, or patterned), while the aperture can be oriented vertically or longitudinally.

forms-surfaces.com



Collection A
BLOSS

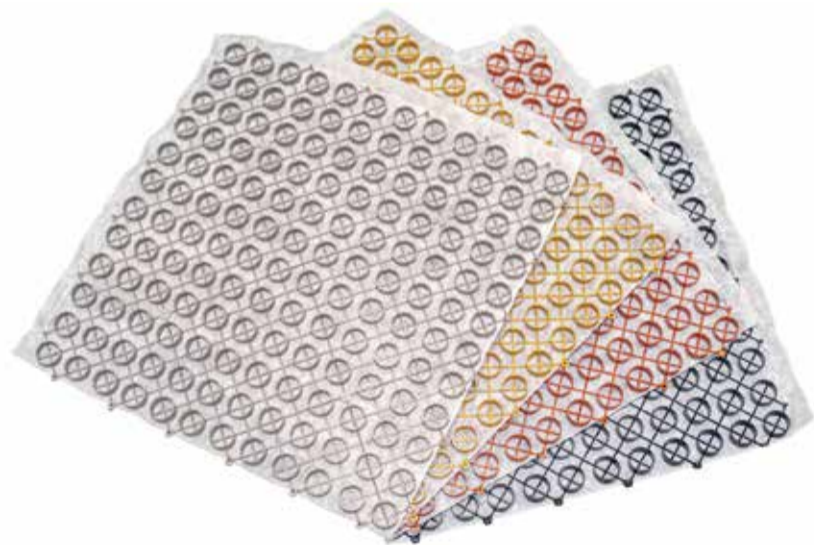
There’s “modular,” and then there’s Collection A. This system of stainless-steel planters boasts more than 300 elements, each one bearing fine welding and rounded corners.

blosscompany.com





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Screens

The COVID-19 pandemic has made us more aware of each other and our surroundings. These screen solutions can be applied in different orientations, whether maintaining a safe distance or providing ample shade. By Gabrielle Golenda



G-Divider Greenmood

This mossy freestanding partition system brings the outdoors in. And because of the vertical format, it's ideal for large, noisy, gray interiors.

greenmood.be



ABELIO Fermob

Created specifically for outdoor dining, ABELIO allows catering and hospitality professionals to safely interact with patrons. In addition to subtly reinforcing social distancing measures, the freestanding, translucent screen extends the design language of Fermob's other outdoor offerings.

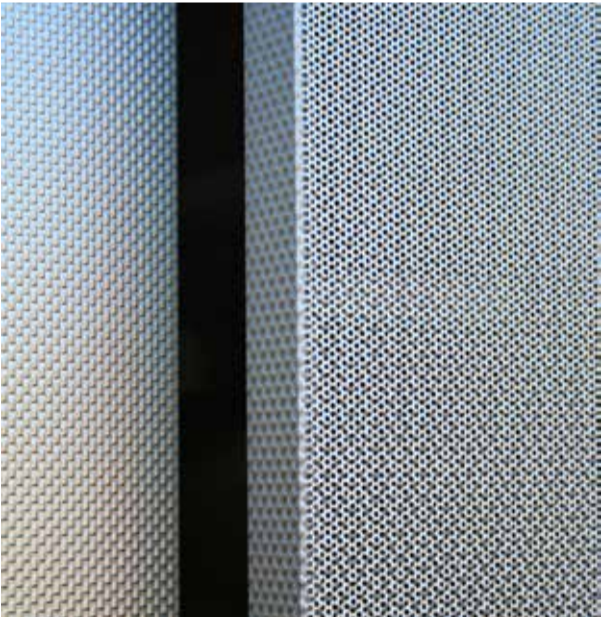
fermob.com



Modular Panels greenscreen

The greenscreen welded-wire green facade wall system has a flexible panel structure that allows for mounting at various depths and angles. Standard panels are offered in 4-foot widths by 6-foot, 8-foot, 10-foot, 12-foot, and 14-foot lengths and can be installed vertically or horizontally. Custom panels are also available.

greenscreen.com



Deep Textured, Perforated Stainless Steel Rigidized Metals

This series lives up to its name, delivering on a compelling aesthetic without compromising the strength of the base material. Suitable for use indoors and out, the textured, perforated sheets can be customized with powder coating and highlighting options.

rigidized.com



The Eclipse Collection Parasoleil

This metal canopy system balances privacy and beauty in a modular format. Available in multiple heights, Parasoleil also offers several finishes and patterns, which yields an array of dappled effects.

parasoleil.com



Laser Cut Collection Móz

Created in Oakland, California, Laser Cut combines precision fabrication and craftsmanship. Fashioned from recycled aluminum and easily customizable, the collection lends itself to a wide variety of applications, from facades and walls to ceilings and canopies.

mozdesigns.com



Healthier by Design: How outdoor spaces by Landscape Forms present a new opportunity to activate community health

“The many health benefits of spending time outdoors are well documented in research,” reported Sara L. Warber, M.D., emeritus professor at the University of Michigan. “The simple act of spending time outside makes people healthier.” Indeed, as employees return to offices and the public to social destinations and commercial facilities, the need for outdoor spaces that enable safe and responsible social interaction and a connection to nature seems more important than ever. Fortunately, many buildings and venues already have, or can easily repurpose, unused outdoor spaces to create new, health-conscious experiences for their visitors.

As the word suggests, the “outdoors” begin just on the other side of the door, and enhancing the usability of spaces adjacent to, in between, and immediately surrounding buildings is now easier than ever. We are witnessing a shift in landscape architecture as more and more products and creative

solutions are coming to market that enable architects and designers not only to respond to current concerns about social distancing, but also to leverage previously untapped spaces to create healthier and more inspiring outdoor living experiences looking forward.

New site solutions for a new era

With the current urgency to enable social distancing and safer public interactions, some companies are introducing new solutions specifically designed for a new era of outdoor-centric, open-air living. One is Landscape Forms, a Michigan-based designer and manufacturer of site furnishings. The company, as it turns out, has long understood the connection between personal well-being and spending time outside. “We were founded 51 years ago on the belief that being outdoors is an important part of a healthy lifestyle,” said Landscape Forms chief executive officer

Marjorie Simmons. “So extending our culture of innovation to help alleviate the new public health concerns while inspiring the use of underutilized outdoor spaces is a natural step for us.” Landscape Forms has just introduced Healthy Outdoor Spaces, a collection of new and modified products and space planning solutions created to help architects and designers address the new challenges and opportunities.

Products in the Healthy Outdoor Spaces collection include innovative design features like visual cues to denote appropriate distancing, modular panels and barriers to direct flow of public traffic, and structural elements that elegantly define safe spaces for small groups. They are design-forward, built to stand up to the elements and deftly keep people safely distanced—yet still very much connected to each other and to their natural environment.

Responding to the now while planning for the future

Integrating unique outdoor experiences into commercial and public spaces will continue to play a key role in elevating the quality of life for those who inhabit them. New offerings like those from Landscape Forms are not only timely, effective answers to current public health concerns—they are also important investments in future-proofing public spaces by meeting the new expectations for community well-being that will endure and persist over time.

For more information on Healthy Outdoor Spaces and site solutions, visit landscapeforms.com



Unique designs and innovative functions provide a variety of healthy solutions for outdoor applications using Landscape Forms products. Pictured: Artful House (top left), Upfit OS (top right), Upfit (above).

Jones Beach West Games

Landscape architect: Starr Whitehouse
Location: Jones Beach, Long Island, New York

Client: New York State Office of Parks, Recreation, and Historic Preservation
Engineer (electrical, mechanical, civil): Liro Engineers
Construction manager: Cashin Associates
Lighting manufacturers: Selux US, McGraw-Edison
Furniture: Landscape Forms (umbrellas), Sitecraft (benches and picnic tables)
Precast concrete elements: QCP
Fiberglass elements: COST of Wisconsin
Court surfacing: Laykold Systems
Turf: SYNLawN

Starr Whitehouse, a leading New York landscape architecture firm, has been widely commended for combining research and outreach with eye-catching design. Most notably, its BIG U project—a collaboration with BIG and others that proposed constructing a ten-mile-long protective buffer of berms around Manhattan—has been held up as an exemplary model of resilience. One may then be forgiven for thinking the firm’s latest project a curious non sequitur: a mini golf course and outdoor recreation center on Jones Beach, Long Island.

“At first, we thought, ‘Um, a mini golf course?’ How do you make it fun without making it tacky?” recalled Gail Wittwer-Laird, a principal at the firm. “You want a little wow factor, but also you don’t want to make it look like it came from a dime store.” But as the team began drilling down into the program, the more continuity it found with Starr Whitehouse’s wider practice. “Active recreation is integral to all public space,” Wittwer-Laird said.

Accommodating various forms of recreation was foremost among the project’s aims. In addition to playground areas, there is no shortage of courts for basketball, paddleball, shuffleboard, and even cornhole. Their geometric uniformity presents a foil to the free-form, ADA-compliant mini golf course, which announces itself through hilly kidney-shaped greens, native shrubbery, fiberglass and precast concrete props, along with the requisite water feature. A brick-paved central entrance plaza containing a ticket kiosk and Sitecraft picnic tables and benches unites the programming and connects the complex to the beach boardwalk.

Jones Beach West Games, as the destination is called, is one project among many in a \$6.6 million state effort to upgrade and beautify the historic beach, which was a hobbyhorse for a young Robert Moses. Starr Whitehouse has benefited from this latest round of investment and has another landscape at a new energy and nature center a couple of miles west. From its engagement with local planners at both sites, the design team gleaned insights about operations and demographics. “We learned how the beach is used over the course of the day,” Wittwer-Laird explained. “As it turns out, the games are most active at night.”

Accordingly, lighting became a key feature of the design brief. Monitors from Selux US illuminate pedestrian pathways around the clock, while McGraw-Edison LED luminaires in the recreational areas keep the shadows at bay until 11 p.m. In other words, prime socializing time for an “underserved age group in public parks,” Wittwer-Laird said. “Tweens.”
Samuel Medina



STARR WHITEHOUSE



STARR WHITEHOUSE



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Previous page, top: Fiberglass and pre-cast concrete props populate the mini golf course and help set the tone of the project. Native plants and shrubbery are inherently resilient to saltwater and storm surges.

Previous page, bottom: Jones Beach West Games, which features ball courts, a public plaza, and a mini golf course, is connected to the boardwalk at two points through ramps.

Above: The course is lit by a combination of lights from Selux and McGraw-Edison.

Right: A pump system by Delta Fountains creates ripples of movement in the water feature. It can be removed in the event of flooding.



Look on the
green
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Project: South Coast Botanic Garden
Landscape Architect: Deneen Powell Atelier
Contractor: Ron Poulson Associates, Inc.

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Post & Pole Downlights

Light the way with these powerful outdoor LED fixtures. Ideal for illuminating pathways, circulation areas, and wide-open expanses, they direct light downward with both high- and low-output options.

By Gabrielle Golenda



LP Capsule
Louis Poulsen

Designed in collaboration with Carsten Fischer of Danish firm Henning Larsen, LP Capsule emits an atmospheric light suited for pathways, parks, and public squares. According to Fischer, the fixture “had to illuminate itself, and serve as a pleasant and familiar element that adds something to the urban setting—both in its on and off state.”

louispoulsen.com



ORIGINE
Davide Groppi

Fabricated from fiberglass and metal, ORIGINE features a stem that gets thinner as it soars into the sky. The fixture provides indirect light for illuminating facades, parks, and outdoor hospitality spaces.

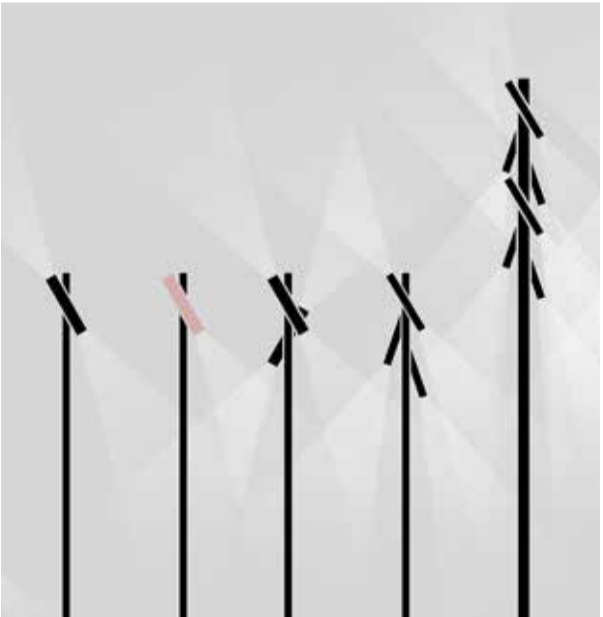
davidegropi.com



Motive
Landscape Forms

Outfitted with LEDs that emit smooth, even illumination, Motive has a sculptural form suitable for myriad applications, including social spaces, installations, and building entrances. The family of cast aluminum fixtures includes an area light, a floor lamp, a pendant, a sconce, and a path light, all available in a full color palette of powder coat finishes.

landscapeforms.com



Nebula
Neri

Designed in collaboration with SOM, Nebula is a family of lights in several scales, including bollard, path light, and full-height. It comes with accessories like planters, power sources, and banner holders. According to Carlos Madrid III, who led the product’s design at SOM, the system is “quite malleable, similar to theatrical lighting, where each light source is independent and lights can be added, removed, focused in certain directions or at specific objects.”

nerinorthamerica.com



Bamboo
Vibia

Shaped by industrial designers Antoni Arola and Enric Rodríguez, Bamboo emulates the slender, articulated form of its namesake. Produced in a natural color palette that includes khaki, oxide, and stone, the whimsical fixtures are available for surface-mounted and built-in installations. All typologies are equipped with LEDs.

vibia.com



Irupé
Artemide

Irupé is a floor and suspension light designed to interact with its surrounding outdoor environs. Its illuminated leaflike surface treatment, inspired by the *Victoria amazonica* water lily, creates a soft, diffuse illumination.

artemide.com



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Stone Forest
stoneforest.com

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Legrand
legrand.us

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lesjardins.solar

Louis Poulsen
louispoulsen.com

Luceplan
luceplanusa.com

Lutron
lutron.com

McGraw-Edison
cooperlighting.com/brands/
mcgraw-edison.html

nea studio
neastudio.com

Neri
nerinorthamerica.com

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northern.no

Philips
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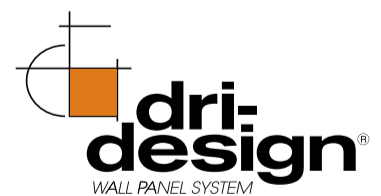
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East/West

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Ongoing



First appearing in 2019 as a nomadic pop-up exhibition in and around Boston and Portland, Oregon, the Design Museum's *We Design: People, Practice, Progress* has been retooled and relaunched in a wholly virtual format. Showcasing the personal and professional lives of 30 (expanded from 15) female and BIPOC designers working across a variety of disciplines, the online exhibition uses photos, video, oral histories, and more to tell the unique stories of the featured practitioners. Gabrielle Bullock, Phil Freelon, and Liz Ogbu are among the architects represented. *We Design* also highlights the glaring inequities and underrepresentation prevalent in design fields. The show leads with a quote from children's rights activist Marian Wright Edelman: "You can't be what you can't see." By expanding the reach of the exhibition, the museum hopes to ensure that those who need to see it the most will. The Design Museum has not announced a closing date for the exhibition.

Matt Hickman

Midwest

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Through January 17, 2021

Online ticket reservations encouraged



Visitors can now explore the Richard H. Driehaus Museum's exhibitions, one of which highlights new, site-specific work amid the ornate wallpaping and intricate furniture of the institution's 1883 mansion. For the second year in the Driehaus Museum's *A Tale of Today* contemporary art initiative, Chicago-based artists Mika Horibuchi and Nate Young produced art that engages with the National Register of Historic Places-listed Nickerson Mansion. Their creations include sculptures, paintings, and other objects that hide among historic artifacts, inviting viewers to get up close to determine what's genuinely antique and what isn't. "Presenting contemporary art in a Gilded Age setting allows the museum to engage with new audiences in new ways, as many will be experiencing this type of architecture and its history for the first time," said museum founder Richard H. Driehaus in a press release. "This exhibition provides a unique opportunity to demonstrate the importance of architecture and sense of place from the incomparable vantage point of the Nickerson Mansion while also showcasing new artists in this historic setting." JH

East

Spaces of No Control

Austrian Cultural Forum New York

11 East 52nd Street

New York

Through January 10, 2021

By appointment only



As New York City's mammoth art and design museums reopen, so too do smaller venues with timely shows worth checking out. At the Austrian Cultural Forum New York, the latest exhibition examines the intersection of surveillance technology and urbanism, and how what it means to be a citizen in public has drastically changed in recent decades. In *Spaces of No Control*, curated by Vienna-based Walter Seidl, artists explore 20th- and 21st-century cities and their dystopian counterparts, examining the way the fictional narrative of the panopticon city has slowly become something of a reality. In New York, where private developments as well as public utilities suck up personal data and take control of formerly public places to monetize them, the topic is especially pressing. The group show brings together artists from the United States and Austria who contribute multimedia histories of how market forces have changed various places' societal and architectural presence over the past 50 years. Jonathan Hilburg

International

The Things Around Us

Canadian Centre for Architecture

1920 Baile Street

Montreal

Through February 14, 2021 (temporarily closed)



The Things Around Us was intended to reopen the galleries of the Canadian Centre for Architecture (CCA) in Montreal, which closed its doors this past spring because of the pandemic. Museum organizers—including curator Francesco Garutti—succeeded in this aim, opening the show in mid-September, but barely had any time to savor the moment: Following an uptick in COVID-19 cases in Montreal and elsewhere, the city enforced a second lockdown, beginning October 1, until further notice. The exhibition, which runs through February 14, offers a glimpse into the methodologies and investigative procedures that underlie the work of 51N4E and Rural Urban Framework (RUF), two small architectural offices based in Brussels and Hong Kong, respectively. The pairing might seem odd at first blush and would be so were the curatorial framing limited to exercises in comparative aesthetics. Instead, the exhibition focuses on the "fieldwork" both practices have undertaken in the unlikely places where they've gained the most traction. For 51N4E, it's Albania (specifically, the capital, Tirana), while for RUF, it's Mongolia. Deploying full-scale prototypes, photography, and videos, the show reveals the forces responsible for shaping and governing contemporary life but too often considered exogenous to architectural design. The CCA will release the show's catalogue in November. SM

A photograph of a city skyline with a green roof in the foreground. The text "THE GARDEN ROOF® ASSEMBLY" is overlaid on the image.

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A graphic of a water drop with a city skyline inside it.

The Hydrotech logo, featuring the word "HYDROTECH" in a stylized font.

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Flight Simulator 2020

Microsoft | Microsoft Windows, Xbox

Microsoft's *Flight Simulator 2020* is a technological masterpiece. Reviews are nearly uniformly glowing, adopting tones both confessional (“the most incredible experience I’ve ever had on a computer”) and epochal (a “once-in-a-generation wow moment”). The game’s devotion to realism begins in the mechanical and aesthetic accuracy of the aircraft you pilot, but is also extended, in breathtaking fashion, to the terrain below. The earth appears as a vast global sandbox, fully navigable from corner to corner. So unbearably real is this earth, gushed *New York Times* journalist Farhad Manjoo, that “nearly all sense of abstraction falls away.” Any architect or urbanist is likely to find the simulation just as breathtaking.

As a player, you assume control of this sublime simulation, transporting yourself to nearly any airport worldwide and summoning up a vast array of planes on the spot. You are then let loose to joyride through the world, re-created down to the leaves on trees and up to continental mountain ranges, and from the dense cores of major cities to the remotest reaches of the planet. The magnitude of detail on display represents an enormous quantity of technical-industrial power and expertise that goes far beyond the capabilities of 3D modeling of space by humans. Microsoft and developer Asobo Studio turned to Austrian AI start-up Blackshark.ai, which is already engaged in the creation of an authentic “digital twin” (remember that phrase) of the planet.

Blackshark’s task entailed the creation of not just architecture—though by the firm’s estimation, 99.8 percent of the world’s structures had not previously been modeled—but also swaths of vegetation and topography. The developers began with Bing satellite imagery and the collected photogrammetric 3D modeling data for about 400 cities that was already available on Bing Maps. This repository of raw material was then fed into a “deep learning neural network [that] segments and classifies buildings, vegetation, and roads globally, and a patented approach is used to reconstruct building attributes in highly detailed 3D.” This resulting world-data is then hosted on the Microsoft Azure cloud, where it is continually updated and refined. Blackshark’s demiurgic work is ceaseless, but already quite expansive; to date, the company maintains that it has re-created 1.5 billion structures and populated 30 million square kilometers of vegetation.

But before any of Blackshark’s world-building can begin, the existing data must be stripped down and decontextualized. Information about buildings is categorized by typology and regional differences—that is, not as high-fidelity spatial artifacts on their own, but as mix-and-match parts that can be understood by the system. Typically, Blackshark’s algorithm may detect a building footprint, estimate its height based on the shadow, and then apply facade details, roof furniture, and so on—with the final product not necessarily corresponding to what exists but constituting a generic version of what likely would exist. Blackshark CEO Michael Putz admits that the actual process of this algorithmic “construction” is an arcane “black box,” unknowable and vague. This black box occasionally suffers from memorable hiccups that escape quality checks, such as the Washington Mon-



In Microsoft's *Flight Simulator 2020*, players pilot aircraft over landscapes natural and manmade. Pictured: A fully navigable Rio de Janeiro.

ument appearing as a pseudo-Seagram Building, the sudden existence of a slender monolith in the suburbs of Melbourne, Australia, and an abyssal pit in Brazil.

This process is less akin to a cartographer meticulously preparing a map than an automated factory churning out commodities. A slew of data and raw material inputs (point cloud data, satellite photos, etc.) go in, technological wizardry is applied, and finished objects (fake buildings to populate a virtual planet) emerge on the other side. The sheer scope of Blackshark’s project makes this inevitable; having human workers determine and build structures and their design elements directly is too costly and time-consuming. *Flight Simulator 2020* is not about accuracy; it’s about instilling awe at the ability to approximate the planet in its entirety quickly and, thanks to the infallible logic that is often imputed to AI, mostly without complaint.

But why go to all this trouble in the first place? Doesn’t this seem awfully promethean for a video game? The development team’s own answers point beyond the game as a finished product, even as the team itself remains cryptic: Jorg Neumann, head of the *Flight Simulator* franchise, notes anything can be done “once you have the entire earth.” Asobo head programmer David Dedeine has proposed that the technology behind the game can “democratize tourism,” making it accessible from home. Outside of Microsoft, Blackshark’s usual clients are developers of autonomous cars—so it’s easy to imagine that *Flight Simulator*’s engine and data will doubtlessly be introduced in this field very soon.

Flight Simulator 2020 is also a proof of concept for Microsoft’s Azure cloud computing service, as the marketing has attest-

ed. Azure makes truly monstrous amounts of processing power commercially available to corporate and governmental clients, essential for dealing with the petabytes of data necessary in serially modeling the planet. (Blackshark’s Fabian Schlager credits Azure with getting the processing time for “global feature detection and reconstruction” under the 72-hour mark.) But Azure is advertised as doing much more, beyond AI and game development, opening the door further to blockchain solutions, analytics, and the Internet of Things (IoT). Azure IoT enables Microsoft’s “smart cities” offerings, which it describes as “the epitome of human civilization.” (To everyone else, a smart city is the practice of using citizen data to inform and optimize urban governance.)

The past few years have seen Microsoft push hard to make Azure a market player in the exploding smart cities arena, through both its CityNext initiative and Azure IoT Central, which recognizes “the modern city” as “one of the most dynamic landscapes embracing Internet of Things.” The end goal here, as with all smart city efforts, is to realize urban space as a source of profits by re-engineering it as a quantitative field, open to the suitably equipped technological eye. Microsoft’s Azure Maps and Digital Twins, the former offering geospatial analysis and the latter a tool set to create “comprehensive digital models of entire environments,” fit the bill, promising profound insights in the supposed interest of bromides like efficiency and public safety. Sam George, director of Azure IoT, has stressed that Microsoft’s smart cities approach depends on Azure’s capabilities for mapping and geospatial asset tracking to “better connect smart cities, infrastructure and IoT solutions, and empower industrial transformation.” What

better demonstration of Azure’s mapping capabilities than, say, a cadastral play set of the entire globe, universal in its scope and unsparing in its detail? Sound familiar?

The possible applications of a cloud-based global survey do not stop there. Not to be outdone by Amazon, Palantir, and other enfants terribles of the surveillance/smart cities circuit, Microsoft has been aggressive in supplying its technology to government clients. Azure has already found use in the Domain Awareness System, the facial recognition surveillance platform custom-built for the New York City Police Department, and is the commercial substrate of the U.S. Department of Defense’s Joint Enterprise Defense Infrastructure (JEDI) Cloud. The JEDI contract, awarded to Microsoft to the tune of \$10 billion, employs Azure technology to power the U.S. military’s data transfer and storage “from the homefront to the tactical edge.” Of course, military involvement in geospatial technology has a long tradition, just as it does with gaming: It’s no coincidence that the enterprise version of the previous *Flight Simulator* is now being developed and distributed as Prepar3D by defense contractor Lockheed Martin. Whether coincidence is what brought *Flight Simulator*’s development in line with the JEDI contract process is a bit beyond the scope of this review. (Hey, I’m an architect by training, not a journalist.) Be that as it may, it would appear that *Flight Simulator 2020* not only functions as a tech demo for Azure’s cloud and virtual machine capabilities, but also as the ultimate “gift” from a corporate giant to its new military partner—that of a fully imaged planet.

Kevin Rogan is a writer, designer, student, and dilettante who lives in New York.



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Shofuso and Modernism: The Architecture and Design of George Nakashima, Antonin and Noémi Raymond, and Junzō Yoshimura

Shofuso | Philadelphia | September 2 to November 29

In June 1954, an article published in *House & Home* magazine read, “The Japanese had some of our best ideas—300 years ago.” The piece highlighted three main attributes of Kyoto’s Katsura Imperial Villa, built in the 1620s: the open post-and-beam plan, the use of verandas for climate control, and its modularity based on tatami mats and shoji screens. The article coincided with the opening of the Japanese Exhibition House at the Museum of Modern Art (MoMA) in New York City. On the recommendation of architect Antonin Raymond, the artist Isamu Noguchi, and others, the museum’s architecture and design curator, Arthur Drexler, commissioned Japanese architect Junzō Yoshimura to design the house as part of the museum’s House in the Garden series. Yoshimura was inspired by a 17th-century temple home near Kyoto named Kojo-in. He designed and built the house in Nagoya and then shipped it in 636 crates, to be installed in the museum’s garden, where it received thousands of visitors daily over a period of ten months. Shofuso (Pine Breeze Villa), as Yoshimura named it, was subsequently moved in 1958 to West Fairmount Park in Philadelphia, where it remains today.

Sixty-two years later, and after several months of lockdown, Shofuso has reopened with an exhibition that revisits the historical cultural exchange between Western modernism and Japanese traditional craft and architecture. *Shofuso and Modernism: The Architecture and Design of George Nakashima, Antonin and Noémi Raymond, and Junzō Yoshimura* honors the close friendship and community-based collaboration between Yoshimura, architect and woodworker George Nakashima, architect Antonin Raymond, and interior designer and graphic artist Noémi Pernesin Raymond.

The exhibition was cocurated by William Whitaker and Yuka Yokoyama. Whitaker is the curator and manager of the architectural archives at the University of Pennsylvania and has worked with the Raymonds and the Nakashima family for many decades. Whitaker’s 2006 book and exhibition *Crafting a Modern World: the Architecture and Design of Antonin and Noémi Raymond* highlighted the designers’ longtime connection with Japan and Japanese architects and craftspeople from 1917 through 1966. Yokoyama boosted her knowledge of the history of ancient and contemporary Japanese craft by working for hands-on industrial designer Sori Yanagi, a pioneer in modernist Japanese design and the son of Soetsu Yanagi, founder of the Mingei movement in Japan.

Shofuso is considered an *Utsushi*, which Yokoyama described as “an homage to spirited inspiration.” In *Shofuso and Modernism*, Utsushis are present everywhere, from the building itself to an ikebana arrangement resembling one at the 1954 MoMA installation to the newly commissioned photography by Elizabeth Felicella. Felicella’s photographs, presented through a retro slide projector alongside archival photography by Ezra Stoller, show the current working life



Installation view of the exhibition in Shofuso

of the Raymond Farm and the Nakashima Studio.

Shofuso was always intended to be an exhibition house and not inhabited. Nonetheless, this show has enlivened it with a careful selection of furniture, art, and textiles. “Bringing these pieces into Shofuso’s 15-mat room seemed a natural extension of the shared experiences of the Raymonds, Yoshimura, and Nakashima,” Whitaker said. A 1933 Noémi-designed chair with grass rattan covering made for the Akeboshi Tetsuma House in Tokyo is placed next to a standing lamp from the 1950s with a handmade mulberry paper shade, along with a rug bearing a graphic abstraction of a lotus field circa 1935, also by Noémi. Alongside the house’s *shoin* (a built-in desk) by Yoshimura hangs Noémi’s award-winning textile *Strips, Trunks, Trees, Dots* from the late 1930s. It was originally exhibited with two of her other fabrics at the 1941 MoMA show *Organic Design in Home Furnishings*, albeit under her husband’s name.

The connection between the Raymonds and their protégés Nakashima and Yoshimura goes back almost 100 years. In 1934, a young George Nakashima from Spokane, Washington, having trained as an architect at the University of Washington, Massachusetts Institute of Technology, and Fontainebleau, joined the architecture office of Antonin Raymond, who, together with Noémi, had established a practice in Tokyo in 1921 after working with Frank Lloyd Wright on the Imperial Hotel. Nakashima would soon learn through the Raymonds’ work and writings how vernacular and modern elements could sensibly be joined. “The Raymonds evolved an approach over 18 years of working in Japan that addressed the complexity of the cultural context, connected with Japan’s deep craft and making traditions—all the while maintaining a connection to modernism’s interest in universal solutions,” Whitaker said. An exceptional example is their summer studio in Karuizawa, Japan, built in 1933. Its design drew inspiration from Le Corbusier’s Maison Errázuriz in Chile, an unbuilt project from 1930, but merged details particular to Japanese traditional cottages, such as awnings and organic fiber

blinds, with modern concrete constructions, such as cantilevered platforms.

Yoshimura, classically trained in Japanese culture and traditions in Tokyo, had joined the Raymonds as a student in 1928 and later as a full-time architectural designer in 1931. Nakashima learned from Yoshimura the sophisticated nature of Japanese architecture as they traveled together through Nara, Hakone, and Ine. Nakashima reminisced in his 1981 autobiography *Soul of a Tree*, “[Yoshimura] knew so well the elegance and power of simplicity, the beauty of proper materials in building, where the error of a fraction of an inch can make the design fail absolutely. He knew these things well in both the time-honored Japanese design and in the free, modern concepts, and he passed them on to me.”

Nakashima was exposed to the craftwork of rural families in one of his first projects with the Raymonds, St. Paul’s Church, finished in Karuizawa in 1935. Traditional Japanese carpenters (or *daiku*) “made use of as much of a tree as possible,” Whitaker explained. “Larger sections [were used] for structural elements, secondary structural elements [were made] from midsize elements, and narrow diameters were used for the legs of furniture—all from the same tree. Even bark had a place in certain projects.”

In 1938, Nakashima volunteered to work on the first reinforced concrete building in India, a dormitory for the Sri Aurobindo Ashram in Pondicherry that had been commissioned to the Raymond office. “Noémi maintained strong and deep interests in the spiritual basis of work,” Whitaker said. “Her connections to theosophy and other perspectives that explored the universality of human experience led her to an early interest in Aurobindo in the mid-1920s.” Nakashima was also driven toward this mystical approach and embedded it in his life and work. “To my mind, this is where George’s work as a woodworker begins—beginning out of the wellspring of spiritual devotion,” Whitaker asserted.

The Raymonds eventually moved their practice to the United States and in 1939 settled on an 18th-century farm of Quaker origin in New Hope, Pennsylvania (currently run by their granddaughter Charlotte).

Yoshimura joined them for a year until war hostilities steered him back to Japan. Ironically, this was when Nakashima made the reverse move and decided to settle back in Seattle, where he began his woodworking practice. Shortly after, Nakashima and his family faced dehumanizing hatred of their Japanese ancestry and were forced to undergo imprisonment at the Minidoka concentration camp in Idaho. “Guards were ordered to shoot whoever got close to the fence,” Mira Nakashima, George’s daughter, recalled. George’s learning from skilled carpenters in Karuizawa and his karma yoga, hands-on work in the ashram at Pondicherry would prove fortuitous for this time. At Minidoka, Nakashima met Gentaro Hikogawa, a daiku from whom he learned woodworking. Such an opportunity would have been unthinkable within the stratified society in Japan.

In the exhibit at Shofuso, a contorted bitterbrush sculpture by Nakashima mounted on a cedar base sits atop a low table. “Nakashima’s use of bitterbrush has always fascinated me,” Whitaker said. “Something so humble as gathering wood in the midst of the Idaho desert, at a time of great personal distress and the inhumanity of war, cleaning it up to reveal the beauty and complexity of its growth over time—and to find a way to allow people to touch that, in an everyday way—seems magical to me.”

Thanks to Noémi’s persistent requests, Nakashima was released from the camp with his wife, Marion, and his daughter Mira (leaving his parents and siblings behind) to the Raymonds’ New Hope farm in May 1943 on the condition that he not practice architecture. The Milk House table that supports the bitterbrush sculpture in the exhibition is a prototype Nakashima built in a small building on the farm that he adapted as his workshop. Some of his earliest 1940s pieces in the show, like the Straight Chair prototype, the Windsor-like Arm Chair, and the Grass-Seated Chair he designed for MoMA director René d’Harnoncourt, have “a heaviness and an earthbound quality that a lot of furniture did not have in the 1940s,” design historian Derek Ostergard said in a recently premiered documentary directed by John Terry Nakashima.

The legacy of the Raymonds, the Nakashimas, and Yoshimura is genuine and palpable through this insightful show—a coming together of friends and longtime art and design enthusiasts. An original film accompanying the show produced by Greenhouse Media and directed by Philadelphia-based artists Nadia Hironaka and Matthew Suib debuted on October 9 and gives even more information about the show’s participants.

Natalia Torija Nieto is an architecture and design writer trained in modern art, design, and material culture at Pratt Institute in Brooklyn, New York. She is currently working on a book on the architectural work of George Nakashima.



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Living on the Edge

Architecture’s obstinacy in the face of climate change normalizes the precariousness of coastal living while keeping us from imagining new ways of dwelling.

As of 2014, there were 127 million Americans living along the coast in houses built between 1970 and 2010. Though coastal counties are home to 40 percent of the United States’ population, the area itself accounts for less than 10 percent of the nation’s contiguous landmass.

For decades, developers, oil magnates, engineers, and architects sought to subdue the natural environment through various means, without a thought to downstream effects. Climate change begets more frequent, more intense hurricanes and flood events, whose capacity for destruction should check coastal development—but hasn’t. Instead, these same actors respond by building higher or stronger, elevating a mantle of “resiliency” that absolves us from attending to the pressing challenge at hand: dramatically restructuring how we inhabit space in a changing world.

In South Louisiana, the degradation and

exploitation of landscapes by the fossil fuel industry have already led to the forced migration of communities to higher ground, calling into question whether the social ties and lived history of a place can be reproduced elsewhere.

As the recent wildfires in California demonstrate the consequences of high-risk development to meet the state’s housing demand, cliff architecture along the Golden Coast represents another type of architectural precariousness.

The post-Hurricane Sandy landscape of New York City highlights the inequities of disaster relief and the systems that have pushed those less affluent to the front lines of the climate crisis.

The images presented here explore the engineered habitats we have adopted in order to live on or close to water, the limits of such development, and the emotional ties that keep us connected to these liminal spaces.

As we analyze architecture and land use across the coastal areas of the United States, patterns begin to emerge that speak both to the precariousness of living on the edge and the normalization of that precariousness.

Like the mid-19th century paintings of the Hudson River Valley that depicted scenic idyll outside New York City or Carleton Watkins’s early photographs of the West that were used as propaganda for expansion, a visual culture was used to turn the coast into a commodity. In his 2019 book *The Geography of Risk*, Gilbert M. Gaul describes how developers lured middle-class Americans out to Long Beach Island, New Jersey, through advertisements depicting humble beach bungalows with modern amenities. After World War II and for generations thereafter, the increase in mobility caused waterfront property to become certain Americans’ primary leisure destination, though value did not, and does not, account for the real level of risk.

As sea levels rise and stronger storms threaten the physical fabric of the coasts, how will our mental and emotional connections to these landscapes change? And how can architecture preserve the memory of these disappearing places while promoting solutions to dwelling that are more harmonious with the natural world?

Virginia Hanusik is a photographer whose work focuses on architecture and climate change. Her project *A Receding Coast: The Architecture and Infrastructure of South Louisiana*, which explores the visual narrative of the climate crisis, has been exhibited internationally. She is a 2020–21 Photography Fellow at Exhibit Columbus, where she is developing a body of work about flooding and the politics of disaster in the Mississippi River Watershed. She lives in New Orleans.



Clockwise from top left: Irish Bayou Castle, Orleans Parish, Louisiana; Route 1 near Stinson Beach, Marin County, California; Mission Creek Channel, San Francisco; Fox Lane, Oakwood Beach, Staten Island, New York; Kees Family Camp on Lake Verret, Assumption Parish, Louisiana



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